Washington State Department of
Enterprise Services
Engineering & Architectural Services

ADDENDUM 4 REVISED

December 9, 2019

The Washington State Department of Enterprise Services
Eastern Regional Office
Vehicle and Storage Building
Project No. 2019-537
Washington State Department of Ecology

This addendum consists of five (5) items:

1. RFQ Updates
2. Attachment 2 – General Conditions Updates
3. Attachment 3 – Attachment B Updates
4. Attachment 11 – Price Factor Form Updates
5. Addition of Reference Documents

This addendum does not amend the due date or time for submission of the RFP Submission. The RFP Submission continues to be due no later than 3:00 pm on Monday, December 16, 2019.

1. **RFQ Updates**
   a. At Section 5 ADD "Attachment B, Appendix A – Responsibilities Matrix" to Attachment 3. See attached Appendix A. **Appendix A has been attached to Addendum 4 REVISED.**
   b. At Section 5 ADD "Attachment B, Appendix B – Milestone Deliverables Requirements" to Attachment 3. See attached Appendix B. **Appendix B has been attached to Addendum 4 REVISED.**
   c. At Section 5 ADD "Attachment B, Appendix C – BIM Requirements" to Attachment 3. See attached document. **Appendix C has been attached to Addendum 4 REVISED.**

2. **Attachment 2 - General Conditions Updates**
   a. At 5.4.A CHANGE the last sentence to read "The bonds shall be provided when construction is added to the Contract."
   b. At 6.3.A CHANGE to read "WSST will be applied on the Contract and GMP Amendment."
   c. At 6.5.A Add to the end of the paragraph "to the Contract."
   d. At 14.5 CHANGE heading to "**Proposal & Updates**."
   e. At 14.5 CHANGE the first sentence of the first paragraph to read "In response to the RFP, the Proposer must prepare and provide a "Diverse Business Inclusion Plan, and may use Attachment 15 as a guidance or a template."
   f. At 14.5 ADD third paragraph that reads "Status updates with current details to be provided with GMP Proposal and at 100% Construction Documents."
   g. At 14.7 CHANGE heading to "**Information for Finding Certified Firms**."

h. At 14.7 DELETE “Maintenance of Records;” and the associated paragraph in its entirety.
i. At 14.8 DELETE “Advertisements:” and the associated paragraph in its entirety.
j. At 14.9 DELETE “Non-Discrimination:” and the associated paragraph in its entirety.

3. Attachment 3 – Attachment B Updates

a. At 1.02.B CHANGE “Owner’s/DES’Owner’s/DES’/DES’\” to read “Owner’s/DES.”
b. At 1.02.C CHANGE at second line “Owner’s/DES’Owner’s/DES’/DES’” to read “Owner’s/DES.”
c. At 1.02.D CHANGE paragraph to read “Design Builder will study the sustainability objectives as stated in the Capital Budget language and DES Sustainable Design Guidelines and shall achieve USGBC LEED Silver certification.”
d. At 1.02 ADD “I. Design-Builder will study the efficiency and environmental performance objectives for new facility construction as stated in Executive Order 18-01 (Attachment 7) and will work with the Owner/DES to establish project direction.
e. At 1.03.C.1 DELETE paragraph in its entirety.
f. At 1.03.C.2 CHANGE paragraph to read “Review Owner/DES provided survey (topo and boundary) and identify any deficiencies. If Design-Builder identifies deficiencies, the Design-Builder will undertake additional survey work to provide necessary data and information for project design including sufficient information to evaluate design alternatives.”
g. At 1.03.C.3 CHANGE paragraph to read “Review Owner/DES provided archaeological site survey and identify any deficiencies. If Design-Builder identifies deficiencies, the Design-Builder will undertake additional archaeological site survey work to provide necessary data and information for project design including sufficient information to evaluate design alternatives.”
h. At 1.03.C.4 CHANGE paragraph to read “Review Owner/DES provided soils sampling, testing and analysis and identify any deficiencies. If Design-Builder identifies deficiencies, the Design-Builder will undertake additional soils testing, sampling, testing and analysis to provide necessary data and information for project design including sufficient information to evaluate design alternatives. .
i. At 2.04.B.1 DELETE “(DES to provide guidelines for PMs on when we want these.)”
j. At 2.04.B.1.a DELETE “50% Schematic Design.”
k. At 2.04 B.1.b CHANGE “100% Schematic Design” to “20% Design Documents.”
l. At 2.04 B.1.c DELETE “60% Design Development.”
m. At 2.04 B.1.d CHANGE “100% Design Development (With GMP Proposal)” to “45% Design Documents (With GMP Proposal).”
n. At 2.04.B.2 DELETE “(DES will develop a checklist form for projects).”
o. At 2.04.B.3 CHANGE paragraph to read “Design-Builder shall schedule the review of the Design Document/Construction Packages such that the review of each package submitted is of reasonable scope for prompt and thorough review by the Owner/DES.”
p. At 2.04.C.2 DELETE “(Insert level of design expected for Basis of Design Documents).”
q. At 2.04.C.2.a DELETE “50% Schematic Design.”
r. At 2.04.C.2.b CHANGE “100% Schematic Design” to “ 20% Design Documents.”

