

**DESIGN SERVICES CONTRACT****CITY OF PORTLAND****CONTRACT NUMBER 30007311****COLUMBIA BOULEVARD WASTEWATER TREATMENT PLANT  
PIPE CONDITION AND RISK ASSESSMENT PROGRAM**

This contract is between the City of Portland ("City," or "Bureau") and Kennedy Jenks Consultants, Inc, hereafter called Consultant. The City will assign a Project Manager for this Contract who will be the primary point of contact.

**Effective Date and Duration**

This contract shall become effective on June 15, 2020. This contract shall expire, unless otherwise terminated or extended, on June 15, 2025.

**Consideration**

- (a) City agrees to pay Consultant a sum not to exceed two million five hundred thousand dollars (\$2,500,000) for accomplishment of the work.
- (b) Interim payments shall be made to Consultant according to the schedule identified in the STATEMENT OF THE WORK AND PAYMENT SCHEDULE.

**CONSULTANT DATA AND CERTIFICATION**

Name (print full legal name): Kennedy Jenks Consultants, Inc

Address: 421 SW 6th Avenue, Suite 1000, Portland, OR 97204

City of Portland Business Tax Registration Number: 414828

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

Payment information will be reported to the IRS under the name provided above. Information must be provided prior to contract approval.

**TERMS AND CONDITIONS****1. Standard of Care**

Consultant shall perform all services under this contract using that care, skill, and diligence that would ordinarily be used by similar professionals in this region in similar circumstances.

**2. Effect of Expiration**

Passage of the contract expiration date shall not extinguish, prejudice, or limit either party's right to enforce this Contract with respect to any default or defect in performance that has not been corrected.

**3. Order of Precedence**

This contract consists of these Terms and Conditions, the Statement of Work and Payment Schedule, and any exhibits that are attached. Any apparent or alleged conflict between these items will be resolved by using the following order of precedence:

- a) these Terms and Conditions; b) Statement of Work and Payment Schedule; and c) any exhibits attached to the contract.

**4. Early Termination of Contract**

- (a) The City may terminate this Contract for convenience at any time for any reason deemed appropriate in its sole discretion. Termination is effective immediately upon notice of termination given by the City.
- (b) Either party may terminate this Contract in the event of a material breach by the other party that is not cured. Before termination is permitted, the party seeking termination shall give the other party written notice of the breach, its intent to terminate, and fifteen (15) calendar days to cure the breach. If the breach is not cured within 15 days, the party seeking termination may terminate immediately by giving written notice that the Contract is terminated.

**5. Remedies and Payment on Early Termination**

- (a) If the City terminates pursuant to 4(a) above, the City shall pay the Consultant for work performed in accordance with the Contract prior to the termination date. No other costs or loss of anticipated profits shall be paid.
- (b) If the City terminates pursuant to 4(b) above, the City is entitled all remedies available at law or equity. In addition, Consultant shall pay the City all damages, costs, and sums incurred by the City as a result of the breach.
- (c) If the Consultant justifiably terminates the contract pursuant to subsection 4(b), the Consultant's only remedy is payment for work prior to the termination. No other costs or loss of anticipated profits shall be paid.
- (d) If the City's termination under Section 4(b) was wrongful, the termination shall be automatically converted to one for convenience and the Consultant shall be paid as if the Contract was terminated under Section 4(a).
- (e) In the event of early termination, the Consultant's work product before the date of termination becomes property of the City.

#### 6. Assignment

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

#### 7. Compliance with Applicable Law

Consultant shall comply with all applicable federal, state, and local laws and regulations. Consultant agrees it currently is in compliance with all tax laws. Consultant shall comply with Title VI of the Civil Rights Act of 1964 and its corresponding regulations. In connection with its activities under this Contract, the Consultant shall comply with all applicable Grant Terms and conditions. This includes all terms and conditions contained in this Contract and, for a Contract involving a grant, the Grant Terms and Conditions.

#### 8. Indemnification for Property Damage and Personal Injury

Consultant shall indemnify, defend, and hold harmless the City, its officers, agents, and employees, from all claims, losses, damages, and costs (including reasonable attorney fees) for personal injury and property damage arising out of the intentional or negligent acts or omissions of the Consultant, its Subconsultants, suppliers, employees or agents in the performance of its services. Nothing in this paragraph requires the Consultant or its insurer to indemnify the City for claims of personal injury or property damage caused by the negligence of the City. This duty shall survive the expiration or termination of this contract.

The obligations of Consultant under this will not in any way be affected or limited by the absence in any case of insurance coverage or by the failure or refusal of any insurance carrier to perform any obligation on its part to be performed under insurance policies affecting this Contract. In no way shall the Consultant limit its liability under this Contract.

This indemnity shall survive the termination of this Contract or final payment hereunder. This indemnity is in addition to any other rights or remedies which the City and the other parties to be indemnified may have under the law or under this Contract. In the event of any claim or demand made against any party which is entitled to be indemnified hereunder, the City may in its sole discretion reserve, retain or apply any monies due to the Consultant under the contract for the purpose of resolving such claims; provided, however, that the City may release such funds if the Consultant provides the City with adequate assurance of the protection of the City's interests. The City shall be the sole judge of whether such assurances are adequate.

#### 9. Insurance

Consultant shall obtain and maintain in full force at Consultant expense, throughout the duration of the Contract and any warranty or extension periods, the required insurance identified below. The City reserves the right to require additional insurance coverage as required by statutory or legal changes to the maximum liability that may be imposed on Oregon cities during the term of the Contract.

- (a) Workers' compensation insurance as required by ORS Chapter 656 and as it may be amended. Unless exempt under ORS Chapter 656, the Consultant and all subconsultants shall maintain coverage for all subject workers.

Required and attached //  Proof of exemption (i.e., completion of Workers' Compensation Insurance Statement)

- (b) General commercial liability (CGL) insurance covering bodily injury, personal injury, property damage, including coverage for independent Consultant's protection (required if any work will be subcontracted), premises/operations, contractual liability, products and completed operations, in per occurrence limit of not less than \$1,000,000, and aggregate limit of not less than \$2,000,000.

Required and attached //  Waived by Bureau Director or designee //  Reduce by Bureau Director or designee

- (c) Automobile liability insurance with coverage of not less than \$1,000,000 each accident, and an umbrella or excess liability coverage of \$2,000,000. The insurance shall include coverage for any auto or all owned, scheduled, hired and non-owned auto. This coverage may be combined with the commercial general liability insurance policy.

Required and attached //  Waived by Bureau Director or designee //  Reduce by Bureau Director or designee

- (d) Professional Liability and/or Errors & Omissions insurance to cover damages caused by negligent acts, errors or omissions related to the professional services, and performance of duties and responsibilities of the Consultant under this contract in an amount with a combined single limit of not less than \$1,000,000 per occurrence and aggregate of \$2,000,000 for all claims per occurrence. In lieu of an occurrence-based policy, Consultant may have claims-made policy in an amount not less than \$1,000,000 per claim and \$2,000,000 annual aggregate, if the Consultant obtains an extended reporting period or tail coverage for not less than three (3) years following the termination or expiration of the Contract.

Required and attached //  Waived by Bureau Director or designee //  Reduce by Bureau Director or designee

Continuous Coverage; Notice of Cancellation: The Consultant agrees to maintain continuous, uninterrupted coverage for the duration of the Contract. There shall be no termination, cancellation, material change, potential exhaustion of aggregate limits or non-renewal of coverage without thirty (30) days written notice from Consultant to the City. If the insurance is canceled or terminated prior to completion of the Contract, Consultant shall immediately notify the City and provide a new policy with the same terms. Any failure to comply with this clause shall constitute a material breach of Contract and shall be grounds for immediate termination of this Contract.

Additional Insured: The liability insurance coverages, except Professional Liability, Errors and Omissions, or Workers' Compensation, shall be without prejudice to coverage otherwise existing, and shall name the City of Portland and its bureaus/divisions, officers, agents and employees as Additional Insureds, with respect to the Consultant's activities to be performed, or products or services to be provided. Coverage shall be primary and non-contributory with any other insurance and self-insurance. Notwithstanding the naming of additional insureds, the insurance shall protect each additional insured in the same manner as though a separate policy had been issued to each, but nothing herein shall operate to increase the insurer's liability as set forth elsewhere in the policy beyond the amount or amounts for which the insurer would have been liable if only one person or interest had been named as insured.

Certificate(s) of Insurance: Consultant shall provide proof of insurance through acceptable certificate(s) of insurance, including additional insured endorsement form(s) and all other relevant endorsements, to the City prior to the award of the Contract if required by the procurement documents (e.g., request for proposal), or at execution of Contract and prior to any commencement of work or delivery of goods or services under the Contract. The Certificate(s) will specify all of the parties who are endorsed on the policy as Additional Insureds (or Loss Payees). Insurance coverages required under this Contract shall be obtained from insurance companies acceptable to the City of Portland. The Consultant shall pay for all deductibles and premium. The City reserves the right to require, at any time, complete, certified copies of required insurance policies, including endorsements evidencing the coverage the required.

Subconsultant(s): Consultant shall provide evidence that any subconsultant, if any, performing work or providing goods or service under the Contract has the same types and amounts of coverages as required herein or that the subconsultant is included under Consultant's policy.

