

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

CONTRACT NUMBER \_\_\_\_\_

TITLE OF WORK PROJECT  
Tryon Creek at Bonnes Ferry Road Culvert Replacement

This contract is between the City of Portland ("City," or "Bureau") and BergerABAM Inc., hereafter called Consultant. The City's Project Manager for this contract is Eric Bremecke.

**Effective Date and Duration**

This contract shall become effective on the date the contract has been executed by all parties. This contract shall expire, unless otherwise terminated or extended, on December 31, 2015.

**Consideration**

- (a) City agrees to pay Consultant a sum not to exceed \$607,505 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): BergerABAM Inc.  
 Address: 700 NE Multnomah, Suite 900, Portland, OR 97232  
 Employer Identification Number (EIN): 91-1422812  
 [INDEPENDENT CONTRACTORS: DO NOT PROVIDE SOCIAL SECURITY NUMBER (SSN) - LEAVE BLANK IF NO EIN]  
 City of Portland Business Tax Registration Number: 193966  
 Citizenship: Nonresident alien  Yes  No  
 Business Designation (check one):  Individual  Sole Proprietorship  Partnership  Corporation  
 Limited Liability Co (LLC)  Estate/Trust  Public Service Corp.  Government/Nonprofit

Payment information will be reported to the IRS under the name and taxpayer I.D. number provided above. Information must be provided prior to contract approval.

**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 community 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.

**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.

**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 or  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 contractor'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 or  waived 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 or  waived 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, provided such coverage is available and economically feasible.

Required and attached or  waived 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 all 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):** Upon City's request, Consultant shall provide evidence that any subconsultant performing work or providing goods or service under the Contract has the appropriate types and amounts of required insurance coverages 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. "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.

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**

In the event Consultant provides in excess of \$2,500.00 for services to the City in any fiscal year, Consultant shall obtain EEO certification from the City.

#### **12. Equal Benefits**

Consultant must comply with the City's Equal Benefits program as prescribed by Chapter 3.100 of the Code of the City of Portland. The required documentation must be filed with Procurement Services, City of Portland, prior to contract execution.

#### **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**

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

**19. Business 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.

**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.

**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. Merger Clause**

This Contract encompasses the entire agreement of the parties, and supersedes all previous understandings and agreements between the parties, whether verbal or written.

**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. 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 Personnel: // Applicable / / Not Applicable**

If applicable, the Consultant shall assign the personnel listed in the Statement of the Work and Payment Schedule for the work required by the Contract and shall not change 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. Failure to use the identified M/W/ESB 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.

**STATEMENT OF THE WORK  
AND PAYMENT SCHEDULE**

**SCOPE OF WORK**

The statement of work for this project is set forth in Exhibit A to this contract.

**Deliverables**

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

All deliverables and resulting work products from this contract are the property of the City of Portland.

**WORK PERFORMED BY CITY**

The City has assigned a project manager to oversee the Consultant's work and provide support as needed. Specific duties the City will perform include:

- a. **Land Acquisition:**
  - Acquire additional easement area and record legal documentation of changes to easement areas.
- b. **Survey Services:**
  - Provide a set of control points to be used for field investigations and construction.
  - Establish property lines from located monument, maps, and legal descriptions.
- c. **Site Analysis:**
  - Provide documentation of a Coordinated Site Analysis, which includes soils testing and hazardous materials survey.
- d. **Obtain Building and Regulatory Permits for Construction:**
  - BES shall apply for all applicable permits for this project. The Contract Documents shall require the construction contractor to be responsible for obtaining all other required City of Portland trade permits.
- e. **Bidding and Contract Requirements**
  - BES in coordination with Procurement Services will prepare the Bidding and Contract Requirements sections of the Contract Documents.
- f. **Printing of Documents:**
  - BES shall be responsible for advertising, printing and distributing the final set of bidding and contract requirements, detailed plans and technical specifications. BES will also print and issue addenda.
- g. **Bid Evaluation Report:**
  - BES shall evaluate all bids submitted and prepare a bid analysis and evaluation report.
- h. **Construction Management:**
  - BES shall be responsible for the project construction management, field inspection, special inspections, record keeping, administration and coordination of contractors and subcontractors during the construction phase of the project.
- i. **Owner-Furnished Data:**
  - BES shall provide technical data known by the BES project manager to be in the City's possession and related to the services required on this project. Bureau staff shall make available sufficient hours of staff personnel as is required to meet with Consultant and provide such information as required.
- j. **Public Outreach:**
  - BES shall provide all public outreach and informational meetings with neighbors.

The City will provide the Consultant with historical information, geotechnical reports, aerial maps and such other records as may be on file that would assist in the design.

**PROJECT REVIEWS**

On a day-to-day basis, the progress of the work will be managed by the City's Project Manager. The following formal project reviews will be conducted:

- a. The City of Portland Bureau of Development Services (BDS) will conduct plan reviews for Building permits.
- b. BDS will also be the regulatory authority for any required Land Use (LU) reviews.
- c. Representatives from the City of Portland Water Bureau, City of Portland Bureau of Transportation, City of Portland Environmental Services, City of Portland Bureau of Development Services, Army Corps of Engineers, Oregon Department of State Lands, and Trimet will be reviewing the project at all 30%, 60%, 90% design milestones.
- d. The BES PM will coordinate the BES review which will include project plans developed to approximately 30% completion.
- e. The BES PM will coordinate the BES review of the 60% design review submittal, which will also be subjected to a constructability review by the BES Construction Services Division.
- f. The BES PM will coordinate the BES review of the 90% design review submittal, which will also be subjected to a constructability review by the BES Construction Services Division.
- g. The Final Plans, Specifications, Construction Schedule Estimate, and Construction Cost Estimate will be back-checked by the BES PM and the assigned Construction Manager (CM) for incorporation of the BES 90% design review comments.

**CONSULTANT KEY PERSONNEL**

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

NAME	ROLE ON PROJECT
<i>BergerABAM</i>	
Howard Wells, PE, LEED AP	Project Manager
Tom Wilcox, PE	Project Executive
Sue Johnson, PE	QA/QC
Scott McMahon, PE, LEED AP	Assistant Project Manager/Structural Lead
James Bohanek, PE	Civil/Roadway Approaches/Intersection
Shawn Ellis, PE	Utilities Coordination/Stormwater Design
David Sacamano, LA	Landscape Architect Lead (Pedestrian/Trail Development)
<i>Henderson Land Services LLC</i>	
Bruce Henderson, CPRRD, CSDP, CWS	Hydraulics/Stream Restoration/Constructability Review
<i>Hanna, McEldowney and Associates</i>	
Roger Hanna	Right-of-Way Support
<i>DKS Associates</i>	
Peter Coffey, PE	Traffic Engineering
<i>Jacobs Associates</i>	
Mark Havekost, PE	Constructability Review/Shoring
<i>GRI</i>	
Michael Zimmerman, PE, GE, CEG	Geotechnical Engineering

**SUBCONSULTANTS**

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

NAME	ROLE ON PROJECT	SUBCONTRACT AMOUNT
Henderson Land Services	Hydraulics, Stream Restoration, Constructability Review, Permitting Support	\$77,425
Hanna, McEldowney and Associates	Right-of-Way Support	\$7,900
GRI	Geotechnical Engineering	\$79,775
DKS Associates	Traffic Study, Traffic Control, Detour Plan	\$51,010
Jacobs Associates	Constructability Review, Shoring	\$52,500

The City will enforce all social equity contracting and Minority, Women and Emerging Small Business (M/W/ESB) subcontracting commitments submitted by the Consultant in its Proposal. For contracts valued \$50,000 or more, the Consultant shall submit a Monthly Subconsultant Payment and Utilization Report (MUR), made part of this contract by reference, reporting ALL subconsultants employed in the performance of this agreement. An electronic copy of the MUR may be obtained at: <http://www.portlandoregon.gov/bibs/45475>.