s. At 2.04.C.2.c DELETE “60% Design Development.”
t. At 2.04.C.2.d CHANGE “100% Design Development” to “45% Design Documents (With GMP Proposal).”
u. At 4.01.1 CHANGE to read “70% Design Documents for review and approval by the Owner/DES.”
v. At 4.01.2 CHANGE to read “100% of Design Documents for review and approval by the Owner/DES.”and “ . . . after submission of the 100% Design Documents until it receives the Owner’s/DES’ written approval.”

4. **Attachment 11 – Price Factor Form Updates**
   a. At Project Duration section CHANGE paragraph to read “The Proposer shall assume a Preliminary Contract Award in February 2020 and Substantial Completion in December 2020.”
   b. At Contract and Bonds section Change paragraph to read “If selected based on this solicitation process, the undersigned agrees to execute the contract(s) for the work and to furnish bonds and evidence of insurance, as required by the Contract Documents.”
   c. REPLACE Attachment 11 – Price Factor Form with REVISED Price Factor Form included with this Addendum. **The Price Factor Form continues to be attached to Addendum 4 REVISED.**

5. **Addition of Reference Documents**
   a. ADD STRATA Geotechnical Engineering Report, dated March 2019. **The STRATA Geotechnical Engineering Report has been attached to Addendum 4 REVISED.**

# # #

Attachment B, Appendix A - Responsibilities Matrix
Project:
Project no.:
NOTE: Nothing in this document supersedes or modifies the Contract or the General Conditions

Responsibility	By Design Builder	By Owner	Remarks
Site Investigation			
Site Survey		X	Initial findings only. Analysis and interpretation by Design-Builder
Geotechnical Soils Report		X	Initial findings only. Analysis and interpretation by Design-Builder
Soil Borings & Findings		X	Initial findings only. Analysis and interpretation by Design-Builder
Asbestos & Hazardous Material Report & Survey	X		
Survey and locates of existing utilities		X	Initial findings only. Analysis and interpretation by Design-Builder
Design & Consulting Fees (Including Construction Administration)			
Architectural Design Fees	X		
Structural Engineering Fees	X		
Structural Engineering for Construction Equipment	X		
Shoring Design	X		
Civil Engineering & Existing Conditions Survey	X		
Landscaping & Irrigation	X		
Acoustical Consultant	X		
Industrial Engineer Consultant	X		
Elevator Design	X		
Mechanical Design	X		
Mechanical Design Assist & Engineering	X		
Mechanical Design-Build Engineering	X		
Energy / Life Cycle Costing	X		
Curtainwall Design	X		
Curtainwall Final Design & Engineering	X		
Utility Rebate Coordination	X		
Electrical Design	X		
Electrical Design Assist & Engineering	X		
Street Lighting & Signalization	X	X	
Temporary Power Design	X		
Waterproofing & Roofing (Envelope) Consultant X	X		
Document Reproduction	X		
Graphics & Wayfinding (Interior and Exterior)	X		
Telecommunications Design	X		
Security Design	X		
Sustainability/LEED	X		
Door/Hardware Consultant	X		
Indoor Air Quality	X		
Interior Design	X		