#### **10. Ownership of Work Product**

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

Notwithstanding the above, all pre-existing trademarks, services marks, patents, copyrights, trade secrets, and other proprietary rights of Consultant are and will remain the exclusive property of Consultant.

#### **11. EEO Certification and Equal Benefits**

The Consultant must be certified prior to Contract execution, as Equal Employment Opportunity Affirmative Action Employers as prescribed by Chapter 5.33.076 of the Code of the City of Portland.

Consultant must certify prior to Contract execution, that they do not discriminate by policy or practice in the provision of employee benefits between employees with domestic partners and employees with spouses as prescribed by Chapter 5.33.077 of the Code of the City of Portland.

#### **12. Business Tax Registration**

The Consultant shall obtain a City of Portland business tax registration number as required by PCC 7.02 prior to beginning work under this Contract.

#### **13. Successors in Interest**

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

#### **14. Severability**

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

#### **15. Waiver**

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

#### **16. Errors**

The Consultant shall promptly perform such additional services as may be necessary to correct errors in the services required by this contract without undue delays and without additional cost.

#### **17. Governing Law/Venue**

The provisions of this contract shall be interpreted, construed and enforced in accordance with, and governed by, the laws of the State of Oregon without reference to its conflict of laws provisions that might otherwise require the application of the law of any other jurisdiction. Any action or suits involving any question arising under this contract must be brought in the appropriate court in Multnomah County Oregon.

#### **18. Amendments**

Any changes to the provisions of this Contract, must be made by written amendment and approved by the Chief Procurement Officer or City Council to be valid. The City reserves the right to make administrative changes to the Contract unilaterally. An administrative change means a written Contract change that does not affect the substantive rights of the Parties. The City and Consultant can agree to make changes, at any time to a Statement of Work in the form of a Change Order. Consultant agrees to timely alter the delivery of Products or Services accordingly. If such changes materially increase or decrease Consultant's obligations, the Parties shall execute an Amendment to the Contract, and if the amount of such adjustment is not calculable as a function of hours or tasks, the Parties shall negotiate in good faith a modified amount.

#### **20. Prohibited Conduct**

The Consultant shall not hire any City employee who evaluated the proposals or authorized the award of this Contract for two years after the date the contract was authorized without the express written permission of the City and provided the hiring is permitted by state law.

#### **21. Payment to Vendors and Subconsultants**

The Consultant shall timely pay all subconsultants and suppliers providing services or goods for this Contract. If the Consultant fails to make timely payments to its Subcontractors, Subconsultants, or suppliers, the City is entitled to take any action permitted by law, including, but not limited to, the following:

- (a) Withhold all or part of any progress payment until Consultant makes payment;
- (b) Find that the Consultant is not a qualified bidder for future projects per the City's consideration of the Consultant's record of past performance pursuant to ORS 279C.110(3);
- (c) Pay directly the Subcontractor, Subconsultant, and supplier who has not received proper payment; and
- (d) Terminate the Contract for Default as provided herein.

#### **22. Access to Records**

The Consultant shall maintain all records relating to this Contract for three (3) years after final payment. The City may examine, audit and copy the Consultant's books, documents, papers, and records relating to this contract at any time during this period upon reasonable notice. Copies of these records shall be made available upon request. Payment for the reasonable cost of requested copies shall be made by the City.

#### **23. Audits**

- (a) The City may conduct financial and performance audits of the billings and services specified in this agreement at any time in the course of the agreement and during the three (3) year period established by paragraph 22. Audits will be conducted in accordance with generally accepted auditing standards as promulgated in Government Auditing Standards by the Comptroller General of the United States Government Accountability Office.
- (b) If an audit discloses that payments to the Consultant exceed the amount to which the Consultant was entitled, the Consultant shall repay the amount of the excess to the City.

#### **24. Electronic Signatures**

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

#### **25. Integration, Modification, and Administrative Changes**

This Contract includes the entire agreement of the parties and supersedes any prior discussions or agreements regarding the same subject. This Contract may be modified in writing by a modification that has been signed by individuals authorized to bind each

of the parties contractually. The City reserves the right to make administrative changes to the contract unilaterally. An administrative change means a written contract change that does not affect the substantive rights of the parties.

#### **26. Dispute Resolution/Work Regardless of Disputes**

The parties shall participate in mediation to resolve disputes before conducting litigation. The mediation shall occur at a reasonable time after the conclusion of the Contract with a mediator jointly selected by the parties. For any claim or dispute that is subject to mediation under this section, the statute of limitations and statute of repose shall not begin to run until the time period set forth in Section 32 below or upon the conclusion of mediation, whichever is later. Notwithstanding any dispute under this Contract, the Consultant shall continue to perform its work pending resolution of a dispute, and the City shall make payments as required by the Contract for undisputed portions of the work. In the event of litigation, no attorney fees are recoverable. No different dispute resolution paragraph(s) in this contract or any attachment hereto shall supersede or take precedence over this provision.

#### **27. Progress Reports: / Applicable / Not Applicable**

If applicable, the Consultant shall provide monthly progress reports to the Project Manager as described in the Statement of the Work and Payment Schedule.

#### **28. Consultant's Key Personnel: / Applicable / Not Applicable**

If applicable, the Consultant shall assign the Key Personnel listed in the Statement of the Work and Payment Schedule for the work required by the Contract and shall not change Key Personnel without the prior written consent of the City, which shall not be unreasonably withheld.

#### **29. Subconsultants**

The Consultant shall use the subconsultants identified in its proposals. The Consultant shall not change subconsultant assignments without the prior written consent of the Chief Procurement Officer. The City will enforce all social equity contracting for Disadvantaged, Minority, Women, Emerging Small Business and Service-Disabled Veteran Business Enterprise (D/M/W/ESB/SDVBE) subconsultant commitments submitted by the Consultant in its proposals. Failure to use the identified D/M/W/ESB/SDVBE subconsultants without prior written consent is a material breach of contract.

#### **30. Third Party Beneficiaries**

There are no third-party beneficiaries to this contract. Enforcement of this contract is reserved to the parties.

#### **31. Conflict of Interest**

Consultant hereby certifies that, if applicable, its contract proposal is made in good faith without fraud, collusion or connection of any kind with any other proposer of the same request for proposals or other City procurement solicitation(s), that the Consultant as a proposer has competed solely on its own behalf without connection or obligation to, any undisclosed person or firm. Consultant certifies that it is not a City official/employee or a business with which a City official/employee is associated, and that to the best of its knowledge, Consultant, its employee(s), its officer(s) or its director(s) is not a City official/employee or a relative of any City official/employee who: i) has responsibility in making decisions or ability to influence decision-making on the contract or project to which this contract pertains; ii) has or will participate in evaluation or management of the contract; or iii) has or will have financial benefits in the contract. Consultant understands that should it elect to employ any former City official/employee during the term of the contract then that the former City official/Consultant employee must comply with applicable government ethics and conflicts of interest provisions in ORS Chapter 244, including but not limited to ORS 244.040(5) and ORS 244.047, and the City's Charter, Codes and administrative rules, including lobbying prohibitions under Portland City Code Section 2.12.080.

#### **32. Contractual Statute of Limitations/Statute of Repose for Design Services Claims**

The statute of limitations applicable to Design Services provided pursuant to this Agreement shall be 2 years from the date of Final Completion of the Project. The statute of repose applicable to Design Services provided pursuant to this Agreement shall be 10 years from Final Completion. The statute of limitations and statute of repose set forth herein shall not begin to run until the Project reaches Final Completion, regardless of discovery of any condition, act, error, or omission. This provision shall be included in any Subconsultant Agreement executed by the Consultant for the performance of services.

#### **33. Respectful Workplace Behavior**

The City of Portland is committed to a respectful work environment, free of harassment, discrimination and retaliation and other inappropriate conduct. Every individual has a right to work in a professional atmosphere where all individuals are treated with respect and dignity. The City's HR Rule 2.02 covers all employees with the City of Portland as well as consultants, vendors or consultants who provide services to the City of Portland. By signing this Contract/Agreement, the Consultant indicates compliance with all terms and conditions contained in this Contract including HR 2.02.

#### **34. Notices and Communications**

All notices and other communications concerning this Contract shall bear the contract number assigned by the City. Notices and other communications may be delivered personally, by facsimile, email, by regular, certified or registered mail or other commercial delivery service. A notice to the City will be effective only if it is delivered to that person designated in writing in either a) the Notice of Award of this Contract, b) the Notice to Proceed under this Contract, or c) to another individual specifically designated by this Contract. A notice to the Consultant shall be effective if it is delivered to the individual who signed this Contract on behalf of Consultant at the address shown with that signature, to a corporate officer if Consultant is a

corporation, to a general partner if Consultant is a partnership, or to another individual designated in writing by the Consultant in the contract or in a written notice to the City.

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## STATEMENT OF THE WORK AND PAYMENT SCHEDULE

### I. SCOPE OF WORK

Consultant agrees to provide all of the Design Services described in Exhibit A – Statement of Work on an ongoing basis in support of, and in conformance with, the time frames described in the Request for Proposals.

