CITY OF TUMWATER
SERVICE PROVIDER AGREEMENT
FOR
SOUTHEAST WATER RESERVOIR DESIGN PHASES I, II, AND III

THIS AGREEMENT is made and entered into in duplicate this _____ day of _____, 2024, by and between the CITY OF TUMWATER, a Washington municipal corporation, hereinafter referred to as the "CITY", and RH2 ENGINEERING, INC., a Washington profit corporation, hereinafter referred to as the "SERVICE PROVIDER".

WITNESSETH:

WHEREAS, the CITY desires to have certain services and/or tasks performed as set forth below requiring specialized skills and other supportive capabilities; and

WHEREAS, sufficient CITY resources are not available to provide such services; and

WHEREAS, the SERVICE PROVIDER represents that the SERVICE PROVIDER is qualified and possesses sufficient skills and the necessary capabilities, including technical expertise, where required, to perform the services and/or tasks set forth in this Agreement.

NOW, THEREFORE, in consideration of the terms, conditions, covenants, and performance contained herein, the parties hereto agree as follows:

1. SCOPE OF SERVICES.

The SERVICE PROVIDER shall perform such services and accomplish such tasks, including the furnishing of all materials and equipment necessary for full performance thereof, as are identified and designated as SERVICE PROVIDER responsibilities throughout this Agreement and as detailed in Exhibits A-1, A-2, and A-3Scope of Services attached hereto and incorporated herein (the "Project").

2. TERM.

The Project shall begin no earlier than February 1, 2024, and shall be completed no later than January 31, 2026. This Agreement may be extended for additional periods of time upon mutual written agreement of the parties.

3. TERMINATION.

Prior to the expiration of the Term, this Agreement may be terminated immediately, with or without cause, by the CITY.

4. COMPENSATION AND METHOD OF PAYMENT.

A. Payments for services provided hereunder shall be made following the performance of such services, unless otherwise permitted by law and approved in writing by the CITY.

B. No payment shall be made for any service rendered by the SERVICE PROVIDER except for services identified and set forth in this Agreement.

C. The CITY shall pay the SERVICE PROVIDER for work performed under this Agreement a total sum not to exceed **One Million Six Hundred Fifty-Eight Thousand Eight Hundred Forty-Five 00/100 Dollars** ($1,658,845.00) as reflected in Exhibits A-1, A-2, and A-3 Scope of Services.

D. Upon execution of this Agreement, the SERVICE PROVIDER must submit IRS Form W-9 Request for Taxpayer Identification Number (TIN) and Certification unless a current Form W-9 is already on file with the CITY.

E. The SERVICE PROVIDER shall submit an invoice to the CITY for services rendered during the contract period. The CITY shall initiate authorization for payment after receipt of said invoice and shall make payment to the SERVICE PROVIDER within approximately thirty (30) days thereafter.

F. When subcontracting services or purchasing goods from third parties, as identified and approved in this Agreement, the SERVICE PROVIDER must submit written documentation establishing that the goods and/or services have been provided and the third party has been paid in order to receive payment for such goods and/or services.

G. Invoices may be submitted immediately following performance of services, but in no event shall an invoice be submitted more than twenty (20) business days following the end of the contract term or the end of the calendar year, whichever is earlier.

5. INDEPENDENT CONTRACTOR RELATIONSHIP.

A. The parties intend that an independent contractor relationship will be created by this Agreement. Subject to paragraphs herein, the implementation of services pursuant to this Agreement will lie solely within the

discretion of the SERVICE PROVIDER. No agent, employee, servant or representative of the SERVICE PROVIDER shall be deemed to be an employee, agent, servant or representative of the CITY for any purpose, and the employees of the SERVICE PROVIDER are not entitled to any of the benefits the CITY provides for its employees. The SERVICE PROVIDER will be solely and entirely responsible for its acts and for the acts of its agents, employees, servants, subcontractors or representatives during the performance of this Agreement.

B. In the performance of the services herein contemplated the SERVICE PROVIDER is an independent contractor with the authority to control and direct the performance of the details of the work; however, the results of the work contemplated herein must meet the approval of the CITY and shall be subject to the CITY'S general rights of inspection and review to secure the satisfactory completion thereof.

C. As an independent contractor, the SERVICE PROVIDER shall be responsible for the reporting and payment of all applicable local, state, and federal taxes.

D. It is recognized that the SERVICE PROVIDER may or will be performing services during the Term for other parties; provided, however, that such performance of other services shall not conflict with or interfere with the SERVICE PROVIDER'S ability to perform the services. The SERVICE PROVIDER agrees to resolve any such conflicts of interest in favor of the CITY.

6. SERVICE PROVIDER EMPLOYEES/AGENTS.

The CITY may at its sole discretion require the SERVICE PROVIDER to remove an employee, agent or servant from employment on this Project. The SERVICE PROVIDER may however employ that individual on other non-CITY related projects.

7. HOLD HARMLESS INDEMNIFICATION.

A. SERVICE PROVIDER Indemnification. The SERVICE PROVIDER agrees to indemnify, defend and hold the CITY, its elected officials, officers, employees, agents, and volunteers harmless from any and all claims, demands, losses, actions and liabilities (including costs and all attorney fees) to or by any and all persons or entities, including, without limitation, their respective agents, licensees, or representatives, arising from, resulting from, or connected with this Agreement to the extent caused by the negligent acts, errors or omissions of the SERVICE PROVIDER, its partners, shareholders, agents, employees, or by the SERVICE PROVIDER'S breach of this Agreement. The SERVICE PROVIDER expressly waives any immunity that may be granted to it under the Washington

State Industrial Insurance Act, Title 51 RCW. The SERVICE PROVIDER'S indemnification shall not be limited in any way by any limitation on the amount of damages, compensation or benefits payable to or by any third party under workers' compensation acts, disability benefit acts or any other benefit acts or programs. This waiver has been mutually negotiated by the parties.

B. CITY Indemnification. The CITY agrees to indemnify, defend and hold the SERVICE PROVIDER, its officers, directors, shareholders, partners, employees, and agents harmless from any and all claims, demands, losses, actions and liabilities (including costs and attorney fees) to or by any and all persons or entities, including without limitation, their respective agents, licensees, or representatives, arising from, resulting from or connected with this Agreement to the extent solely caused by the negligent acts, errors, or omissions of the CITY, its employees or agents. No liability shall attach to the CITY by reason of entering into this Agreement except as expressly provided herein.

C. Survival. The provisions of this Section shall survive the expiration or termination of this Agreement with respect to any event occurring prior to such expiration or termination.

8. INSURANCE.

A. The SERVICE PROVIDER shall procure and maintain for the duration of the Agreement, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the SERVICE PROVIDER, their agents, representatives, employees or subcontractors.

B. The SERVICE PROVIDER shall provide a Certificate of Insurance evidencing:

1. Automobile Liability insurance with limits no less than $1,000,000 combined single limit per accident for bodily injury and property damage.

2. Commercial General Liability insurance written on an occurrence basis with limits no less than $2,000,000 combined single limit per occurrence and $2,000,000 aggregate for personal injury, bodily injury and property damage. Coverage shall include but not be limited to: blanket contractual; products/completed operations; broad form property damage; explosion, collapse and underground (XCU) if applicable; and employer's liability.

3. Professional Liability insurance written on a claims made basis with limits of no less than $2,000,000 per claim, and $2,000,000 policy

aggregate limit.

C. The CITY shall be named as an additional insured on the insurance policy, as respect to work performed by or on behalf of the SERVICE PROVIDER and a copy of the endorsement naming the CITY as additional insured shall be attached to the Certificate of Insurance. The CITY reserves the right to request certified copies of any required policies.

D. The SERVICE PROVIDER'S insurance shall contain a clause stating that coverage shall apply separately to each insured against whom claim is made or suit is brought, except with respects to the limits of the insurer's liability.

E. Any payment of deductible or self-insured retention shall be the sole responsibility of the SERVICE PROVIDER.

F. The SERVICE PROVIDER'S insurance shall be primary insurance as respect to the CITY and the CITY shall be given written notice of any cancellation, suspension or material change in coverage within two (2) business days of SERVICE PROVIDER'S receipt of such notice.

9. TREATMENT OF ASSETS.

Title to all property furnished by the CITY shall remain in the name of the CITY and the CITY shall become the owner of the work product and other documents, if any, prepared by the SERVICE PROVIDER pursuant to this Agreement.

10. COMPLIANCE WITH LAWS.

A. The SERVICE PROVIDER, in the performance of this Agreement, shall comply with all applicable federal, state or local laws and ordinances, including being licensed to do business in the City of Tumwater by obtaining a Tumwater business license and any additional regulations for licensing, certification and operation of facilities, programs and accreditation, and licensing of individuals, and any other standards or criteria as described in this Agreement to assure quality of services.

B. The SERVICE PROVIDER specifically agrees to pay any applicable CITY business and occupation (B&O) taxes which may be due on account of this Agreement.

11. NONDISCRIMINATION.

A. The CITY is an equal opportunity employer.

B. Nondiscrimination in Employment. In the performance of this Agreement, the SERVICE PROVIDER will not discriminate against any employee or applicant for employment on the grounds of race, creed, religion, color, national origin, citizenship or immigration status, families with children status, sex, marital status, honorably discharged veteran or military status, the presence of any sensory, mental, or physical disability or the use of a trained dog guide or service animal by a person with a disability, sexual orientation, genetic information, age or other basis prohibited by state or federal law; provided that the prohibition against discrimination in employment because of disability shall not apply if the particular disability prevents the proper performance of the particular worker involved. Such action shall include, but not be limited to: employment, upgrading, demotion or transfers, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and programs for training including apprenticeships. “Race” is inclusive of traits historically associated or perceived to be associated with race including, but not limited to, hair texture and protective hairstyles. For purposes of this subsection, "protective hairstyles" includes, but is not limited to, such hairstyles as afros, braids, locks, and twists. It is not an unfair practice when a distinction or differential treatment on the basis of citizenship or immigration status is authorized by federal or state law, regulation, rule or government contract.

C. Nondiscrimination in Services. The SERVICE PROVIDER will not discriminate against any recipient of any services or benefits provided for in this Agreement on the grounds of race, creed, religion, color, national origin, citizenship or immigration status, families with children status, sex, marital status, honorably discharged veteran or military status, the presence of any sensory, mental or physical disability or the use of a trained dog guide or service animal by a person with a disability, sexual orientation, genetic information, age or other basis prohibited by state or federal law. “Race” is inclusive of traits historically associated or perceived to be associated with race including, but not limited to, hair texture and protective hairstyles. For purposes of this subsection, "protective hairstyles" includes, but is not limited to, such hairstyles as afros, braids, locks, and twists. It is not an unfair practice when a distinction or differential treatment on the basis of citizenship or immigration status is authorized by federal or state law, regulation, rule or government contract.

D. If any assignment and/or subcontract have been authorized by the CITY, said assignment or subcontract shall include appropriate safeguards against discrimination. The SERVICE PROVIDER shall take such action as may be required to ensure full compliance with the provisions in the immediately preceding paragraphs herein.

E. Nondiscrimination in Benefits. **The provisions of this subsection are only applicable to contracts with an estimated value of**

$50,000 or more. Pursuant to Tumwater Municipal Code (TMC) Chapter 3.46, the SERVICE PROVIDER shall provide employee benefits or an equivalent sum to the domestic partners of their employees involved in the SERVICE PROVIDER'S operations applicable to this Agreement if such benefits are provided to employees' spouses as more particularly set forth in Chapter 3.46 of the TMC, a copy of which is attached hereto as Exhibit "B".

12. ASSIGNMENT/SUBCONTRACTING.

A. The SERVICE PROVIDER shall not assign its performance under this Agreement or any portion of this Agreement without the written consent of the CITY, and it is further agreed that said consent must be sought in writing by the SERVICE PROVIDER not less than thirty (30) days prior to the date of any proposed assignment. The CITY reserves the right to reject without cause any such assignment.

B. Any work or services assigned hereunder shall be subject to each provision of this Agreement and proper bidding procedures where applicable as set forth in local, state and/or federal statutes, ordinances and guidelines.

C. Any technical service subcontract not listed in this Agreement, must have express advance approval by the CITY.

13. NON-APPROPRIATION OF FUNDS.

If sufficient funds are not appropriated or allocated for payment under this Agreement for any future fiscal period, the CITY will not be obligated to make payments for services or amounts incurred after the end of the current fiscal period, and this Agreement will terminate upon the completion of all remaining services for which funds are allocated. No penalty or expense shall accrue to the CITY in the event this provision applies.

14. CHANGES.

Either party may request changes to the Scope of Services and performance to be provided hereunder, however, no change or addition to this Agreement shall be valid or binding upon either party unless such change or addition be in writing and signed by both parties. Such amendments shall be attached to and made part of this Agreement.

15. MAINTENANCE AND INSPECTION OF RECORDS.

A. The SERVICE PROVIDER at such times and in such forms as the CITY may require, shall furnish to the CITY such statements, records, reports, data, and information as the CITY may request pertaining to matters covered by

this Agreement.

B. The SERVICE PROVIDER shall maintain books, records and documents, which sufficiently and properly reflect all direct and indirect costs related to the performance of this Agreement and shall maintain such accounting procedures and practices as may be necessary to assure proper accounting of all funds paid pursuant to this Agreement. These records shall be subject at all reasonable times to inspection, review, or audit, by the CITY, its authorized representative, the State Auditor, or other governmental officials authorized by law to monitor this Agreement.

C. To ensure the CITY'S compliance with the Public Records Act, RCW 42.56, the SERVICE PROVIDER shall retain all books, records, documents and other material relevant to this agreement, for six (6) years after its expiration. The SERVICE PROVIDER agrees that the CITY or its designee shall have full access and right to examine any of said materials at all reasonable times during said period.

16. POLITICAL ACTIVITY PROHIBITED.

None of the funds, materials, property or services provided directly or indirectly under the Agreement shall be used for any partisan political activity, or to further the election or defeat of any candidate for public office.

17. PROHIBITED INTEREST.

No member, officer, or employee of the CITY shall have any interest, direct or indirect, in this Agreement or the proceeds thereof.

18. NOTICE.

Notice provided for in this Agreement shall be sent by certified mail to the addresses designated for the parties on the signature page of this Agreement.

19. ATTORNEYS FEES AND COSTS.

If any legal proceeding is brought for the enforcement of this Agreement, or because of a dispute, breach, default, or misrepresentation in connection with any of the provisions of this Agreement, the prevailing party shall be entitled to recover from the other party, in addition to any other relief to which such party may be entitled, reasonable attorney's fees and other costs incurred in that action or proceeding.

20. JURISDICTION AND VENUE.

A. This Agreement has been and shall be construed as having been made and delivered within the State of Washington. It is agreed by each party hereto that this Agreement shall be governed by laws of the State of Washington, both as to interpretation and performance.

B. Any action of law, suit in equity, or judicial proceeding for the enforcement of this Agreement or any provisions thereof shall be instituted and maintained in the superior court of Thurston County, Washington.

21. SEVERABILITY.

A. If, for any reason, any part, term or provision of this Agreement is held by a court of the United States to be illegal, void or unenforceable, the validity of the remaining provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular provision held to be invalid.

B. If it should appear that any provision hereof is in conflict with any statutory provision of the State of Washington, said provision which may conflict therewith shall be deemed inoperative and null and void insofar as it may be in conflict therewith, and shall be deemed modified to conform to such statutory provisions.

22. ENTIRE AGREEMENT.

The parties agree that this Agreement is the complete expression of the terms hereto and any oral representations or understandings not incorporated herein are excluded. Further, any modification of this Agreement shall be in writing and signed by both parties. Failure to comply with any of the provisions stated herein shall constitute material breach of contract and cause for termination. Both parties recognize time is of the essence in the performance of the provisions of this Agreement. It is also agreed by the parties that the forgiveness of the nonperformance of any provision of this Agreement does not constitute a waiver of the provisions of this Agreement. This Agreement may be executed in any number of counterparts, which counterparts shall collectively constitute the entire Agreement.

*** Signatures on Following Page ***

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed the day and year first hereinabove written.

CITY:
CITY OF TUMWATER
555 Israel Road SW
Tumwater, WA 98501

SERVICE PROVIDER:
RH2 ENGINEERING, INC.
22722 29th Drive SE, Suite 210
Bothell, WA 98021
UBI No. 600-373-001
Phone No. 425-951-5400

Debbie Sullivan
Mayor

Signature (Notarized – see below)
Printed Name:
Title:

ATTEST:

Melody Valiant, City Clerk

APPROVED AS TO FORM:

Karen Kirkpatrick, City Attorney

Notary Required for Service Provider Only

STATE OF WASHINGTON

COUNTY OF SNOHOMISH

I certify that I know or have satisfactory evidence that _____(name) is the person who appeared before me, and said person acknowledged that (he/she) signed this instrument, on oath stated that (he/she) was authorized to execute the instrument and acknowledged it as the _____(title) of _____(company) to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated:_____

Notary Public in and for the State of Washington,
My appointment expires:_____

Attachment A-1
Scope of Services
Engineering Services For
City of Tumwater
Southeast Water Reservoir

January 2024

Introduction

RH2 Engineering, Inc., (Service Provider), along with its subconsultants (Design Team), have been selected to provide engineering services to the City of Tumwater (CITY) for the Southeast Water Reservoir project.

The Design Team consists of RH2 Engineering, Inc., as the prime consultant, HDR Engineering, Inc., (HDR) assisting with predesign and permitting services, Sage Geotechnical (Sage) for geotechnical services, and Sitts & Hill Engineers, Inc., (Sitts & Hill) for topographic survey.

This project includes preliminary design, final design and permitting, and construction documents (plans, specifications, and Engineer's opinion of probable construction cost (OPCC)) for a 3.0 million gallon (MG) water reservoir to serve the CITY's 350 Pressure Zone. The project also includes supporting the CITY through public outreach and services during bidding and construction.

The following is a summary of the major tasks that will be completed under this Scope of Services and the project schedule (*Attachment C-1*) with timeline to complete each task in accordance with the Scope of Services. The estimated design completion date is January 2025.

Task 1 – Project Management Services

Task 2 – Data Collection, Review, and Topographic Survey

Task 3 – Hydraulic Modeling

Task 4 – Preliminary Design

Task 5 – Site Investigation and Planning

Task 6 – Permitting, Environmental Studies, and Cultural Resources

Task 7 – Design Plans and Specifications

Task 8 – Services During Bidding

Task 9 – Services During Construction

Task 10 – Management Reserve

This Scope of Services and Fee Estimate were written based on the information available at the time. Unknown parameters that may impact the reservoir design will be determined during Task 1 through Task 5. Upon authorization from the CITY, Service Provider will complete Task 1 through Task 5. At the completion of Task 5, it is anticipated the CITY will have confirmed the unknown parameters,

including the volume, dimensions, and material type for the proposed reservoir, connection points to the existing distribution system, and the extents of the desired off-site transmission main.

Once Task 5 is complete, the CITY and Service Provider may reevaluate this Scope of Services and Fee Estimate to mutually determine adjustments needed prior to proceeding with the subsequent tasks.

Services outlined herein will be performed to the level of effort identified in the Fee Estimate. If additional effort is required to complete the services, or additional services are requested by the CITY, an amendment to this Scope of Work and the Fee Estimate shall be mutually determined by the parties.

Task 1 – Project Management Services

Objective: Coordinate Design Team efforts and maintain frequent client communications. Maintain project schedules and prepare monthly invoices and budget status summaries. Provide quality assurance and quality control (QA/QC) review by the Principal in Charge. Meet with the CITY to provide project updates.

Approach:

1.1 **Prepare Project Management Plan**: Prepare a Project Management Plan (PMP) that describes project roles and responsibilities, communication protocols, quality management, and risk assessment, including the Scope of Services, schedule, and budget. Submit a draft PMP to the CITY for review and comment. Incorporate comments from the CITY into a final version of the PMP.

1.2 **Manage Schedule and Budget**: Track the budget and the schedule relative to the actual percent complete (earned value tracking) and report this to the CITY monthly for the duration of the project. Include monthly project summaries with monthly billing invoices to qualify the past month's billings. Document anticipated upcoming project activities and milestones.

1.3 **Attend Progress/Work Meetings with CITY and Design Team**: Attend up to sixteen (16) in-person project meetings, including a kick-off meeting, and up to ten (10) video conference call meetings. *It is assumed each in-person meeting will be two (2) hours in duration and each video conference call meeting will be approximately sixty (60) minutes long*. Service Provider will provide meeting agendas before each meeting and meeting minutes after each meeting. The following table lists the anticipated meetings during preliminary design, permitting, and final design and the number of consultants attending.

No. of Meetings	Meeting Name
1	Project Kick-off Meeting [RH2 (3), HDR (3)]
1	Alternatives Analysis Workshop [RH2 (2), HDR (1)]
1	Site and Facility Investigation/SEPA Reconnaissance Meeting [RH2 (1), HDR (2)]
1	Site Plan Review Pre-submission Conference [RH2 (1), HDR (3)]
1	Site Plan Review Pre-submission Conference follow up [RH2 (1), HDR (3)]
1	Public Information Meeting [RH2 (1), HDR (2)]
1	Conditional (Special) Use Permit [RH2 (1), HDR (2)]
1	Preliminary Design Report Review Meeting [RH2 (1), HDR (2)]

No. of Meetings	Meeting Name
1	Reservoir Supply and Hydraulic Analysis [RH2 (1), HDR (2)]
1	Telemetry/SCADA System Implementation Meeting [RH2 (2)]
1	Conditional (Special) Use Permit Coordination Meeting [RH2 (1), HDR (2)]
1	30-Percent Design Milestone Review Meeting [RH2 (2), HDR (1)]
1	60-Percent Design Milestone Review Meeting [RH2 (2), HDR (1)]
1	90-Percent Design Milestone Review Meeting [RH2 (2), HDR (1)]
2	Development Permit Application Submittal Meetings [RH2 (1), HDR (2)]
10	Project Status and Design Coordination Video Conference Calls [RH2 (2), HDR (1)]

1.4 **Coordinate with Design Team**: Engage in regular communication with the Design Team throughout the project regarding schedule and expected deliverables. Meet with Service Provider and Design Team staff for internal project coordination.