**COMPENSATION**

The maximum that the Consultant can be paid on this contract is \$607,505 (hereafter the "not to exceed" amount.). The "not to exceed" amount includes all payments to be made pursuant to this contract, including reimbursable expenses, if any. 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 Consultant may be less than that amount.

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.

The estimated task breakdown of the "not to exceed" amount is shown in the table below. Consultant may reallocate compensation between tasks with the approval of the City, provided the total "not to exceed" amount is not exceeded.

TASK	DESCRIPTION	COST NOT TO EXCEED
1	Project Management	\$ 93,469
2	Information Gathering	\$ 77,537
3	Alternatives Analysis	\$ 56,809
4	Final Design	\$ 297,416
5	Construction Services	\$ 82,274
<b>TOTAL CONTRACT AMOUNT</b>		<b>\$ 607,505</b>

The task amounts noted above include \$85,325 in subcontracting to M/W/ESB certified firms, representing M/W/ESB participation of 14% of the total contract amount.

Hourly Rates

The billing rates shall not exceed those set forth below:

Classification	Hourly Billing Rate
<i>Berger/ABAM</i>	
Officer	\$223
Senior Project Manager VIII QA/QC	\$206
Senior Project Manager VIII	\$179
Project Manager VII	\$161
Senior Project Engineer VI	\$157
Project Engineer V	\$136
Senior Engineer IV	\$100
Senior Engineer V	\$107
Designer III	\$85
Landscape Architect	\$146

Associate Landscape Architect	\$90
Senior Planner	\$137
Associate Planner	\$87
Natural Resources Team Lead	\$163
Associate Scientist	\$97
Senior Technical Editor	\$101
Strategic Comm. Project Manager	\$98
Project Coordinator	\$65
<i>Henderson Land Services LLC</i>	
Project Manager	\$165
Water Resources Engineer	\$155
Environmental Construction Lead	\$145
EIT	\$95
Admin	\$65
<i>GRI</i>	
Principal	\$197
Associate	\$177
Senior Engineer/Geologist	\$135
Project Engineer/Geologist	\$124
Staff Engineer/Scientist	\$94
Engineering Assistant	\$62
Contract Administrator	\$141
Drafter	\$90
Secretarial Services	\$86
<i>Hanna, McEldowney and Associates</i>	
R/W Project Manager	\$108
Sr. R/W Agent	\$90
<i>DKS Associates</i>	
Principal Grade 27	\$185
QA/QC Grade 20	\$150
Sr. Project Manager Grade 17	\$135
Project Engineer Grade 10	\$100
CAD Grade 6	\$80
Admin Tech J	\$80
<i>Jacobs Associates</i>	
Principal	\$235
Senior Associate	\$230
Lead Associate	\$220
Associate	\$200
Sr. Project Engineer	\$175
Project Engineer	\$165
Senior Staff Engineer	\$155
Staff Engineer	\$140
Lead CAD Operator	\$140

Hourly billing rates shall include the following non-reimbursable expenses: fringe benefits, payroll bonuses, autos and other defined perquisites, telecommunications, facsimile services, overhead expenses including but not limited to local and long distance telephone, parking, delivery/courier, general business and professional liability insurance, advertising costs, postage, internal copying, lease of office equipment, mileage and other local travel costs, information technology (including computer time and CAD services and other related highly specialized equipment), all other direct costs not identified as reimbursable, other indirect costs and profit.

#### Standard Reimbursable Costs

The following costs will be reimbursed without mark-up.

- Out-of-Town Travel. Travel (transportation, lodging and per diem) of Consultant and/or experts when specified in the contract or requested by BES, directly attributed to specific tasks and when to a location outside a 100 mile radius of Consultant's project office. Travel costs will be reimbursed in accordance

with the City's Travel Expense Guidelines which are based on the General Services Administration (GSA) per diem rates.

- Photocopying/Reproduction Costs. Reproduction of required drawings, reports, specifications, bidding documents, in excess of the number required as part of the contract excluding the cost of reproduction for Consultant's or sub's own use.

#### Subconsultant Costs

Compensation for subconsultants shall be limited to the same restrictions imposed on the Consultant. Markup on subconsultant services shall not exceed 5% for this contract.

#### Progress Payments

On or before the 15<sup>th</sup> of each month, the Consultant shall submit to the City's Project Manager an invoice for work performed by the Consultant during the preceding month. The invoice shall contain the City's Contract Number and set out all items for payment including, but not limited to: the name of the individual, labor category, direct labor rate, hours worked during the period, and tasks performed. The 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 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.

#### **Payment Terms: Net 30 Days**

#### 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.

WORKERS' COMPENSATION INSURANCE STATEMENT

IF YOUR FIRM HAS CURRENT WORKERS' COMPENSATION INSURANCE, CONTRACTOR 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.

Contractor Signature: [Signature] Date: 7/24/13 Entity: BERGER ABAM

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

As an independent contractor, 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 contractor in the previous year; and
3. The individual or business entity represents to the public that the labor or services are to be provided by an independently established business. Except when an individual or business entity files a Schedule F as part of the personal income tax returns and the individual or business entity performs farm labor or services that are reportable on Schedule C, an individual or business entity is considered to be engaged in an independently established business when four or more of the following circumstances exist.

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

Contractor Signature

Date

FOR CITY USE ONLY

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

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

City Project Manager Signature

Date

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 Chapter 3.100 of Code of the City of Portland; and hereby certify I am an independent contractor as defined in ORS 670.600.

BergerABAM Inc.