### II. CONSULTANT KEY PERSONNEL

The Consultant shall assign the following Key Personnel to do the work in the capacities designated and agrees not to substitute these personnel while working on the contract without the express approval of the City, which approval shall not unreasonably be withheld:

NAME	ROLE ON PROJECT
Dean Wood	Principal-in-Charge
Shawn Spargo, PE	Project Manager and Pipeline Assessment
Rob Peacock, PE	QA/QC and Pipeline Assessment
Gerald Fejarang, PE	Inspection Planning & Risk Based Prioritization
Aditya Ramamurthy	Inspection Planning & Risk Based Prioritization
Dana Devin-Clarke, PE	Inspection Planning & Risk Based Prioritization
Ryan Carney, PE, PACP	Pipeline Assessment
Dana Devin-Clarke, PE	GIS
Dan Asdit - Emerio Design	GIS and Surveying, 3D Scanning
Dan Rosian - International Inspections	Pipeline Inspection
Vijay Deodhar - 3D Fusion	3D Drafting
Wolfe Lang, PE - McMillan Jacobs	Geotechnical Survey
Jake Salter, PE	Structural
Rob Lee – Leeway Engineering	Inspection & Monitoring Platforms
Yarrow Murphy – Leeway Engineering	Hydraulic Analysis

### III. SUB CONSULTANTS

The Consultant shall assign the following sub Consultants to perform work in the capacities designated:

NAME	ROLE ON PROJECT	SUBCONTRACT AMOUNT	COBID CERTIFICATION
International Inspection, Inc.	Pipeline Inspection	\$175,000	None
Emerio Design	GIS, Surveying, 3D Scanning	\$375,000	DBE/MBE
McMillan Jacobs Associates	Geotechnical Survey	\$62,500	None
3D InFusion	3D Drafting	\$125,000	DBE/MBE
Leeway Engineering	Inspections and Monitoring Platforms	\$250,000	MBE/ESB

For Contracts valued \$50,000 or more, the Consultant shall submit subconsultant payment and utilization information electronically in the Contract Compliance Reporting System, reporting ALL subconsultants employed in the performance of this agreement. More information on this process may be viewed on the City Procurement website at: <https://www.portlandoregon.gov/brfs/75932>.

### IV. COMPENSATION

The maximum that the Consultant can be paid on this contract is \$2,500,000 (hereafter the “not to exceed” amount). The “not to exceed” amount includes all payments to be made pursuant to this contract, including reimbursable expenses, and Contract Mitigation if any. Contract Mitigation can be used only with prior written approval of the City prior to any effort being accomplished on added tasks. Nothing in this contract requires the City to pay for work that does not meet the Standard of Care or other requirements of the Contract. The actual amount to be paid to the Consultant may be less than that amount. The Consultant shall be paid based on its hourly rates, plus any authorized expenses in accordance with the Tasks listed on the attached Exhibit B, Summary of Costs by Task. If a task is completed and the amount billed by the Consultant is less than the estimated budget for the task, the remaining amount may be used on the other tasks as authorized in writing by the Project Manager. In no event shall the Consultant bill for an amount greater than what is shown on Exhibit B for each task. The Consultant is entitled to receive progress payments for its work pursuant to the Contract as provided in more detail below. The City will pay Consultant based on these invoices for acceptable work performed and approved until the “not to exceed” amount is reached. Thereafter, Consultant must complete work based on the Contract without additional compensation unless there is a change to the scope of work.

Any estimate of the hours necessary to perform the work is not binding on the City. The Consultant remains responsible if the estimate proves to be incorrect. Exceeding the number of estimated hours of work does not impose any liability on the City for additional payment.

If work is completed before the “not to exceed” amount is reached, the Consultant’s compensation will be based on the Consultant’s bills previously submitted for acceptable work performed and approved.

Payment Terms: Net 30 Days

#### Hourly Rates

The Consultant shall be compensated in accordance with the hourly rates set forth in attached Exhibit B, Hourly Billing Rate Table. In no way shall the cost of hours billed by the Consultant exceed the total Contract amount throughout the term of this Contract.

#### Adjustment of Labor Rates Due to Inflation

Annual adjustment of hourly rates will be considered upon written request from the Consultant. Approval of a request for rate increases is solely within the City’s discretion and under no circumstances is the City obligated to approve such a request.

Rate increases are subject to the following limitations:

- No increases will be granted before the one-year anniversary of the Contract;
- No more than one increase shall be granted per Contract year;
- Rate increases may not exceed the preceding calendar year’s Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) for the West Region Class Size A average inflation rate (as determined from the US Department of Labor statistics);
- Rate increases shall not be retroactive.

Other than the impact of inflation as described above, hourly rates may not be increased.

#### Standard Reimbursables

The following costs will be reimbursed without mark-up:

- Reimbursement of travel costs is not anticipated in this Contract. If pre-approved by the City, allowable costs of travel shall be determined in accordance with the General Services Administration (GSA) per diem rates in effect on the date of this Contract. Consultant’s time spent traveling to the Portland area, however, will not be reimbursed. All costs incurred for local travel within the Portland metropolitan area, and a 100-mile radius, including but not limited to, vehicle mileage and parking fees are considered as included in the overhead rate, and shall not be reimbursed separately.
- Other reimbursable expenses related to work under this contract will need to be approved by the Project Manager, in writing, on a case-by-case basis.
- Personal expenditures or expenditures not related to the Contract are not eligible for reimbursement.

#### Subconsultant Costs

Compensation for subconsultants shall be limited to the same restrictions imposed on the Consultant. Subconsultant services shall be billed at cost plus a 5% mark-up. Other Direct Expenses, as stated under Standard Reimbursable Costs, shall be billed at cost without mark-up. Allowable subconsultant services can only be marked-up once. For example, the Prime is not allowed to mark-up on a second-tier subconsultant’s allowable expenses if it has already been marked-up by the Prime’s subconsultant. Mark-up is not allowable when using intergovernmental resources to complete work and will not be accepted.

#### Progress Payments

The Consultant is required to follow Generally Accepted Accounting Principles (GAAP). Personal expenditures or expenditures not related to the Project or part of the Contract are not eligible for reimbursement. On or before the 15th of each month, the Consultant shall submit to the City’s Project Manager, via BES' e-Builder (HERON program management system), an invoice for work performed by the Consultant during the preceding month. The invoice shall contain the City's contract number, any associated purchase order number and set out all items for payment including, but not limited to: the name of the individual, labor category, direct labor rate, hours worked during the period, and tasks performed. The Consultant shall also attach photocopies of claimed reimbursable expenses, if applicable. The Consultant shall stamp and approve all subconsultant invoices and note on the subconsultant invoice what they are approving as "billable" under the Contract. The billing from the prime should clearly roll up labor and reimbursable costs for the prime and subconsultants - matching the subconsultant invoices. Prior to initial billing, the Consultant shall develop a billing format for approval by the City.

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

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

#### ACH Payments

It is the City’s policy to pay its Consultant invoices via electronic funds transfers through the automated clearing house (ACH) network. To initiate payment of invoices, Consultants shall execute the City’s standard ACH Vendor Payment Authorization Agreement which is available on the City’s website at: <http://www.portlandoregon.gov/bfs/article/409834>.

Upon verification of the data provided, the Payment Authorization Agreement will authorize the City to deposit payment for services rendered directly into Consultant accounts with financial institutions. All payments shall be in United States currency.



Notice to Proceed

The Consultant shall not proceed with any work required under this Contract without a written Notice to Proceed from the City. Any work performed or expenses incurred by the Consultant prior to the Consultant's receipt of Notice to Proceed shall be entirely at the Consultant's risk.

**WORKERS' COMPENSATION INSURANCE STATEMENT**

**IF YOUR FIRM HAS CURRENT WORKERS' COMPENSATION INSURANCE, CONSULTANT MUST SIGN HERE:**

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

Consultant Signature: \_\_\_\_\_ Date: \_\_\_\_\_ Entity: \_\_\_\_\_

**IF YOUR FIRM DOES NOT HAVE CURRENT WORKERS' COMPENSATION INSURANCE, CONSULTANT MUST COMPLETE THE FOLLOWING INDEPENDENT CONSULTANT CERTIFICATION STATEMENT:**

As an independent Consultant, I certify that I meet the following standards:

1. The individual or business entity providing labor or services is registered under ORS Chapter 701, if the individual or business entity provides labor or services for which such registration is required;
2. Federal and state income tax returns in the name of the business or a business Schedule C or form Schedule F as part of the personal income tax return were filed for the previous year if the individual or business entity performed labor or services as an independent Consultant in the previous year; and
3. The individual or business entity represents to the public that the labor or services are to be provided by an independently established business. Except when an individual or business entity files a Schedule F as part of the personal income tax returns and the individual or business entity performs farm labor or services that are reportable on Schedule C, an individual or business entity is considered to be engaged in an independently established business when four or more of the following circumstances exist. Consultant: check four or more of the following:

- \_\_\_\_\_ A. The labor or services are primarily carried out at a location that is separate from the residence of an individual who performs the labor or services, or are primarily carried out in a specific portion of the residence, which portion is set aside as the location of the business;
- \_\_\_\_\_ B. Commercial advertising or business cards as is customary in operating similar businesses are purchased for the business, or the individual or business entity has a trade association membership;
- \_\_\_\_\_ C. Telephone listing and service are used for the business that is separate from the personal residence listing and service used by an individual who performs the labor or services;
- \_\_\_\_\_ D. Labor or services are performed only pursuant to written contracts;
- \_\_\_\_\_ E. Labor or services are performed for two or more different persons within a period of one year; or
- \_\_\_\_\_ F. The individual or business entity assumes financial responsibility for defective workmanship or for service not provided as evidenced by the ownership of performance bonds, warranties, errors and omission insurance or liability insurance relating to the labor or services to be provided.