1.5 **Perform and Manage Project QA/QC**: Perform QA/QC reviews by the Principal in Charge for the deliverables, including the Hydraulic Modeling Technical Memorandum, Preliminary Design Report, Geotechnical Engineering Report, Stormwater Site Plan (Drainage Report), and construction contract documents at the 30-percent, 60-percent, 90-percent, and bid-ready design benchmarks. For documents submitted to the CITY for review, the Service Provider shall provide the name of the QA/QC principal with confirmation that full QA/QC reviews have been completed and written comments addressed.

Assumptions:

- *Project management will be for design, bidding phase, and construction phase services for a period of approximately twenty-four (24) months, with construction starting in 2025.*
- *Progress/work meetings with the CITY will include up to three (3) Design Team members and have an approximate duration of two (2) hours each.*
- *In-person meetings with the CITY will be at CITY offices unless otherwise determined.*
- *Up to four (4) project schedule updates will be prepared.*
- *Draft and final PMPs will be submitted electronically.*
- *Internal coordination meetings will occur every two (2) weeks between the Design Team as necessary for the design duration (twelve (12) months). A total of twenty-four (24) meetings will be held virtually and will include up to three (3) staff for a period of one (1) hour each.*

Provided by the CITY:

- Review of meeting minutes for accuracy and comments for revision as necessary.
- Review comments on submittals documents.
- Process monthly invoices.
- Input and concurrence on project decisions and development.

- Currently available background information on the existing reservoir site related to system operation and piping.
- Legal review of all contracts, bid forms, and real property.

Project Deliverables:

- Meeting agenda and minutes from kick-off meeting in electronic format (Word and PDF).
- Monthly invoices and project summaries in electronic format (PDF).
- Meeting agendas and minutes in electronic format (Word and PDF).
- Project design schedule and updated project schedules in electronic format (PDF).
- Draft and final PMP in electronic format (PDF).
- QA/QC Assignment Checklist in electronic format (PDF).

Task 2 – Data Collection, Review, and Topographic Survey

Objective: Collect and review existing relevant project background and site information. Perform topographic survey for the project.

Approach:

2.1 **Collect and Review Data**: Collect and review existing relevant project background and site information. Prepare a detailed data request spreadsheet for additional information Service Provider and HDR require from the CITY and request clarification when needed. Data and materials related to the reservoir will be gathered and discussed with CITY staff at the project kick-off meeting identified in subtask 1.3. Review pertinent data collected during the project kick-off meeting. The following materials are anticipated to be collected:

- Hydraulic model.
- Existing easement descriptions, if any.
- Water system mapping and record drawings.
- Supervisory control and data acquisition (SCADA) information.
- Current and projected water system demands.
- As-built plans for other projects within the project limits.

2.2 **Obtain Topographic Survey**: Coordinate with a professional land surveyor, Sitts & Hill, to provide the vertical and horizontal controls and topographical survey and mapping necessary for design of the Southeast Water Reservoir, on-site and off-site improvements, utility and construction easements, locations of connections to the existing water system on 93rd Avenue SE, and off-site water main improvements. Sitts & Hill will complete a vertical circuit to confirm the base elevation and overflow elevation of the CITY's existing 350 Reservoir.

- City of Tumwater Survey Control:

- Basis of Bearings: Washington state plane coordinate system, South Zone NAD83/11;
- Datum: NGVD 29.

A. Topographic survey and mapping for SE reservoir site, access road, and easements: The survey shall include a 300 foot radius around the proposed reservoir location per preliminary plan provided by the CITY on the CITY owned parcel no. 12724120100, and the full width and length of the existing easement plus 100-feet on either side of the easement on parcel no. 12724120000 on which the access easement is located.

Field data collection shall include, but not be limited to, the followings:

- Topographic and surface features, type and size of trees over 6 inches in diameter and landscaping;
- Overhead and underground utilities, if any;
- Delineated critical areas boundaries;
- Rights-of-way (ROW), property lines, and easements including type, size, bearing, volume and page, as necessary;
- Show lot, block, abstract number, and dimensions with adjacent street names;

B. Topographic survey and mapping for water main extension and connections to existing water mains:

The survey shall include the full ROW of Old Highway 99 SE from Silverspot Drive SE to River Drive SE and the full ROW of 93rd Avenue SE from the east end of parcel number 12724120000 to Brooks Lane SE. In addition, the survey will include 30 feet beyond both sides of the ROW for a portion of approximate 1,400 linear feet on 93rd Avenue starting 550 feet east of Brooks Lane East and ending 1,950 feet east of Brooks Lane East. See attached survey sketch.

Field data collection shall include, but not be limited to, the followings:

Roadways:

- Identify roadways, driveways, sidewalks with pavement type;
- Show centerlines and angles of intersection of side street(s) with main roadway centerline as necessary;
- Show all mailboxes, road signs, and sign posts;

Trees, Shrubs, and Landscaping:

- Locate and describe all trees, vegetation line, shrubs, and special landscaping;
- Provide locations of other landscaping materials such as lawn, rock structures, sculptures, etc.;

- Provide type, locations, and elevations of sprinkler heads, sprinkler control boxes, and other sprinkler devices that may become a design consideration.

Fence and Retaining Wall:

- Provide locations and types of fence within the limits of the survey;
- Show retaining walls with detailed description.

Water Main and Appurtenances:

- Size and material type of water main;
- Size and type of water meter and fire hydrant;
- Size and type of valve with operating nut elevation.

Sanitary Sewer and Appurtenances:

- Size and material type of sewer line and sewer force main with flow direction;
- Size and type of manhole with rim elevation, invert elevations of all pipes entering and exiting manhole;
- Cleanout locations.

Storm Drains, Open Channels, and Culverts:

- Size and material type of storm drains with flow direction;
- Size and type of inlet, catch basin, manhole, etc.;
- Indicate all open channels and culverts with material and elevations;
- Locate all open channels flow lines, toe, and top channel elevations.

Gas Mains:

- Size and material of all gas main, if available;
- Locations of gas valves and other gas appurtenances;

Underground Communications:

- Size, type of materials, and owner name;
- Size and type of appurtenances (vault, manhole, hand hole, pedestal, guywire, etc.

Underground Electric:

- Size, type of materials, and owner name;
- Size and type of appurtenances (vault, manhole, hand hole, pedestal, guywire, etc.

- Format survey data for use in AutoCAD 2021. Create a base map for project design using RH2 standards.
- Perform site visit as necessary for the Service Provider to confirm that the topographic survey sub-consultant has completed the Work in a satisfactory manner.
- Coordinate with Sitts & Hill to obtain additional subsurface utility information, including utility locates and items found missing or needing clarification after the site visit to confirm survey. Coordinate with private utility locating services such as Applied Professional Services (APS) to provide utility potholing to determine utility depths at critical design locations. Incorporate findings into the design plans.

- Coordinate with Sitts & Hill to obtain off-site verification of the base elevation and overflow elevation of the CITY's existing 350 Reservoir. Elevations shall be verified by vertical circuit from the nearest monument to the existing 350 Reservoir. Overflow verification shall include obtaining the elevation of pressure transducers on-site or nearby at the CITY's C Street Pump Station, if any. RH2 will attend the verification in person.

2.3 **Pothole Existing Utilities**: Coordinate with CITY staff for potholing of existing private and CITY-owned utilities.

Pothole of Private Utilities:

As the 30-percent design progresses and the proposed horizontal layout of the improvements is approved by the CITY, the Service Provider shall identify the locations of potential utility conflicts with existing private utilities and provide potholing exhibits to the CITY. CITY staff will share the design information with private utility owners and request utility potholes. The CITY will provide the pothole data from private utility owner to the Design Team when it becomes available.

Pothole of CITY-owned Utilities:

After completion of the 30% design, the Service Provider shall coordinate potholing of CITY-owned utilities with APS. Service Provider shall provide the CITY the opportunity to review pothole exhibits prior to the potholing of CITY-owned utilities. Service Provider shall contract with APS to provide hydro-excavation for utility potholing and traffic control. Coordinate with Sitts & Hill to return to the site and survey pothole locations from both CITY-owned and private utilities after completion of potholing services. *This Scope of Services assumes up to twelve (12) locations will be potholed.*

Assumptions:

- *The CITY will provide an up to date, calibrated hydraulic model.*
- *CITY's H2ONet model can be directly imported into InfoWater without adjustments or corrections needed for spatial projections.*
- *The CITY will provide data within approximately two (2) weeks of when the information is requested.*
- *Service Provider will use as is and may reasonably rely upon the accuracy and completeness of data, materials, and information generated or produced by the Design Team in the performance of this Scope of Services.*
- *The survey will be performed for the area identified in* ***Attachment D-1.*** *The survey extents on the CITY-owned property are based on a CITY prepared and provided exhibit showing the proposed reservoir location and proposed access road alignment. If the proposed access road alignment and reservoir location identified by the CITY are determined to be infeasible, additional survey of the CITY-owned parcel and easement parcel may be required. No additional survey fees shall be paid by the CITY for work that is required by the surveyor to*

obtain missing field data or to correct errors in the original survey unless the CITY requests additional survey outside of the original survey extents.

Provided by the CITY:

- CITY's Hydraulic Model (H2ONet).
- Responses to the data request spreadsheet.
- Review of potholing exhibits for CITY-owned utilities.
- Access to CITY-owned parcel no. 12724120100 and permission to access the privately owned parcel no. 12724120000.
- Access to the CITY's 350 Reservoir site and the top of the 350 Reservoir.
- Access to the CITY's C Street Pump Station.
- Level and pressure data for the 350 Reservoir on the day of the off-site overflow confirmation.
- Pothole data upon completion of private utility potholing.

Project Deliverables:

- Data request spreadsheet in electronic PDF.
- Field survey formatted for AutoCAD Civil 3D 2023.
- Survey field notes and methods used.

Task 3 – Hydraulic Modeling

Objective: Complete hydraulic modeling to validate the sizing of the Southeast Reservoir and determine changes to system pressures, available fire flow, and water age. Services in this Task will be largely performed by HDR, with support from the Service Provider.

Approach:

3.1 **Review Previous Analyses**: Review the CITY's latest *Water System Plan* (WSP) storage capacity analysis, source capacity analysis, analyses associated with the Southeast Reservoir, and proposed distribution system improvement projects related to the Southeast Reservoir.

3.2 **Develop Hydrant Testing Plan**: Develop hydrant testing plan for up to three (3) hydrant test locations near the Southeast Reservoir site to support collection of data to validate the model.

3.3 **Observe Hydrant Tests**: Observe CITY-performed hydrant test(s) in the field.

3.4 **Validate Model**: Validate model accuracy at the Southeast Reservoir site based off the criteria in Table 6-1 of the Washington State Department of Health (DOH) *Water System Design Manual* (WSDM) using the collected hydrant test data.

3.5 **Create Winter Demand Allocations**: Create a low winter demand allocation in the model by taking current average day demands (ADD) allocated in the model and multiplying each demand node by the same multiplication factor to reduce the total system demand to the average

monthly demand for the lowest demand month. Apply a winter diurnal demand pattern to demands. Create a low winter demand allocation in the model for 20-year demands.

3.6 **Create Summer Demand Allocations**: Create a peak summer demand allocation in the model by taking current maximum day demands (MDD) allocated in the model and applying a summer diurnal demand pattern. Create a peak summer demand allocation in the model for 20-year demands.

3.7 **Update Model**: Update pipes in the model for the following infrastructure options:

a) Base Alternative – Addition of pipes from the proposed tank to 93rd Avenue and along 93rd Avenue west to Tigerlily Street, and upsizing piping along Old Highway 99.

b) Alternative A – Pipes in the Base Alternative plus additional 16-inch piping on 93rd Avenue west of Tigerlily Street.

c) Alternative B – Pipes in the Base Alternative plus additional 16-inch piping from 93rd Avenue to Old Highway 99 and north along Old Highway 99.

3.8 **Complete Model Scenarios**: Set up and complete the model scenarios in the following table.

Planned Model Scenarios				
No.	**Demand**	**Model Type**	**Infrastructure**	**Purpose**
1	Existing MDD + depleted FSS	SS	Existing	Determine baseline available fire flow for existing infrastructure and demands
2	Existing low winter	EPS	Existing	Determine baseline winter water age and reservoir fluctuations for existing infrastructure and demands
3	Existing peak summer	EPS	Existing	Determine baseline summer water age and reservoir fluctuations for existing infrastructure and demands
4	Existing peak summer + fire	EPS	Existing	Evaluate response of reservoir to fire scenario occurring in southeast portion of the distribution system given scenario's variables
5	Existing MDD + depleted FSS	SS	Existing + SE Reservoir + Base Alternative	Determine available fire flow given scenario's variables
6	Existing low winter	EPS	Existing + SE Reservoir + Base Alternative	Determine winter water age and reservoir fluctuations given scenario's variables
7	Existing peak summer	EPS	Existing + SE Reservoir + Base Alternative	Determine summer water age and reservoir fluctuations given scenario's variables
8	Existing peak summer + fire	EPS	Existing + SE Reservoir + Base Alternative	Evaluate response of reservoir to fire scenario occurring in southeast portion of the distribution system given scenario's variables
9	Existing MDD + depleted FSS	SS	Existing + SE Reservoir + Alternative A	Determine available fire flow given scenario's variables
10	Existing low winter	EPS	Existing + SE Reservoir / Alternative A piping	Determine winter water age and reservoir fluctuations given scenario's variables
11	Existing peak summer	EPS	Existing + SE Reservoir + Alternative A	Determine summer water age and reservoir fluctuations given scenario's variables
12	Existing peak summer + fire	EPS	Existing + SE Reservoir + Alternative A	Evaluate response of reservoir to fire scenario occurring in southeast portion of the distribution system given scenario's variables

Planned Model Scenarios				
No.	**Demand**	**Model Type**	**Infrastructure**	**Purpose**
13	Existing MDD + depleted FSS	SS	Existing + SE Reservoir + Alternative B	Determine available fire flow given scenario's variables
14	Existing low winter	EPS	Existing + SE Reservoir + Alternative B	Determine winter water age and reservoir fluctuations given scenario's variables
15	Existing peak summer	EPS	Existing + SE Reservoir + Alternative B	Determine summer water age and reservoir fluctuations given scenario's variables
16	Existing peak summer + fire	EPS	Existing + SE Reservoir + Alternative B	Evaluate response of reservoir to fire scenario occurring in southeast portion of the distribution system given scenario's variables
17	Existing MDD + depleted FSS	SS	Existing + SE Reservoir + Alternatives A + B	Determine available fire flow given scenario's variables
18	Existing low winter	EPS	Existing + SE Reservoir + Alternatives A + B	Determine winter water age and reservoir fluctuations given scenario's variables
19	Existing peak summer	EPS	Existing + SE Reservoir + Alternatives A + B	Determine summer water age and reservoir fluctuations given scenario's variables
20	Existing peak summer + fire	EPS	Existing + SE Reservoir + Alternatives A + B	Evaluate response of reservoir to fire scenario occurring in southeast portion of the distribution system given scenario's variables
21	20-year MDD + depleted FSS	SS	All WSP Improvements + SE Reservoir + Alternatives A + B	Determine available fire flow given scenario's variables
22	20-year low winter	EPS	All WSP Improvements + SE Reservoir + Alternatives A + B	Determine winter water age and reservoir fluctuations given scenario's variables
23	20-year peak summer	EPS	All WSP Improvements + SE Reservoir + Alternatives A + B	Determine summer water age and reservoir fluctuations given scenario's variables
24	20-year peak summer + fire	EPS	All WSP Improvements + SE Reservoir + Alternatives A + B	Evaluate response of reservoir to fire scenario occurring in southeast portion of the distribution system given scenario's variables
25-44	Repeat of model scenarios no. 5 through 24 with a different tank geometry if necessary.			
45-50	Up to five (5) additional scenarios to validate proposed pipe sizes and additional what-if questions.			

Notes: EPS = extended period simulation, SS = steady-state, FSS = fire suppression storage
Initial SE Reservoir geometry will be based off of a tank with geometry of an overflow elevation matching the existing 350 Zone reservoir and a diameter resulting in 3.0 million gallons of storage between the overflow elevation and an elevation corresponding to 20 psi above the highest service connection in the 350 Zone.
Scenarios #21-24 will be completed first after baseline scenarios to verify tank sizing for future scenarios prior to completing other scenarios.

3.9 **Confirm Data**: Confirm the following data while modeling the scenarios in the table:

- Validate the sizing of pipeline improvement project D-30 (from the CITY's WSP) and determine if size should remain 24 inches as outlined in the WSP.
- Determine positives and negatives for the three (3) piping alternatives as they relate to tank fill/draw cycling, water age, and fire flow.
- Confirm preferred tank geometry to use for design.

3.10 **Summarize Results in TM**: Summarize modeling results into a draft Hydraulic Modeling technical memorandum (TM).

3.11 **Review Meeting**: Conduct a Supply and Hydraulic Analysis Meeting with CITY staff to review draft Hydraulic Modeling TM results.

3.12 **Finalize TM**: Address CITY comments on draft Hydraulic Modeling TM into the final Hydraulic Modeling TM.

Assumptions:

- *Summer and winter diurnal demand patterns are already available within the model. Diurnal demand patterns do not need to be developed.*
- *Current and 20-year demands are allocated into the model for ADD, MDD, and peak hour demand. No demand allocation is needed.*
- *The low winter demand will be based off 0.65 multiplied by ADD, which is equivalent to the lowest ratio of $ADD_{monthly}$ to ADD_{annual} in Table 3.1 of the CITY's WSP, where November had the lowest demands.*
- *No updates to the existing hydraulic model are needed unless specifically expressed in the Scope of Services.*
- *Up to fifty (50) model scenarios are included in this Scope of Work.*
- *A steady-state fire flow model scenario with fire suppression storage depleted and MDD already exists within the model.*
- *All operating rules and setpoints for pump stations and wells are already in the model and do not need to be adjusted.*
- *The active facilities (pipes, tanks, wells, etc.) for existing and 20-year scenarios are already created in the model and do not need to be adjusted.*
- *Fire flow testing will be scheduled for one (1) 8-hour day.*
- *Comprehensive calibration of the model is not needed. It is assumed that only minor adjustments are needed as part of the validation process.*
- *Water quality modeling will consist only of water age.*
- *This Scope of Services does not include the development of additional improvement projects to address deficiencies in fire flow or water age in other areas of the CITY.*
- *Draft Hydraulic Analysis TM will be up to approximately sixty (60) pages with figures.*
- *Alternatives Analysis Workshop Meeting with CITY staff will include two (2) HDR staff, one (1) RH2 staff, and will be up to three (3) hours in duration. An additional hour of HDR consultant time will be required for agenda and meeting preparation.*

Provided by the CITY:

- Provide current H2ONet model (digital format).
- Overflow elevation to be used for proposed Southeast Reservoir.
- Be available to answer questions about the CITY's water model.
- Provide operator staff and equipment to run fire flow tests for one (1) day.
- Field data collected during hydrant tests, including tank levels and pump/well flow rates during tests from the SCADA system.
- Single set of compiled, conflict resolved comments on the draft Hydraulic Analysis TM.

Project Deliverables:

- Hydrant testing plan in electronic PDF.
- Draft Hydraulic Analysis TM in electronic PDF.
- Final Hydraulic Analysis TM in electronic PDF.

Task 4 – Preliminary Design

Objective: Perform a conceptual level alternatives evaluation, conduct a reservoir style alternatives evaluation workshop, develop design criteria, prepare preliminary site configuration, site access, and off-site water main layout, conduct a water supply evaluation workshop, and develop preliminary cost estimates, preliminary plans, DOH Project Report, and DOH submittal.

Approach:

4.1 **Develop Reservoir Style Alternatives**: Perform a conceptual level alternatives evaluation for two (2) reservoir alternatives, prepare conceptual level comparative cost estimates, and review with the CITY. The two (2) alternatives evaluated will be an above-grade welded steel tank and a pre-stressed reinforced cement concrete tank.

- Alternatives Description – Identify and describe the reservoir alternatives. A goal of the alternative's development will be to maximize the usable storage volume available at the facility and provide a minimum storage volume of 3.0 MG.
- Triple Bottom Line Evaluation Criteria (environmental, public impact, and costs) – Develop criteria that will be used to evaluate the alternatives based on a Triple Bottom Line (TBL) decision model. Coordinate with the CITY in developing criteria and provide a completed set of criteria to the CITY for review and comment prior to the workshop (subtask 4.2). Anticipated criteria include permitting requirements, construction costs, ongoing operations and maintenance costs, reliability, and customer level of service. Establish final criteria with CITY staff input.
- Alternatives Evaluation Spreadsheet – Use the TBL evaluation to prepare a spreadsheet and include the criteria developed for the analysis for use in the workshop.

4.2 **Attend Reservoir Alternatives Evaluation Workshop**: Conduct a workshop with CITY staff and stakeholders to review the reservoir style alternatives and TBL analysis. Develop an evaluation matrix that includes evaluation criteria under each of the main categories (environmental, public impact, and costs) and columns for scoring up to two (2) alternatives for the various criteria. Each alternative will be given a composite score based on the scores for each criterion to assist the CITY with making the decision. A key factor in the evaluation will be life-cycle costs, including maintenance requirements for the various reservoir types. The collaborative approach of discussing the alternatives and using the TBL evaluation spreadsheet will result in a selected alternative that will be carried forward for the design of the project.

4.3 **Develop Design Criteria**: Evaluate and confirm the reservoir capacity and dimensions. The impact on reservoir type and configuration will be evaluated relative to the CITY's previous planning efforts documented in the WSP, including storage, supply, and operational flexibility. Services in this Subtask will be largely performed by HDR, with support from the Service Provider. The following list outlines the general items that will be reviewed and developed:

- Develop general design criteria such as reservoir volume, height, and diameter.
- Identify dead, fire flow, standby, equalizing and operational storage volumes.
- Develop design criteria for appurtenances such as seismic shut-off valve and reservoir mixing system.
- Review current and future water system demands under new pressure zone configuration.
- Review service area elevations relative to pressure fluctuations and minimum and maximum system pressures.
- Review overall system operations relative to the CITY’s other reservoirs, pump stations, and supply sources.
- Perform preliminary evaluations of water turnover (aging) and water quality.
- Review pipeline options to connect to the existing water system to provide system hydraulic balancing.
- Review reservoir fill and draw rates.
- Prepare Service Provider Reservoir Design Criteria Checklist.