BY: Thomas R. Wilcox Date: 7/24/13

Name: THOMAS R. WILCOX

Title: VICE PRESIDENT



**EXHIBIT A****STATEMENT OF WORK**

City of Portland Environmental Services  
Tryon Creek at Boones Ferry Road Culvert Replacement  
Project No. E08682

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## Project Name: Tryon Creek at Boones Ferry Road Culvert Replacement

	<b>BES Project Manager</b>		<b>Consultant's Project Manager</b>
Name:	Eric Brennecke, PE Project Manager City of Portland Environmental Services	Name:	Howard Wells, PE BergerABAM
Address:	1120 SW 5 <sup>th</sup> Ave., Room 1000 Portland, OR 97204	Address:	700 NE Multnomah St., Ste. 900 Portland, OR 97232
Phone:	(503) 823-7651	Phone:	(503) 872-4114
Email:	Eric.brennecke@portlandoregon.gov	Email:	Howard.wells@abam.com

This statement of work (SOW) describes the engineering services to be provided by the BergerABAM team (Consultant) for the project. The services Consultant provides will include geotechnical subsurface explorations, office studies, laboratory testing, geotechnical engineering analysis, traffic engineering analysis, structural engineering, civil engineering, landscape architecture, grading, drainage, erosion control, right-of-way assistance, and permitting assistance. Performance of an alternatives analysis and preparation of construction cost estimates and contract documents, including drawings and specifications, will also be included in this SOW. Services during the bidding phase and during construction are also included in this SOW.

The City of Portland Environmental Services (BES) reserves the right to amend this SOW to include other project-related services as required. The Consultant will not begin any additional work unless and until the parties enter into an effective written amendment to the SOW.

## PROJECT DESCRIPTION

This project consists of the replacement of the existing undersized pipe culvert that carries Tryon Creek under Boones Ferry Road. The main project goals include stream restoration and improvement of the fish habitat, improvement of stream hydraulics to reduce debris and scour, and improvement of the transportation corridor to accommodate pedestrian and wildlife passage. Tryon Creek flows from its headwaters near Multnomah Village to the Willamette River near Lake Oswego. At Boones Ferry Road, Tryon Creek is joined by Arnold Creek immediately upstream of the road. The project location is on SW Boones Ferry Road near the intersection with SW Arnold Street. The existing road is approximately 24 feet wide with guardrails along both sides at the culvert crossing. The existing culvert under Boones Ferry Road is a 60-inch corrugated metal pipe (CMP) approximately 140 feet in length. The culvert invert is located approximately 40 feet below the roadway crown.

A scour hole has formed that is approximately 40 feet in length, 20 feet in width, and 5 feet in depth at the downstream side of the culvert. There is an approximate 6-inch to 1 foot drop from the culvert invert to the downstream pool elevation during normal flows. A grated

concrete debris rack is located at the upstream end of the culvert. At the concrete base of the debris rack includes a vertical drop of approximately 15-inches that essentially blocks all upstream fish passage. Concurrently, during high flows, the velocities in the culvert prevent upstream passage of fish.

The Consultant will initially perform the Information Gathering phase that will include activities to provide the consultant team and the City team the necessary information to perform the Alternatives Analysis within Task 3. Following selection of the preferred replacement alternative, the Consultant will produce contract documents to construct the project.

#### **WORK TASKS:**

Consultant is responsible for all tasks, subtasks, and deliverables identified in this SOW unless specifically stated otherwise. Consultant will provide all labor, equipment and materials to manage, coordinate, and complete the work.

Engineering completed under this SOW will be performed under the direction of the appropriate professional registered in the state of Oregon. The professional who has provided the direct supervision of the Work will stamp all reports, maps, drawings and calculations. Consultant will perform a quality control review of all deliverables using Consultant's normal internal review and sign-off process.

#### **GENERAL ASSUMPTIONS:**

The following assumptions apply to the entire project, unless noted otherwise:

- All survey services will be provided by BES or others. This includes a drainage study to locate drainage facilities in the project area.
- All land acquisitions, negotiations, legal recording, or other work related to real property will be by BES or others. Consultant's role regarding support services for property acquisition will be limited to the services described below.
- All services related to hazardous material identification and remediation will be provided by BES or others.
- All services related to the application for and obtaining of all applicable permits will be provided by BES or others. Consultant will assist by providing supporting information to those responsible for applying for and obtaining permits as described below.
- The reproduction of bidding and contract documents will be provided by BES or others.
- The advertisement of the construction project, the administration of the bidding process including the evaluation of the bids, and all construction management will be provided by BES or others. Consultant's support for these efforts is limited to the services described below.

- BES will provide all public outreach services, with the exception of the Consultant's project manager's involvement in certain meetings as described below.
- Statement of Work and associated fee is based on the selection of a pre-cast concrete culvert as the replacement for the existing culvert. This culvert would require only conventional, bidder-designed shoring for its construction. Any shoring that would become part of the permanent structure is not part of this statement of work, but could be added via amendment at a later date, if desired. The culvert itself will also be a bidder-designed structure, with the exception of the foundation system, which will be designed by the Consultant team.
- Statement of Work and associated fee assumes that the alternatives analysis will be limited to a confirmation that the pre-cast culvert option is valid given the new evaluation criteria described below. Estimated construction cost of the pre-cast culvert option will be compared to a planning-level estimate of the construction cost of replacing the culvert with a bridge.
- Any services required for the project but not explicitly described in the Statement of Work under Tasks and Deliverables is assumed to be provided by BES or others and will not be provided by the Consultant unless an amendment to this Statement of Work is agreed to by both BES and the Consultant.

## TASKS AND DELIVERABLES

### ***TASK 1 – PROJECT MANAGEMENT***

Consultant will perform Task 1 through the delivery of Final Contract Documents Submittal (Tasks 1 through 4). Project Management for Task 5 will occur under Task 5 – Construction Services.

#### **Task 1.1 – Project Work Plan**

Consultant will prepare a project work plan, which will contain the following documents:

- Statement of Project Vision & Goals
- Scope of Services
- Initial Design Schedule
- Design and Construction Budget
- Team Organization/Resources/Responsibilities
- QA/QC Plan
- Communication Plan
- Change Management Plan

#### **Assumptions:**

- None

**Deliverables:**

- Draft and Final Project Work Plan

**Task 1.2 – Project Management and Coordination**

The Consultant will manage and oversee all Consultant's services for the Project, including all invoicing, progress documentation, and tracking and overseeing the current status of the Project, any unresolved issues, and the budget. Consultant will prepare monthly progress reports in BES format.

Invoices will be prepared in conformance with the billing rates and classifications approved in the Contract. Invoices for Time and Materials work will include an attached breakdown of actual hours, identifying staff and classification by task and direct non-labor costs and any other information as detailed in the Contract. The monthly billing invoices will include a copy of the project progress/status report.

Consultant will maintain project files to include the SOW, all test results, engineering computations, conditions, assumptions, working drawings, meeting minutes, correspondence, memos, transmittals, etc. Compiling the project files will be an ongoing task, commencing upon receipt of the NTP, incorporating documents as they are generated, and continuing through the end of the Contract term. Project files will be available for review by BES at Consultant's office.

**Assumptions:**

- None

**Deliverables:**

- Monthly billing invoices
- Monthly progress reports
- Monthly updated schedules
- Submit a Monthly Subconsultant Payment and Utilization Report by the 15<sup>th</sup> of each month.