Attachment B, Appendix A - Responsibilities Matrix
Project:
Project no.:
NOTE: Nothing in this document supersedes or modifies the Contract or the General Conditions

Audio/Visual, Instructional Media Design	X		
Acoustical Consultant	X		
Responsibility	**By Design Builder**	**By Owner**	**Remarks**
Renderings, Presentations, Models, etc	X		
Record Documents	X		
Testing & Balancing	X		
Traffic Consultant	X		
Sustainability Documentation & Registration Fees	X		
Permit Cost			
Development or mitigation fees	X		
Clear and Grading Permit Fees	X		
General Building Permit Fees	X		
Shoring Permit Fees	X		
Street Use Permits & Use Fees	X		
Shoring Permit (as applicable)	X		
Mechanical Plan Check & Permit Fees	X		
Fire Protection Plan Check & Permit Fees	X		
Puget Sound Clean Air Agency Plan Check and Permit Fees			N/A
Electrical Plan Check & Permit Fees	X		
Testing and Inspection			
General Comment		X	Owner reserves right to order additional testing paid by owner
Geotechnical Inspection	X		
Hazardous Waste	X		
Noise & Vibration Monitoring	X		
Structural Inspection - concrete, steel & fireproofing		X	Authorities having jurisdiction req'd inspections alone paid by owner
Curtainwall Performance Test	X		
On site Curtainwall Testing Fees	X		
Curtainwall "u" value Testing	X		
Air Barrier / Envelope Leakage Testing	X		
Functional and start up testing	X		
Inspector overtime	X		
Commissioning Agent	X		
Utility Connection Fees			
Electrical Design & Installation - Building Service	X		
Design & Installation - Temp Power	X		
Temporary Power Monthly Usage Fees (Power Bills)	X		
Street Lighting	X		
Water Department - Fees and connection	X		

Attachment B, Appendix A - Responsibilities Matrix
Project:
Project no.:
NOTE: Nothing in this document supersedes or modifies the Contract or the General Conditions

Steam Connection			N/A
Telephone Connections	X		
Telephone Equipment	X		
Data & Telephone Cabling	X		
Responsibility	**By Design Builder**	**By Owner**	**Remarks**
FF&E			
Security System, rough-in	X		
Security System, cabling and devices	X		
Audio visual, rough-in	X		
Audio visual cabling	X		
Audio visual equipment	X		
Owner Equipment Relocation	X		
Public address, cabling and equipment	X		
Clock & program, rough-in	X		
Clock & program, cabling and equipment	X		
Building Signage	X		
Window Blinds	X		
Parking Equipment	X		
Furnishings			Unless noted otherwise
Site Furniture			
Trash Compactor/Recycling Equipment		X	
Post Occupancy			
Post Occupancy Permits	X		
Elevator Subcontractors Warranty Maintenance			N/A
Maintenance of Building Systems		X	
Contractor's Warranty	X		
Licensed Surveyor - Record Survey	X		
Scope of Work			
Off site improvements	X		
Traffic Signalization	X		
Asbestos Abatement / Hazardous Material Remediation	X		
Site Work Hazardous Waste / Contaminated Soil Removal & Disposal	X		
Licensed Surveyor - Shoring Monitoring	X		
Monthly Electrical Usage Costs	X		
Project office Job Office / Site Laydown Area	X		
Progress Photos	X		
Final Cleaning	X		
Final Window Cleaning	X		
Printing Contract Documents & Approved Shop Drawings	X		
Moving/Relocation/Connection of Existing Owner Equipment	X		