Prepare draft design criteria and CITY preferences summary for CITY’s review and input. Discuss and finalize design criteria and preferences with CITY staff in a workshop setting. Document and submit finalized design criteria and preferences to the CITY.

4.4 **Develop Site Configuration, Site Access, and Off-Site Water Main**: Develop a preliminary site layout and site access configuration for CITY review. This will include preliminary site plans, including reservoir location on the site, required setbacks, vaults, telemetry cabinet, roadways, retaining wall, stormwater facilities, waterline and stormwater piping alignments, power and dry utility needs and routes, clearing limits, and other site features. Site access plans will include access from 93rd Avenue SE. Develop the new water main alternatives to connect to the existing

water system based on the hydraulic model. Such alternatives will be discussed with CITY staff and stakeholders using the TBL matrix and design criteria recommendations. CITY staff and stakeholders will review, evaluate, and make the final decision for which water main alternative will be used.

4.5 **Develop Preliminary Cost Estimates**: Develop preliminary cost estimates for the proposed upgrades as identified in subtask 4.4. Provide the preliminary cost estimates to the CITY for review prior to incorporating into the preliminary Project Report.

4.6 **Develop Preliminary Project Report, Plans, and DOH Submittal**: Prepare the preliminary Project Report to meet DOH WSDM requirements. Services in this Subtask will be largely performed by HDR, with support from the Service Provider. The report will describe and illustrate key design criteria, reservoir operations, conceptual level designs, general facility configurations, etc. as outlined in the Washington Administrative Code (WAC) 246-290-110. A plan and cross section analysis of the reservoir site will be used to establish the preferred orientation of the key project features, including the new water reservoir, setbacks, vehicle parking, major water system piping layouts, vaults, site drainage facilities, and new power and telemetry conduits.

Prepare a preliminary and final Project Report for DOH submittal to include the following:

A. Project description and narrative of the proposed work.
B. Project planning, including demand forecast assumptions.
C. Analysis of alternatives.
D. Water quality analysis.
E. Design criteria and basis of design.
F. Engineering calculations, including source of supply analysis.
G. Legal considerations.
H. Operations and maintenance considerations.
I. Additional applicable items included in the “General Design Checklist.”
J. A list of proposed equipment.
K. A control narrative for the system operation.
L. Conceptual design schematics.
M. Preliminary OPCC for preferred alternative.
N. Other items required per WAC 246-290-110.

1) Prepare DOH Project Approval Application Form (to be submitted by the City)
2) Submit Project Report and Project Approval Application Form to DOH for review and comments.

3) Prepare responses to DOH comments and final stamped Project Report.

Service Provide anticipates the following plan sheets to be included with this submittal:

- Cover Sheet.
- General Information.
- Existing Site Plan and Survey Control.
- Overall Proposed Site Plan.
- Off-Site Utility Plan.

Assumptions:

- *Up to two (2) different reservoir styles will be evaluated by the Service Provider.*
- *The preliminary Project Report will be prepared in a format that satisfies DOH Project Report requirements.*
- *Preliminary design plans prepared by the Service Provider will be included as an appendix to the Project Report.*
- *Contents of the preliminary Project Report will be based on the requirements of the DOH WSDM (current edition at the time of notice to proceed).*
- *The preliminary Project Report will be submitted during preliminary design of the Southeast Reservoir project. Formal questions from DOH will be addressed, and a final Project Report, including construction plans and technical specifications, will be submitted to DOH during final design of the project at approximately the 90-percent design stage.*
- *No date is warranted or implied for agency response or approval.*

Provided by the CITY:

- Review preliminary alternatives and alternative selection criteria.
- Attend reservoir alternatives workshop.
- Review preliminary cost estimates.
- Review preliminary Project Report.
- Provide one (1) set of consolidated comments on the preliminary DOH Project Report.

Project Deliverables:

- Preliminary reservoir style alternatives description and costs estimate.
- Draft TBL spreadsheet in Excel format.
- Final TBL spreadsheet in Excel format, including CITY input.
- Draft Design Report for DOH review and comments.

- Final Design Report for DOH for approval.
- Preliminary Project Report submittal to DOH for review and comments.
- Submittal of final Project Report, plans, and technical specifications (prepared in subtask 7.3) to DOH.

Task 5 – Site Investigation and Planning

Objective: Complete a subsurface soil and groundwater investigation and perform engineering analysis to support design and construction of the project. Conduct stormwater evaluation and prepare a Stormwater Site Plan (Drainage Report) for compliance with Thurston County's (County) *Drainage Design & Erosion Control Manual* (DDECM). Evaluate the site for the potential to add County 911 Communications (TCOMM 911) service infrastructure.

Approach:

5.1 **Perform Geotechnical Investigation**: Complete subsurface soil and groundwater investigations and perform engineering analysis to support design and construction of the project. Services in this Task will be largely performed by Sage, with support from the Service Provider. Geotechnical investigations will be performed on the proposed reservoir site and access road for the design of the project improvements and along 93rd Avenue East starting 550 feet east of Brooks Lane East and ending 1,950 feet east of Brooks Lane East for design of the water main extension and a future roadway project.

- **Public utility request**: Coordinate the clearance of underground utilities at the proposed exploration locations. Mark the exploration locations in the field and contact the Washington Utilities Coordinating Council's one call locating service.
- **Field investigation and site access coordination**: Visit the site to determine access for the drill rig. Subcontract with an earthworks contractor to remove brush and complete minor grading to facilitate access for the drill rig.

The depth and condition of the bedrock is critical for the design and construction of this project. Sage will observe/sample the bedrock along the proposed alignments of utilities and at the footprint of the proposed water reservoir to establish a profile of the bedrocks in these areas. The following describes the proposed approach to profile and characterize the bedrock and overlying soils.

- **Geologic/geotechnical site reconnaissance**: Walk the site to map locations of rock outcrops and historic landslides, if any. Perform bedrock hardness testing at representative locations within the project limits. At a minimum, the bedrock hardness testing shall be performed at the following locations:
  - Around the footing of the new water reservoir tank.
  - Along the access road from 93rd Avenue to the new water reservoir site.
  - Along 93rd Avenue where shallow bedrock is observed/suspected and that may need to be excavated for proposed utilities or future roadway grading.

- **Geotechnical test pits**: Subcontract an earthworks contractor to excavate five (5) to ten (10) test pits along the proposed access road alignment and near the proposed tank footprint. The test pits will be excavated up to 15 feet below ground surface or to practical refusal, whichever is encountered first.
- **Infiltration testing**: If site conditions appear feasible (i.e., granular) for on-site infiltration, two (2) large-scale pilot infiltration tests (PITs) will be conducted in two (2) of the test pits. The PIT will be conducted in accordance with the current version of the County's DDECM. The excavations will be backfilled in compacted soil lifts.
- **Surface geophysics – Tank Area**: Subcontract a geophysical surveyor to perform up to two (2) two-dimensional Multichannel Analysis of Surface Wave (MASW) profiles to measure the shear wave velocity of the subsurface near the proposed tank footprint. MASW shear wave velocity profiles will be 150 feet in length or less.
- **Surface geophysics – Roadway**: Subcontract a geophysical surveyor to perform one (1) 300-foot-long MASW profile along a portion of the proposed access road and one (1) 500-foot-long profile along 93rd Avenue SE where bedrock may be shallow.
- **Geotechnical drilling – Tank Area**: Subcontract a geotechnical driller to advance up to three (3) soil borings at the proposed tank location if data from the site reconnaissance, test pits, and surface geophysics tasks indicate potentially adverse tank foundation conditions. One (1) of the soil borings will be advanced up to 60 feet, or 40 feet into bedrock, if encountered. The other two (2) borings will be advanced up to 40 feet, or 20 feet into bedrock, if encountered. A 3-inch polyvinyl chloride (PVC) casing will be installed in the deep boring to facilitate subsurface geophysics. This subtask assumes a maximum till thickness of 20 feet.
- **Geotechnical drilling – Roadway:** Subcontract a geotechnical driller to advance up to four (4) 15-ft-deep soil borings along 93rd Avenue SE in the area of suspected shallow bedrock. Traffic control for a flagger-controlled, single-lane closure will also be subcontracted. Drill locations will be patched with quick-set concrete and drill cuttings will be drummed and hauled off site.
- **Subsurface geophysics**: Subcontract a geophysical surveyor to perform a down-hole shear wave suspension log of the deep borehole near the proposed tank, if data from the site reconnaissance, test pits, and surface geophysics tasks indicate potentially adverse tank foundation conditions.
- **Geotechnical laboratory testing**: Perform laboratory tests on select samples recovered from the excavations. Testing will include:
    - Sixteen (16) Atterberg limits or grain size analyses (including hydrometer analyses); and
    - Three (3) subcontracted corrosivity measurements.
- **Geotechnical data reporting**: Prepare a draft geotechnical data memorandum. The memorandum will be stamped by a licensed geotechnical engineer after incorporating comments from the Design Team. The data memorandum will contain the following:

- A discussion of local and regional geology, site surface conditions, and potential seismic hazards.
- The seismic site classification.
- Results of the subsurface investigation, including summary exploration logs, laboratory test data, and geophysical survey data.

- **Geotechnical engineering design report**: Prepare a geotechnical engineering report for the project. The report will be stamped by a licensed geotechnical engineer after incorporating comments from the Design Team. The geotechnical report will contain the following:
  - Discussions and analysis regarding geologically hazardous/steep slope critical areas pursuant to CITY municipal code requirements.
  - Conclusions regarding the potential for liquefaction, lateral spreading, or seismic slope deformation at the site.
  - Recommendations for tank foundation bearing capacity and foundation drainage.
  - Recommendations for earthwork and grading, including stripping depth; subgrade preparation; utility trench excavation; construction dewatering; temporary and permanent slopes; reuse of on-site materials as structural fill; and structural fill placement and compaction at the tank footprint, the access road, and along 93rd Avenue SE.
  - An assessment of bedrock rippability, if encountered.
  - Recommendations for lateral earth pressures for use in retaining wall design.
  - A discussion of infiltration feasibility, including estimates of potential infiltration rates based on large-scale PITs. Results of the tests will be included.
  - Geotechnical considerations related to stormwater and reservoir overflow management.
- All test pits that deem to cause hazard and safety concern to the public and all test pits in the privately owned properties shall be backfilled with native materials and restored to match existing conditions or better after the soil investigation is completed.

5.2 **Prepare Stormwater Site Plan**: Prepare a Drainage Report documenting the core requirements of the County's DDECM and prepare the stormwater permit application necessary for County development permits. Services in this Subtask will be largely performed by HDR, with support from the Service Provider.

- Stormwater Basin Delineation: Prepare for and attend one (1) meeting with County engineering staff to review and discuss the drainage basins for the site in accordance with the 2022 DDECM. Determine the basin to which the site contributes stormwater runoff and any known downstream conveyance or erosion constraints. Present options for the reservoir drainage and overflow and preferred routing.

- Conceptual Stormwater Designs: Prepare conceptual design for the stormwater management system (i.e., proposed detention/infiltration pond). Evaluate the soils report and infiltration analysis and perform a qualitative downstream analysis for the stormwater system and the potential for infiltration, if feasible.
- Drainage Report: Prepare a draft Drainage Report addressing all eleven (11) core requirements of the DDECM. Utilize the Western Washington Hydraulic Model (WWHM or MSG Flood) for preliminary sizing of both the water quality and flow control facilities. Conveyance analysis will be completed using StormShed modeling software or equal for facility sizing. The conveyance system will be evaluated using the Santa Barbara Unit Hydrograph Method for the 25-year, 24-hour storm event. The 100-year, 24-hour storm event will be modeled and evaluated for surcharge. Prepare a Stormwater Pollution Prevention Plan and an Operations and Maintenance Plan.

5.3 **Evaluate Opportunities for TCOMM – 911 Service Infrastructure**: Assess the opportunities to place TCOMM 911 service equipment on the reservoir. The CITY will contact TCOMM 911 to confirm placing TCOMM 911 equipment at the reservoir site will benefit the TCOMM 911 system. It is anticipated one (1) meeting will be conducted with CITY staff and TCOMM 911 representatives to review the requirements for the installation. Evaluate the type of brackets and supports needed to install the TCOMM 911 equipment and estimate the cost to add the infrastructure on the site and the reservoir to support the equipment.

Assumptions:

- *Site access preparation will include mowing and light brush clearing for a 10-foot-wide access path and three (3) drill rig pads. Sage will not be responsible for obtaining permits for this work, restoring the site, or installing erosion control measures. Limited fill may be placed, if required, to facilitate drill rig access. No more than fifty (50) tons of fill will be required.*
- *Subsurface soil and groundwater are free from environmental contamination and hazardous materials. Drill cuttings and drilling mud can be discarded onsite, except for cuttings/mud generated from drilling borings along 93rd Avenue SE (will be drummed and hauled off site).*
- *A seismic site response or ground motion hazard analysis is not required.*
- *The tank will be supported by a shallow ringwall or mat foundation. Deep foundations will not be required.*
- *Sage will analyze existing slope stability and report findings. However, design for mitigation of static or seismic slope instability is not included, other than recommending minimum setbacks.*
- *The southern portion of the site is mapped within the Salmon Creek Basin. Infiltration facilities (if infiltration is feasible) will be located outside of the Salmon Creek Basin boundary. No other studies (e.g., wintertime groundwater monitoring, groundwater mounding analyses, etc.) associated with infiltration in the Salmon Creek Basin will be required.*
- *An infiltration receptor characterization is not required.*

- *The critical areas reporting requirements will be included as a section in the geotechnical engineering report.*
- *The site property lines and the CITY's proposed easement will be flagged before geotechnical fieldwork begins.*
- *The Draft Drainage Report will follow the outline provided in Volume I of the DDECM. The Drainage Report will include graphics that document analysis and assumptions.*
- *The draft Drainage Report will be submitted with the 60-percent plans, specifications, and OPCC deliverables.*
- *The CITY will provide two (2) sets of conflict resolved comments for the draft Drainage Report.*
- *The final Drainage Report will be submitted with the 90-percent design deliverables.*

Provided by the CITY:

- Site access and coordination with the existing property owner to allow drill rig and excavator onto the site for the geotechnical investigation.
- Provide up to two (2) sets of conflict resolved consolidated comments on the draft Drainage Report in conjunction with the County review comments.

Project Deliverables:

- Draft and final geotechnical data memoranda in electronic PDF.
- Draft and final geotechnical engineering reports in electronic PDF.
- Draft and final drainage reports in electronic PDF.
- Final Drainage Report incorporating County review comments in electronic PDF.

Task 6 – Permitting, Environmental Studies, and Cultural Resources

6.1 Subtask 6.1 – Permitting, Meetings, and Coordination

Objective: Consultant will prepare environmental documentation, permit applications, and design documentation necessary for the CITY to obtain all environmental and construction permits. Services in this Subtask will be largely performed by HDR, with support from the Service Provider.

Approach:

A. Attend project kickoff meeting with CITY to discuss and confirm permitting protocols including agency coordination, application development, submittal, and responding to comments.
B. Prepare and attend Thurston County (County) Presubmission Conference
    1. Prepare a draft of the County Presubmission Conference and Application forms, including a transmittal letter outlining issues and topics, description of the

proposal, site impacts, and list of questions. The application package will be submitted to CITY.

2. Incorporate CITY review comments to the draft forms and prepare final versions of the forms.
3. Arrange Presubmission Conference with County. Submit final version of Customer Information Meeting and Application forms and attachments.
4. Attend and Lead Presubmission Conference with CITY and County.
5. Receive and review County Presubmission Conference memo.
6. Organize and lead meeting with CITY to review County's Presubmission Conference memo.

C. Organize, lead, and document follow-up coordination with the County.

D. Permit Matrix, Permit Tracking Table, and Permit Schedule

1. Prepare a Permit Matrix that:
   a. Identifies anticipated permits/triggers required for the construction and operations of the new facilities.
   b. Confirms the appropriate level of SEPA documentation.
   c. Identifies the schedule for the anticipated permit submittal and approval processes, and
   d. Identifies the requirements (i.e., drawings, calculations, or memos) for each permit submittal.
2. Develop and maintain a Permit Tracking Table that provides the submittal date, permit tracking number, issued date, effective date, and expiration date.
3. Provide input to the project schedule relating to permitting activities.

E. Public Outreach Support

1. Support the CITY in the public outreach program. This subtask includes preparation of graphics supporting technical information to present at public meetings, handouts, website pages, or other informational handouts. Under this subtask up to two (2) renderings of the tank will be prepared by a graphic designer expensed through the contract. This subtask also includes attendance of up to two (2) public meetings by 2 consultant team members. The public meetings are anticipated to be up to two (2) hours each.

F. SEPA Compliance

1. Meet with the CITY to discuss SEPA compliance process, lead agency, and potential threshold determination.
2. Prepare draft SEPA Environmental Checklist and threshold determination.
3. Prepare final SEPA Environmental Checklist addressing CITY of Tumwater comments.

G. Permit Application Preparation and Response to Comments

1. Prepare draft permit applications and supporting information (transmittal letters, permit application forms, submittal checklists, and project narratives) in a format that is acceptable to the permitting agencies.

2. Attend Special Use Permit (SUP) Coordination and two building permit application meeting with CITY to review application materials.
3. Finalize applications for submittal.
4. Submit applications on behalf of the CITY per the agency's processes (County permitting website notes applications are submitted).
5. Develop responses to comments from agencies processing the various applications.
6. Submit responses to comments per the agency's process.
7. Prepare for, attend and participate in Special Use Permit (SUP) public hearing.
8. Provide permit acquisition support and maintain periodic contact with the reviewers after application submittal, coordinate responses to agency comments from the design team, and work to make sure any conditions of approval are incorporated into the design set.

Assumptions:

- Permit Matrix will be prepared following Presubmission Conference meeting with Thurston County and will be updated once to incorporate CITY of Tumwater comments.
- The Permit Tracking Table is the primary tool to track permitting activities and is updated monthly.
- The project schedule is updated monthly to reflect permitting activities/status.
- The CITY of Tumwater/HDR permitting coordination meetings are two hours in length and attended by the HDR Project Manager and HDR Permit Lead.
- The regulatory agencies that this project will interface with for permits are:
    - Thurston County – Special Use Permit and Building Permit
    - DOH – Project Approval Application
- The County Presubmission Conference will occur no later than the 30-percent design milestone.
- The Presubmission Conference will be a virtual meeting 90 minutes in duration. Via conference call or video meeting. It will be attended by the HDR Project Manager and the HDR Permitting Lead.
- Meeting with CITY to review County meeting notes is one hour in duration attended by The HDR Project Manager and HDR Permitting Lead.
- SEPA compliance is achieved with a SEPA Environmental Checklist; an Environmental Impact Statement is not required.
- SEPA checklist will be based on 30-percent design
- The HDR Permit Lead participates in a one-hour call with CITY to confirm the CITY's SEPA approach prior to developing the draft SEPA Environmental Checklist.

- CITY, as lead agency (WAC 197-11-926), issues the SEPA threshold determination.
- CITY is responsible for distribution of the final SEPA Environmental Checklist/threshold determination and will pay for legal notices and arrange for publication in local newspapers.
- The SEPA Environmental Checklist/threshold determination is included as part of permit application submittal packages where required.
- Conditional Use Permit applications will be based on 60-percent design milestone.
- Building and Construction applications will be based on 90% design milestone.
- Permits needed for this project include:
    - Washington State
        - Department of Health Project Approval
        - NPDES General Construction Permit
    - Thurston County Permits:
        - Special Use Permit
        - Building Permit
        - Construction Permit
        - Class IV Forest Practices
        - Encroachment Permit
        - Clearing/Grading Permit
        - Utility Permit (construction in right-of-way)
        - CITY SEPA Compliance
    - Trade permits (e.g., Mechanical Permits, Electrical Permits, Plumbing Permits, etc.) are obtained by the contractor and not included in this scope of services.
- One round of responses to comments for each permit application is assumed as the basis of HDR's estimate. Additional rounds of review will be discussed and approved prior to proceeding.
- The hearing is attended by the HDR Project Manager and HDR Permit Lead.
- Up to 16 hours of permit acquisition support meetings is assumed for the HDR Permit Lead and PM.
- No date is warranted or implied for agency response or approval.

Provided by CITY:

- Participate in permitting coordination meetings with HDR.
- Review the draft County Presubmission Conference and Application forms, including all required attachments.
- Participate in Presubmission Conference.
- Review County Presubmission Conference Notes.
- Participate in County meeting notes review meeting.
- Participate in any follow-up meetings/calls as needed with County.
- Review the Permit Matrix
- Review the Permit Tracking Table
- Review the permitting input to the project schedule
- Provide current SEPA Environmental Checklist and threshold determination templates. Review and provide comments on the draft SEPA Environmental Checklist/threshold determination.
- Review, sign, and issue the SEPA Environmental Checklist/threshold determination. Review draft permit application submittal packages within ten business days.
- Review draft responses to comments within five business days.
- Pay permit fees.
- Procure and install all notice boards and signs.
- Participate in SUP public hearing.

Subtask 6.1 Deliverables:

- Notes documenting the discussion at the CITY of Tumwater/HDR permitting coordination meeting (PDF format).
- Draft and Final Thurston County Presubmission Conference and Application forms, including listed attachments (PDF Format).
- Meeting notes from Presubmission Conference (PDF format).
- Draft and Final Permitting Matrix (PDF Format).
- Permit Tracking Table with monthly updates (PDF format)
- Draft and Final SEPA Environmental Checklist/threshold determination (PDF format).
- Draft and Final Special Use Permit Application (transmittal letters, permit application forms, submittal checklists, and project narratives). (PDF format)

- Draft and final Thurston County development permit applications and supporting information (transmittal letters, permit application forms, submittal checklists, and project narratives). (PDF format)
- Draft and final responses to agency comments (PDF format).

6.2 Subtask 6.2 - Preliminary Environmental Studies

Objective: Conduct baseline environmental studies to support permit applications that will be required for the project. Services in this Subtask will be largely performed by HDR, with support from the Service Provider.