**Task 1.3 – Quality Assurance / Quality Control**

The Consultant will prepare a project-specific Quality Assurance (QA) Plan and will perform Quality Control (QC) reviews of all deliverables noted in this SOW. QA and QC will be prepared and performed according to the Consultant's established QA/QC protocol.

**Assumptions:**

- Subconsultants will perform Quality Reviews of their deliverables prior to transmitting them to the Consultant.

**Deliverables:**

- QA/QC documentation will be maintained in the Consultant's project files and will be available for review by request.

### Task 1.4 – Project Meetings

The design team will hold a teleconference meeting once every three weeks. It is anticipated that 16 such meetings will occur over a 56 week design period. Teleconferences will be one hour in duration. BES personnel may attend these meetings. Consultant will provide a conference call telephone number for use by the team. Not all members of the design team will attend each meeting. Only Consultant's Project Manager, Project Engineers, and Project Administrative Assistant will attend all 16 meetings.

#### Assumptions:

- 56 week design phase with no more than 16 design team coordination meetings.
- Consultant and sub-consultants will attend project meetings according to the following schedule:

	Team Meetings (Every 3 Weeks) 16 total - 1 Hour Duration # Mtgs Attended	Work Product Review Mtgs. 6 total - 3 Hour Duration + travel/from BES # Mtgs Attended
BergerABAM	16	6
Henderson	8	2
GRI	4	0
DKS	4	0
HMA	2	0
Jacobs	4	0

#### Deliverables:

- Meeting agendas and minutes.

### Task 1.5 – Work Product Review Meetings

Key members of the Consultant's team will attend up to six (6) meetings to receive review comments for major deliverables listed within this SOW. Not all deliverables will require a work product review meeting; some work product reviews will be received via printed comments.

#### Assumptions:

- Meetings will be held to receive review comments following BES's review of the 30%, 60%, 90% and 100% PS&E documents.
- Up to two additional meetings will be held to receive BES's review comments of other deliverables to be determined.
- Consultant and sub-consultants will attend work product review meetings according to the schedule shown in Task 1.4.

#### Deliverables:

- Comment resolution forms for comments received at each Work Product Review Meeting.

### **Task 1.6 – Project Scheduling**

The Consultant will prepare an overall project design-phase schedule. The schedule will include design-phase elements, the advertisement period, and the construction period. The schedule will be updated on a regular basis to accommodate any changes made to the project timelines.

#### **Assumptions:**

- A construction schedule will be created and maintained as part of Task 4 work, as described below.

#### **Deliverables:**

- Monthly project schedule in PDF format.

### **Task 1.7 – Public Meetings**

The Consultant's project manager will prepare for and attend up to six (6) public meetings of BES's choosing.

#### **Assumptions:**

- BES will prepare all meeting materials
- Consultant's project manager's preparation time is limited to one (1) hour per meeting

#### **Deliverables:**

- None

## ***TASK 2 – INFORMATION GATHERING***

To evaluate the two replacement alternatives, the Consultant design team must first gather all pertinent information. This will include reviewing all project data available that is provided by BES. It will also include the investigation of permitting requirements, the production of a preliminary traffic analysis, and the performance of a field investigation.

### **Task 2.1 – Review Available Data and Standards**

The Consultant will review any BES-supplied data, including the pre-design report, as-built drawings, existing facility design drawings, hydrologic and hydraulic models, base mapping, previous habitat studies and other projects in the area. The Consultant will coordinate with BES System Analysis to determine applicable design flows for the project.

The current standards set forth by the City of Portland will be utilized throughout the project. The Consultant will review the BES CAD standard requirements for the project.

#### **Assumptions:**

- BES will provide any available reports and data for the Consultant's use.

#### **Deliverables:**

- None.

## Task 2.2 – Utility Reconnaissance

The Consultant will review all available utility plans for the project's location. If necessary, the Consultant will contact the appropriate utility company to obtain available plans not provided by BES and/or the most recent plans for the project location. Consultant will compare reviewed drawings with surveyed information to determine if conflicting information exists or if existing utilities are not included in the survey file. Consultant will initiate contact/communication with utility owners likely to be impacted by the project.

### Assumptions:

- BES will provide any available utility plans to the Consultant.

### Deliverables:

- None.

## Task 2.3 – Background Traffic Data

### Task 2.3.1 – Traffic Count Data and Roadway Characteristics

The Consultant team will gather background traffic data to obtain necessary traffic counts to identify the appropriate temporary traffic control measures to apply to the project and scope potential detour routes for the project.

Under this task the consultant will obtain background traffic data for the study area which will include SW Boones Ferry Road both north and south of SW Arnold St. and SW Arnold St. just west of Boones Ferry Road. Historic traffic count data, functional classification and ownership/operating responsibilities will be collected for parallel facilities which include: 1) SW Terwilliger Boulevard, 2) SW Taylor's Ferry Road, 3) SW Stephenson Road, and 4) SW 35<sup>th</sup> Ave. An initial assessment will be made that documents the ability of the three parallel facilities to accommodate diverted traffic.

In addition to traffic related data, other background roadway characteristics data will be collected for the study area. This data includes approximate pavement width, shoulder width, available pedestrian/bicycle facilities, transit facilities, posted speed and other transportation related constraints for the study area. Roadway functional classification, ownership and maintenance responsibilities will be documented.

A memorandum will be prepared which summarizes the collected background traffic data.

### Assumptions:

- Historical traffic data is available and will be provided to the Consultant. Consultant will not perform new traffic counts.

### Task 2.3.2 – Agency Requirements and Stakeholder Input

Under this Task, the Consultant will investigate the traffic control requirements of PBOT for the project location. This coordination will be done either in-person or over the telephone. The Consultant will also discuss (over the telephone) the project with other

key stakeholder agencies such as TriMet, school districts and emergency service providers. Input from other stakeholder groups (e.g. Tryon Creek State Park and neighborhood associations) will be provided by BES to the Consultant and will be incorporated into the memorandum prepared under Task 2.3.1. A determination of the length of any possible road closure will be discussed with agency staff and documented. A summary of the traffic control requirements will be included in the memorandum prepared under Task 2.3.1.

**Assumptions:**

- Up to two meetings are assumed to occur under this task.

**Task 2.3.1 and 2.3.2 Deliverables:**

- Draft and Final Background Traffic Data memorandum.

**Task 2.4 – Permitting Requirements**

The Consultant will provide support and advisory services to the Client in obtaining the necessary permits. In the preliminary phase of the project, the Consultant will review whether the project has the potential to impact wetlands and will coordinate with the Oregon Department of Fish and Wildlife (ODFW) to determine the required in-water work window for the project. The Consultant will then prepare a technical memorandum of the local, state, and federal permits expected of the project, key development thresholds that trigger the reviews, the expected review timelines, agency contact information, and a timeline for tracking the submittal and permit review throughout the project. The in-water work windows as determined by ODFW will also be identified and included in the technical memorandum.

The Consultant will review current land use codes and development standards for this specific location, and meet with the City of Portland Bureau of Development Services (BDS) for an informal pre-application meeting to confirm land use requirements.