\_\_\_\_\_  
Consultant Signature

\_\_\_\_\_  
Date

**FOR CITY USE ONLY**

**PROJECT MANAGER-COMplete ONLY IF CONSULTANT DOES NOT HAVE WORKER'S COMPENSATION INSURANCE**  
ORS 670.600 Independent Consultant standards. As used in various provisions of ORS Chapters 316, 656, 657, and 701, an individual or business entity that performs labor or services for remuneration shall be considered to perform the labor or services as an "independent Consultant" if the standards of this section are met. The contracted work meets the following standards:

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

\_\_\_\_\_  
City Project Manager Signature

\_\_\_\_\_  
Date

**CONSULTANT SIGNATURE:**

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

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

I, the undersigned, agree to perform work outlined in this Contract in accordance to the STANDARD CONTRACT PROVISIONS, the terms and conditions, made part of this Contract by reference, and the STATEMENT OF THE WORK made part of this Contract by reference; hereby certify under penalty of perjury that I/my business am not/is not in violation of any Oregon tax laws; hereby certify that my business is certified as an Equal Employment Opportunity Affirmative Action Employer and is in compliance with the Equal Benefits Program as prescribed by Chapters 5.33.076 and 5.33.077 of Code of the City of Portland; and hereby certify I am an independent consultant as defined in ORS 670.600

**(Consultant’s Name)**

BY: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

CONTRACT NUMBER: 30007311

CONTRACT TITLE: PROJECT TITLE

**CITY OF PORTLAND SIGNATURES:**

By: \_\_\_\_\_  
Bureau Director

Date: \_\_\_\_\_

By: \_\_\_\_\_  
Chief Procurement Officer

Date: \_\_\_\_\_

By: \_\_\_\_\_  
Elected Official

Date: \_\_\_\_\_

Approved:

By: \_\_\_\_\_  
Office of City Auditor

Date: \_\_\_\_\_

Approved as to Form:

By: \_\_\_\_\_  
Office of City Attorney

Date: \_\_\_\_\_

## **Section 1: General Description of Work**

One of the biggest and most critical asset classes at the CBWTP is the process pipes and plant plumbing systems that connect different process areas. Many of these systems are original to the plant's construction while others are approaching more than twenty years old and have not been inspected internally during their lifetime or assessed for condition and remaining useful life. This unknown status and potential consequence of failure makes the life expectancy assessment of this asset class a high priority. The plant has experienced an increase in pipe breaks causing process areas to be taken down, creating a large impact on plant operations. BES will partner with Kennedy Jenks (Consultant) to assess these assets and identify current business risk exposure to enable sustainable long-term replacement or rehabilitation strategy. Consultant shall perform pipeline condition assessments at the Columbia Boulevard Wastewater Treatment Plant (CBWTP) to include the following work elements:

### **1.1 Data Review and Inspection Planning:**

- 1.1.1 The Consultant shall review the available desktop assessments, asset inventory, as-built records, operational performance measures, maintenance history and organic knowledge provided by the BES.
- 1.1.2 The Consultant shall propose any changes or modifications to the available process piping desktop assessment to include best asset management practices.
- 1.1.3 The Consultant shall work with BES (Bureau of Environmental Services) staff to finalize definition of the pipe failure, identify applicable failure modes, refine and adopt existing condition rating numbering system and finalize methodology to be implemented for assessing likelihood and consequence of failure and risk scoring.
- 1.1.4 The Consultant shall complete pre-inspection site visit and plan including inspection scope and schedule and share it with the stakeholders. This plan will need to be approved by the BES Operations and Maintenance group and the Safety Officer.
- 1.1.5 The Consultant shall provide a prioritized list of the proposed piping inspections to BES. The list shall be prioritized based on the initial risk assessment score, impact to the plant operations and cost to benefit ratio of the proposed inspection methods.
- 1.1.6 The Consultant shall provide supporting information and propose the best suitable pipeline inspection technology that will yield information regarding the pipeline's current condition, pipe-wall thickness measurements and remaining useful life. Include risk on system and cost benefit analysis to minimize plant process disruptions.

### **1.2 Coordination with BES staff:**

- 1.2.1 The Consultant shall engage in meetings with Condition Assessment Program group at BES and BES operations and maintenance (O&M) staff to identify the impacts of the proposed pipe inspections schedules to the plant operations.
- 1.2.2 The Consultant shall coordinate with BES to do initial site assessment and determine pre-inspection site preparation and requirements such as required hydraulic modification to the existing flow conditions and coordinate with O&M staff on scheduling needs to minimize the impact to the plant operations.
- 1.2.3 The Consultant shall work with BES to identify existing pipe entrance ports, such as valves and wet wells, to deploy in-line pipe assessment tools.

### **1.3 Inspections:**

- 1.3.1 The Consultant shall perform in line or analytic pipe condition assessments, assist BES with digging required inspection pits on the buried pipes, or perform any approved coupon retrieval and testing of the pipe wall material.

## Contract 30007311 – Exhibit A

- 1.3.2 The Consultant shall coordinate all the field inspections with BES staff and external contractors if required.
  - 1.3.3 The Consultant shall provide condition assessment (CA) data, inspection photos and videos, GPS coordinates, testing data and any other valuable inspection data in worksheet format with overall asset condition score that is assessed based on the pre-established CA scoring guidelines. The Consultant will work with BES to identify the acceptable pipeline inspection result reporting worksheet format.
  - 1.3.4 The Consultant shall provide asset attribute information, pipeline GPS coordinates, pipe size and material information, depth of burial, structural support information inspection and condition assessment data/results for the incorporation into a Geographic Information Systems (GIS) mapping platform. This information will be included in the pipe inspection report worksheet and developed attribute tables.
  - 1.3.5 The Consultant shall provide a structural engineering evaluation to determine asset remaining useful life based on the pipeline remaining wall thickness, tested hardness results or based on the condition of the existing piping supports.
  - 1.3.6 The Consultant shall provide detailed risk assessment with the supporting likelihood and consequence of failure calculations for each inspected pipeline.
  - 1.3.7 The Consultant shall provide risk mitigation recommendations including replacement, rehabilitation or modification of the existing inspection and maintenance strategies.
  - 1.3.8 The Consultant shall provide an annual summary of the inspected pipes, condition and estimated risk exposure as well as the short term and long-term reinvestment strategies needed to mitigate the existing risk.
- 1.4 Coordination with BES Staff:**
- 1.4.1 The Consultant shall coordinate inspections teams and modify inspection schedules with limited notice to minimize impact to the plant operations.
  - 1.4.2 The Consultant shall work with BES GIS mapping team to develop and populate GIS layer for the CBWTP.
  - 1.4.3 The Consultant shall work with BES (Bureau of Environmental Services) staff to finalize definition of the pipe failure, identify applicable failure modes, refine and adopt existing condition rating numbering system and finalize methodology to be implemented for assessing likelihood and consequence of failure and risk scoring.
  - 1.4.4 The Consultant shall work with BES to identify best post inspection reporting format.
- 1.5 Health and Safety:**
- 1.5.1 The Consultant shall follow BES Wastewater Group Contractor On-Site rules for CBWTP as well as all Safety Policies and Procedures when on site. This information shall be provided to the Consultant prior to starting field work by BES safety and risk officer. The Consultant shall provide proper PPE for their employees performing the site condition assessment work. This might include safety harnesses and air monitors required for confined space entry.
  - 1.5.2 The Consultant shall ensure that the inspection team will meet all the BES safety regulations, on site safety policies and provide proper PPE for their employees performing the site condition assessment.

**Deliverables:** Deliverables identified in Section 2 shall be considered those tangible resulting work products that are to be delivered to the City such as reports, draft documents, data, interim findings, drawings, schematics, GIS shape files and schemas, training, meeting presentations, final drawings, and reports. Unless otherwise specified by the City, the Consultant shall prioritize submitting applicable deliverables electronically, and any paper-based deliverables shall be printed double-sided and in bindings or report covers that are fully recyclable, preferably using materials containing post-consumer waste (PCW) recycled content. All deliverables and resulting work products from this contract will become the property of the City of Portland. As such, the Consultant and any Subconsultants grant the City the right to copy and distribute (in any and all media and

formats) project deliverables for regulatory, project certification/recognition, program development, public education, and/or for any purposes at the sole discretion of the City of Portland.

## **Section 2: Consultant Scope of Work**

Scope of work shall be broken down into the following Tasks to complete the work elements described in Section 1. Final scope of work shall be developed based on pre-inspection planning, inspection prioritization, and budget requirements. Annual scope and budget for inspections shall be approved by BES Project Manager.