Approach:

A. Environmental Conditions Assessment
    1. Conduct reconnaissance-level site visit to the project area to identify approximate areas of the surrounding environment that may be affected by project activities. The purpose of the field work shall be to verify existing environmental conditions information through visual observations and inform the Environmental Conditions Assessment, the SEPA compliance document (see Subtask 6.1.F), and permit applications (see Subtask 6.1.G).
    2. Prepare Environmental Conditions Assessment Technical Memorandum (TM) that briefly describes existing environmental conditions, including regulatory conditions that may influence siting, construction, or operation of the proposed project.

B. Mazama Pocket Gopher (MPG) Surveys
    1. A team of 2 HDR biologists that includes at least one trained by USFWS will conduct MPG protocol surveys to detect occupancy and assess existing conditions of potentially suitable MPG habitat throughout the parcel. Surveys will be conducted per the April 20, 2018 USFWS letter: “Guidance for Assessing Potential Take of Mazama Pocket Gophers in Thurston and Pierce Counties”. HDR biologists will follow the timing requirements for the survey protocol, and conduct up to 3 surveys at least 30 days apart at sites where there are preferred soils for MPG. Surveys need to be conducted between June 1 and October 31 to meet USFWS protocol requirements. Results of these surveys will be provided to the CITY.

Assumptions:

- The Environmental Conditions Assessment site visit is attended by the Consultant Biologists. The site visit assumes 8 hours for two staff and includes travel time to and from the site, and preparation/follow up.
- Formal wetland and waterbody delineations are not assumed for this task.
- The MPG surveys assume up to three survey days for two biologists.

Provided by CITY:

- Review the draft Environmental Conditions Assessment TM.
- Provide access to the site and coordinate prior to site visit to determine any site-specific restrictions or needs.
- CITY will arrange for mowing within the parcel where MPG preferred soils are located if requested by HDR biologists prior to surveys if grass and vegetation are deemed too dense to allow for good ground visibility. USFWS screening protocol requires survey sites to be mowed if there is poor ground visibility.
- Endangered Species Act (ESA) and local critical areas compliance services for potential impacts to MPG, or their suitable habitat, are not included in this task.

Subtask 6.2 Deliverables:

- Draft and Final Environmental Conditions Assessment TM (PDF format)
- MPG survey field data sheets and map notes (PDF format)

6.3 Subtask 6.3 Cultural Resources

Objective: Complete required cultural resources review to support project permitting and the SEPA Checklist in compliance with the RCW. Services in this Subtask will be largely performed by HDR, with support from the Service Provider.

Approach:

A. Cultural Resources Desktop Review

1. Define the cultural resources project area, which shall include the maximum extent of proposed ground disturbance, inclusive of potential physical, visual, and auditory effects on cultural resources located on parcels adjacent to the ground disturbing activity, if applicable. HDR shall prepare a map that displays the project area for review and approval by the CITY Project Manager as part of the Desktop Review Memo.
2. Background research will include a check of records at the Department of Archaeology and Historic Preservation's (DAHP) Washington Information System for Architectural and Archaeological Records Data (WISAARD) for previously completed projects and identified cultural resource within a 1-mile radius of the project area. Other background information will be collected from publicly available ethnographic and historic accounts, previous regional cultural resource investigations, online local historical societies and informants, maps, and photographs.
3. The results of the desktop review will be presented in a technical memo suitable for submission to DAHP and for use in completing the SEPA checklist. The Desktop Review Memo will include information concerning any cultural resources within the research radius. The memo will also include an assessment of the project's

potential to contain archaeological resources and recommendations regarding any further cultural resources work that may be necessary (e.g., archaeological and/or historic built environment survey, construction monitoring, etc.). Due to confidentiality requirements for archaeological site location data, distribution of the report may be restricted.

B. Coordination and Recommendations to the Project Team

1. HDR will coordinate with the project team to provide information for the SEPA checklist and permitting.

Assumptions:

- Desktop review based on 30-percent design is assumed.
- Archaeological and historic built environment surveys are not included. Cost for surveys can be provided upon request.
- Monitoring during geotechnical assessment and construction is not included. Cost for monitoring can be provided upon request.
- Development of project-specific inadvertent discovery plan (IDP) is not included. Cost for IDP can be provided upon request.
- No state or federal funding is assumed.

Provided by the CITY:

- Project funding sources

Subtask 6.3 Deliverables:

- Draft and Final Desktop Review Memo (PDF format)

Task 7 – Design Plans and Specifications

Objective: Prepare plans, specifications, and an OPCC for construction of the new reservoir and its appurtenances. The following assumptions were made when preparing Task 7 of this Scope of Services:

- *The base elevation for the new reservoir will be approximately 320 feet.*
- *The overflow elevation of the new reservoir will be approximately 350 feet.*
- *The water height of the new reservoir will be approximately 30 feet. However, the antenna, cell equipment, and TCOMM 911 will need to be incorporated. This will be discussed with the County during the permitting process.*
- *The volume of the new reservoir will be approximately 3.0 MG.*
- *The diameter of the new reservoir will be approximately 140 feet.*
- *The material and configuration of the new reservoir will be decided by the CITY. For this Scope of Services, it is assumed that the new water reservoir will be pre-stressed concrete.*

- *The reservoir will be designed to accommodate cell equipment by providing raceways and conduits at the time of construction. No cell companies have expressed interest in installing equipment on the water tank. As such, no specific antenna mounts or similar equipment is anticipated in this Scope of Services.*
- *The reservoir piping will include a valve vault or area in the base of the tank to house an inlet control valve and potentially a seismically actuated valve. The reservoir will have separate inlet and outlet piping and water quality sampling ports.*
- *Stormwater and reservoir overflow will be discharged into an on-site infiltration/detention pond and then be piped to a safe location below the steep slopes onsite with the goal to avoid erosion and landslide hazards.*
- *Electrical and control equipment will be located within an on-site control building.*
- *A recirculation and/or re-chlorination system will be desired and may be located in the control building.*
- *The control/recirculation building will be a concrete masonry unit (CMU) building.*
- *Fencing, security plan, and gates for the site and the access road will be per the CITY's Water Facility Vulnerability Assessment.*
- *The base extents of off-site water main include the length between the tank location and 93rd Avenue SE, on 93rd Avenue SE to Brooks Lane SE, and the length on Old Highway 99 SE between Silverspot Drive SE to River Drive SE. The off-site water main extents totals approximately 7,000 linear feet.*
- *Mechanical and electrical plans will not be included in the 30-percent design.*
- *Water, power, fiber, and stormwater/reservoir overflow utilities will extend to 93rd Avenue SE within the existing easement.*
- *Communications between the new Southeast Reservoir and the CITY's Master Telemetry Unit will be accomplished by fiber with radio backup. Fiber will be extended from offsite in the same trench as the power and/or water main. If the existing off-site fiber is outside of the project limits, which end at 93rd Avenue SE and Brooks Lane SE, the CITY will be responsible for coordinating the extension of the existing fiber to within the project limits or authorize management reserve for the Design Team to proceed with the additional work to design the off-site fiber extension to within the project limits.*
- *The CITY uses L2 for SCADA design and integration. The CITY will assist the Service Provider in coordinating with L2 for telemetry and automatic control design criteria.*
- *The specifications will be in Washington State Department of Transportation (WSDOT) format with Service Provider's Construction Specifications Institute format used for items not covered by the WSDOT Standard Specifications.*
- *The CITY's standard front-end construction contract documents will be used.*

- *AutoCAD files will be in the latest version of Civil 3D.*
- *The OPCC will include a summary of overall cost and itemization of materials, labor, equipment, and construction costs. Items in the OPCC will be reviewed with the CITY prior to submittal.*
- *The construction schedule will include line items for long lead time materials and equipment.*
- *Service Provider's electrical engineer will coordinate with Puget Sound Energy (PSE) for the power service application.*
- *The 30-percent submittal will not include technical specifications.*
- *The 90-percent submittal materials will be provided to DOH for project construction document review and approval.*

The bid-ready design will include the following:

- Reservoir.
- Site and maintenance access.
- Water main improvements and tie-in.
- Foundations.
- Structural support for the reservoir.
- Control/recirculation building.
- Water quality and disinfection system.
- Reservoir coatings/paintings.
- Mechanical systems.
- Electrical and instrumentation control systems for the reservoir.
- Stormwater collection, detention, and conveyance systems for the reservoir.
- Temporary erosion and sedimentation control (TESC) plan for the site.
- Site grading.
- Site lighting.
- Landscaping plans.
- Conduit corridor and TCOMM access.
- Structural calculations and details.
- Construction detail plan sheets.
- OPCC.
- Construction schedule.

Approach:

7.1 **Prepare 30-Percent Design**: Prepare preliminary reservoir plans and an OPCC for review by the CITY. Prepare preliminary on-site design elements, control/recirculation building plans, access road layout, on-site utilities, and off-site utilities as follows:

- Prepare a cover sheet, existing site plan, demolition plan, and TESC plan.
- Prepare preliminary construction and finished grading plans.
- Prepare preliminary site and utility plans.
- Prepare preliminary access road plan.
- Prepare preliminary off-site water main plan.
- Prepare preliminary stormwater analysis, including water quality and quantity.
- Prepare preliminary design of the main reservoir structural elements. Determine the general configuration of the tank walls and floor, foundation, roof shape, and support system. Prepare schematic structural drawings of the tank structure, including reservoir elevations, foundation and floor plans, roof plan, and control/recirculation building.
- List special and unique design requirements from permitting agencies.
- Prepare a risk evaluation and register and determine contingency amount.
- Prepare a 30-percent design-level OPCC.

7.2 **Prepare 60-Percent Design**: Prepare 60-percent reservoir construction plans, control/recirculation building plans, access road plans, off-site water main connection plans, and an updated OPCC for review. Mechanical plans, electrical plans, and specifications will be provided with this submittal. The 60-percent plans will include approximately 90 percent of the construction plan sheets.

- Incorporate the CITY's 30-percent review comments into the design plans.
- Prepare structural calculations for the reservoir, including lateral analysis, roof, shell, and reservoir foundation. Prepare structural calculations for the control/recirculation building. Provide QA/QC review of structural calculations. Make recommended updates and additions to calculations per in-house review comments. Prepare and format calculations, with supporting documentation, for the Building Permit application.
- Prepare a detailed design of the reservoir foundation, shells, and roof. Develop plans showing the geometry, floor shell connection, and reinforcing steel.
- Prepare a detailed design of the control structure foundation, walls, and roof. Develop plans showing the geometry and reinforcing steel.
- Prepare mechanical plans and details for the configuration of the reservoir piping and mechanical components, and size the piping systems for the reservoir inlet, Tideflex mixing

system, outlet, overflow, and drain. Plans will include equipment selection, pipe sizes and materials, thrust restraint, vault sizing, and drainage.

- Prepare plans that show reservoir appurtenances, including access hatches, vents, exterior and interior ladders or stairs, exterior roof access, roof platform, and safety cages, as requested or required.
- Prepare site and utility plans, including grading plans and elevations, overall site plan, utility plan, paving plan, drainage and stormwater plan, and site and utility details.
- Prepare access road plan and profiles, including utilities located within the access road, lighting, and security gate.
- Prepare off-site water main plan and profile.
- Prepare electrical design, including the following:
    - Develop design of electrical systems for operating appurtenances at the reservoir, including designing the lighting system, sizing raceways and conductors, and preparing design details.
    - Prepare process and instrumentation schematic diagrams and telemetry plans.
    - Determine landscaping requirements.
    - Prepare fencing and security plan to meet CITY water facility standards.
    - Coordinate the electrical service improvements with PSE to determine the required electrical service and utility modifications.
    - Determine network/internet service for the site's SCADA system
    - Prepare an electrical site plan identifying the location of the new electrical service conduit, fiber service and spare conduits, site conduit routing, site radio antenna, and site improvements that are required.
    - Estimate project quantity take-offs.
    - Update 60-percent design level OPCC.
    - Determine construction staging requirements.
    - Prepare technical specifications. WSDOT amendments, and Special Provisions.

7.3 **Develop 90-Percent Design**: Prepare 90-percent reservoir, site improvements, access road, and off-site utility construction plans and an updated OPCC for review by the CITY. The comments developed during the 60-percent review process will be addressed. *It is anticipated that the 60-percent review comments will be constrained to details that were developed subsequent to the 30-percent review submittal, or that were revised or unresolved during the 30-percent review process.* The 90-percent plans shall include 100 percent of the construction plan sheets. At the end of the 90-percent project design subtask, design details shall be included in the plans and specifications.

- Incorporate the CITY's 60-percent review comments into the design plans. Site, structural, mechanical, electrical, and off-site plans will be revised. Preliminary details will be revised, and outstanding minor details will be developed. Following completion of subtask 7.3, design plans in the construction contract documents are ready for permitting submittal.
- Coordinate with CITY staff to complete 90-percent front-end specifications. Coordinate with the CITY regarding advertising dates and bid opening date and time.
- Update the technical specifications WSDOT amendments, and Special Provisions to include additions and revisions per 60-percent review and comments.
- Update project quantity take-offs.
- Prepare 90-percent OPCC based on information supplied by material vendors and similar projects adjusted for anticipated bidding conditions.
- Confirm that all land use permits have been received.

7.4 **Prepare Bid-Ready Documents**: Prepare bid-ready stamped plans and specifications for construction. Incorporate comments from the 90-percent review into the plans and specifications. *It is anticipated that 90-percent review comments will be constrained to details that were developed subsequent to the 60-percent review submittal, or that were revised or unresolved during the 60-percent review process.* By the end of this subtask, the plans and specifications will be ready for reproduction for bidding purposes.

- Update structural calculations with additions or revisions requested in the Building Permit review.
- Incorporate agency review comments and CITY comments into 90-percent design plans. Finalize site, off-site, structural, mechanical, and electrical plans. Prepare and finalize outstanding minor details and finalize preliminary details.
- Address comments on the 90-percent specifications and finalize the construction contract documents accordingly. The construction contract documents and specifications will be ready to use during bid advertisement.
- Prepare a bid-ready OPCC, formatted for bidding, and provide a range of probable construction cost in the bid documents for the purpose of establishing a bid bond value.
- Prepare a projected construction schedule in Microsoft Project.

Provided by the CITY:

- Consolidated, conflict resolved review comments on the 30-percent, 60-percent, and 90-percent documents.
- Electronic (word) copies of an example project specification (front ends) to be used for a template for developing project specifications.

Project Deliverables:

- 30-Percent Design Submittal – Plans, specifications (outline), and OPCC.
- 60-Percent Design Submittal – Plans, specifications (including latest WSDOT, amendments, Special Provisions, and Technical Specifications), and OPCC.
- 90-Percent Design Submittal – Plans, specifications, and OPCC.
- Bid-Ready Submittal – Plans, specifications, and OPCC.
    - One (1) 11-inch by 17-inch hard copy and electronic PDF of the plans for each submittal.
    - One (1) hard copy and electronic PDF of the specifications for each submittal.
    - One (1) 11-inch by 17-inch hard copy and electronic PDF and Excel copies of the OPCC for each submittal.
- Response to CITY comments on the 30-, 60-, and 90-percent reviews in electronic PDF.
- Estimated project construction schedule in Microsoft Project and electronic PDF.
- Digital copy of all project files, including CAD/Civil 3D files, calculations, reports, and pertinent documents and correspondence to be transferred to the CITY in a form requested by the CITY project manager.
- All final bid ready documents (plans, specifications, reports, etc.) shall be stamped and signed by a certified professional engineer in the state of Washington and shall be a principal of RH2. Multiple engineer stamps are acceptable on a given document, but a principal must stamp and sign all documents.

Task 8 – Services During Bidding

Objective: Assist the CITY during the project bidding and construction contracting phases. *It is assumed that the CITY will advertise the project and be the main point of contact for bidders. The Service Provider will refer all interested bidders with questions to the CITY.*

Approach:

8.1 **Attend Pre-Bid Meeting**: Attend the pre-bid meeting.

8.2 **Respond to Questions**: Respond to up to twenty (20) technical questions from bidders.

8.3 **Prepare Addenda**: Prepare up to four (4) addenda, as requested.

8.4 **Attend Bid Opening**: Attend the bid opening conducted at the CITY's offices. Summarize bid results, make recommendations for award, and prepare letter for notice of intent to award.

8.5 **Prepare Conformed for Construction Documents**: Incorporate addenda into the plans and specifications and create electronic conformed for construction contract documents for the CITY and contractor, if requested.

Assumptions:

- *Service Provider will perform this Task to the level of effort identified in the Fee Estimate. If additional effort is required, an amendment will be mutually determined by the CITY and Service Provider.*
- *Questions requiring technical support from the Service Provider will be routed by the CITY.*

Provided by the CITY:

- The CITY will advertise the project and be the primary point of contact for bidder inquiries.
- The CITY will prepare an advertisement and arrange for publication in the appropriate media.
- Advertisement costs will be paid by the CITY.
- The CITY will distribute the construction contract documents to the appropriate plan centers.
- The CITY will distribute the construction contract documents to prospective bidders, subcontractors, equipment suppliers, and other vendors upon request.
- The CITY will maintain a list of plan holders for distribution.

Project Deliverables:

- Email responses to technical questions.
- Four (4) addenda (if requested) in electronic PDF.
- Analysis of bid results in electronic PDF.
- Notice of intent to award letter in electronic PDF.
- One (1) 22-inch by 34-inch color plan set, two (2) 11-inch by 17-inch color plan sets, and electronic PDF copies of conformed for construction contract documents, if requested.

Task 9 – Services During Construction

Objective: Provide limited services during construction, including observation of construction activities onsite, and attending regularly occurring construction meetings to confirm that the quality of the work observed is compliant with the construction contract plans and specifications. Assist the CITY with reviewing submittals, responding to requests for information (RFIs), and reviewing change orders, and prepare record drawings. The scope of services during construction shown is anticipated work and will be executed as directed by the City only.

Approach:

9.1 **Attend Pre-Construction Conference**: Prepare meeting agenda and sign-in sheet, and attend the pre-construction conference. Prepare meeting minutes.

9.2 **Review Material Submittals and Shop Drawings**: Review and accept or reject (if necessary) shop drawings, equipment submittals, specifications, schedules, and construction sequence for conformance to the construction contract documents. It is anticipated that up to fifty (50) submittals will be reviewed.

9.3 **Review and Respond to RFIs and Change Orders**: Review RFIs and change orders as requested by the CITY. Prepare plan revisions resulting from RFIs and change order review if requested by the CITY. It is anticipated that up to twenty (20) RFIs and twenty (20) change orders will be reviewed.

9.4 **Review Pay Requests**: Review the contractor's monthly requests for progress payments and recommend the appropriate amount to the CITY for payment to the contractor. Payment recommendations will be based upon the approved breakdown of the contractor's lump sum contract amount and the percentage complete of unit price items. Such reviews will be completed within 5 working days of receipt of the contractor's monthly pay requests.

9.5 **Assist with Special Inspection Services Coordination**: Provide assistance to the CITY during specific construction inspections of the reservoir. *Special inspections will be conducted by the Service Provider and a special inspections company hired separately by the CITY.* Service Provider will assist the CITY with defining special inspection requirements to develop scoping for the inspection services firm. Service Provider will assist with coordination of special inspection services. The following special inspections are anticipated:

- Geotechnical observations required by the building code.
- Structural observations required by the building code.
- Observations associated with various reservoir elements, including concrete placement, steel welding, piping, and appurtenances.
- Concrete reinforcing.
- Concrete material and placement.
- Radiograph testing of structural welds.
- Epoxy anchors.
- Reservoir electrical panel factory test.

*Assistance with coordinating special inspection services shall be performed up to the level of effort in the Fee Estimate, which is estimated as six (6) hours per site visit. If additional effort is needed or requested, Service Provider and the CITY will mutually determine that extra work. The Fee Estimate (**Attachment B-1**) reflects a total of sixteen (16) code-related inspections for the duration of the project.*

9.6 **Provide On-Site Observation During Construction**: Support the CITY's daily on-site observations with periodic on-site construction observation services by Service Provider staff (anticipated to be one (1) visit per week on average). Provide periodic monitoring of the construction work and prepare periodic written reports on the construction activities at the site. Maintain a notebook of activities, decisions, discussions with the contractor, and other observations. Document the pre-construction conditions and construction work by photograph and/or video. Observe testing as necessary and provide other related work as needed. *Periodic on-site construction observation services shall be performed up to the level of effort in the Fee*

*Estimate, which is estimated as four (4) hours per site visit. The Fee Estimate (**Attachment B-1**) reflects a total of fifty (50) periodic on-site construction observations, which equates to one (1) per week for an expected construction duration of fifty (50) weeks.*

Work under this subtask also includes preparing for and attending periodic meetings on the project site with the contractor. Generally, the meetings will be weekly when significant construction work is underway. The purpose of these meetings is to identify potential issues and review project progress. Typically, Service Provider's on-site construction representative will attend these meetings. *Weekly construction meeting services shall be performed up to the level of effort in the Fee Estimate, which is estimated as four (4) hours per meeting. The Fee Estimate (**Attachment B-1**) reflects a total of fifty (50) weekly construction meetings, which equates to one (1) per week for an expected construction duration of fifty (50) weeks.*

Periodic site visits by Service Provider's project manager or project engineer will occur during significant construction, as important issues may need to be addressed, or as otherwise requested by the CITY. The purpose of these visits will be to address questions regarding the construction contract documents, assist with resolving project difficulties, review the progress of the work, and review whether the construction work observed is in accordance with the requirements of the construction contract documents. *Periodic project manager site visit services shall be performed up to the level of effort in the Fee Estimate, which is estimated as four (4) hours per site visit. The Fee Estimate (**Attachment B-1**) reflects a total of twelve (12) periodic project manager site visits, which equates to approximately one (1) per month for an expected construction duration of fifty (50) weeks.*

9.7 **Provide Testing, Startup, and Project Closeout**: Coordinate with the contractor and the CITY for final testing and start-up of the facilities. Assist the CITY with identifying substantial completion of the project. Prepare punch list recommendations. Recommend final payments to the contractor as appropriate. Testing and start-up services shall include assisting with milestone or substantial completion testing and start-up tasks, as required, including pipeline and other related facility acceptance testing.