Attachment B, Appendix A - Responsibilities Matrix
Project:
Project no.:
NOTE: Nothing in this document supersedes or modifies the Contract or the General Conditions

Insurance, Bonds & Taxes			
Washington State Sales Tax		X	
Responsibility	**By Design Builder**	**By Owner**	**Remarks**
Builder's Risk Insurance	X		
Design Contingency	X		
Change Order Contingency	X		
Payment & Performance Bond - General Contractor	X		
Payment & Performance Subcontractors	X		
All insurance required per contract including E & O Insurance Premiums	X		

AUTHORIZED ACCEPTANCE

_____

Design-Build Contractor **Date**

_____

Agency **Date**

_____

E&AS Project Manager **Date**

Attachment B, Appendix B: Milestone Deliverables Requirements

PHASE ONE

100 Percent Schematic Design/20% Design Documents

Schematic Design shall define the general scope, scale and functional relationships of the project. The Schematic Design Submittal shall provide sufficient information for the Owner to understand the main design concepts. The submittal shall reflect approximately 20 percent of the overall design. The list below is not intended to be comprehensive, the Designer Builder shall expand the requirements as required to meet a 20 percent overall design submission.

A. Provide a preliminary description of the following:
    1. Define the general scope
    2. Building systems (structural, mechanical, HVAC, plumbing and electrical)
    3. Interior and exterior finishes
    4. Building site Zoning restrictions if any
    5. Code requirements
    6. Space planning and adjacency requirements
B. Provide a detailed description of the following:
    1. Site Survey
    2. Geotechnical studies
    3. Hazardous material survey
    4. Preliminary budgeting
    5. Preliminary schedule
C. Provide strategies for all equipment and systems relating to building services such as security and fire alarms and defines the technical requirements for phones, data, cable and audio-visual needs.
D. The schematic drawings shall include:
    1. Site plans showing:
        i. Location of buildings
        ii. Existing and proposed utilities
        iii. Proposed circulation
    2. Floor plans showing:
        i. Key dimensions
        ii. Circulation
        iii. Interior partitions, door and window locations
    3. Conceptual roof plan
    4. Conceptual building elevations

E. All drawings submitted shall be dated, show scale and orientation of drawing, and have the DES project name and project number.

100 Percent Design Development/45% Design Documents

In addition to the requirements in the Schematic Design Submittal, the following shall, as a minimum, be provided as part of the Design Development submittal. Design Development shall further develop the design approved in the Schematic Design Phase. The Design Development Phase should provide definite design conclusions based on the approved Schematic Design framework and represent approximately 45 percent of design completion. The list below is not intended to be comprehensive, the Designer Builder shall expand the requirements as required to meet a 45 percent overall design submission.

A. Site/Civil Plan-
    1. Identify the following on the drawings:
        a. Limits of the Work
        b. Building setbacks and separations
        c. Footprints of building
        d. Water distribution and fire protection
        e. Sanitary sewer collection and conveyance
        f. Vehicular and Pedestrian Access and Circulation
        g. Parking Requirements
        h. Include utility corridors for major lines, grouped together
        i. Site ADA Requirements
        j. Landscape areas (existing and new)
        k. Expansion and Phasing options (as applicable)
        l. Identify existing utility locations
        m. Zoning Information

    2. Site/Civil Design Narrative describing:
        a. Codes, standards and local Zoning amendments
        b. Overall site features
        c. Utilities connections and service
        d. Vehicular circulation and parking areas, including roadwork in State Highway right-of-way, if any.
        e. Pedestrian circulation: secure and non-secure
        f. Landscaping
        g. Construction access and TESC

B. Architectural
    1. Floor Plans for the Building-Include development of the following:
        a. Overall building dimensions and vertical and horizontal gridlines
        b. Indicate major equipment, both Design Builder supplied and Owner supplied.
        c. Indicate any specialty equipment, both Design Builder supplied and Owner supplied.
        d. Indicate wall types.
        e. Indicate full height wall locations.