### **2.1.1 Project Management:**

- 2.1.1.1 The Consultant shall maintain regular communication and coordination with BES staff to deliver annual kickoff meetings. During the annual kickoff meetings, the Consultant shall confirm project scope, schedule, and approach for the year.
- 2.1.1.2 The Consultant shall maintain and regularly update schedule and provide detailed budget management.
- 2.1.1.3 The Consultant shall prepare and submit monthly invoices for progress payments, including monthly subcontractor payment and utilization reports. Invoices shall be subtotaled separately for professional services charges and goods and non-professional services.
- 2.1.1.4 The Consultant shall hold regular meetings with the City to review project status, deliverables in progress, activities planned for the upcoming month, and risks to scope, schedule, or budget.
- 2.1.1.5 The Consultant shall manage and coordinate resources and sub-consultants/vendors to provide quality-assured deliverables within the approved project schedule and budget
- 2.1.1.6 Prepare and submit monthly invoices for progress payments, including monthly subcontractor payment and utilization reports. Invoices shall be subtotaled separately for professional services charges and goods and non-professional services.
- 2.1.1.7 The Consultant shall ensure that the plant Health and Safety policies and procedures are followed by:
  - a. Reviewing all CBWTP safety policies and procedures and required training.
  - b. Develop an integrated health and safety plan to assist with documenting project progress and serve as a reporting tool for Consultant's project manager.

### **2.1.2 Deliverables:**

The Consultant shall provide monthly Invoices to include schedule updates and earned value statement with estimate to complete.

- 2.1.2.1 The Consultant shall provide meeting agendas and minutes in electronic PDF format to the project manager 3 days after the meeting.
- 2.1.2.2 The Consultant shall provide updates on the risk register and decision log in electronic PDF format
- 2.1.2.3 The Consultant shall provide Health and Safety Plan for each inspection
- 2.1.2.4 Field Inspection Safety Log in electronic PDF Format

### **2.2.1 Inspection Planning:**

- 2.2.1.1 Data Review: The Consultant shall review the drafted, tiered process piping list provided by the City and recommend a comprehensive approach to assess all the process piping at the CBWTP by the end of the five-year program duration. The following data will be provided by City:
- a. Pipe characteristics
  - b. Project as-built drawings
  - c. Maintenance/cleaning/failure history
  - d. Process area operational and hydraulic data
  - e. Upstream system information
  - f. Other site-specific documentation
- 2.2.1.2 Desktop Analysis Review: The Consultant shall analyze the desktop analysis provided by BES and recommend an inspection plan for each process piping section to determine remaining useful life (RUL). Additional field data will be specifically identified to determine a remaining useful life of each pipeline (example, pressure transient analysis, test pits, etc.) during the initial phase of evaluation for review and approval by the City.
- 2.2.1.3 Pre-inspection field work: The Consultant shall perform site visual inspections for the piping systems and meet with BES staff for review of data and Desktop Analysis. Pre-inspection will include verifications of assets/ piping systems included in the asset register. The findings of the preliminary inspections will be used to select representative assets for detailed inspections included in Comprehensive Risk-based Inspections.
- 2.2.1.4 Inspection Plan: Preliminary site evaluation that incorporates City priorities. The inspection plan should identify the inspection technique(s), access requirements with preferred locations, cleaning requirements if any, process operation requirements and procedures during inspection, and flow control feasibility, operational impact and schedule. Inspection plan will include:
- a. Areas and inspection technique, equipment needed, access requirements, and other areas as identified.
  - b. System criticality scoreboard that prioritizes pipes and assets with the highest risk
  - c. Methodology for inspections and limitations based on budget.
  - d. Estimated cost of inspection services per evaluated site.
  - e. Operational requirements such as in pipe flow modifications or flow isolations required to perform inspection

**2.2.2 Deliverable:**

- 2.2.2.1 Draft and Final Inspection Plan in PDF Format. Inspection plan shall include proposed inspection, and optimized benefit to cost estimate on the proposed inspection technology.
- 2.2.2.2 Meeting with the required stakeholders to go over the final inspection plan, scope and timeline.

**Assumptions:**

- a. Desktop Analysis will be made available to the Consultant on a schedule that mirrors the Consultant's ranked list and requested needs.
- b. Consultant shall work with the City to develop a priority list of inspections and condition assessments that can be delivered within the schedule and budget. Due to prioritization, budget or risk of system disruption, some piping systems may not be feasible to inspect and will not be included in this scope of work.
- c. In the event pipe modifications are required for inspections, the City reserves the right to design and construct these modifications independent of this Contract. If the City chooses to engage the Consultant in this work or any



Contract 30007311 – Exhibit A

subsequent construction activities such as design and technical specifications these will be negotiated as supplemental work to be completed.

- d. Inspection plan deliverable is reasonable and obtainable within the budget and time constraints of the project or clearly identifies areas which may need additional resources.

### **2.3.1 Inspection Services:**

Perform all tasks required for condition assessment including, but not limited to, pressure transient installation and monitoring, external/internal inspections of the pipe, test pits, aeraulic tests, inspection and structural assessment of existing pipe supports and destructive tests and resulting repairs.

- 2.3.1.1 The Consultant shall do a preliminary walk-through as a preparation step to verify if all systems are ready prior to executing the planned RBI (Risk-Based Inspection). Following dissemination of field observations, Consultant will adjust the workplan if needed and communicate the modifications to the City.
- 2.3.1.2 Meetings: The Consultant shall coordinate with the City and CBWTP Operations to determine when and where inspections will occur. Consultant must be able to be flexible with operational windows as directed by the needs of Plant Operations as well as ensure completion of all required documentation (e.g. Outage Request Form).
- 2.3.1.3 Pipe System Field Report: The consultant shall prepare a draft and final RBI field report for each system which will contain the methodology and findings. Consultant shall include all field data collected and photos that identifies wall thickness measurements, pipe integrity assessments, and overall condition of each CBWTP piping circuit.
  - a. The Consultant shall convene a one-day workshop with City staff to summarize findings, results and recommendations.
  - b. (Optional) Tunnel Pipe 3-D Survey: A 3-D survey view of the piping system may be requested by BES staff in the tunnels. The City currently has limited 3-D survey scans of piping within the silver tunnel but additional may be requested. The Consultant shall provide cost estimate and schedule for BES PM approval.
- 2.3.1.4 Develop and update CBWTP GIS Layer: The City shall partner with the Consultant to develop GIS layer for the process piping systems at the CBWTP in order to have an easily accessible GIS enabled Data repository system of process piping inspection data. Piping discrete defect information will be recorded along the length of the pipe and used to generate an overall pipe condition score and rank over the entire CBWTP process piping system. The Consultant shall work with BES to develop GPS shape files, confirm GPS coordinates in field during piping condition inspections, and develop additional schema that defines the physical structure of the geodatabase.

### **2.3.2 Health & Safety:**

- 2.3.2.1 Daily safety meetings for all field team members. Daily job hazard appraisal review
- 2.3.2.2 Site specific training based on location prior to performing work.
- 2.3.2.3 Maintaining Safety log documenting activities, work locations, and near miss reports.

### **2.3.3 Deliverables**

- 2.3.3.1 Draft and Final Pipe System Field Report in electronic PDF Format
- 2.3.3.2 Geographic Information System in layers by Pipe System that include asset attributes, pipeline GPS coordinates, inspection and condition assessment data.
- 2.3.3.3 Meeting Agenda and Notes in electronic PDF format.
- 2.3.3.4 3-D Scanning in electronic format. File type to be determined.

**Assumptions:**

- a. Should the Consultant identify the need for additional facility improvements to perform any agreed upon cleaning or inspections (such as taps or pig/tool launching devices), the Consultant shall work with other City assigned consultants or departments to develop the design of these devices and will coordinate reviews of the plans with their vendors during the process. Consultant will not typically be required to perform these designs, nor coordinate the installation of the devices; however, there may be circumstances related to schedule constraints and workforce resources that may require the Consultant to perform this work. If the City chooses to engage the Consultant in this work or any subsequent construction activities such as design and technical specifications these will be negotiated as supplemental work to be completed.
- b. Prior to starting any work, consultant will coordinate schedule and order of field evaluation with City staff to avoid unplanned plant interruption. Consultant will be flexible and prepared to adjust the RBI plan accordingly and move onto a piping circuit that may not be affected by the unexpected event.
- c. BES shall provide GIS guidelines and tools to ensure that the expanded GIS information matches format and structure being used in BES.
- d. BES will provide preliminary GIS layers for piping systems. If not available, consultant will partner with BES staff to develop additional layers. Level of effort for consultant will be developed with BES PM.

**2.4.1 Consultant Engineering Analysis**

The Consultant shall analyze the inspection results and deliver a report that describes the condition of each assessed process pipe, its remaining useful life, a structural analysis of pipe supports, structural analysis identifying repair locations, and recommendations to repair, rehabilitate, or replace the asset. The data collected on site and reported to the City shall include a red-lined layout of the pipe with elevation (including identification highpoints – e.g. operational considerations) and location data that includes call-outs of any taps or valves found during the inspections if applicable technologies are used at that location.