9.8 **Prepare Record Drawings**: Prepare record drawings and provide to the CITY at the end of the project. *The CITY will collect construction records from the contractor and provide them to Service Provider.*

Assumptions:

- *The CITY will take the lead on reviewing all documents. The CITY will send a request to Service Provider via email when requesting review and will indicate what documents require review.*
- *The CITY will provide a special inspector (materials testing) and National Association of Corrosion Engineers inspector for specific specialized activities. This will include inspection of coatings, testing of compaction of backfill and hot mix asphalt, and compressive strength testing of concrete and CMU.*
- *The CITY will provide a daily on-site inspector serving as the CITY's representative to the contractor.*

- *Other than as specifically stated herein, this Scope of Services excludes professional services in support of SCADA system updates.*
- *Service Provider is not responsible for site safety or for determining means and methods or directing any CITY contractor or subcontractor in their work.*

Project Deliverables:

- Agenda, sign-in sheet, and minutes for pre-construction conference in electronic PDF.
- Submittals, RFIs, and change order responses in electronic PDF.
- Pay request recommendations in electronic PDF.
- Special inspection reports in electronic PDF.
- Periodic construction observation reports in electronic PDF.
- Attendance at weekly construction meetings.
- Punch list in Excel format.
- One (1) 22-inch by 34-inch color plan set, two (2) 11-inch by 17-inch color plan sets, and electronic PDF of construction record drawings.

Task 10 – Management Reserve

Objective: Provide a discretionary allowance for unanticipated labor, expenses, or professional services not specifically identified in Tasks 1 through 9 in this Scope of Services. No work can be performed under this Task without prior written authorization from the CITY.

Approach:

10.1 Provide additional services as requested by the CITY.

Project Deliverables:

- As requested by the CITY.

--- END OF SCOPE OF SERVICES ---

Attachment B-1

Fee Estimate
City of Tumwater
Southeast Water Reservoir
Jan-24

	Description	Total Hours	Total Labor	Total Subconsultant	Total Expense	Total Cost
Task 1	**Project Management Services**	**282**	**$ 71,808**	**$ 26,180**	**$ 3,433**	**$ 101,421**
1.1	Prepare Project Management Plan	28	$ 6,808	$ -	$ 189	$ 6,997
1.2	Manage Schedule and Budget	50	$ 10,964	$ -	$ 289	$ 11,253
1.3	Attend Progress/Work Meetings with CITY and Design Team	104	$ 27,084	$ 26,180	$ 1,675	$ 54,939
1.4	Coordinate with Design Team	50	$ 12,276	$ -	$ 322	$ 12,598
1.5	Perform and Manage Project QA/QC	50	$ 14,676	$ -	$ 958	$ 15,634
Task 2	**Data Collection, Review, and Topographic Survey**	**72**	**$ 15,404**	**$ 163,955**	**$ 1,525**	**$ 180,884**
2.1	Collect and Review Data	16	$ 3,756	$ 8,305	$ 210	$ 12,271
2.2	Obtain Topographic Survey	32	$ 6,832	$ 140,800	$ 685	$ 148,317
2.3	Pothole Existing Utilities	24	$ 4,816	$ 14,850	$ 630	$ 20,296
Task 3	**Hydraulic Modeling**	**20**	**$ 5,440**	**$ 45,639**	**$ 150**	**$ 51,229**
3.1	Review Previous Analyses	-	$ -	$ 1,375	$ -	$ 1,375
3.2	Develop Hydrant Testing Plan	-	$ -	$ 1,815	$ -	$ 1,815
3.3	Observe Hydrant Tests	-	$ -	$ 1,815	$ -	$ 1,815
3.4	Validate Model	-	$ -	$ 1,375	$ -	$ 1,375
3.5	Create Winter Demand Allocations	-	$ -	$ 550	$ -	$ 550
3.6	Creak Summer Demand Allocations	-	$ -	$ 495	$ -	$ 495
3.7	Update Model	-	$ -	$ 913	$ -	$ 913
3.8	Complete Model Scenarios	-	$ -	$ 17,105	$ -	$ 17,105
3.9	Confirm Data	-	$ -	$ 7,920	$ -	$ 7,920
3.10	Summarize Results in TM	8	$ 2,216	$ 7,051	$ 60	$ 9,327
3.11	Attend Review Meeting	8	$ 2,216	$ 2,145	$ 60	$ 4,421
3.12	Finalize TM	4	$ 1,008	$ 3,080	$ 30	$ 4,118
Task 4	**Preliminary Design**	**118**	**$ 26,232**	**$ 17,380**	**$ 2,122**	**$ 45,734**
4.1	Develop Reservoir Style Alternatives	36	$ 8,656	$ -	$ 461	$ 9,117
4.2	Attend Reservoir Alternatives Evaluation Workshop	8	$ 2,216	$ -	$ 107	$ 2,323
4.3	Develop Design Criteria	4	$ 1,008	$ -	$ 27	$ 1,035
4.4	Develop Site Configuration, Site Access, and Off-Site Water Main	34	$ 6,820	$ -	$ 827	$ 7,647
4.5	Develop Preliminary Cost Estimates	12	$ 2,716	$ -	$ 180	$ 2,896
4.6	Develop Preliminary Project Report, Plans, and DOH Submittal	24	$ 4,816	$ 17,380	$ 520	$ 22,716
Task 5	**Site Investigation and Planning**	**54**	**$ 13,692**	**$ 176,550**	**$ 627**	**$ 190,869**
5.1	Perform Geotechnical Investigation	20	$ 5,840	$ 158,730	$ 151	$ 164,721
5.2	Prepare Stormwater Site Plan	12	$ 2,408	$ 17,820	$ 257	$ 20,485
5.3	Evaluate Opportunities for TCOMM - 911 Service Infrastructure	22	$ 5,444	$ -	$ 220	$ 5,664
Task 6	**Permitting, Environmental Studies, and Cultural Resources**	**30**	**$ 6,636**	**$ 89,650**	**$ 576**	**$ 96,862**
6.1	Permitting, Meetings, and Coordination	10	$ 2,212	$ 51,700	$ 193	$ 54,105
6.2	Perform Preliminary Environmental Studies	10	$ 2,212	$ 23,650	$ 191	$ 26,053
6.3	Perform Cultural Resources Review	10	$ 2,212	$ 14,300	$ 191	$ 16,703
Task 7	**Design Plans and Specifications**	**1730**	**$ 344,308**	**$ -**	**$ 32,900**	**$ 377,208**
7.1	Prepare 30-Percent Design	368	$ 73,300	$ -	$ 8,455	$ 81,755
7.2	Prepare 60-Percent Design	620	$ 122,272	$ -	$ 11,575	$ 133,847
7.3	Develop 90-Percent Design	442	$ 87,684	$ -	$ 7,813	$ 95,497
7.4	Prepare Bid-Ready Documents	300	$ 61,052	$ -	$ 5,057	$ 66,109
Task 8	**Services During Bidding**	**90**	**$ 19,954**	**$ -**	**$ 2,476**	**$ 22,430**
8.1	Attend Pre-Bid Meeting	8	$ 1,772	$ -	$ 187	$ 1,959
8.2	Respond to Questions	42	$ 9,820	$ -	$ 535	$ 10,355
8.3	Prepare Addenda	30	$ 6,150	$ -	$ 443	$ 6,593
8.4	Attend Bid Opening	4	$ 1,008	$ -	$ 85	$ 1,093
8.5	Prepare Conformed for Construction Documents	6	$ 1,204	$ -	$ 1,226	$ 2,430
Task 9	**Services During Construction**	**921**	**$ 212,760**	**$ -**	**$ 19,200**	**$ 231,960**
9.1	Attend Pre-Construction Conference	16	$ 3,724	$ -	$ 285	$ 4,009
9.2	Review Material Submittals and Shop Drawings	124	$ 26,504	$ -	$ 1,762	$ 28,266
9.3	Review and Respond to RFIs and Change Orders	80	$ 18,548	$ -	$ 958	$ 19,506
9.4	Review Pay Requests	20	$ 5,040	$ -	$ 181	$ 5,221
9.5	Assist with Special Inspection Services	96	$ 22,336	$ -	$ 2,004	$ 24,340
9.6	Provide On-Site Observation During Construction	444	$ 105,608	$ -	$ 10,662	$ 116,270
9.7	Provide Testing, Startup, and Project Closeout	100	$ 22,832	$ -	$ 1,689	$ 24,521
9.8	Prepare Record Drawings	41	$ 8,168	$ -	$ 1,659	$ 9,827
Task 10	**Management Reserve**	**-**	**$ -**	**$ -**	**$ -**	**$ 50,000**
10.1	Management Reserve	-	$ -	$ -	$ -	$ 50,000
	PROJECT TOTAL	**3317**	**$ 716,234**	**$ 519,354**	**$ 63,007**	**$ 1,348,595**

Attachment B-1

RH2 ENGINEERING, INC.

2024 SCHEDULE OF RATES AND CHARGES

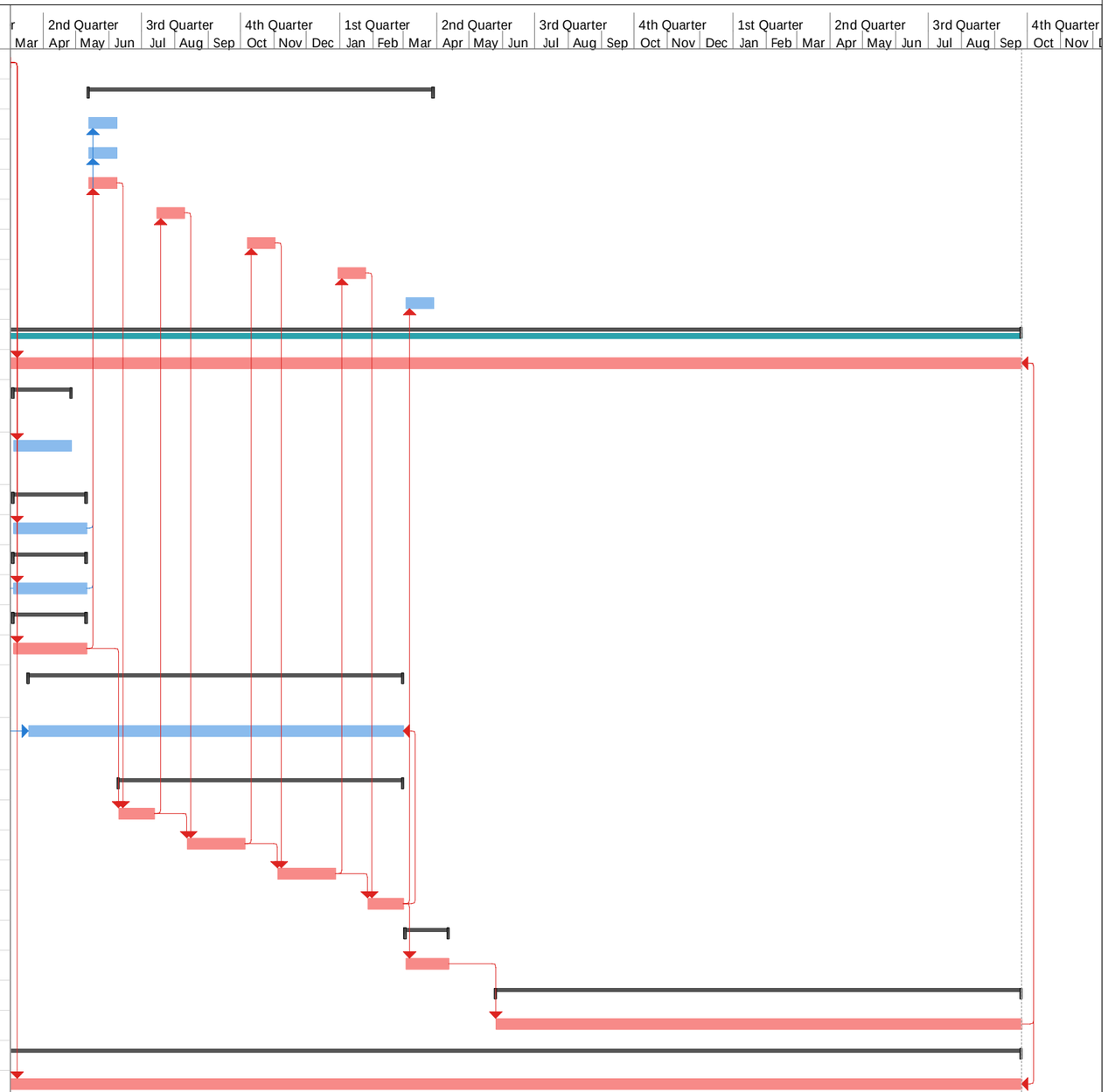
RATE LIST		RATE	UNIT
Professional I	Staff Engineer	$175	$/hr
Professional II	Staff Engineer	$191	$/hr
Professional III	Project Engineer	$216	$/hr
Professional IV	Project Engineer	$233	$/hr
Professional V	Project Manager	$252	$/hr
Professional VI	Project Manager	$268	$/hr
Professional VII	Project Manager	$292	$/hr
Professional VIII	Principal	$302	$/hr
Professional IX	Principal	$321	$/hr
Technician I		$138	$/hr
Technician II		$150	$/hr
Technician III		$166	$/hr
Technician IV		$183	$/hr
Technician V		$201	$/hr
Technician VI		$218	$/hr
Technician VII		$237	$/hr
Technician VIII		$250	$/hr
Administrative I		$90	$/hr
Administrative II		$105	$/hr
Administrative III		$127	$/hr
Administrative IV		$150	$/hr
Administrative V		$170	$/hr
CAD/GIS System		$27.50	$/hr
CAD Plots - Half Size		$2.50	price per plot
CAD Plots - Full Size		$10.00	price per plot
CAD Plots - Large		$25.00	price per plot
Copies (bw) 8.5" X 11"		$0.09	price per copy
Copies (bw) 8.5" X 14"		$0.14	price per copy
Copies (bw) 11" X 17"		$0.20	price per copy
Copies (color) 8.5" X 11"		$0.90	price per copy
Copies (color) 8.5" X 14"		$1.20	price per copy
Copies (color) 11" X 17"		$2.00	price per copy
Technology Charge		2.50%	% of Direct Labor
Mileage		$0.6550	price per mile (or Current IRS Rate)
Subconsultants		10%	Cost +
Outside Services		at cost	

Rates listed are adjusted annually.

Attachment C-1

City of Tumwater
SE Reservoir - Preliminary Project Schedule

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		Contract Authorization	1 day	Fri 3/1/24	Fri 3/1/24	
2		City Reviews	230 days	Mon 5/13/24	Fri 3/28/25	
3		Hydraulic Model Tech Memo City Review	20 days	Mon 5/13/24	Fri 6/7/24	15
4		Preliminary Design City Review	20 days	Mon 5/13/24	Fri 6/7/24	17
5		Site Investigation and Planning City Review	20 days	Mon 5/13/24	Fri 6/7/24	19
6		30-Percent Design City Review	20 days	Mon 7/15/24	Fri 8/9/24	23
7		60-Percent Design City Review	20 days	Mon 10/7/24	Fri 11/1/24	24
8		90-Percent Design City Review	20 days	Mon 12/30/2	Fri 1/24/25	25
9		Bid Ready Documents City Review	20 days	Mon 3/3/25	Fri 3/28/25	26
10		Task 1 - Project Management Services	671 days	Fri 3/1/24	Fri 9/25/26	
11		Project Management Services	671 days	Fri 3/1/24	Fri 9/25/26	1,30FF
12		Task 2 - Data Collection, Review, and Topographic Survey	40 days	Mon 3/4/24	Fri 4/26/24	
13		Data Collection, Review, and Topographic Survey	40 days	Mon 3/4/24	Fri 4/26/24	1
14		Task 3 - Hydraulic Modeling	50 days	Mon 3/4/24	Fri 5/10/24	
15		Hydraulic Modeling	50 days	Mon 3/4/24	Fri 5/10/24	1
16		Task 4 - Preliminary Design	50 days	Mon 3/4/24	Fri 5/10/24	
17		Preliminary Design	50 days	Mon 3/4/24	Fri 5/10/24	1
18		Task 5 - Site Investigation and Planning	50 days	Mon 3/4/24	Fri 5/10/24	
19		Site Investigation and Planning	50 days	Mon 3/4/24	Fri 5/10/24	1
20		Task 6 - Permitting, Environmental, and Cultural Resources	250 days	Mon 3/18/24	Fri 2/28/25	
21		Permitting, Environmental Resources, and Cultural Resources	250 days	Mon 3/18/24	Fri 2/28/25	17SS,26FF
22		Task 7 - Design Plans and Specifications	190 days	Mon 6/10/24	Fri 2/28/25	
23		30-Percent Design	25 days	Mon 6/10/24	Fri 7/12/24	19,5
24		60-Percent Design	40 days	Mon 8/12/24	Fri 10/4/24	23,6
25		90-Percent Design	40 days	Mon 11/4/24	Fri 12/27/24	24,7
26		Bid Ready Documents	25 days	Mon 1/27/25	Fri 2/28/25	25,8
27		Task 8 - Services During Bidding	30 days	Mon 3/3/25	Fri 4/11/25	
28		Services During Bidding	30 days	Mon 3/3/25	Fri 4/11/25	26
29		Task 9 - Services During Construction	350 days	Mon 5/26/25	Fri 9/25/26	
30		Services During Construction	350 days	Mon 5/26/25	Fri 9/25/26	28FS+30 days
31		Task 10 - Management Reserve	671 days	Fri 3/1/24	Fri 9/25/26	
32		Management Reserve	671 days	Fri 3/1/24	Fri 9/25/26	1,11FF



Project: Tumwater SE Reservoir
Date: Thu 1/25/24

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

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Fri 1/19/24

Attachment C-1

City of Tumwater
SE Reservoir - Preliminary Project Schedule

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		Contract Authorization	1 day	Fri 3/1/24	Fri 3/1/24	
2		**City Reviews**	**230 days**	**Mon 5/13/24**	**Fri 3/28/25**	
3		Hydraulic Model Tech Memo City Review	20 days	Mon 5/13/24	Fri 6/7/24	15
4		Preliminary Design City Review	20 days	Mon 5/13/24	Fri 6/7/24	17
5		Site Investigation and Planning City Review	20 days	Mon 5/13/24	Fri 6/7/24	19
6		30-Percent Design City Review	20 days	Mon 7/15/24	Fri 8/9/24	23
7		60-Percent Design City Review	20 days	Mon 10/7/24	Fri 11/1/24	24
8		90-Percent Design City Review	20 days	Mon 12/30/2	Fri 1/24/25	25
9		Bid Ready Documents City Review	20 days	Mon 3/3/25	Fri 3/28/25	26
10		**Task 1 - Project Management Services**	**671 days**	**Fri 3/1/24**	**Fri 9/25/26**	
11		Project Management Services	715 days	Fri 3/1/24	Thu 11/26/2	1,30FF
12		**Task 2 - Data Collection, Review, and Topographic Survey**	**40 days**	**Mon 3/4/24**	**Fri 4/26/24**	
13		Data Collection, Review, and Topographic Survey	40 days	Mon 3/4/24	Fri 4/26/24	1
14		**Task 3 - Hydraulic Modeling**	**50 days**	**Mon 3/4/24**	**Fri 5/10/24**	
15		Hydraulic Modeling	50 days	Mon 3/4/24	Fri 5/10/24	1
16		**Task 4 - Preliminary Design**	**50 days**	**Mon 3/4/24**	**Fri 5/10/24**	
17		Preliminary Design	50 days	Mon 3/4/24	Fri 5/10/24	1
18		**Task 5 - Site Investigation and Planning**	**50 days**	**Mon 3/4/24**	**Fri 5/10/24**	
19		Site Investigation and Planning	50 days	Mon 3/4/24	Fri 5/10/24	1
20		**Task 6 - Permitting, Environmental, and Cultural Resources**	**250 days**	**Mon 3/18/24**	**Fri 2/28/25**	
21		Permitting, Environmental Resources, and Cultural Resources	250 days	Mon 3/18/24	Fri 2/28/25	17SS,26FF
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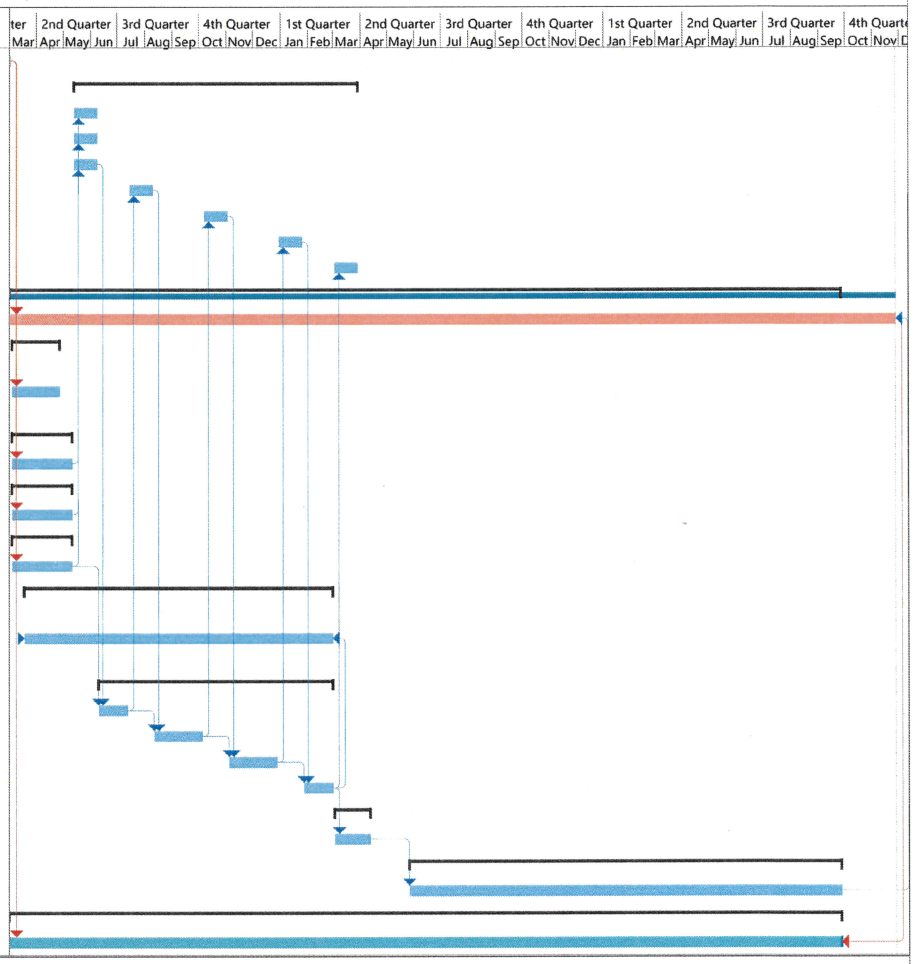
27		**Task 8 - Services During Bidding**	**30 days**	**Mon 3/3/25**	**Fri 4/11/25**	
28		Services During Bidding	30 days	Mon 3/3/25	Fri 4/11/25	26
29		**Task 9 - Services During Construction**	**350 days**	**Mon 5/26/25**	**Fri 9/25/26**	
30		Services During Construction	350 days	Mon 5/26/25	Fri 9/25/26	28FS+30 days
31		**Task 10 - Management Reserve**	**671 days**	**Fri 3/1/24**	**Fri 9/25/26**	
32		Management Reserve	671 days	Fri 3/1/24	Fri 9/25/26	1,11FF



Project: Tumwater SE Reservoir
Date: Fri 1/19/24

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

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Thu 10/26/23

Attachment D-1

Task 1 – Site Survey Limits in Green

Task 2 – Off-site Survey Limits (93rd Ave. SE)

Task 3 - Off Site Survey (Old Highway 99 SE):

Attachment A-2
Scope of Services
Engineering Services For
City of Tumwater
Southeast Water Reservoir – Off-Site Water Main Alternative A

January 2024

Introduction

RH2 Engineering, Inc., (Service Provider), along with its subconsultants (Design Team), have been selected to provide engineering services to the City of Tumwater (CITY) for the Southeast Water Reservoir project.