    2. Develop the following to the appropriate level:
        a. Elevations, both interior and exterior
        b. Reflected ceiling plans; include types of ceiling construction
        c. Wall, floor and ceiling treatments
        d. Roof plans, indicating slopes

e. Room finish schedule
f. Wall sections
g. Minimum one building section

3. LEED Checklist
4. Code standards
5. Architectural Design Narrative:
    a. Confirm comparison with RFP Document; note any deviations.
    b. Overall building features
    c. Adjacency requirements
    d. Program functional space
    e. Interior and Exterior finishes

C. Structural
    1. Preliminary Framing plans.
    2. Preliminary foundation plans.
    3. Structural Design Narrative

D. Mechanical and Plumbing
    1. Design Loads, new and remodeled:
        a. Mechanical
        b. Plumbing
    2. Provide draft ELCCA and work plan.
    3. Preliminary HVAC drawings, indicating proposed equipment locations
    4. Preliminary Plumbing drawings
    5. 100 Percent Design Development Mechanical and Plumbing Design Narrative

E. Electrical
    1. Preliminary Site electrical plan
    2. Preliminary Site lighting plan
    3. Preliminary power plans
        a. Include electrical room, serving the building and site.
        b. Preliminary lighting plans
    4. Electrical Design Narrative

F. Special Systems and Telecommunications
    1. Preliminary Site special systems drawings
    2. Preliminary special systems drawings
    3. Telecommunications shall adhere to design submittals described within the TDIS standards.
    4. Special Systems Design Narrative

PHASE TWO

50 Percent Construction Documents/70% Design Documents

In addition to the required Design Development Submittal in Phase 1, the following shall, as a minimum, be provided as part of the Construction Document Submittal. Construction Documents shall further develop the design approved in the Design Development Phase. This submittal shall reflect 50 percent Construction Document, and shall define fully the scope for the project within the agreed GMP. The 50 percent Construction Document Phase should provide definite design conclusions based on the approved Design Development framework and represent approximately 70 percent of design completion. The list below is not intended to be comprehensive, the Designer Builder shall expand the requirements as required to meet a 70 percent overall design submission.

A. Site/Civil Plan-
   1. Identify the following on the drawings:
      a. Limits of the Work
      b. Building setbacks and separations
      c. Footprints of building
      d. Grading and preliminary earthwork calculations
      e. Drainage, addressing conveyance, treatment and disposal
      f. Water distribution and fire protection
      g. Sanitary sewer collection and conveyance
      h. Vehicular and Pedestrian Access and Circulation
      i. Preliminary pavement design
      j. Parking Requirements
      k. Fire Department Access and Circulation
      l. Utility corridors and spatial distribution
      m. Include utility corridors for major lines, grouped together
      n. Site ADA Requirements
      o. Landscape areas (existing and new)
      p. Expansion and Phasing options (as applicable)
      q. Existing utility locations
      r. Zoning Information
      s. Coordinated new utility service locations (i.e., utility transformers, exterior generators, etc.)

   2. Update Site/Civil Design Narrative; finally describing:
      a. Codes, standards and local Zoning amendments
      b. Overall site features
      c. Grading
      d. Drainage (storm water runoff, retention, detention)
      e. Utilities connections and service
      f. Vehicular circulation and parking areas, including roadwork in State Highway right-of-way, if any.
      g. Pedestrian circulation: secure and non-secure
      h. Coordinate site lighting with electrical
      i. Landscaping, including irrigation
      j. Construction access and TESC

B. Architectural

1. Floor Plans for the Building. Update Design Development Submittal plans to include design revisions required per review comments and constructability review. Include development of the following:
    a. Add dimensions for all interior and exterior spaces.
    b. Call out room numbers and program names.
    c. Indicate major equipment and location, both Design Builder supplied and Owner supplied.
    d. Indicate any specialty equipment and location, both Design Builder supplied and Owner supplied.
    e. Call out wall types and show details
    f. Indicate full height wall locations

2. Develop the following to the appropriate level:
    a. Elevations, both interior and exterior
    b. Reflected ceiling plans; include types of ceiling construction and security enclosures.
    c. Wall, floor and ceiling treatments
    d. Detailed room finish schedule
    e. Wall sections
    f. Roof plans, indicating slopes and show drainage
    g. Multiple building section

3. Code analysis: Update Design Development Submittal.
4. Colors and Materials: Create a minimum of three design schemes for colors and materials.
    a. Provide color boards and samples, and present to the Owner for review and approval.