- 2.4.1.1 Analysis of Field Inspection Data: The Consultant shall develop an inspection report for each inspection. The report shall outline the current condition of all assets reviewed as part of the Inspection Plan as well as any recommendations for any actions that need to be taken (e.g. replacement of pipe).
- 2.4.1.2 Risk-based Prioritization Mechanism: The Consultant shall develop a risk-based prioritization mechanism that can be used as a decision-making tool for the City, to determine inspection requirements, and to prioritize repairs.
  - a. Incorporate the information from the desktop analysis and field inspection data to determine process piping condition and its likelihood of failure, including the pipe's expected remaining useful life.
  - b. Report on the relative accuracy of the condition data used to generate the total risk.
  - c. Mechanism will also include defined variables to modify and adjust acceptable levels of risk according to operations and maintenance staff.
  - d. Outputs shall be in formats compatible for importing into GIS, ArcGIS or in a technical report format.
- 2.4.1.3 Repair, Rehabilitation and Replacement TM: TM will include recommended actions to either extend the useful life of existing assets and piping segments or replace them, considering the ability to reuse equipment or processes. Recommendations will also include a definition of major maintenance activities needed in the interim. Report will tie Mechanism Outputs with GIS Layers to support recommendations. Report to include estimated cost and schedule. and recommendations on reinspection schedule. A recommendation for reinspection and

assessment cycle based on the analysis will also be provided.

#### 2.4.2 Deliverable

- 2.4.2.1 The consultant shall deliver a draft and Final Field Report with Analysis in electronic PDF format.
- 2.4.2.2 The Consultant shall deliver a draft and Final Risk Based Prioritization Mechanism in electronic Excel format.
- 2.4.2.3 Draft/Final Repair, Rehabilitation and Replacement Technical Memorandum in electronic PDF format.

#### Assumptions

- a. The City reserves the right to dictate order of on-site evaluation and assessment to the Consultant, prioritizing locations based on factors such as adjacent work in other departments, parallel timelines, changed data, or other factors such as operational requirements. Some RUL or suggested rehabilitation analysis may be accelerated or given a specific deadline inside the program. If a location is given a specific deadline, the Consultant will need to coordinate to meet it and work with the City to produce the data required.
- b. For piping systems and their assets, BES will have specific tag numbers that will be tied to the Risk Based Prioritization Mechanism. The mechanism will summarize attributes for the specific tag numbers and produce both numeric and graphical attributes that feed into the relative GIS layer. These outputs will result in a visual comparison analysis that will be easy to use by City staff for maintenance planning.

### Section 3: City Performed Work:

- 3.1 The City has assigned a project manager to oversee the Consultant's work and provide support as needed. Specific duties the City will perform and provide through the PM include the following:
  - 3.1.1 A desktop analysis will be provided that includes pipe characteristics, project as-built drawings, maintenance/cleaning/failure history, process operational and hydraulic data, upstream system information, and other site-specific documentation when available.
  - 3.1.2 Coordinate and provide access and escort for site research.
  - 3.1.3 Review process operation with Consultant to determine inspection procedures per site as well as outage and lockout/tagout (LO/TO) requirements and process. Perform LO/TO with Consultant to lock out equipment and facilitate inspections.
  - 3.1.4 Provide specific flow information, storage capacity, and review of system analysis for inspection durations.
  - 3.1.5 Review and approval prior to implementation of Inspection Procedures, site modifications, and other proposals.
  - 3.1.6 Provide weather or operational restrictions to site specific activities, provide data, as-builts, and site information specifically requested that is not available online.
  - 3.1.7 Review of all technical memos and reports submitted.

#### 3.2 Project Reviews

On a day-to-day basis, the progress of the work will be managed by the City's Project Manager. In order to provide timely resolution of conflicts, the project also has an alternative contact of the Project Manager's Supervisor, Christa Overby. Contact information for additional subject matter experts will be provided upon successful execution of this Contract for direct questions and communications on project topics. The

## Contract 30007311 – Exhibit A

Consultant must always copy the Project Manager in these cases. The following project reviews will be conducted:

- 3.2.1 Overall program schedule requested on typically a bi-weekly basis, in a Gantt chart style format. The schedule shall be broken down into logical, separate activities by site, project status, vendor, or task and show dependencies and expected duration. The schedule shall also be used as a metric of performance and invoice review.
- 3.2.2 Per site cost estimate and budget approval prior to the start of analysis and work on the individual assets.
- 3.2.3 Analysis Method / Pre-Inspection Site Report will be reviewed prior to implementation.
- 3.2.4 Inspection Plan will be reviewed for acceptance prior to starting work on site.
- 3.2.5 Condition assessment data formatted for integration into GIS databases.
- 3.2.6 Final Report will be reviewed for completeness and technical accuracy prior to acceptance.

## Billing Rate Schedule

### Kennedy/Jenks Consultants

Labor Category	Rate, dollars (Min-Max)
Engineer/Scientist/Specialist 9	250.00-320.00
Engineer/Scientist/Specialist 8	223.00-286.00
Engineer/Scientist/Specialist 7	180.00-256.00
Engineer/Scientist/Specialist 6	140.00-227.00
Engineer/Scientist/Specialist 5	126.00-194.00
Engineer/Scientist/Specialist 4	106.00-170.00
Engineer/Scientist/Specialist 3	99.00-152.00
Engineer/Scientist/Specialist 2	87.00-124.00
Engineer/Scientist/Specialist 1	65.00-74.00
Designer/ Senior Technician	109.00-140.00
CAD/Technician	87.00-105.00
Project Administrator	94.00-119.00
Administrative Assistant	51.00-88.00
Aide	51.00-67.00

### 3D Infusion

Labor Category	Rate, dollars (Min-Max)
Principal	151.87-157.79
Project Manager	134.87-140.13
CADD Tech. 3	120.00-124.68
CADD Tech. 2	99.82-103.71
CADD Tech. 1	83.90-87.17
CADD Tech. Intern	73.28-76.14
BIM/3D Modeler 3	120.00-124.68
BIM/3D Modeler 2	99.82-103.71
BIM/3D Modeler 1	83.90-87.17
Eng./Admin. Tech. 2	83.90-87.17
Eng./Admin. Tech 1	73.28-76.14
Office/Project Assistant	66.90-69.51

### Emerio Design, LLC

<b>Labor Category</b>	<b>Rate, dollars</b>
Senior Project Manager	217.00
Project Manager	192.20
Senior Structural Engineer	121.46
Senior Project Engineer II	170.50
Senior Project Engineer I	163.94
Project Engineer	124.00
Junior Project Engineer	117.80
Senior Architectural Designer	127.10
Senior Designer II	155.00
Senior Designer I	122.45
Designer	105.40
Junior Designer	93.00
GIS Technician	122.45
Senior Professional Land Surveyor II	158.10
Senior Professional Land Surveyor I	136.40
Professional Land Surveyor	117.80
Senior Survey Technician II	124.00
Senior Survey Technician I	117.80
Junior Survey Technician	68.20
Field Coordinator	80.60
Intern	57.35
Project Assistant	93.00
Three Person Crew	215.00
Two Person Crew	170.00
One Person Crew	140.00
Junior CADD Technician	55.80
3D Scanner Crew	390.00

**International Inspection**

<b>Labor Category</b>	<b>Rate, dollars</b>
Level III – Reviewer	155.00
AWS Certified Weld Inspector (CWI)	101.50
QA Consultant	101.50
PMI Technician	101.50
PMI Assistant	48.50

UT Technician	91.50
UT Assistant	48.50
Radiography Crew	140.00

**McMillan Jacobs Associates**

Labor Category	Rate, dollars
Principal	265.00
Sr. Associate	220.00
Associate	185.00
Geotechnical Designer	195.00
Project Engineer	140.00
Staff Geologist	105.00
Trenchless Designer	165.00
CADD	120.00
Administrator	105.00

**Xylem - Pure Technologies**

Labor Category	Rate, dollars
Vice President - QA/QC	290.00
Project Manager	220.00
Technical Manager	225.00
Senior Risk Analyst - PhD	190.00
Risk Analysis Data Scientist	140.00
Risk Analysis Project Engineer	140.00
GIS Analyst	130.00

Cost Estimate Breakdown - Year 1

Kennedy Jenks

CLIENT Name: **BES CBWTP**  
 PROJECT Description: **(Year 1) Plant Piping RBI Program- Group-1 RBI Program - Annual Budget**  
 Proposal/Job Number: **KJ B1061067-110119** Date: **12/6/2019**