The Southeast Water Reservoir project includes hydraulic modeling and preliminary design tasks that will evaluate two possible off-site water main options to hydraulicly connect the proposed Southeast Reservoir to the CITY's distribution system and balance fire flow between the CITY's reservoirs and the distribution system.

The goal of the Southeast Water Reservoir project is to extend water main from the proposed reservoir location to the CITY's nearest distribution piping at 93rd Avenue SE and Brooks Lane SE. The Off-Site Water Main Alternative A would connect the Southeast Reservoir piping from Snowdrop Avenue to existing water main in Kimmie Street SW. The Off-Site Water Main Alternative B would connect the Southeast Reservoir piping to existing CITY piping in Old Highway 99 SE.

This Scope of Services includes extending approximately 9,500 linear feet (lf) of 16-inch water main on 93rd Avenue SE from Snowdrop Avenue to Kimmie Street SW. **Attachment D-2** shows the Off-Site Water Main Alternative A alignment/extents.

This Scope of Services details the Service Provider's proposal to prepare plans and specifications for the construction of the Southeast Water Reservoir – Off-Site Water Main Alternative A. If, during the execution of the Southeast Water Reservoir design, the CITY elects to proceed with Alternative A, the CITY will authorize the Service Provider to proceed with the following Scope of Services. *This Scope of Services assumes that separate construction documents will be required for the Off-Site Water Main Alternative A and that the Southeast Reservoir and Off-Site Water Main Alternative A will be bid and constructed separately.*

The following is a summary of the major tasks that will be completed under this Scope of Services:

Task 1 – Project Management Services

Task 2 – Data Collection, Review, and Topographic Survey

Task 3 – Design Plans and Specifications

Task 4 – Services During Bidding

Task 5 – Services During Construction

Task 6 – Management Reserve

Services outlined herein will be performed to the level of effort identified in the Fee Estimate. If additional effort is required to complete the services, or additional services are requested by the CITY, an amendment to this Scope of Work and the Fee Estimate shall be mutually determined by the parties.

Task 1 – Project Management Services

Objective: Coordinate Design Team effort and maintain frequent client communications. Maintain project schedules (Attachment C-2) and prepare monthly invoices and budget status summaries. Provide quality assurance and quality control (QA/QC) review by the Principal in Charge. Meet with the CITY project manager to provide project updates.

Approach:

1.1 **Manage Schedule and Budget**: Track the budget and the schedule relative to the actual percent complete (earned value tracking) and report this to the CITY monthly for the duration of the project. Include monthly project summaries with monthly billing invoices to qualify the past month's billings. Document anticipated upcoming project activities and milestones.

1.2 **Attend Progress/Work Meetings with CITY**: Attend up to four (4) in-person project meetings, and up to four (4) video conference call meetings with Design Team and CITY staff. *It is assumed each in-person meeting will be two (2) hours in duration and each video conference call meeting will be approximately sixty (60) minutes long.* Provide meeting agendas before each meeting and meeting minutes after each meeting. The following table lists the anticipated meetings during preliminary design, permitting, and final design:

Number of Meetings	Meeting Name
1	30-Percent Design Milestone Review Meeting
1	60-Percent Design Milestone Review Meeting
1	90-Percent Design Milestone Review Meeting
1	ROW Permit Application Submittal Meetings
4	Project Status and Design Coordination Video Conference Calls

1.3 **Perform and Manage Project QA/QC**: Perform QA/QC reviews by the Principal in Charge for deliverables, including the construction contract documents at the 30-percent, 60-percent, 90-percent, and bid-ready design benchmarks.

Assumptions:

- *Project management will be for design, bidding phase, and construction phase services for a period of approximately twenty-four (24) months, with construction starting in 2025.*
- *Progress/work meetings with the CITY will include up to two (2) Design Team members and have an approximate duration of two (2) hours each. The Fee Estimate reflects a total of four (4) hours for each person per meeting, including travel and preparation of the agenda and meeting minutes.*
- *In-person meetings with the CITY will be at CITY offices unless otherwise determined.*

Provided by the CITY:

- Review of meeting minutes for accuracy and provide comments for revision as necessary.
- Review comments on documents.
- Process monthly invoices.
- Input and concurrence on project decisions and development.
- Currently available background information on the existing distribution system.
- Legal review of all contracts, bid forms, and real property.

Project Deliverables:

- Monthly invoices and project summaries in electronic format (PDF).
- Meeting agendas and minutes in electronic format (Word and PDF).

Task 2 – Data Collection, Review, and Topographic Survey

Objective: Collect and review existing relevant project background and site information. Perform topographic survey for the project. Subcontract with a professional land surveyor, Sitts & Hill Engineers, Inc., (Sitts & Hill), and Applied Professional Services (APS) to complete this Task.

Approach:

2.1 **Collect and Review Data**: Collect and review existing relevant project background and site information. Prepare a detailed data request spreadsheet for additional information Service Provider requires from the CITY. The following materials are anticipated to be collected:

- Water system mapping and record drawings.
- Property and owner information for proposed easement parcels.
- Utility information within the project limits.

2.2 **Obtain Topographic Survey**: Coordinate with a professional land surveyor, Sitts & Hill, to provide the vertical and horizontal controls and topographical survey and mapping necessary for design of the Off-Site Water Main Alternative A.

- City of Tumwater Survey Control:
  - Basis of Bearings: Washington state plane coordinate system, South Zone NAD83/11;
  - Datum: NGVD 29.
  - RH2 will provide a sample drawing in AutoCAD 2021 with RH2 standard layers, blocks, and colors for formatting. Each utility is to be depicted in a separate layer.

A. Topographic survey and mapping for Off-Site Water Main Alternative A:
The survey shall extend along 93rd Avenue SE from Snowdrop Avenue SE to Kimmie Street SE and consist of the full ROW width (refer to **Attachment D-2**).

Field data collection shall include, but not be limited to, the following:

Roadways:
- Identify roadways, driveways, sidewalks with pavement type;
- Show centerlines and angles of intersection of side street(s) with main roadway centerline as necessary;
- Show all mailboxes, road signs, and sign posts;

Trees, Shrubs, and Landscaping:
- Locate and describe all trees, vegetation line, shrubs, and special landscaping;
- Provide locations of other landscaping materials such as lawn, rock structures, sculptures, etc.;
- Provide type, locations, and elevations of sprinkler heads, sprinkler control boxes, and other sprinkler devices that may become a design consideration.

Fence and Retaining Wall:
- Provide locations and types of fence within the limits of the survey;
- Show retaining walls with detailed description.

Water Main and Appurtenances:
- Size and material type of water main;
- Size and type of water meter and fire hydrant;
- Size and type of valve with operating nut elevation.

Sanitary Sewer and Appurtenances:
- Size and material type of sewer line and sewer force main with flow direction;
- Size and type of manhole with rim elevation, invert elevations of all pipes entering and exiting manhole;
- Cleanout locations.

Storm Drains, Open Channels, and Culverts:
- Size and material type of storm drains with flow direction;
- Size and type of inlet, catch basin, manhole, etc.;
- Indicate all open channels and culverts with material and elevations;
- Locate all open channels flow lines, toe, and top channel elevations.

Gas Mains:
- Size and material of all gas main, if available;
- Locations of gas valves and other gas appurtenances;

Underground Communications:
- Size, type of materials, and owner name;
- Size and type of appurtenances (vault, manhole, hand hole, pedestal, guywire, etc.

Underground Electric:
- Size, type of materials, and owner name;

- Size and type of appurtenances (vault, manhole, hand hole, pedestal, guywire, etc.

- Format survey data for use in AutoCAD 2021. Create a base map for project design using RH2 standards.
- Perform site visit as necessary for the Service Provider to confirm that the topographic survey sub-consultant has completed the Work in a satisfactory manner.
- Coordinate with Sitts & Hill to obtain additional subsurface utility information, including utility locates and items found missing or needing clarification after the site visit to confirm survey. Coordinate with private utility locating services such as Applied Professional Services (APS) to provide utility potholing to determine utility depths at critical design locations. Incorporate findings into the design plans.

2.3 **Pothole Existing Utilities**: Coordinate with CITY staff for potholing of existing private and CITY-owned utilities.

Pothole of Private Utilities:

As the 30-percent design progresses and the proposed horizontal layout of the improvements is approved by the CITY, identify the locations of potential utility conflicts with existing private utilities to the CITY. CITY staff will share the design information with private utility owners and request utility potholes. The CITY will provide the pothole data from private utility owner to the Design Team when it becomes available.

Pothole of CITY-owned Utilities:

Coordinate with APS to provide potholing services for CITY-owned utilities. Determine existing utilities and connection points that need to be potholed to confirm location and depth after the survey is complete and a preliminary alignment for the off-site water main is created by the Design Team and reviewed by the CITY. Contract with APS to provide hydro excavation for utility potholing and traffic control. Coordinate with Sitts & Hill to return to the site and pickup pothole locations from both CITY-owned and private utilities after completion of potholing services. This Scope of Services assumes up to eight (8) locations will be potholed.

Assumptions:

- *The CITY will provide data within approximately two (2) weeks of when the information is requested.*
- *The survey will be performed for the area identified in the* ***Attachment D-2****.*
- *All work will be contained within the public ROW.*

Provided by the CITY:

- Responses to the data request spreadsheet.

Project Deliverables:

- Data request spreadsheet in electronic PDF.

- Field survey formatted for AutoCAD Civil 3D 2023.
- Survey field notes and methods used.

Task 3 – Design Plans and Specifications

Objective: Prepare plans, specifications, and an Engineer's opinion of probable construction cost (OPCC) for approximately 9,500 lf of water main. The final design will consist of the following:

- Cover sheet.
- General information sheet.
- Survey control and demolition plans.
- Water main plan and profiles sheets.
- Water main and connection details sheets.
- Standard details.
- Surface restoration details.
- Traffic control plans.

Approach:

3.1 **Prepare 30-Percent Design**: Prepare preliminary water main alignment and an OPCC for review by the CITY.

- Prepare a cover sheet, general information sheet, survey control and demolition plans, and preliminary water main horizontal alignment plans.
- Prepare a proposed pothole exhibit.
- Prepare a 30-percent design level OPCC.

3.2 **Prepare 60-Percent Design**: Prepare 60-percent off-site water main plans, technical specifications, and an updated OPCC for review.

- Incorporate the CITY's 30-percent review comments into the design plans.
- Finalize water main horizontal alignment.
- Prepare water main plan and profiles. Prepare connection to existing details and standard detail sheets.
- Incorporate pothole data into the plans and profiles.
- Update OPCC.
- Prepare 60-percent technical specifications in Washington State Department of Transportation (WSDOT) standard format.

3.3 **Prepare 90-Percent Design**: Prepare 90-percent off-site water main plans, specifications, and an updated OPCC for review.

- Incorporate the CITY's 60-percent review comments into the design plans.
- Prepare 90-percent front-end specifications. Coordinate with the CITY regarding advertising dates and bid opening date and time.
- Update the technical specifications to include additions and revisions per 60-percent review and comments.
- Prepare 90-percent OPCC based on information supplied by material vendors and similar projects adjusted for anticipated bidding conditions.
- Prepare surface restoration details and traffic control plans. Advance plans to the 90-percent design level.
- Prepare plans for agency review/ROW permit.

3.4 **Prepare Bid-Ready Documents**: Prepare bid-ready stamped plans and specifications for construction.

- Incorporate agency review comments and CITY comments into 90-percent design plans. Finalize plans and profiles. Prepare and finalize outstanding minor details and finalize preliminary details.
- Address comments on the 90-percent specifications and finalize the construction contract documents accordingly. The construction contract documents and specifications will be ready to use during bid advertisement.
- Prepare a bid-ready OPCC, formatted for bidding, and provide a range of probable construction cost in the bid documents for the purpose of establishing a bid bond value.
- Prepare a projected construction schedule in Microsoft Project.

Assumptions:

- The Specifications will be in WSDOT format with Service Provider's Construction Specifications Institute format used for items not covered by WSDOT standard specifications.
- CITY's standard front-end construction contract documents will be used.
- AutoCAD files will be in the latest version of Civil 3D.
- The OPCC will include a summary of overall cost and itemization of materials, labor, equipment, and construction costs. Items in the OPCC will be reviewed with the CITY prior to submittal.
- The construction schedule will include line items for long lead time materials and equipment.
- The 30-percent submittal will not include technical specifications.

- *It is anticipated that the 60- and 90-percent review comments will be constrained to details that were developed subsequent to the previous review stage submittal, or that were revised or unresolved during the previous review stage.*
- No geotechnical investigation is included in this Scope of Services. If during design it is decided that geotechnical investigation is required for the water main design and construction in the unimproved easement area, the CITY and Service Provider will negotiate for additional authorization.
- The CITY will submit and pay fees for ROW permit.

Provided by CITY:

- Review comments on the 30-percent, 60-percent, and 90-percent documents.
- Electronic (word) copies of an example project specification to be used for a template for developing project specifications.

Project Deliverables:

- 30-Percent Design Submittal – Plans and OPCC.
- 60-Percent Design Submittal – Plans, specifications (including latest WSDOT, amendments, Special Provisions, and Technical Specifications), and OPCC.
- 90-Percent Design Submittal – Plans, specifications, and OPCC.
- Bid-Ready Submittal – Plans, specifications, and OPCC.
    - One (1) 11-inch by 17-inch hard copy and electronic PDF of the plans per submittal.
    - One (1) hard copy and electronic PDF of the specifications per submittal.
    - One (1) 11-inch by 17-inch hard copy and electronic PDF and Excel copies of the OPCC per submittal.
- Response to CITY comments for 30-, 60-, and 90-percent reviews in electronic PDF.
- Estimated project construction schedule in Microsoft Project and PDF.
- Digital copy of all project files, including CAD/Civil 3D files, calculations, reports, and pertinent documents, and correspondence to be transferred to the CITY in a form requested by the CITY project manager.

Task 4 – Services During Bidding

Objective: Assist the CITY during the project bidding and construction contracting phases. *It is assumed that the CITY will advertise the project and be the main point of contact for bidders. The Service Provider will refer all interested bidders with questions to the CITY.*

Approach:

4.1 **Respond to Technical Questions**: Respond to up to ten (10) technical questions from bidders.

4.2 **Prepare Addenda**: Prepare up to two (2) addenda, as requested.

4.3 **Attend Bid Opening**: Attend the bid opening conducted at the CITY's offices. Summarize bid results, make recommendations for award, and prepare letter for notice of intent to award.

4.4 **Prepare Conformed for Construction Documents**: Incorporate addenda into the plans and specifications and create electronic conformed for construction contract documents for the CITY and contractor, if necessary.

Assumptions:

- *Service Provider will perform this Task to the level of effort identified in the Fee Estimate. If additional effort is required, an amendment will be mutually determined by the CITY and Service Provider.*
- *Questions requiring technical support from the Service Provider will be routed by the CITY.*

Provided by the CITY:

- The CITY will advertise the project and be the primary point of contact for bidder inquiries.
- The CITY will prepare an advertisement and arrange for publication in the appropriate media.
- Advertisement costs will be paid by the CITY.
- The CITY will distribute the construction contract documents to the appropriate plan centers.
- The CITY will distribute the construction contract documents to prospective bidders, subcontractors, equipment suppliers, and other vendors upon request.
- The CITY will maintain a list of plan holders for distribution.

Project Deliverables:

- Email response to technical questions.
- Two (2) addenda (if requested) in electronic PDF.
- Analysis of bid results in electronic PDF.
- Notice of Intent to award letter in electronic PDF.
- One (1) 22-inch by 34-inch color plan set, two (2) 11-inch by 17-inch color plan sets, and electronic PDF of conformed for construction contract documents, if requested.

Task 5 – Services During Construction

Objective: Provide limited services during construction, including observation of construction activities onsite, as requested, reviewing submittals, responding to requests for information (RFIs),

reviewing change orders, and prepare record drawings. The scope of services during construction shown is anticipated work and will be executed as directed by the City only.

Approach:

5.1 **Attend Pre-Construction Conference**: Prepare meeting agenda and sign-in sheet, and attend the pre-construction conference. Prepare meeting minutes.

5.2 **Review Submittals and Shop Drawings**: Review and accept or reject (if necessary) shop drawings, equipment submittals, specifications, schedules, and construction sequence for conformance to the construction contract documents. It is anticipated that up to ten (10) submittals will be reviewed.

5.3 **Review and Respond to RFIs and Change Orders**: Review RFIs and change orders as requested by the CITY. Prepare plan revisions resulting from RFI and change order reviews if requested by the CITY. It is anticipated that up to five (5) RFIs and five (5) change orders will be reviewed.

5.4 **Review Pay Requests**: Review the contractor's monthly requests for progress payments and recommend the appropriate amount to the CITY for payment to the contractor. Payment recommendations will be based upon the approved breakdown of the contractor's lump sum contract amount and the percentage complete of unit price items. Such reviews will be completed within five (5) working days of receipt of the contractor's monthly pay requests.

5.5 **Provide Periodic On-Site Observations During Construction**: Provide periodic site visits by Service Provider's project manager or project engineer when significant construction is occurring, as important issues may need to be addressed, or as otherwise requested by the CITY. The purpose of these visits will be to address questions regarding the construction contract documents, assist with resolving project difficulties, review the progress of the work, and review whether the construction work observed is in accordance with the requirements of the construction contract documents. *Periodic project manager site visit services shall be performed up to the level of effort in the Fee Estimate, which is estimated as four (4) hours per site visit. The Fee Estimate (**Attachment B-2**) reflects a total of five (5) periodic project manager site visits.*

5.6 **Prepare Record Drawings**: Prepare record drawings and provide to the CITY at the end of the project. *The CITY will collect construction records from the contractor and provide them to the Service Provider.*

Assumptions:

- *The CITY will take the lead on reviewing all documents. The CITY will send a request to Service Provider via email when requesting review and will indicate what documents require review.*
- *The CITY will provide a special inspector (materials testing) for specific specialized activities. This will include inspection for testing of compaction of backfill and hot mix asphalt.*
- *The CITY will provide a daily on-site inspector serving as the CITY's representative to the contractor.*

- *Service Provider is not responsible for site safety or for determining means and methods or directing any CITY contractor or subcontractor in their work.*
- *The Service Provider will not attend weekly meetings, final walkthrough, or provide punch list and project closeout.*

Project Deliverables:

- Agenda, sign-in sheet, and minutes for pre-construction conference in electronic PDF.
- Submittals, RFIs, and change order responses in electronic PDF.
- Pay request recommendations in electronic PDF.
- Periodic construction observation reports in electronic PDF.
- One (1) 22-inch by 34-inch color plan set, two (2) 11-inch by 17-inch color plan sets, and electronic PDF of construction record drawings.

Task 6 – Management Reserve

Objective: Provide a discretionary allowance for unanticipated labor, expenses, or professional services not specifically identified in Tasks 1 through 5 in this Scope of Services. No work can be performed under this Task without prior written authorization from the CITY.

Approach:

6.1 Provide additional services as requested by the CITY.

Project Deliverables:

- As requested by the CITY.