5. Outline specifications
6. Update Architectural Design Narrative; include revisions to the narrative based on Design Development review comments, and on requirements necessitated by development of the design.
        i. Confirm comparison with RFP Document and Design Development Submittal; note any deviations.
        ii. Include catalog cut-sheets for all materials and equipment selections.

C. Structural
    1. Update Structural Design Narrative
    2. Framing plans with preliminary member sizes for main members
    3. Preliminary foundation plans
    4. Special framing for architectural features and large open areas
    5. Outline specifications

D. Mechanical and Plumbing
    1. Update Mechanical Design Narrative. Include:
        a. Design Loads, new and remodeled:
            i. Mechanical
            ii. Plumbing
        b. Include catalog cut-sheets for materials and equipment selections.

2. Preliminary HVAC drawings, indicating all equipment locations. Include equipment sizes and model numbers, and required chase and plenum clearances.
3. Preliminary Plumbing drawings, indicating all equipment locations. Include equipment sizes and model numbers, and required chase and plenum clearances.
4. Submitted completed Life Cycle Cost Analysis with work plan
5. Outline specifications
6. Update Mechanical Design Narrative. Include:
    a. Design Loads, new and remodeled:
        i. Mechanical
        ii. Plumbing

E. Fire Protection
1. Preliminary fire protection plan
    a. Show location of stand pipe, pumps, main sprinkler lines
    b. Indicate location of wet and dry systems
2. Provide fire flow analysis and confirm the flow meets the local jurisdiction requirements.
3. Outline specifications

F. Electrical
1. Update Design Development Electrical Design Narrative.
2. Include catalog cut-sheets for materials and equipment selections.
3. Preliminary Site electrical plan
4. Preliminary Site lighting plan
5. Preliminary power plans
    a. Include electrical room, serving the building and site, including equipment layout.
6. Preliminary lighting plans
    a. Calculations based on light fixture layout and coordinated with Architectural
7. Outline specifications

G. Special Systems and Telecommunications
1. Update Design Development Special Systems Design Narrative.
    a. Include update of materials and equipment selections.
    b. Include how the Agency standards are being followed.
2. Preliminary Site special systems drawings
3. Preliminary special systems drawings.
    a. Equipment layouts for all control rooms and equipment rooms.
4. Telecommunications shall adhere to design submittals described within the TDIS standards.
5. Outline specifications.

6. LEED Credit Review: Update LEED Checklist

Design Submittal: 100 Percent Construction Documents/100% Design Documents

A. 100 percent construction documents shall be submitted to the Owner for review prior to documents being designated as complete. Design Builder shall address Owner's comments and concerns before documents are considered final. Once 100 percent Construction Documents are the final, a comprehensive design submittals, incorporating Owner's review comments from all previous submittals, for which the final requirements for construction of the Project shall be set forth in detail. T h e 100 percent Construction Documents is when the design is completed and ready for submittal to the Owner for general review.
B. The Design Builder shall also submit a comprehensive list of any items missing for the submittal, with an explanation of why they are missing and when they will be submitted.
C. The 100 Percent Construction Documents are not to be confused with any required permit sets. The Design Builder shall work with all agencies having jurisdiction and submit the appropriate level of design required for permit drawings.
    1. Final Construction Documents.
        a. Sealed and signed set of Civil, Architectural, Structural, Mechanical, Electrical and Special Systems drawings.
        b. Sealed and signed Project Manual (specifications), including Division 1.
        c. Calculations, partial drawing sets and other supporting documents as required for permit submittal to separate reviewing agencies and departments
    2. Pursuant to review comments by the Owner and the Owner's consultants, revise and resubmit the 100 Percent documents as 100 Percent - Final Documents with comments incorporated.