**Assumptions:**

BES will apply for all applicable permits for this project.

**Deliverables:**

- Permitting Technical Memorandum.
- Minutes from BDS pre-application meeting

**Task 2.5 – Field Investigation**

The Consultant will plan for and conduct field investigations to gather data for use by the project team under this task. The goal of this task is to gather all data needed to accurately formulate and compare two alternate replacement schemes and to confirm existing site conditions as shown in the project survey. The team will attempt to minimize disruption to the natural environment during the various field investigation activities.

**Assumptions:**

- BES will obtain authorization to perform the field work from property owners and/or jurisdictions prior to the performance of the Field Investigation.

- BES will be conducting additional field investigations as required in support of this project, including, but not limited to topographic mapping, ordinary high water mark delineations, wetland delineations, cultural resource surveys, and the coordinated site analysis. BES-led field investigations will not necessarily be coordinated with the Consultant's Field Investigation
- BES will supply the Consultant with the findings from their additional field investigations noted above.

**Deliverables:**

- None

**Task 2.6 – Geotechnical Investigation**

Consultant will review existing geotechnical information for the project area, available published literature, and other sources as necessary to become familiar with the geology of the project area.

Consultant will complete a site visit to observe surface conditions and available access conditions. During the site visit, geologic conditions visible at the ground surface will be documented. Two geotechnical borings will be advanced using a truck-mounted geotechnical drilling rig to evaluate subsurface conditions within the embankment and underlying soils for several culvert replacement options. The borings will be drilled from the roadway using a combination of mud-rotary and rock coring techniques and will extend to maximum depths of 100 ft below the ground surface in the vicinity of potential bridge abutments and culvert foundations. Samples will be collected at 5 ft intervals using split spoon or thin-walled (Shelby) tube samplers. If rock is encountered, rock coring will extend up to 20 ft into coreable materials up to the maximum planned depths of the borings. Soil and rock samples from the borings will be returned to the Consultant's laboratory for testing of water content, natural density, Torvane shear strength, and engineering index properties as deemed appropriate for the materials encountered. Up to two consolidation tests of relatively undisturbed fine-grained samples will be completed. Up to two unconfined compression tests will be completed on rock core samples. Pavement cores will be collected from the boring locations.

**Assumptions:**

- Consultant team will call for utility location services through the One-Call system, prior to geotechnical drilling. Potholing services will be conducted by BES.
- Soil cuttings can be disposed on the vegetated embankment slopes adjacent to the roadway.
- A right-of-way permit will be required for geotechnical work. However, Consultant will prepare a brief work plan for review by the project team, BES, and appropriate resource agencies.
- Single-lane roadway closures will be required during geotechnical drilling. Limited lane closure hours of 9AM to 3PM are anticipated.

Data from the two borings will be sufficient for the purpose of the alternatives analysis, but additional borings may be required prior to final design for reasons including but not limited

to selection of a bridge for final design, or if tied-back temporary shoring systems or permanent structures are required for the project.

**Deliverables:**

- The observed conditions, geotechnical exploration boring logs, and field and laboratory test results will be documented in the draft and final geotechnical reports. See task 2.7 below.

**Task 2.7 – Geotechnical Report (Preliminary and Final)**

Consultant will perform geotechnical analysis for soil- and rock-related foundation design criteria. Slope stability will be evaluated for the existing roadway slopes proposed construction access roads, and for construction related earthwork. Consultant will summarize and present the geotechnical design analysis and recommendations in the geotechnical report.

Consultant will prepare Preliminary and Final geotechnical reports that describe the work accomplished and present the results of the various tests and office studies. The geotechnical reports provided will include any or all of the following items as applicable to the Project:

- Site plan and vicinity map
- Logs of borings
- Pavement core logs
- Results of field classification and laboratory tests
- Discussion of regional and site-specific geology, including seismic and slope stability hazards
- Discussion of general site surface and subsurface conditions encountered
- Guidelines for earthwork construction, including recommendations for site preparation, fill placement, and compaction
- Recommended cut and fill slopes for both temporary excavations and permanent conditions
- Mitigation of deleterious/unsuitable soil or fill conditions, if appropriate; and
- Earth pressures for design of retaining walls Pavement design recommendations

**Assumptions:**

- Structures will be designed to the standards described in the current ODOT Bridge Design and Drafting Manual and the ODOT Geotechnical Design Manual.
- The Preliminary Geotechnical Report will contain preliminary recommendations intended for use in the Alternatives Analysis The Final Geotechnical Report will provide design recommendations specific to the replacement scheme selected for construction in Task 3.

**Deliverables:**

- Three copies of the draft geotechnical report for review. Five copies and electronic file of the final geotechnical report (to be included with the 30% PS&E documents in Task 4.1).

**Task 2.8 – Preliminary Right-of-Way Report**

Consultant will prepare a technical memorandum that details the properties in the area that may be affected by the project.

**Assumptions:**

- Properties impacted will be based on the preliminary design including alternatives.

**Deliverables:**

- Memorandum and spreadsheet of property impacts.

**Task 2.9 – Field Investigation Summary Memorandum**

Consultant will prepare a technical memorandum that summarizes the work performed and the findings of the field investigation. The Field Investigation Summary Memorandum will describe the work that occurred, when it occurred, and who performed it. The memorandum will include observed conditions that differ from those anticipated. Anticipated conditions are based on our understanding of the project scope, site constraints, and other project features derived from the pre-design report and information received from BES prior to the establishment of this Statement of Work.

**Assumptions:**

- None

**Deliverables:**

- Draft copy of Field Investigation Summary Memorandum for BES review
- Final Field Investigation Summary Memorandum

**TASK 3 – ALTERNATIVES ANALYSIS**

Following the completion of Task 2 – Information Gathering, the Consultant team will perform a review of the existing pre-design report. The Consultant will then evaluate the pre-design report's recommended alternate (pre-cast concrete arch culvert with open cut construction) considering the new criteria of providing pedestrian and wildlife passage through the culvert. Based on the collected data and analysis from the culvert option, the consultant will then compare the culvert to planning level cost and design feasibility of replacing the existing culvert with a bridge.

**Task 3.1 – Review of Existing Pre-Design Report**

The Consultant will review the existing pre-design report prepared by Tetra Tech in 2007. The initial report was prepared to evaluate several alternatives against hydraulics (stormwater conveyance) and fish passage criteria. The recommended alternative of the pre-design report was a precast concrete arch culvert installed in an open-cut. This report

indicated that several unknowns, including geotechnical conditions, temporary shoring needs, and traffic detour requirements, should be evaluated in final design. The Consultant will utilize the findings from Task 2 – Information Gathering, to supplement and expand upon the existing Pre-Design report.

**Assumptions:**

- None.

**Deliverables:**

- None.