January 3, 2019 Rates	Eng-Sci-9 Fejarang	Eng-Sci-8 PIC Wood	Eng-Sci-6 QA/QC Peacock	Eng-Sci-6 PM Spargo	Eng-Sci-5 Structural Salter	Eng-Sci-4 Staff Devin-Clarke	Eng-Sci-4 Staff Carney	Eng-Sci-2 Burch	Project Administrator - Flury	Total	KJ	Sub	Sub	Sub	Sub	Sub	KJ	Total Labor	Total Subs	Total Expenses	Total Labor + Subs + Expenses	
Classification:										Hours	Fees	Fees	Fees	Fees	Fees	Fees	5%				Fees	
Hourly Rate:	\$257	\$254	\$179	\$189	\$172	\$131	\$120	\$116	\$119													
<b>Phase 1 - Project Management</b>																						
1.1 Kickoff, Correspondence and PM Status Meetings	4	8		16		4	4	4	4	44	\$8,030						\$0	\$8,030	\$0	\$0	\$8,030	
1.2 Manage Schedule and Project Costs				48						48	\$9,072						\$0	\$9,072	\$0	\$0	\$9,072	
1.3 Manage Resources and Subcontractors		24		24				4		52	\$11,096						\$0	\$11,096	\$0	\$0	\$11,096	
1.4 Project Quality Assurance and Reviews	16		24							40	\$8,408						\$0	\$8,408	\$0	\$0	\$8,408	
1.5 Project Administration		24		44					4	72	\$14,888	\$3,000	\$3,000		\$3,000		\$450	\$14,888	\$9,450	\$0	\$24,338	
<b>Phase 1 - Subtotal</b>	<b>20</b>	<b>56</b>	<b>24</b>	<b>132</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>8</b>	<b>8</b>	<b>256</b>	<b>\$51,494</b>	<b>\$3,000</b>	<b>\$3,000</b>	<b>\$0</b>	<b>\$3,000</b>	<b>\$0</b>	<b>\$450</b>	<b>\$51,494</b>	<b>\$9,450</b>	<b>\$0</b>	<b>\$60,944</b>	
<b>Phase 2 - Inspection Plan</b>																						
2.1 System Criticality and Vulnerability Analysis	24			16		16		64		120	\$18,712						\$0	\$18,712	\$0	\$0	\$18,712	
2.2 Risk-based Inspections Methodology				16		16		32		64	\$8,832					\$2,400	\$0	\$8,832	\$2,400	\$0	\$11,232	
2.3 Conduct Site Inspection				8			24	40		72	\$9,042						\$0	\$9,042	\$0	\$0	\$9,042	
2.3 Pre-inspection Site Report				8			32	40	8	88	\$10,957						\$0	\$10,957	\$0	\$0	\$10,957	
2.4 Develop Temporary Bypass Plans				4			16	24		44	\$5,466						\$0	\$5,466	\$0	\$0	\$5,466	
2.5 Finalize RBI Plan and Associated Costs			4	8		24		32	8	76	\$10,036						\$0	\$10,036	\$0	\$0	\$10,036	
<b>Phase 2 - Subtotal</b>	<b>24</b>	<b>0</b>	<b>4</b>	<b>60</b>	<b>0</b>	<b>56</b>	<b>72</b>	<b>232</b>	<b>16</b>	<b>464</b>	<b>\$63,045</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,400</b>	<b>\$0</b>	<b>\$63,045</b>	<b>\$2,400</b>	<b>\$0</b>	<b>\$65,445</b>	
<b>Phase 3 - Inspections and Field Work</b>																						
3.1 Coordination with BES O&M Staff				8		2	8	40		58	\$7,377						\$0	\$7,377	\$0	\$0	\$7,377	
3.2 Risk-based Inspections (Planning Session)				4		2	4	32		42	\$5,212	\$2,000					\$100	\$5,212	\$2,100	\$0	\$7,312	
3.3 Field Work Planning				16		4		80		100	\$12,828	\$1,000				\$3,600	\$230	\$12,828	\$4,830	\$0	\$17,658	
3.4 Field Risk-based Inspections				8	24	16	16	340		404	\$49,102		\$25,000	\$12,000			\$1,850	\$49,102	\$38,850	\$0	\$87,952	
3.5 3-D Scanning Tunnel Piping				4		4		40		48	\$5,920	\$16,000			\$8,000		\$1,200	\$5,920	\$25,200	\$0	\$31,120	
3.6 Field Inspections Reports			24	2	16	16		140	16	214	\$27,666					\$3,600	\$180	\$27,666	\$3,780	\$0	\$31,446	
<b>Phase 3 - Subtotal</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>42</b>	<b>40</b>	<b>44</b>	<b>28</b>	<b>672</b>	<b>16</b>	<b>866</b>	<b>\$108,105</b>	<b>\$19,000</b>	<b>\$25,000</b>	<b>\$12,000</b>	<b>\$8,000</b>	<b>\$7,200</b>	<b>\$3,560</b>	<b>\$108,105</b>	<b>\$74,760</b>	<b>\$0</b>	<b>\$182,865</b>	
<b>Phase 4 - Risk-based Prioritization Mechanism</b>																						
4.1 Develop Mechanism Methods and Processes	12			4		8	24	12		60	\$9,170		\$1,800			\$6,000	\$390	\$9,170	\$8,190	\$0	\$17,360	
4.2 Develop and Update FMECA	12		8	4		16	16	12		68	\$10,686		\$1,800				\$90	\$10,686	\$1,890	\$0	\$12,576	
<b>Phase 4 - Subtotal</b>	<b>24</b>	<b>0</b>	<b>8</b>	<b>8</b>	<b>0</b>	<b>24</b>	<b>40</b>	<b>24</b>	<b>0</b>	<b>128</b>	<b>\$19,856</b>	<b>\$0</b>	<b>\$3,600</b>	<b>\$0</b>	<b>\$0</b>	<b>\$6,000</b>	<b>\$480</b>	<b>\$19,856</b>	<b>\$10,080</b>	<b>\$0</b>	<b>\$29,936</b>	
<b>Phase 5 - Engineering Analysis and Recommendations</b>																						
5.1 ID Pipe Circuit Deficiencies		2		2		16	40	16		76	\$9,654						\$0	\$9,654	\$0	\$0	\$9,654	
5.2 Determine RUL				2		8	24	8		42	\$5,244					\$12,000	\$600	\$5,244	\$12,600	\$0	\$17,844	
5.3 Cost Benefit Analysis				4		16	24	8		52	\$6,670						\$0	\$6,670	\$0	\$0	\$6,670	
5.4 Develop Replace and Rehab Plan				4		8	24	8		44	\$5,622						\$0	\$5,622	\$0	\$0	\$5,622	
5.5 RBI Report			8	2		16	16	24	16	82	\$10,520		\$3,200				\$160	\$10,520	\$3,360	\$0	\$13,880	
<b>Phase 5 - Subtotal</b>	<b>0</b>	<b>2</b>	<b>8</b>	<b>14</b>	<b>0</b>	<b>64</b>	<b>128</b>	<b>64</b>	<b>16</b>	<b>296</b>	<b>\$37,709</b>	<b>\$0</b>	<b>\$3,200</b>	<b>\$0</b>	<b>\$0</b>	<b>\$12,000</b>	<b>\$760</b>	<b>\$37,709</b>	<b>\$15,960</b>	<b>\$0</b>	<b>\$53,669</b>	
<b>Phase 6 - Develop and Update GIS Layer</b>																						
6.1 Data Mining							32	32		64	\$7,565	\$13,000					\$650	\$7,565	\$13,650	\$0	\$21,215	
6.2 Circuitizing Piping Systems				2		4	12	24		42	\$5,131	\$1,000					\$50	\$5,131	\$1,050	\$0	\$6,181	
6.3 Develop Asset Register	8						12	24		44	\$6,285	\$12,000					\$600	\$6,285	\$12,600	\$0	\$18,885	
6.4 Update and Validate As-Built Dwgs						36	8	8		52	\$6,607	\$3,000			\$15,000		\$900	\$6,607	\$18,900	\$0	\$25,507	
6.5 Develop GIS Layer				2		24	8	8		42	\$5,413	\$18,000					\$900	\$5,413	\$18,900	\$0	\$24,313	
6.6 Update GIS Layer using RBI Field Reports				2		30	8	8		48	\$6,199	\$4,000					\$200	\$6,199	\$4,200	\$0	\$10,399	
<b>Phase 6 - Subtotal</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>94</b>	<b>80</b>	<b>104</b>	<b>0</b>	<b>292</b>	<b>\$37,200</b>	<b>\$51,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$15,000</b>	<b>\$0</b>	<b>\$3,300</b>	<b>\$37,200</b>	<b>\$69,300</b>	<b>\$0</b>	<b>\$106,500</b>	
<b>All Phases Total</b>	<b>76</b>	<b>58</b>	<b>68</b>	<b>262</b>	<b>40</b>	<b>286</b>	<b>352</b>	<b>1104</b>	<b>56</b>	<b>2,302</b>	<b>\$317,409</b>	<b>\$73,000</b>	<b>\$34,800</b>	<b>\$12,000</b>	<b>\$26,000</b>	<b>\$27,600</b>	<b>\$8,550</b>	<b>\$317,409</b>	<b>\$181,950</b>	<b>\$0</b>	<b>\$499,359</b>	



Cost Estimate Breakdown - Years 2 through 5

Kennedy Jenks

CLIENT Name: **BES CBWTP**  
 PROJECT Description: **(Years 2 - 5) Plant Piping RBI Program- Group-1 RBI Program - Annual Budget**  
 Proposal/Job Number: **KJ B1061067-110119** Date: **12/6/2019**