Attachment B, Appendix C - BIM Requirements

BIM Requirements

The Design-Builder will develop Building Information Modeling (BIM) protocol for use on this project.

1. All Consultants and Contractors shall use compatible software to allow the BIM model to be developed and updated in a timely manner.
2. The BIM model shall be developed and updated throughout the design process and construction.
3. The Design-Builder shall produce a schedule to show the start and finish of BIM model coordination for each discipline and for each Milestone Design Deliverable and Construction.
4. The BIM model shall, at a minimum, include Civil, Architectural, Structural, Mechanical and Plumbing, Fire Suppression and Electrical.
5. The Design-Builder shall schedule monthly meetings to review the BIM model with the Owner/DES, showing progress from the previous month, and reviewing the schedule.
6. The Owner/DES intends to utilize the model in the future for maintenance, remodeling and construction.
    a. The Owner/DES will have full unrestricted use and ownership of the model.
    b. The model shall be delivered to the Owner/DES with complete Operating and Maintenance (O&M) instructions and in a format the Owner/DES can utilize.
    c. The model shall be delivered prior to project close out.

Washington State Department of Enterprise Services

PRICE FACTOR FORM

To: Department of Enterprise Services
Olympia, WA

The undersigned submits the following Price Factor Proposal.

PRICE FACTOR PROPOSAL:

Where indicated in the box below, and only for work to be performed under the Contract Between Owner and Design-Builder – Guaranteed Maximum Price (Guaranteed Maximum Price Contract), Proposer shall provide a percentage amount that includes its home office fixed general and administrative costs (G&A costs) together with any profit to be paid to the Proposer which percentage shall be applied to the direct design and construction costs performed under the Guaranteed Maximum Price Contract.

Pursuant to and in compliance with the Request for Proposals, the undersigned certifies, having carefully examined the Contract Documents, and conditions affecting the Work, that the following percentage amount shall constitute full compensation for Design-Builder's G&A costs and profit on all direct design and construction costs performed under the Guaranteed Maximum Price Contract.

	Design Build – ECY ERO Vehicle and Storage Building Design-Builder's Fee: _____

SALES TAX:

The Proposal Amount stated in the final contract shall not include Washington State Sales Tax.

PROJECT DURATION:

The Proposer shall assume a Preliminary Contract Award in February 2020 and Substantial Completion in December 2020.

CONTRACT AND BONDS:

If selected based on this solicitation process, the undersigned agrees to execute the contract(s) for the work, and to furnish bonds and evidence of insurance, as required by the Contract Documents.

PROPOSER INFORMATION FORM:

Proposer's Business Name:			
Type of Business: ☐ Sole Proprietorship ☐ Partnership ☐ Corporation (State of Inc:_____) Other			
Physical Business Address (can not be a P.O. Box):	City:	State:	Zip:
Business Telephone Number:	Business Fax Number:	Business E-mail Address:	
State of Washingon numbers for the following			
Contractor Registration Number:	UBI Number:	Employment Security Dept. Number:	
The following RFP Addenda are hereby acknowledged No._____No._____No._____No._____No._____No._____No._____No._____No. _____			

REPRESENTATIVE AUTHORIZED TO SIGN FOR PROPOSER:

"I certify (or declare) under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct."	
Signature:	Date:
Print Name and Title:	Location or Place Executed (City, State):

March 26, 2019
File: SP19020B

Gloria Miller, A.I.A
DES/Engineering and Architectural Services – Spokane Valley
PO Box 9146
Spokane Valley, Washington, 99211
Email: Gloria.miller@des.wa.gov

RE: **GEOTECHNICAL ENGINEERING REPORT**
ECY Eastern Regional Office Site
4601 North Monroe Street
Spokane, Washington 99205

Greetings Ms. Miller:

STRATA is pleased to present this geotechnical engineering report for the ECY Eastern Regional Office Site to be located at 4601 North Monroe Street in Spokane, Washington. The purpose of this geotechnical engineering report was to explore the subsurface conditions within the development area and provide geotechnical opinions and recommendations to assist design and construction. We accomplished our geotechnical services referencing our email authorization provided by Mr. Fran Huntington's email on March 19, 2019, which is an extension of our construction material testing services authorized proposal dated January 31, 2019.