Attachment B-2

Fee Estimate

City of Tumwater

Southeast Water Reservoir - Off-Site Water Main Alternative A

Jan-24

	Description	Total Hours	Total Labor	Total Subconsultant	Total Expense	Total Cost
Task 1	Project Management Services	42	$ 9,684	$ -	$ 998	$ 10,682
1.1	Manage Schedule and Budget	10	$ 1,868	$ -	$ 87	$ 1,955
1.2	Attend Progress/Work Meetings with City	22	$ 5,220	$ -	$ 401	$ 5,621
1.3	Perform and Manage Project QA/QC	10	$ 2,596	$ -	$ 511	$ 3,107
Task 2	Data Collection, Review, and Topographic Survey	30	$ 5,712	$ 76,450	$ 996	$ 83,158
2.1	Collect and Review Data	6	$ 1,204	$ -	$ 143	$ 1,347
2.2	Obtain Topographic Survey	14	$ 2,604	$ 61,600	$ 491	$ 64,695
2.3	Pothole Existing Utilities	10	$ 1,904	$ 14,850	$ 362	$ 17,116
Task 3	Design Plans and Specifications	296	$ 52,224	$ -	$ 8,904	$ 61,128
3.1	Prepare 30-Percent Design	64	$ 11,508	$ -	$ 2,177	$ 13,685
3.2	Prepare 60-Percent Design	90	$ 15,840	$ -	$ 2,602	$ 18,442
3.3	Prepare 90-Percent Design	78	$ 13,740	$ -	$ 2,247	$ 15,987
3.4	Prepare Bid-Ready Documents	64	$ 11,136	$ -	$ 1,879	$ 13,015
Task 4	Services During Bidding	27	$ 5,810	$ -	$ 1,240	$ 7,050
4.1	Respond to Technical Questions	9	$ 2,010	$ -	$ 212	$ 2,222
4.2	Prepare Addenda	11	$ 2,190	$ -	$ 217	$ 2,407
4.3	Attend Bid Opening	4	$ 1,008	$ -	$ 123	$ 1,131
4.4	Prepare Conformed for Construction Documents	3	$ 602	$ -	$ 688	$ 1,290
Task 5	Services During Construction	76	$ 17,046	$ -	$ 2,120	$ 19,166
5.1	Attend Pre-Construction Conference	8	$ 2,016	$ -	$ 122	$ 2,138
5.2	Review Submittals and Shop Drawings	15	$ 3,010	$ -	$ 349	$ 3,359
5.3	Review and Respond to RFIs and Change Orders	18	$ 3,766	$ -	$ 368	$ 4,134
5.4	Review Pay Requests	4	$ 1,008	$ -	$ 51	$ 1,059
5.5	Provide Periodic On-Site Observations During Construction	20	$ 5,040	$ -	$ 382	$ 5,422
5.6	Prepare Record Drawings	11	$ 2,206	$ -	$ 849	$ 3,055
Task 6	Management Reserve	-	$ -	$ -	$ -	$ 10,000
6.1	Management Reserve	-	$ -	$ -	$ -	$ 10,000
	PROJECT TOTAL	471	$ 90,476	$ 76,450	$ 14,258	$ 191,200

Attachment **B-2**

RH2 ENGINEERING, INC.

2024 SCHEDULE OF RATES AND CHARGES

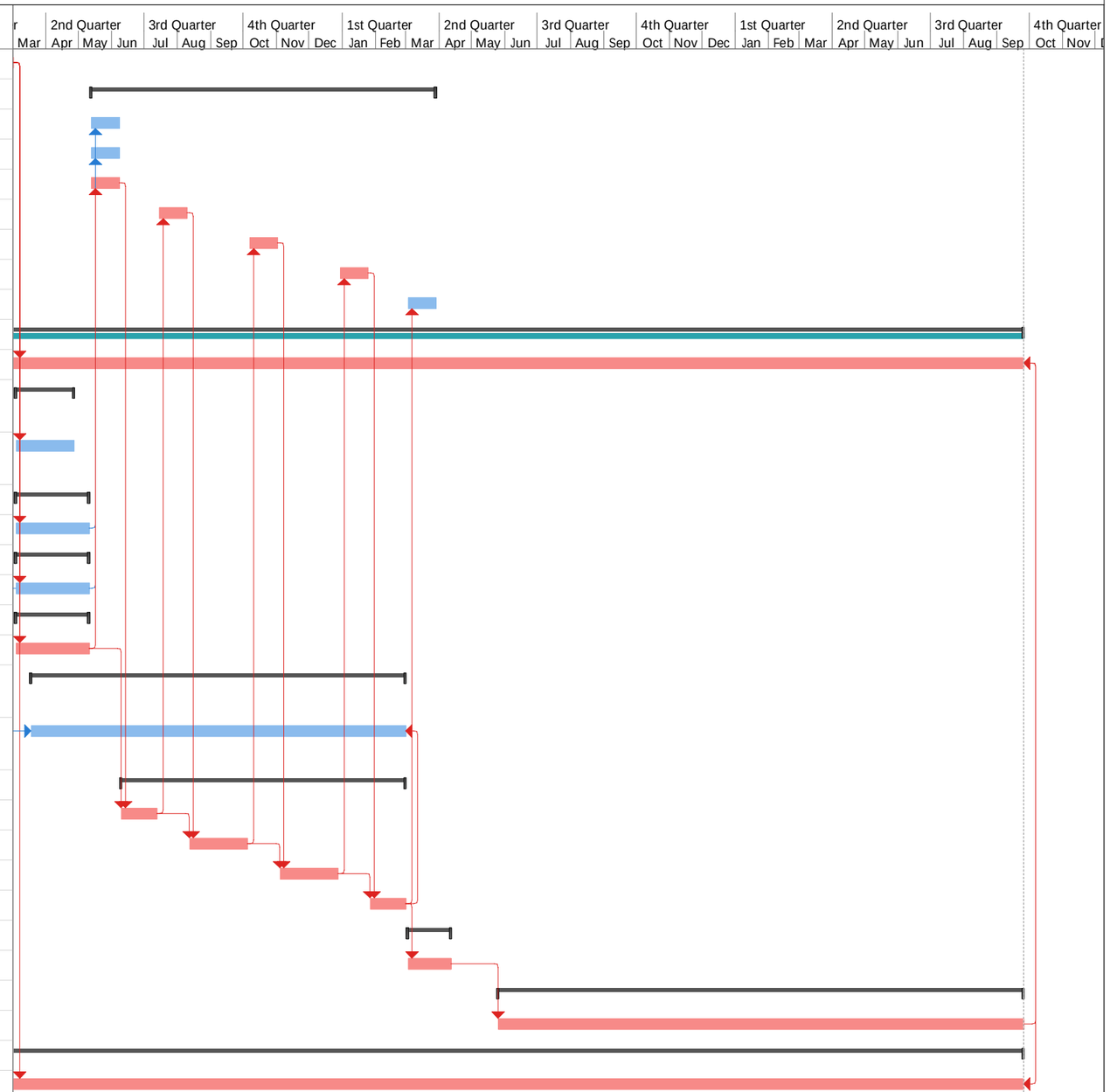
RATE LIST		RATE	UNIT
Professional I	Staff Engineer	$175	$/hr
Professional II	Staff Engineer	$191	$/hr
Professional III	Project Engineer	$216	$/hr
Professional IV	Project Engineer	$233	$/hr
Professional V	Project Manager	$252	$/hr
Professional VI	Project Manager	$268	$/hr
Professional VII	Project Manager	$292	$/hr
Professional VIII	Principal	$302	$/hr
Professional IX	Principal	$321	$/hr
Technician I		$138	$/hr
Technician II		$150	$/hr
Technician III		$166	$/hr
Technician IV		$183	$/hr
Technician V		$201	$/hr
Technician VI		$218	$/hr
Technician VII		$237	$/hr
Technician VIII		$250	$/hr
Administrative I		$90	$/hr
Administrative II		$105	$/hr
Administrative III		$127	$/hr
Administrative IV		$150	$/hr
Administrative V		$170	$/hr
CAD/GIS System		$27.50	$/hr
CAD Plots - Half Size		$2.50	price per plot
CAD Plots - Full Size		$10.00	price per plot
CAD Plots - Large		$25.00	price per plot
Copies (bw) 8.5" X 11"		$0.09	price per copy
Copies (bw) 8.5" X 14"		$0.14	price per copy
Copies (bw) 11" X 17"		$0.20	price per copy
Copies (color) 8.5" X 11"		$0.90	price per copy
Copies (color) 8.5" X 14"		$1.20	price per copy
Copies (color) 11" X 17"		$2.00	price per copy
Technology Charge		2.50%	% of Direct Labor
Mileage		$0.6550	price per mile (or Current IRS Rate)
Subconsultants		10%	Cost +
Outside Services		at cost	

Rates listed are adjusted annually.

Attachment C-2

City of Tumwater
SE Reservoir - Preliminary Project Schedule

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		Contract Authorization	1 day	Fri 3/1/24	Fri 3/1/24	
2		City Reviews	230 days	Mon 5/13/24	Fri 3/28/25	
3		Hydraulic Model Tech Memo City Review	20 days	Mon 5/13/24	Fri 6/7/24	15
4		Preliminary Design City Review	20 days	Mon 5/13/24	Fri 6/7/24	17
5		Site Investigation and Planning City Review	20 days	Mon 5/13/24	Fri 6/7/24	19
6		30-Percent Design City Review	20 days	Mon 7/15/24	Fri 8/9/24	23
7		60-Percent Design City Review	20 days	Mon 10/7/24	Fri 11/1/24	24
8		90-Percent Design City Review	20 days	Mon 12/30/2	Fri 1/24/25	25
9		Bid Ready Documents City Review	20 days	Mon 3/3/25	Fri 3/28/25	26
10		Task 1 - Project Management Services	671 days	Fri 3/1/24	Fri 9/25/26	
11		Project Management Services	671 days	Fri 3/1/24	Fri 9/25/26	1,30FF
12		Task 2 - Data Collection, Review, and Topographic Survey	40 days	Mon 3/4/24	Fri 4/26/24	
13		Data Collection, Review, and Topographic Survey	40 days	Mon 3/4/24	Fri 4/26/24	1
14		Task 3 - Hydraulic Modeling	50 days	Mon 3/4/24	Fri 5/10/24	
15		Hydraulic Modeling	50 days	Mon 3/4/24	Fri 5/10/24	1
16		Task 4 - Preliminary Design	50 days	Mon 3/4/24	Fri 5/10/24	
17		Preliminary Design	50 days	Mon 3/4/24	Fri 5/10/24	1
18		Task 5 - Site Investigation and Planning	50 days	Mon 3/4/24	Fri 5/10/24	
19		Site Investigation and Planning	50 days	Mon 3/4/24	Fri 5/10/24	1
20		Task 6 - Permitting, Environmental, and Cultural Resources	250 days	Mon 3/18/24	Fri 2/28/25	
21		Permitting, Environmental Resources, and Cultural Resources	250 days	Mon 3/18/24	Fri 2/28/25	17SS,26FF
22		Task 7 - Design Plans and Specifications	190 days	Mon 6/10/24	Fri 2/28/25	
23		30-Percent Design	25 days	Mon 6/10/24	Fri 7/12/24	19,5
24		60-Percent Design	40 days	Mon 8/12/24	Fri 10/4/24	23,6
25		90-Percent Design	40 days	Mon 11/4/24	Fri 12/27/24	24,7
26		Bid Ready Documents	25 days	Mon 1/27/25	Fri 2/28/25	25,8
27		Task 8 - Services During Bidding	30 days	Mon 3/3/25	Fri 4/11/25	
28		Services During Bidding	30 days	Mon 3/3/25	Fri 4/11/25	26
29		Task 9 - Services During Construction	350 days	Mon 5/26/25	Fri 9/25/26	
30		Services During Construction	350 days	Mon 5/26/25	Fri 9/25/26	28FS+30 days
31		Task 10 - Management Reserve	671 days	Fri 3/1/24	Fri 9/25/26	
32		Management Reserve	671 days	Fri 3/1/24	Fri 9/25/26	1,11FF



Project: Tumwater SE Reservoir
Date: Thu 1/25/24

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

\\corp.rh2.com\dfs\NewBusiness\Proposal\TUM\20221230_TUM_M220135_Southeast Water Reservoir\Contract\Schedule\Tumwater SE Reservoir Preliminary Project Schedule.mpp

Fri 1/19/24

Attachment D-2

Alternative "A" – Off-site

Attachment A-3
Scope of Services
Engineering Services For
City of Tumwater
Southeast Water Reservoir – Off-Site Water Main Alternative B

January 2024

Introduction

RH2 Engineering, Inc., (Service Provider), along with its subconsultants (Design Team), have been selected to provide engineering services to the City of Tumwater (CITY) for the Southeast Water Reservoir project.

The Southeast Water Reservoir project includes hydraulic modeling and preliminary design tasks that will evaluate two possible off-site water main options to hydraulicly connect the proposed Southeast Reservoir to the CITY's distribution system and balance fire flow between the CITY's reservoirs and the distribution system.

The goal of the Southeast Water Reservoir project is to extend water main from the proposed reservoir location to the CITY's nearest distribution piping at 93rd Avenue SE and Brooks Lane SE. The Off-Site Water Main Alternative A would connect the Southeast Reservoir piping from Snowdrop Avenue to existing CITY piping in Kimmie Street SW. The Off-Site Water Main Alternative B would connect the Southeast Reservoir piping to existing CITY piping in Old Highway 99 SE.

This Scope of Services includes extending approximately 3,000 linear feet (lf) of 16-inch water main from 93rd Avenue SE, north through easements to Old Highway 99 SE, and northwest approximately 200 feet along Old Highway 99 SE. **Attachment D-3** shows the Off-Site Water Main Alternative B alignment/extents.

This Scope of Services details the Service Provider's proposal to prepare plans and specifications for the construction of the Southeast Water Reservoir – Off-Site Water Main Alternative B. If during the execution of the Southeast Reservoir design, the CITY elects to proceed with Alternative B, the CITY will authorize Service Provider to proceed with the following Scope of Services. *This Scope of Services assumes that separate construction documents will be required for the Off-Site Water Main Alternative B and that the Southeast Water Reservoir and Off-Site Water Main Alternative B will be bid and constructed separately.*

The following is a summary of the major tasks that will be completed under this Scope of Services:

Task 1 – Project Management Services

Task 2 – Data Collection, Review, and Topographic Survey

Task 3 – Design Plans and Specifications

Task 4 – Services During Bidding

Task 5 – Services During Construction

Task 6 – Management Reserve

Services outlined herein will be performed to the level of effort identified in the Fee Estimate. If additional effort is required to complete the services, or additional services are requested by the CITY, an amendment to this Scope of Work and the Fee Estimate shall be mutually determined by the parties.

Task 1 – Project Management Services

Objective: Coordinate Design Team effort and maintain frequent client communications. Maintain project schedules (Attachment C-1) and prepare monthly invoices and budget status summaries. Provide quality assurance and quality control (QA/QC) review by the Principal in Charge. Meet with the CITY project manager to provide project updates.

Approach:

1.1 **Manage Schedule and Budget**: Track the budget and the schedule relative to the actual percent complete (earned value tracking) and report this to the CITY monthly for the duration of the project. Include monthly project summaries will be included with monthly billing invoices to qualify the past month's billings. Document anticipated upcoming project activities and milestones.

1.2 **Attend Progress/Work Meeting with CITY**: Attend up to four (4) in-person project meetings, and up to four (4) video conference call meetings with Design Team and CITY staff. *It is assumed each in-person meeting will be two (2) hours in duration and each video conference call meeting will be approximately sixty (60) minutes long.* Provide meeting agendas before each meeting and meeting minutes after each meeting. The following table lists anticipated meetings during preliminary design, permitting, and final design:

Number of Meetings	Meeting Name
1	30-Percent Design Milestone Review Meeting
1	60-Percent Design Milestone Review Meeting
1	90-Percent Design Milestone Review Meeting
1	ROW Permit Application Submittal Meeting
4	Project Status and Design Coordination Video Conference Calls

1.3 **Perform and Manage Project QA/QC**: Perform QA/QC reviews by the Principal in Charge for deliverables, including the construction contract documents at the 30-percent, 60-percent, 90-percent, and bid-ready design benchmarks.

Assumptions:

- *Project management will be for design, bidding phase, and construction phase services for a period of approximately twenty-four (24) months, with construction starting in 2024.*
- *Progress/work meetings with the CITY will include up to two (2) Design Team members and have an approximate duration of two (2) hours each. The Fee Estimate reflects a total of four*

(4) hours for each person per meeting, which includes travel and preparation of the agenda and meeting minutes.

- *In-person meetings with the CITY will be at CITY offices unless otherwise determined.*

Provided by the CITY:

- Review of meeting minutes for accuracy and provide comments for revision as necessary.
- Review comments on documents.
- Process monthly invoices.
- Input and concurrence on project decisions and development.
- Currently available background information on the existing distribution system.
- Legal review of all contracts, bid forms, and real property.

Project Deliverables:

- Monthly invoices and project summaries in electronic format (PDF).
- Meeting agendas and minutes in electronic format (Word and PDF).

Task 2 – Data Collection, Review, and Topographic Survey

Objective: Collect and review existing relevant project background and site information. Perform topographic survey for the project. Subcontract with a professional land surveyor, Sitts & Hill Engineers, Inc., (Sitts & Hill), and Applied Professional Services (APS) to complete this Task.

Approach:

2.1 **Collect and Review Data**: Collect and review existing relevant project background and site information. Prepare a detailed data request spreadsheet for additional information Service Provider requires from the CITY. The following materials are anticipated to be collected:

- Water system mapping and record drawings.
- Property and owner information for proposed easement parcels.
- Utility information within the project limits.

2.2 **Obtain Topographic Survey**: Coordinate with a professional land surveyor, Sitts & Hill, to provide the vertical and horizontal controls and topographical survey and mapping necessary for design of the Off-Site Water Main Alternative B.

- City of Tumwater Survey Control:
    - Basis of Bearings: Washington state plane coordinate system, South Zone NAD83/11;
    - Datum: NGVD 29.
    - RH2 will provide a sample drawing in AutoCAD 2021 with RH2 standard layers, blocks, and colors for formatting. Each utility is to be depicted in a separate layer.

A. Topographic survey and mapping for Off-Site Water Main Alternative B :

The survey shall extend through easements from 93rd Ave SE to Old Highway 99. Easement/survey will be the east 30 feet of parcel no. 12713310800 (owned by Tumwater School District No. 33) and parcel nos. 36310000026, 36310000008, and 36310000004 which appear to be set aside for easement and are owned by the Bradbury Owners Association; including a length along Old Highway 99 SE (full ROW) from Wyatt Ct SE to the far side of the entrance of Lakeside Industries (refer to **Attachment D-3**).

Field data collection shall include, but not be limited to, the followings:

Roadways:

- Identify roadways, driveways, sidewalks with pavement type;
- Show centerlines and angles of intersection of side street(s) with main roadway centerline as necessary;
- Show all mailboxes, road signs, and sign posts;

Trees, Shrubs, and Landscaping:

- Locate and describe all trees, vegetation line, shrubs, and special landscaping;
- Provide locations of other landscaping materials such as lawn, rock structures, sculptures, etc.;
- Provide type, locations, and elevations of sprinkler heads, sprinkler control boxes, and other sprinkler devices that may become a design consideration.

Fence and Retaining Wall:

- Provide locations and types of fence within the limits of the survey;
- Show retaining walls with detailed description.

Water Main and Appurtenances:

- Size and material type of water main;
- Size and type of water meter and fire hydrant;
- Size and type of valve with operating nut elevation.

Sanitary Sewer and Appurtenances:

- Size and material type of sewer line and sewer force main with flow direction;
- Size and type of manhole with rim elevation, invert elevations of all pipes entering and exiting manhole;
- Cleanout locations.

Storm Drains, Open Channels, and Culverts:

- Size and material type of storm drains with flow direction;
- Size and type of inlet, catch basin, manhole, etc.;
- Indicate all open channels and culverts with material and elevations;
- Locate all open channels flow lines, toe, and top channel elevations.

Gas Mains:

- Size and material of all gas main, if available;
- Locations of gas valves and other gas appurtenances;

Underground Communications:

- Size, type of materials, and owner name;
- Size and type of appurtenances (vault, manhole, hand hole, pedestal, guywire, etc.

Underground Electric:

- Size, type of materials, and owner name;
- Size and type of appurtenances (vault, manhole, hand hole, pedestal, guywire, etc.

- Format survey data for use in AutoCAD 2021. Create a base map for project design using RH2 standards.
- Perform site visit as necessary for the Service Provider to confirm that the topographic survey sub-consultant has completed the Work in a satisfactory manner.
- Coordinate with Sitts & Hill to obtain additional subsurface utility information, including utility locates and items found missing or needing clarification after the site visit to confirm survey. Coordinate with private utility locating services such as Applied Professional Services (APS) to provide utility potholing to determine utility depths at critical design locations. Incorporate findings into the design plans.

2.3 **Pothole Existing Utilities**: Coordinate with CITY staff for potholing of existing private and CITY-owned utilities.

Pothole of Private Utilities:

As the 30-percent design progresses and the proposed horizontal layout of the improvements is approved by the CITY, identify the locations of potential utility conflicts with existing private utilities to the CITY. CITY staff will share the design information with private utility owners and request utility potholes. The CITY will provide the pothole data from private utility owner to the Design Team when it becomes available.

Pothole of CITY-owned Utilities:

Coordinate with APS to provide potholing services for CITY-owned utilities. Determine existing utilities and connection points that need to be potholed to confirm location and depth after the survey is complete and a preliminary alignment for the off-site water main is created by the Design Team and reviewed by the CITY. Contract with APS to provide hydro excavation for utility potholing and traffic control. Coordinate with Sitts & Hill to return to the site and pickup pothole locations from both CITY-owned and private utilities after completion of potholing services. This Scope of Services assumes up to eight (8) locations will be potholed.

Assumptions:

- *The CITY will provide data within approximately two (2) weeks of when the information is requested.*

- *Service Provider will use as is and reasonably rely upon the accuracy and completeness of data, materials, and information generated or produced by others in the performance of this Scope of Services.*
- *The survey will be performed for the area identified in* ***Attachment D-3.***
- *The CITY will be responsible for obtaining all rights of entry for survey and all easements for construction.*
- *Legal descriptions for future easements are not included in this topographic survey task.*

Provided by the CITY:

- Responses to the data request spreadsheet.
- Rights of entry to perform survey on parcel nos. 12713310800, 36310000026, 36310000008, and 36310000004.
- Permanent easements on parcel nos. 12713310800, 36310000026, 36310000008, and 36310000004 for water main construction.

Project Deliverables:

- Data request spreadsheet in electronic PDF.
- Field survey formatted for AutoCAD Civil 3D 2023.
- Survey field notes and methods used.

Task 3 – Design Plans and Specifications

Objective: Prepare plans, specifications, and an Engineer's opinion of probable construction cost (OPCC) for approximately 3,000 lf of water main. The final design will consist of the following:

- Cover sheet.
- General information sheet.
- Survey control and demolition plans.
- Water main plan and profiles sheets.
- Water main details.
- Standard details.
- Surface restoration details.
- Traffic control plans.

Approach:

3.1 **Prepare 30-Percent Design**: Prepare preliminary water main alignment and an OPCC for review by the CITY.

- Prepare a cover sheet, general information sheet, survey control and demolition plans, and preliminary water main horizontal alignment plans.
- Prepare a proposed pothole exhibit.
- Prepare a 30-percent design level OPCC.

3.2 **Prepare 60-Percent Design**: Prepare 60-percent off-site water main plans, technical specifications, and an updated OPCC for review.