January 3, 2019 Rates	Eng-Sci-9 AM Fejarang	Eng-Sci-8 PIC Wood	Eng-Sci-6 QA/QC Peacock	Eng-Sci-6 PM Spargo	Eng-Sci-5 Structural Salter	Eng-Sci-4 Staff Devlin-Clarke	Eng-Sci-4 Staff Carney	Eng-Sci-2 Burch	Project Administrator - Flury	Total	KJ Labor	KJ Escalation	KJ Assoc. Proj. Costs	Sub Emerio Design	Sub International Inspections	Sub McMillan Jacobs	Sub 3D-Infusion	Sub Xylem	KJ Sub-Markup	Total Labor	Total Subs	Total Expenses	Total Labor + Subs + Expenses
Classification:										Hours	Fees	0%	\$0.00	Fees	Fees	Fees	Fees	Fees	5%				Fees
Hourly Rate:	\$272	\$269	\$190	\$200	\$182	\$139	\$127	\$121	\$126														
<b>Phase 1 - Project Management</b>																							
1.1 Kickoff, Correspondence and PM Status Meetings	4	4		8		4	4	4		28	\$5,317	\$0	\$0						\$0		\$5,317	\$0	\$5,317
1.2 Manage Schedule and Project Costs				48						48	\$9,616	\$0	\$0						\$0		\$9,616	\$0	\$9,616
1.3 Manage Resources and Subcontractors		24		24						48	\$11,270	\$0	\$0						\$0		\$11,270	\$0	\$11,270
1.4 Project Quality Assurance and Reviews	16		24							40	\$8,912	\$0	\$0						\$0		\$8,912	\$0	\$8,912
1.5 Project Administration		24		24					4	52	\$11,774	\$0	\$0	\$3,000	\$3,000		\$1,500		\$375		\$11,774	\$7,875	\$19,649
<b>Phase 1 - Subtotal</b>	<b>20</b>	<b>52</b>	<b>24</b>	<b>104</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>216</b>	<b>\$46,890</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,000</b>	<b>\$3,000</b>	<b>\$0</b>	<b>\$1,500</b>	<b>\$0</b>	<b>\$375</b>	<b>\$46,890</b>	<b>\$7,875</b>	<b>\$0</b>	<b>\$54,765</b>
<b>Phase 2 - Inspection Plan</b>																							
2.1 System Criticality and Vulnerability Analysis	24			16		16		64		120	\$19,699	\$0	\$0						\$0		\$19,699	\$0	\$19,699
2.2 Risk-based Inspections Methodology				16		16		32		64	\$9,294	\$0	\$0						\$0		\$9,294	\$0	\$9,294
2.3 Conduct Site Inspection				8			24	40		72	\$9,489	\$0	\$0						\$0		\$9,489	\$0	\$9,489
2.3 Pre-inspection Site Report				8			32	40	8	88	\$11,516	\$0	\$0						\$0		\$11,516	\$0	\$11,516
2.4 Develop Temporary Bypass Plans				4			16	24		44	\$5,737	\$0	\$0				\$1,500		\$75		\$5,737	\$1,575	\$7,312
2.5 Finalize RBI Plan and Associated Costs			4	8		24		32	8	76	\$10,570	\$0	\$0						\$0		\$10,570	\$0	\$10,570
<b>Phase 2 - Subtotal</b>	<b>24</b>	<b>0</b>	<b>4</b>	<b>60</b>	<b>0</b>	<b>56</b>	<b>72</b>	<b>232</b>	<b>16</b>	<b>464</b>	<b>\$66,305</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,500</b>	<b>\$0</b>	<b>\$75</b>	<b>\$66,305</b>	<b>\$1,575</b>	<b>\$0</b>	<b>\$67,880</b>
<b>Phase 3 - Inspections and Field Work</b>																							
3.1 Coordination with BES O&M Staff				8			8	40		56	\$7,454	\$0	\$0						\$0		\$7,454	\$0	\$7,454
3.2 Risk-based Inspections (Planning Session)				4			4	32		40	\$5,177	\$0	\$0	\$2,000					\$100		\$5,177	\$2,100	\$7,277
3.3 Field Work Planning				16				80		96	\$12,873	\$0	\$0					\$3,600	\$180		\$12,873	\$3,780	\$16,653
3.4 Field Risk-based Inspections				8	24	16	16	340		404	\$51,321	\$0	\$0		\$25,000	\$12,000		\$10,000	\$2,350		\$51,321	\$49,350	\$100,671
3.5 3-D Scanning Tunnel Piping				4				40		44	\$5,635	\$0	\$0	\$23,000			\$10,000		\$1,650		\$5,635	\$34,650	\$40,285
3.6 Field Inspections Reports			24	16	16	16		160	16	248	\$34,251	\$0	\$0					\$3,600	\$180		\$34,251	\$3,780	\$38,031
<b>Phase 3 - Subtotal</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>56</b>	<b>40</b>	<b>32</b>	<b>28</b>	<b>692</b>	<b>16</b>	<b>888</b>	<b>\$116,710</b>	<b>\$0</b>	<b>\$0</b>	<b>\$25,000</b>	<b>\$25,000</b>	<b>\$12,000</b>	<b>\$10,000</b>	<b>\$17,200</b>	<b>\$4,460</b>	<b>\$116,710</b>	<b>\$93,660</b>	<b>\$0</b>	<b>\$210,370</b>
<b>Phase 4 - Risk-based Prioritization Mechanism</b>																							
4.1 Update of Mechanism Methods and Processes	12			2		8	8	8		38	\$6,765	\$0	\$0		\$1,800			\$6,000	\$390		\$6,765	\$8,190	\$14,955
4.2 Update FMECA	12		4	2		8	8	8		42	\$7,524	\$0	\$0		\$1,800				\$90		\$7,524	\$1,890	\$9,414
<b>Phase 4 - Subtotal</b>	<b>24</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>0</b>	<b>80</b>	<b>\$14,289</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,600</b>	<b>\$0</b>	<b>\$0</b>	<b>\$6,000</b>	<b>\$480</b>	<b>\$14,289</b>	<b>\$10,080</b>	<b>\$0</b>	<b>\$24,369</b>
<b>Phase 5 - Engineering Analysis and Recommendations</b>																							
5.1 ID Pipe Circuit Deficiencies		2		2		16	60	16		96	\$12,726	\$0	\$0						\$0		\$12,726	\$0	\$12,726
5.2 Determine RUL				2		8	24	8		42	\$5,531	\$0	\$0					\$12,000	\$600		\$5,531	\$12,600	\$18,131
5.3 Cost Benefit Analysis				4		16	36	8		64	\$8,569	\$0	\$0						\$0		\$8,569	\$0	\$8,569
5.4 Develop Replace and Rehab Plan				8		8	72	16		104	\$13,805	\$0	\$0						\$0		\$13,805	\$0	\$13,805
5.5 RBI Report			8	2		32	32	48	16	138	\$18,251	\$0	\$0		\$3,200				\$160		\$18,251	\$3,360	\$21,611
<b>Phase 5 - Subtotal</b>	<b>0</b>	<b>2</b>	<b>8</b>	<b>18</b>	<b>0</b>	<b>80</b>	<b>224</b>	<b>96</b>	<b>16</b>	<b>444</b>	<b>\$58,883</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$3,200</b>	<b>\$0</b>	<b>\$0</b>	<b>\$12,000</b>	<b>\$760</b>	<b>\$58,883</b>	<b>\$15,960</b>	<b>\$0</b>	<b>\$74,843</b>
<b>Phase 6 - Develop and Update GIS Layer</b>																							
6.1 Data Mining							32	32		64	\$0	\$0	\$0	\$14,000					\$700		\$0	\$14,700	\$14,700
6.2 Circuitizing Piping Systems				2		8	12	20		42	\$0	\$0	\$0	\$0					\$0		\$0	\$0	\$0
6.3 Develop Asset Register	8						12	24		44	\$0	\$0	\$0	\$14,000					\$700		\$0	\$14,700	\$14,700
6.4 Update and Validate As-Built Dwgs						40	8	8		56	\$0	\$0	\$0				\$12,000		\$600		\$0	\$12,600	\$12,600
6.5 Develop Additional GIS Layers				2		36	8	8		54	\$0	\$0	\$0	\$20,000					\$1,000		\$0	\$21,000	\$21,000
6.6 Update GIS Layer using RBI Field Reports				2		30	8	8		48	\$0	\$0	\$0						\$0		\$0	\$0	\$0
<b>Phase 6 - Subtotal</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>114</b>	<b>80</b>	<b>100</b>	<b>0</b>	<b>308</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$48,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$12,000</b>	<b>\$0</b>	<b>\$3,000</b>	<b>\$0</b>	<b>\$63,000</b>	<b>\$0</b>	<b>\$63,000</b>
<b>All Phases Total</b>	<b>76</b>	<b>54</b>	<b>64</b>	<b>248</b>	<b>40</b>	<b>302</b>	<b>424</b>	<b>1140</b>	<b>52</b>	<b>2400</b>	<b>\$303,077</b>	<b>\$0</b>	<b>\$0</b>	<b>\$76,000</b>	<b>\$34,800</b>	<b>\$12,000</b>	<b>\$25,000</b>	<b>\$35,200</b>	<b>\$9,150</b>	<b>\$303,077</b>	<b>\$192,150</b>	<b>\$0</b>	<b>\$495,227</b>