**Task 3.2 – Alternatives Analysis**

After completing the review of the existing Pre-Design Report, the Consultant team will evaluate the arch culvert and another alternate against expanded criteria, including right-of-way impacts, traffic mobility, constructability, and wildlife and pedestrian connectivity (full list provided below). The Alternatives Analysis will consider two alternatives. The two alternatives have been determined by BES and the Consultant during the scope negotiation phase and consist of the following:

- Construct a precast arch culvert with open cut construction technique as described in the Pre-Design Report, but subject to the expanded criteria noted above

Construct a bridge structure with open cut construction subject to the expanded criteria noted At the onset of the Alternatives Analysis phase, the Consultant team will hold a Design Workshop with BES to discuss the design alternatives in general terms and to gain team consensus regarding the evaluation methodology to be used for the remainder of the phase. The desired result of the workshop will to be receive authorization from BES to evaluate the design alternatives listed above. If the workshop results in a list of alternatives that differs from that listed above, an amendment to this Statement of Work may be required.

The Alternatives Analysis will then proceed to compare the following new or expanded project features:

- Traffic Mobility (whether or not traffic will be allowed through the site during construction)
- Constructability (Duration, Access, Contracting)
- Utility Impacts and Relocation Requirements
- Pedestrian and Wildlife Connectivity

and the following features that were considered previously in the Pre-Design Report:

- Construction Cost
- Hydrology/hydraulics
- Fish Passage
- City of Portland road design criteria
- Effects on adjacent riparian zones and wetlands

The Consultant will prepare an Alternatives Analysis memorandum that summarizes the work performed to date and that recommends an alternative to advance to the Final Design phase. The Consultant will present the draft Alternatives Analysis memorandum electronically to BES. Following receipt of the draft Alternatives Analysis memorandum review comments, the Consultant will proceed to finalize the Alternatives Analysis memorandum.

**Assumptions:**

- Only two alternative upgrade schemes plus the “do-nothing” alternate will be subject to the Alternatives Analysis described above.
- One 3-hour meeting as noted above (Design Workshop) will be held with BES staff to establish and refine alternatives and selection criteria
- Following submittal of the final Alternatives Analysis Memorandum, BES will inform the Consultant, in writing, of the alternative BES desires to advance to the Final Design phase.

**Deliverables:**

- Meeting minutes
- Draft Alternatives Analysis Memorandum
- Final Alternatives Analysis Memorandum

**Task 3.3 – Alternatives Analysis Matrix**

Consultant will complete a spreadsheet that identifies the project alternatives under consideration and will identify all decision-making criteria analyzed in the Alternatives Analysis task. This spreadsheet will be expanded, by BES, to a meeting-scale graphic suitable for presentation or projection. This matrix will also be modified, by BES, into a graphic suitable for inclusion into the Alternatives Analysis Report described above. This matrix will provide a basis for comparing the design alternatives and will inform the alternative selection process. It is also intended that the matrix be a clear and easy to understand communication tool for both internal and external stakeholders.

**Assumptions:**

- BES to perform all graphic design, reproduction, mounting, etc., required to advance and to modify the matrix beyond the spreadsheet format provided by the Consultant.

**Deliverables:**

- Spreadsheet basis of Alternatives Analysis Matrix
- Review and comment on Alternatives Analysis Matrix format and content

**Task 3.4 – Basis of Design Report**

The Consultant will prepare a Basis of Design Report that establishes, in technical memorandum format, the design criteria for Final Design of the selected alternative. The report will include, as an appendix, the final Alternatives Analysis memorandum. The Basis of Design Report will include the following elements:

- Introduction / Project Background
- Existing Conditions / Historical Information
- Description of the Selected Alternative
- Civil / Roadway Engineering Design Criteria
- Structural Engineering Design Criteria
- Traffic Considerations and Design Criteria
- Temporary Traffic Control Criteria
- Permanent Signing and Striping Criteria
- Affected Utilities and Relocation Criteria
- Illumination Design Criteria
- Geotechnical Engineering Criteria (Preliminary Geotechnical Report)
- Hydrologic / Hydraulic Engineering / Water Quality Design Criteria
- Environmental / Land Use Permitting Requirements
- Construction Constraints
- Temporary Shoring Criteria
- Anticipated Right-of-Way Needs
- City of Portland Green Street Requirements
- List of Required Roadway Design Exceptions
- CAD Standards

The Consultant will provide draft and final copies of the report. Work on the Basis of Design Report may begin prior to the commencement of other Task 3 activities in order to establish criteria that may be needed to advance and/or develop alternates.

**Assumptions:**

- Modifications to the Basis of Design Report (i.e., changes to project goals, design criteria, construction constraints, etc.) following BES' acceptance of the final Basis of Design Report will necessarily require an amendment to this Statement of Work.

**Deliverables:**

- Draft Basis of Design Report
- Final Basis of Design Report

***TASK 4 – FINAL DESIGN***

Consultant will advance the replacement scheme selected at the conclusion of the Alternatives Analysis task to 100% construction contract documents as part of the Final Design phase. Construction contract documents will consist of plans, technical

specifications, and estimate of probable construction cost (PS&E). In addition, the Consultant will produce a Final Design Report, conduct constructability reviews following the 30%, 60%, and 90% PS&E submittals, and will provide limited services during the bidding phase.

Final Design will include construction PS&E for the following project elements:

- Culvert replacement structure and appurtenant structures (e.g., retaining walls)
- Geotechnical data sheet
- Pavement design
- Roadway reconstruction including roadway improvements required by Portland Bureau of Transportation
- Temporary traffic control
- Permanent signing
- Permanent striping
- Illumination (development of the Illumination will include a photometric analysis and brief summary of light levels and assumptions for the intersection of SW Arnold St at SW Boones Ferry Road. The analysis will follow City guidelines for illumination levels).
- Existing conditions/Demolition plans
- Construction staging plans
- Temporary shoring plans (temporary shoring will be bidder-design elements)
- Utility protection and/or relocation plans
- Stream channel/natural resource restoration or improvement identified as mitigation for the project or as required for fish passage enhancement or for hydraulics.
- Grading and drainage (including on-site treatment/Green Street requirements)
- Temporary erosion control
- Revegetation of areas disturbed by construction access and activity. Irrigation design is not included in this work.
- Trail design to connect the existing informal trail upstream of the existing culvert to the North Creek Trail trailhead located approximately 575 feet south of SW Arnold St. This connection will include a pedestrian and wildlife corridor through the new structure, trail switchbacks and/or a stairway structure at the east side of the roadway fill, and a shoulder trail or sidewalk south of the stream crossing and ending at the North Creek Trail. This statement of work assumes that sufficient public right-of-way exists to construct the trail as stated.

**Assumptions:**

- Right-of-Way plans for inclusion in the contract documents will be prepared by BES.

**Task 4.1 – 30% Design (PS&E)**

The Consultant will develop preliminary construction documents to the 30% design stage. 30% documents will be submitted to BES for review and comment, and to assist in the permit process. Review documents will consist of drawings, a specification outline, and a preliminary opinion of probable construction cost.