- Incorporate the CITY's 30-percent review comments into the design plans.
- Finalize water main horizontal alignment.
- Prepare water main plan and profiles. Prepare connection to existing details and standard detail sheets.
- Incorporate pothole data into the plans and profiles.
- Update OPCC.
- Prepare 60-percent technical specifications in Washington State Department of Transportation (WSDOT) standard format.

3.3 **Prepare 90-Percent Design**: Prepare 90-percent off-site water main plans, specifications, and an updated OPCC for review.

- Incorporate the CITY's 60-percent review comments into the design plans.
- Prepare 90-percent front-end specifications. Coordinate with the CITY regarding advertising dates and bid opening date and time.
- Update the technical specifications to include additions and revisions per 60-percent review and comments.
- Prepare 90-percent OPCC based on information supplied by material vendors and similar projects adjusted for anticipated bidding conditions.
- Prepare surface restoration details and traffic control plans. Advance plans to the 90-percent design level.
- Prepare plans for agency review/ROW permit.

3.4 **Prepare Bid-Ready Documents**: Prepare bid-ready stamped plans and specifications for construction.

- Incorporate agency review comments and CITY comments into 90-percent design plans. Finalize plans and profiles. Prepare and finalize outstanding minor details and finalize preliminary details.
- Address comments on the 90-percent specifications and finalize the construction contract documents accordingly. The construction contract documents and specifications will be ready to use during bid advertisement.

- Prepare a bid-ready OPCC, formatted for bidding, and provide a range of probable construction cost in the bid documents for the purpose of establishing a bid bond value.
- Prepare a projected construction schedule in Microsoft Project.

Assumptions:

- *The Specifications will be in WSDOT format with Service Provider's Construction Specifications Institute format used for items not covered by WSDOT Standard Specifications.*
- *CITY's standard front-end construction contract documents will be used.*
- *AutoCAD files will be in the latest version of Civil 3D.*
- *The OPCC will include a summary of overall cost and itemization of materials, labor, equipment, and construction costs. Items in the OPCC will be reviewed with the CITY prior to submittal.*
- *The construction schedule will include line items for long lead time materials and equipment.*
- *The 30-percent submittal will not include technical specifications.*
- *It is anticipated that the 60- and 90-percent review comments will be constrained to details that were developed subsequent to the previous review stage submittal, or that were revised or unresolved during the previous review stage.*
- *No geotechnical investigation is included in this Scope of Services. If during design it is decided that geotechnical investigation is required for the water main design and construction in the unimproved easement area, the CITY and Service Provider will negotiate for additional authorization.*
- *The CITY will submit and pay fees for ROW permit.*

Provided by CITY:

- Review comments on the 30-percent, 60-percent, and 90-percent documents.
- Electronic (word) copies of an example project specification to be used for a template for developing project specifications.

Project Deliverables:

- 30-Percent Design Submittal – Plans and OPCC.
- 60-Percent Design Submittal – Plans, specifications (including latest WSDOT, amendments, Special Provisions, and Technical Specifications), and OPCC.
- 90-Percent Design Submittal – Plans, specifications, and OPCC.
- Bid-Ready Submittal – Plans, specifications, and OPCC.
    - One (1) 11-inch by 17-inch hard copy and electronic PDF of the plans per submittal.
    - One (1) hard copy and electronic PDF of the specifications per submittal.

  - One (1) 11-inch by 17-inch hard copy and electronic PDF and Excel copies of the OPCC per submittal.

- Response to CITY comments for 30-, 60-, and 90-percent reviews in electronic PDF.
- Estimated project construction schedule in Microsoft Project and electronic PDF.
- Digital copy of all project files, including CAD/Civil 3D files, calculations, reports, and pertinent documents, and correspondence to be transferred to the CITY in a form requested by the CITY project manager.

Task 4 – Services During Bidding

Objective: Assist the CITY during the project bidding and construction contracting phases. *It is assumed that the CITY will advertise the project and be the main point of contact for bidders. Service Provider will refer all interested bidders with questions to the CITY.*

Approach:

4.1 **Respond to Technical Questions**: Respond to up to ten (10) technical questions from bidders.

4.2 **Prepare Addenda**: Prepare up to two (2) addenda, as requested.

4.3 **Attend Bid Opening**: Attend the bid opening conducted at the CITY's offices. Summarize bid results, make recommendations for award, and prepare letter for notice of intent to award.

4.4 **Prepare Conformed for Construction Documents**: Incorporate addenda into the plans and specifications and create electronic conformed for construction contract documents for the CITY and contractor, if necessary.

Assumptions:

- *Service Provider will perform this Task to the level of effort identified in the Fee Estimate. If additional effort is required, an amendment will be mutually determined by the CITY and Service Provider.*
- *Questions requiring technical support from the Service Provider will be routed by the CITY.*

Provided by the CITY:

- The CITY will advertise the project and be the primary point of contact for bidder inquiries.
- The CITY will prepare an advertisement and arrange for publication in the appropriate media.
- Advertisement costs will be paid by the CITY.
- The CITY will distribute the construction contract documents to the appropriate plan centers.
- The CITY will distribute the construction contract documents to prospective bidders, subcontractors, equipment suppliers, and other vendors upon request.
- The CITY will maintain a list of plan holders for distribution.

Project Deliverables:

- Email response to technical questions.
- Two (2) addenda (if requested) in electronic PDF.
- Analysis of bid results in electronic PDF.
- Notice of Intent to award letter in electronic PDF.
- One (1) 22-inch by 34-inch color plan set, two (2) 11-inch by 17-inch color plan sets, and electronic PDF copy of conformed for construction contract documents, if requested.

Task 5 – Services During Construction

Objective: Provide limited services during construction, including observation of construction activities onsite, as requested, reviewing submittals, responding to requests for information (RFIs), and reviewing change orders, and prepare record drawings. The scope of services during construction shown is anticipated work and will be executed as directed by the City only.

Approach:

5.1 **Attend Pre-Construction Conference**: Prepare meeting agenda and sign-in sheet, and attend the pre-construction conference. Prepare meeting minutes.

5.2 **Review Submittals and Shop Drawings**: Review and accept or reject (if necessary) shop drawings, equipment submittals, specifications, schedules, and construction sequence for conformance to the construction contract documents. It is anticipated that up to ten (10) submittals will be reviewed.

5.3 **Review and Respond to RFIs and Change Orders**: Review RFIs and change orders as requested by the CITY. Prepare plan revisions resulting from RFI and change order review if requested by the CITY. It is anticipated that up to five (5) RFIs and five (5) change orders will be reviewed.

5.4 **Review Pay Requests**: Review the contractor's monthly requests for progress payments and recommend the appropriate amount to the CITY for payment to the contractor. Payment recommendations will be based upon the approved breakdown of the contractor's lump sum contract amount and the percentage complete of unit price items. Such reviews will be completed within five (5) working days of receipt of the contractor's monthly pay requests.

5.5 **Provide Periodic On-Site Observation During Construction**: Provide periodic site visits by Service Provider's project manager or project engineer when significant construction is occurring, as important issues may need to be addressed, or as otherwise requested by the CITY. The purpose of these visits will be to address questions regarding the construction contract documents, assist with resolving project difficulties, review the progress of the work, and review whether the construction work observed is in accordance with the requirements of the construction contract documents. *Periodic project manager site visit services shall be performed up to the level of effort in the Fee Estimate, which is estimated as four (4) hours per site visit. The Fee Estimate (**Attachment B-3**) reflects a total of five (5) periodic project manager site visits.*

5.6 **Prepare Record Drawings**: Prepare record drawings and provide to the CITY at the end of the project. *The CITY will collect construction records from the contractor and provide them to Service Provider.*

Assumptions:

- *The CITY will take the lead on reviewing all documents. The CITY will send a request to Service Provide via email when requesting review and will indicate what documents require review.*
- *The CITY will provide a special inspector (materials testing) for specific specialized activities. This will include inspection for testing of compaction of backfill and hot mix asphalt.*
- *The CITY will provide a daily on-site inspector serving as the CITY's representative to the contractor.*
- *Service Provider is not responsible for site safety or for determining means and methods or directing any CITY contractor or subcontractor in their work.*
- *The Service Provider will not attend weekly meetings, final walkthrough, or provide punch list and project closeout.*

Project Deliverables:

- Agenda, sign-in sheet, and minutes for pre-construction conference in electronic PDF.
- Submittals, RFIs, and change order responses in electronic PDF.
- Pay request recommendations in electronic PDF.
- Periodic construction observation reports in electronic PDF.
- One (1) 22-inch by 34-inch color plan set, two (2) 11-inch by 17-inch color plans sets, and electronic PDF of construction record drawings.

Task 6 – Management Reserve

Objective: Provide a discretionary allowance for unanticipated labor, expenses, or professional services not specifically identified in Tasks 1 through 5 in this Scope of Services. No work can be performed under this Task without prior written authorization from the CITY.

Approach:

6.1 Provide additional services as requested by the CITY.

Project Deliverables:

- As requested by the CITY.

Attachment B-3

Fee Estimate

City of Tumwater

Southeast Water Reservoir - Off-Site Water Main Alternative B

Jan-24

	Description	Total Hours	Total Labor	Total Subconsultant	Total Expense	Total Cost
Task 1	Project Management Services	42	$ 9,684	$ -	$ 748	$ 10,432
1.1	Manage Schedule and Budget	10	$ 1,868	$ -	$ 62	$ 1,930
1.2	Attend Progress/Work Meetings with City	22	$ 5,220	$ -	$ 376	$ 5,596
1.3	Perform and Manage Project QA/QC	10	$ 2,596	$ -	$ 311	$ 2,907
Task 2	Data Collection, Review, and Topographic Survey	26	$ 5,012	$ 44,000	$ 796	$ 49,808
2.1	Collect and Review Data	6	$ 1,204	$ -	$ 143	$ 1,347
2.2	Obtain Topographic Survey	14	$ 2,604	$ 36,300	$ 441	$ 39,345
2.3	Pothole Existing Utilities	6	$ 1,204	$ 7,700	$ 212	$ 9,116
Task 3	Design Plans and Specifications	116	$ 20,108	$ -	$ 2,639	$ 22,747
3.1	Prepare 30-Percent Design	20	$ 3,808	$ -	$ 585	$ 4,393
3.2	Prepare 60-Percent Design	40	$ 6,936	$ -	$ 896	$ 7,832
3.3	Prepare 90-Percent Design	36	$ 6,236	$ -	$ 769	$ 7,005
3.4	Prepare Bid-Ready Documents	20	$ 3,128	$ -	$ 389	$ 3,517
Task 4	Services During Bidding	27	$ 5,810	$ -	$ 827	$ 6,637
3.1	Respond to Technical Questions	9	$ 2,010	$ -	$ 175	$ 2,185
3.2	Prepare Addenda	11	$ 2,190	$ -	$ 179	$ 2,369
3.3	Attend Bid Opening	4	$ 1,008	$ -	$ 85	$ 1,093
3.4	Prepare Conformed for Construction Documents	3	$ 602	$ -	$ 388	$ 990
Task 5	Services During Construction	78	$ 17,550	$ -	$ 1,875	$ 19,425
5.1	Attend Pre-Construction Conference	8	$ 2,016	$ -	$ 122	$ 2,138
5.2	Review Submittals and Shop Drawings	15	$ 3,010	$ -	$ 392	$ 3,402
5.3	Review and Respond to RFIs and Change Orders	20	$ 4,270	$ -	$ 380	$ 4,650
5.4	Review Pay Requests	4	$ 1,008	$ -	$ 51	$ 1,059
5.5	Provide Periodic On-Site Observation During Construction	20	$ 5,040	$ -	$ 382	$ 5,422
5.6	Prepare Record Drawings	11	$ 2,206	$ -	$ 549	$ 2,755
Task 6	Management Reserve	-	$ -	$ -	$ -	$ 10,000
6.1	Management Reserve	-	$ -	$ -	$ -	$ 10,000
	PROJECT TOTAL	289	$ 58,164	$ 44,000	$ 6,886	$ 119,050

Attachment **B-**3

RH2 ENGINEERING, INC.

2024 SCHEDULE OF RATES AND CHARGES

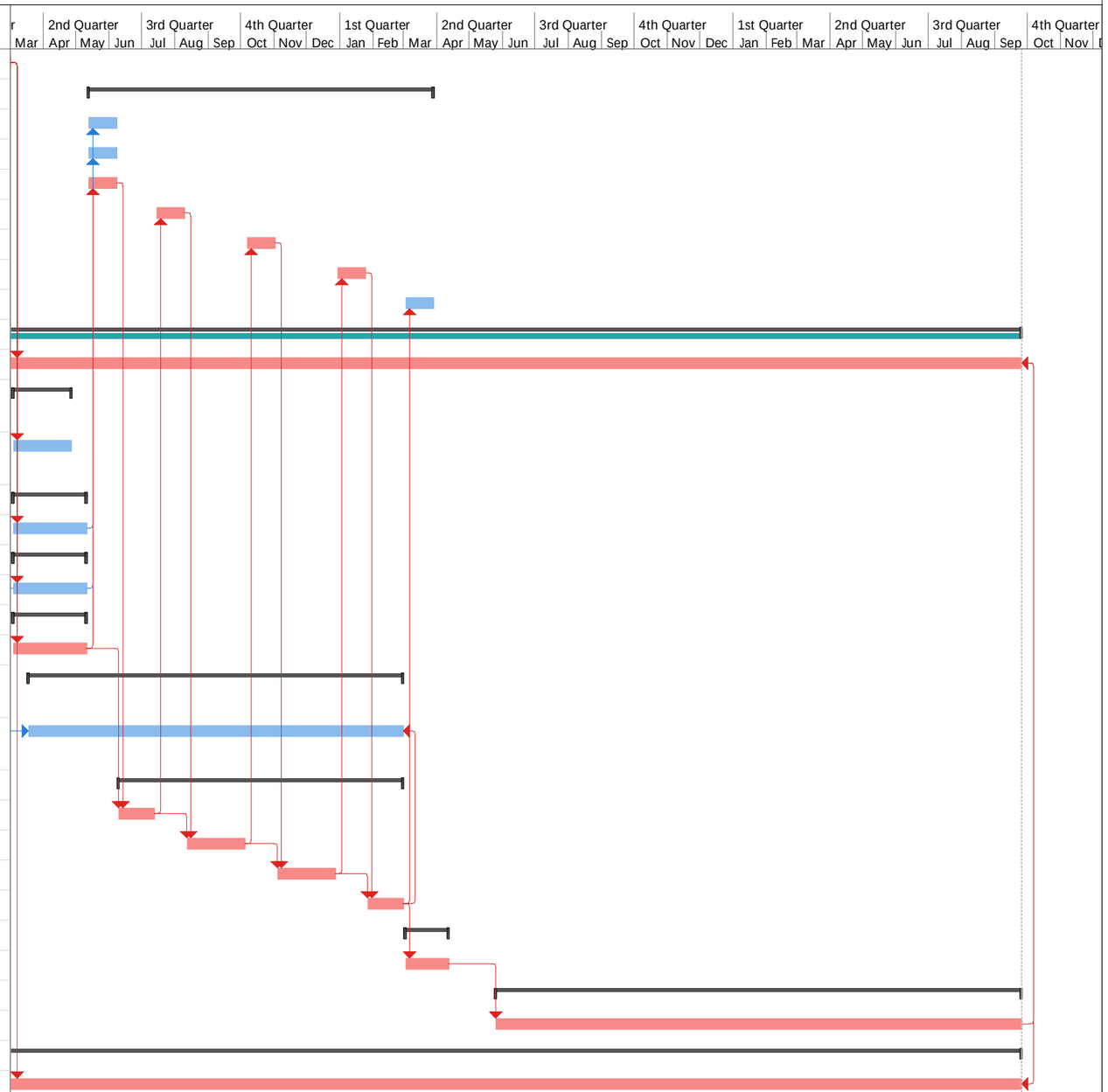
RATE LIST		**RATE**	**UNIT**
Professional I	Staff Engineer	$175	$/hr
Professional II	Staff Engineer	$191	$/hr
Professional III	Project Engineer	$216	$/hr
Professional IV	Project Engineer	$233	$/hr
Professional V	Project Manager	$252	$/hr
Professional VI	Project Manager	$268	$/hr
Professional VII	Project Manager	$292	$/hr
Professional VIII	Principal	$302	$/hr
Professional IX	Principal	$321	$/hr
Technician I		$138	$/hr
Technician II		$150	$/hr
Technician III		$166	$/hr
Technician IV		$183	$/hr
Technician V		$201	$/hr
Technician VI		$218	$/hr
Technician VII		$237	$/hr
Technician VIII		$250	$/hr
Administrative I		$90	$/hr
Administrative II		$105	$/hr
Administrative III		$127	$/hr
Administrative IV		$150	$/hr
Administrative V		$170	$/hr
CAD/GIS System		$27.50	$/hr
CAD Plots - Half Size		$2.50	price per plot
CAD Plots - Full Size		$10.00	price per plot
CAD Plots - Large		$25.00	price per plot
Copies (bw) 8.5" X 11"		$0.09	price per copy
Copies (bw) 8.5" X 14"		$0.14	price per copy
Copies (bw) 11" X 17"		$0.20	price per copy
Copies (color) 8.5" X 11"		$0.90	price per copy
Copies (color) 8.5" X 14"		$1.20	price per copy
Copies (color) 11" X 17"		$2.00	price per copy
Technology Charge		2.50%	% of Direct Labor
Mileage		$0.6550	price per mile (or Current IRS Rate)
Subconsultants		10%	Cost +
Outside Services		at cost	

Rates listed are adjusted annually.

Attachment C-3

City of Tumwater
SE Reservoir - Preliminary Project Schedule

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		Contract Authorization	1 day	Fri 3/1/24	Fri 3/1/24	
2		City Reviews	230 days	Mon 5/13/24	Fri 3/28/25	
3		Hydraulic Model Tech Memo City Review	20 days	Mon 5/13/24	Fri 6/7/24	15
4		Preliminary Design City Review	20 days	Mon 5/13/24	Fri 6/7/24	17
5		Site Investigation and Planning City Review	20 days	Mon 5/13/24	Fri 6/7/24	19
6		30-Percent Design City Review	20 days	Mon 7/15/24	Fri 8/9/24	23
7		60-Percent Design City Review	20 days	Mon 10/7/24	Fri 11/1/24	24
8		90-Percent Design City Review	20 days	Mon 12/30/2	Fri 1/24/25	25
9		Bid Ready Documents City Review	20 days	Mon 3/3/25	Fri 3/28/25	26
10		Task 1 - Project Management Services	671 days	Fri 3/1/24	Fri 9/25/26	
11		Project Management Services	671 days	Fri 3/1/24	Fri 9/25/26	1,30FF
12		Task 2 - Data Collection, Review, and Topographic Survey	40 days	Mon 3/4/24	Fri 4/26/24	
13		Data Collection, Review, and Topographic Survey	40 days	Mon 3/4/24	Fri 4/26/24	1
14		Task 3 - Hydraulic Modeling	50 days	Mon 3/4/24	Fri 5/10/24	
15		Hydraulic Modeling	50 days	Mon 3/4/24	Fri 5/10/24	1
16		Task 4 - Preliminary Design	50 days	Mon 3/4/24	Fri 5/10/24	
17		Preliminary Design	50 days	Mon 3/4/24	Fri 5/10/24	1
18		Task 5 - Site Investigation and Planning	50 days	Mon 3/4/24	Fri 5/10/24	
19		Site Investigation and Planning	50 days	Mon 3/4/24	Fri 5/10/24	1
20		Task 6 - Permitting, Environmental, and Cultural Resources	250 days	Mon 3/18/24	Fri 2/28/25	
21		Permitting, Environmental Resources, and Cultural Resources	250 days	Mon 3/18/24	Fri 2/28/25	17SS,26FF
22		Task 7 - Design Plans and Specifications	190 days	Mon 6/10/24	Fri 2/28/25	
23		30-Percent Design	25 days	Mon 6/10/24	Fri 7/12/24	19,5
24		60-Percent Design	40 days	Mon 8/12/24	Fri 10/4/24	23,6
25		90-Percent Design	40 days	Mon 11/4/24	Fri 12/27/24	24,7
26		Bid Ready Documents	25 days	Mon 1/27/25	Fri 2/28/25	25,8
27		Task 8 - Services During Bidding	30 days	Mon 3/3/25	Fri 4/11/25	
28		Services During Bidding	30 days	Mon 3/3/25	Fri 4/11/25	26
29		Task 9 - Services During Construction	350 days	Mon 5/26/25	Fri 9/25/26	
30		Services During Construction	350 days	Mon 5/26/25	Fri 9/25/26	28FS+30 days
31		Task 10 - Management Reserve	671 days	Fri 3/1/24	Fri 9/25/26	
32		Management Reserve	671 days	Fri 3/1/24	Fri 9/25/26	1,11FF



Project: Tumwater SE Reservoir
Date: Thu 1/25/24

Task
Split
Milestone
Summary
Project Summary
Inactive Task
Inactive Milestone
Inactive Summary
Manual Task
Duration-only
Manual Summary Rollup
Manual Summary
Start-only
Finish-only
External Tasks
External Milestone
Deadline
Critical
Critical Split
Progress
Manual Progress

\\corp.rh2.com\dfs\NewBusiness\Proposal\TUM\20221230_TUM_M220135_Southeast Water Reservoir\Contract\Schedule\Tumwater SE Reservoir Preliminary Project Schedule.mpp

Fri 1/19/24

Attachment D-3

Alternative "B" – Off-site

NON-DISCRIMINATION IN BENEFITS AFFIDAVIT

(Must Be Completed for All Bids in Excess of $50,000.00)

State of Washington)
) ss
County of)

Chapter 3.46 of the Tumwater Municipal Code provides for non-discrimination in the provision of employee benefits between an employee with a domestic partner and an employee with a spouse by contractors providing supplies or services to the city estimated to cost fifty thousand dollars ($50,000) or more.

_____, being first duly sworn, on their oath, states

that they have reviewed Chapter 3.46 of the Tumwater Municipal Code and hereby

certifies that _____ is in compliance
(Name of Firm)
with TMC 3.46.

_____
Signed

_____
Type/Print Name

Subscribed and sworn to before me this _____day of _____, 20____.

_____

_____
Type/Print Name

Notary Public in and for the State of
Washington.
My commission expires _____.