**Assumptions:**

- The alternative selected at the conclusion of the Task 3 will be the only alternative advanced to the 30% stage and beyond.
- Environmental mitigation requirements addressed by Final Design will be limited to revegetation of areas disturbed by construction access and activity, and stream and natural resource restoration associated with scour repair activities.
- A memorandum summarizing the photometric analysis for illumination will be prepared to document the achieved light levels at the intersection of SW Arnold St/SW Boones Ferry Rd.

**Deliverables:**

- 30% design documents in Adobe PDF, MS Word, and MS Excel formats.
- Draft Illumination Photometric Analysis Memorandum

**Task 4.2 – 60% Design (PS&E)**

The Consultant will develop construction documents to the 60% design stage. 60% documents will consist of plans, specifications, a bid item list, an opinion of probable construction cost, and an anticipated construction schedule.

**Assumptions:**

- Same as for Task 4.1.
- The draft illumination photometric analysis memorandum will be revised based on the 30% review.

**Deliverables:**

- 60% design documents in Adobe PDF, MS Word, and MS Excel formats.
- Final Illumination Photometric Analysis Memorandum

**Task 4.3 – 90% Design (PS&E)**

The Consultant will develop construction documents to the 90% design stage. 90% documents will consist of plans, specifications, a bid item list, an opinion of probable construction cost, and an updated anticipated construction schedule.

**Assumptions:**

- Same as for Task 4.1.

**Deliverables:**

- 90% design documents in Adobe PDF, MS Word, and MS Excel formats.

#### Task 4.4 – 100% Design (PS&E and Final Reports)

The Consultant will develop construction documents to the 100% design stage. 100% documents will consist of plans, specifications, a bid item list, an opinion of probable construction cost, and an anticipated construction schedule. 100% documents will be sealed as appropriate for jurisdictional engineering review.

##### Assumptions:

- 100% PS&E submittal is final, ready for bid documents
- There will be no revisions to the documents after submittal of 100% PS&E and prior to bidding, except to respond to City of Portland engineering plan review comments.
- Same as for Task 4.1.

##### Deliverables:

- 100% sealed design documents in Adobe PDF, MS Word, and MS Excel formats.
- 100% sealed design documents in full-size paper copies. Quantities sufficient for submittal to City of Portland Bureau of Development Services (BDS).
- Structural Calculations
- Final Geotechnical Report
- Final Traffic Report
- Final Drainage Report

#### Task 4.5 – Final Construction Documents PS&E

The Consultant will develop Final Construction Documents following BES final review and which incorporate changes made to the documents following BDS review. Final Construction Documents will consist of plans, specifications, a bid item list, an opinion of probable construction cost, and an anticipated construction schedule. Final Construction Documents will be sealed as appropriate and "ready for bid."

##### Assumptions:

- Final Construction Document submittal is final, ready for bid documents
- There will be no revisions to the documents after submittal of Final Construction Documents and prior to award of the contract, except as described in Assistance During Bidding task below.
- Same as for Task 4.1.

##### Deliverables:

- Final Construction Documents in Adobe PDF, MS Word, and MS Excel formats.
- Final Construction Documents in full-size vellum format.

#### Task 4.6 – Constructability Reviews at 30%, 60% & 90%

Following delivery of each of the 30%, 60%, and 90% PS&E documents, Consultant will organize a constructability review of the project. The intent of this review will be to confirm the logistical feasibility of the design, to identify construction project challenges, and to

identify the likely methods of construction to aid in preparing project narratives for permitting purposes. Another goal of the constructability reviews will be to align the contract documents with the BES construction management team's expectations in order to produce a highly coordinated, biddable, and manageable set of contract documents.

**Assumptions:**

- BES staff will participate in the Constructability Reviews. BES natural resources staff will participate in the Constructability Review held following the 30% stage. BES construction management staff will participate in the Constructability Reviews held at the following the 60% and 90% submittals.
- Constructability reviews will be held in meeting format (in-person).
- Up to three meetings will be held; each meeting is limited to 2 hours in duration.

**Deliverables:**

- Constructability Review meeting minutes.

**Task 4.7 – Assistance During Bidding**

During the bid phase of the project, Consultant will assist BES by responding to bidder inquiries and contributing to addenda that BES may issue. Consultant assumes that Assistance During Bidding will require very little effort on the part of the Consultant and is limited to the number of hours shown on the fee estimate spreadsheet. Preparation of a conformed set of construction documents or an "issued for construction" set is not included in this scope of services.

**Assumptions:**

- Level of effort is limited to the hours shown on the fee estimate spreadsheet.
- Issuance of a conformed set or "issued for construction" set of documents is not included in this scope of services.

**Deliverables:**

- Responses to bidder inquiries and assistance with preparation of addenda as required, but limited to the number of hours shown on the fee estimate spreadsheet.

**TASK 5 – CONSTRUCTION SERVICES**

Services provided during construction allows for continuity of the design team through the construction process. Services to be provided by the Consultant during construction will include shop drawing review, submittal review, and responses to Contractor requests for information. Services will also include site visits, attendance at project meetings, and preparation of record drawings. This statement of work and the associated fee estimate assume that the construction period will be no longer than six months (26 weeks). Because the level of effort required during construction may vary due to the general contractor selected for construction, conditions present in the field that were unforeseen during the design phase, and for other reasons, this SOW may not include all tasks required during the construction period and adjustments to the scope and/or the associated fee may be required.

### Task 5.1 – Construction Meetings

During the construction phase of the project, Consultant will assist BES by attending construction meetings up to the number of meetings indicated in the table below. This SOW assumes that the Consultant will attend half of the weekly meetings, the preconstruction meeting, and a meeting toward the end of construction that may be called the punchlist meeting.

#### Assumptions:

- Level of effort is limited to the hours shown on the fee estimate spreadsheet.
- The number of meetings attended, by team member firm, will not be more than that indicated in the table below.

#### Deliverables:

- None

### Task 5.2 – Submittal Reviews

Consultant will review contractor submittals. The Consultant will handle all submittals directed to the design team from BES construction management staff. Consultant will direct submittals to subconsultants for primary review as appropriate, in which case Consultant will be secondary reviewer.

#### Assumptions:

- Level of effort is limited to the hours shown on the fee estimate spreadsheet.
- The number of submittal reviews required, by team member firm, will not be more than that indicated in the table below.

#### Deliverables:

- Submittal responses in electronic (Adobe pdf) format.

### Task 5.3 – RFIs

Consultant will review and respond to contractor requests for information (RFIs). The Consultant will handle all RFIs directed to the design team from BES construction management staff. Consultant will direct RFIs to subconsultants for primary review as appropriate, in which case Consultant will be secondary reviewer.

#### Assumptions:

- Level of effort is limited to the hours shown on the fee estimate spreadsheet.
- The number of RFI responses required, by team member firm, will not be more than that indicated in the table below.

#### Deliverables:

- RFI responses in electronic (Adobe pdf) format.

### Task 5.4– Field Visits

Consultant will visit the construction site to perform structural observations, to review construction, and to provide assistance when requested by BES construction management staff. The number of field visits assumed is shown in the table below. The level of effort for

Geotechnical observations during construction assumes that the culvert will be founded on spread footings and that observation of shoring installation will not be required. Geotechnical observations will be limited to observing the conditions of the spread footing support and embankment construction.

**Assumptions:**

- Level of effort is limited to the hours shown on the fee estimate spreadsheet.
- The number of field visits required, by team member firm, will not be more than that indicated in the table below.

**Deliverables:**

- Site visit reports in electronic (Adobe pdf) format.

	Weekly Construction Meetings + Precon. Mtg. + Punchlist Mtg. 28 total meetings 1 Hour Duration + Travel to/from # Mtgs Attended	Construction Field Visits 6 Month Const. Period Assumed 1 Hour Duration + travel to/from site + Site Visit Report # Mtgs Attended
BergerABAM	15	26
Henderson	4	6
GRI	2	See Scope for Geotech Field Work
DKS	3	2
HMA	0	0
Jacobs	4	2

	Contractor Submittals 30 Total Submittals Assumed B/A Handles all Consultant Submittals # Submittals as Primary Reviewer	Contractor RFIs 20 total RFIs Assumed B/A Handles all Consultant RFIs # RFIs as Primary Responder
BergerABAM	17	16
Henderson	4	1
GRI	3	1
DKS	5	1
HMA	0	0
Jacobs	4	1

**Task 5.5– Record Drawings**

Consultant will prepare record drawings based on contractor redlines. Consultant will not provide as-built or as-constructed drawings. Consultant will update the design AutoCAD files based on information received from the contractor in the form of marked-up construction drawings. Consultant will provide updated AutoCAD drawings to BES staff for creation of a record document set.

**Assumptions:**

- Contractor provided marked-up construction drawings will be the only source of information from which to update the project AutoCAD files.
- Field visits to confirm the contractor's provided information will not be required.

**Deliverables:**

- AutoCAD files containing updated drawings.

**Task 5.6-- Project Management**

Consultant will provide project management to the consultant team during the construction phase. These project management services will include coordination of the consultant team's activities, communication with BES, and invoicing.

**Assumptions:**

- Level of effort is limited to the hours shown on the fee estimate spreadsheet.

**Deliverables:**

- Construction phase invoices.

END OF STATEMENT OF WORK

## APPENDIX A – ASSUMED SHEET COUNT

The level of effort (fee) associated with the Statement of Work assumes that the following drawings will be produced during the Final Design task. If more sheets are required than are listed below, an amendment to the level of effort will be required. The sheet count below is intended to list the number and nature of the drawings that will be produced during final design. The numbering system, order of drawings, or title of drawings may change.

Dwg No.	Title
G-01	COVER SHEET AND VICINITY MAP
G-02	SHEET INDEX & NOTES
G-03	GENERAL NOTES
G-04	LEGEND AND ABBREVIATIONS
G-05	EXISTING SITE CONDITIONS
G-06	EASEMENT BOUNDARIES
ST-01	CONSTRUCTION ACCESS/STAGING PLAN
ST-02	CONSTRUCTION ACCESS/STAGING PLAN
D-01	DEMOLITION PLAN
D-02	DEMOLITION DETAILS
D-03	DEMOLITION DETAILS
EN-01	EROSION CONTROL PLAN
EN-02	EROSION CONTROL PLAN
EN-03	EROSION CONTROL DETAILS
EN-04	EROSION CONTROL DETAILS
EN-05	DEWATERING PLAN
EN-06	CHANNEL PLAN
EN-07	CHANNEL PROFILE
EN-08	CHANNEL PROFILE
EN-09	CHANNEL SECTIONS
EN-10	CHANNEL SECTIONS
EN-11	CHANNEL DETAILS
EN-12	CHANNEL DETAILS
C-01	SITE PLAN
C-02	ROADWAY PLAN AND PROFILE
C-03	ROADWAY PLAN AND PROFILE
C-04	ROADWAY AND DRIVEWAY PROFILES
C-05	ROADWAY TYPICAL SECTIONS
C-06	ROADWAY TYPICAL SECTIONS
C-07	ROAD SECTION AND CULVERT PROFILE
C-08	CULVERT INLET ELEVATION
C-09	CULVERT OUTLET ELEVATION
C-10	CIVIL DETAILS
C-11	CIVIL DETAILS
LA-01	LANDSCAPE SCHEDULE AND NOTES
LA-02	ROADWAY REVEGETATION PLAN
LA-03	ROADWAY REVEGETATION PLAN
LA-04	TRAIL AND SITE DETAILS
LA-05	LANDSCAPE DETAILS

TC-01	TEMP TRAFFIC CONTROL - ADVANCE SIGNING
TC-02	TEMP TRAFFIC CONTROL - DETOUR
TC-03	TEMP TRAFFIC CONTROL - DETOUR
TC-04	TEMP TRAFFIC CONTROL - STAGING
TC-05	TEMP TRAFFIC CONTROL - STAGING
TC-06	TEMP TRAFFIC CONTROL - STAGING
TC-07	TEMP TRAFFIC CONTROL - STAGING
TC-08	TEMP TRAFFIC CONTROL - SIGN DETAILS
TC-09	PERMANENT SIGNING
TC-10	PERMANENT SIGNING
TC-11	PERMANENT SIGNING DETAILS
TC-12	PERMANENT SIGNING - STANDARD DETAILS
TC-13	PERMANENT SIGNING - STANDARD DETAILS
TC-14	PERMANENT SIGNING - STANDARD DETAILS
TC-15	PERMANENT SIGNING - STANDARD DETAILS
TC-16	PERMANENT STRIPING
TC-17	PERMANENT STRIPING
TC-18	PERMANENT STRIPING - STANDARD DETAILS
TC-19	PERMANENT STRIPING - STANDARD DETAILS
TC-20	PERMANENT STRIPING - STANDARD DETAILS
TC-21	ILLUMINATION PLAN
TC-22	ILLUMINATION WIRING SCHEMATIC
TC-23	ILLUMINATION STANDARD DETAILS
U-01	UTILITY PLAN
U-02	UTILITY PLAN
U-03	UTILITY PROFILES
U-04	UTILITY PROFILES
U-05	UTILITY DETAILS
U-06	UTILITY DETAILS
FD-01	FOUNDATION DATA SHEET
S-01	STRUCTURAL NOTES
S-02	STRUCTURAL NOTES
S-03	SPECIAL INSPECTION SCHEDULE
S-04	FOUNDATION PLAN
S-05	CULVERT SECTION
S-06	INLET WALL PROFILE
S-07	OUTLET WALL PROFILE
S-08	TRAIL STRUCTURE PLAN
S-09	TRAIL STRUCTURE ELEVATIONS
S-10	DETAILS
S-11	DETAILS
S-12	DETAILS
S-13	DETAILS

82 total sheets assumed.