The following report provides geotechnical recommendations for earthwork activities, undocumented fill removal, and *Strucutral Fill* placement based on the conditions we encountered and observed.

The geotechnical recommendations presented herein must be read and implemented in its entirety. Portions of this report cannot be relied upon individually without the supporting text or other pertinent sections and associated attachments or appendices. Construction success will depend, in part, on the design team and contractor adhering to the report recommendations, the contractor executing good construction practices, and the owner and contractor providing the necessary construction monitoring, testing, and geotechnical consultation to verify the work is completed as recommended herein.

We appreciate the opportunity to continue to work with DES/Engineering and Architectural Services – Spokane Valley and the design team on this project. Please do not hesitate to contact us if you have any questions or comments.

Sincerely,
STRATA

Ben Vance, P.E.
Engineering Manager

Jerry Weed, EI (OR)
Staff Engineer

JW/BV/cm

Geotechnical Engineering Report
ECY Eastern Regional Office Site
4601 North Monroe Street
Spokane, Washington 99205

PREPARED FOR:
Gloria Miller, A.I.A
DES/Engineering and Architectural Services – Spokane Valley
PO Box 9146
Spokane Valley, Washington, 99211

PREPARED BY:
STRATA
10020 E. Knox Avenue, Suite 200
Spokane, Washington 99206
Telephone (509) 891-1904

March 26, 2019

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Geotechnical Engineering Report
ECY Eastern Regional Office Site
4601 North Monroe Street
Spokane, Washington 99205

INTRODUCTION

The purpose of this geotechnical engineering report was to assess subsurface soil conditions within the proposed project area and to prepare geotechnical recommendations to assist the project team during the construction process. This report represents the deliverable associated with the authorized proposal dated January 31, 2019. The following summary describes the authorized scope of service:

1. Coordinated exploration with Ms. Gloria Miller, AIA, and Mr. Fran Huntington, Facilities Operations Manger, to delineate exploration schedules, locations, utility issues, cleanup expectations, site access issues, and other exploration-specific considerations.
2. Performed subsurface exploration at the site by coordinating with a subcontracted backhoe operator to excavate ten exploratory test pits at the site extending to a maximum of 7-feet beneath the existing ground surface and loosely backfilled each test pit approximately level with the ground surface following exploration.
3. Visually described and classified the soil encountered, referencing the *American Society for Testing and Materials International* (ASTM) Test Designation D2488 *Standard Practice for Description and Identification of Soils (Visual-Manual Procedures)*.
4. Reviewed subsurface conditions, the proposed construction, conducted geotechnical analyses, and provided geotechnical recommendations to assist project design and construction for the following:
    - Assessment of the undocumented fill,
    - Shallow foundation recommendation associated with the light pole foundations, and
    - Earthwork recommendations.
5. Prepared and provided this geotechnical report deliverable for the project design team including exploration logs, and a site plan illustrating exploration locations.

Throughout this report, test pits are abbreviated with a TP and hyphenated with a numbering system that corresponds to Plate 1: *Exploration Site Plan*.

PROJECT UNDERSTANDING

The project understanding for this evaluation is based on discussions with Ms. Miller and Mr. Huntington. The earthwork contractor, DW Excavating, encountered undocumented fill on the project site. The project design documentation did not include a geotechnical engineering exploration or recommendations for removal of undocumented fill under the pavement, hardscapes, or foundations of the light poles. The Department of Enterprise Services (DES) requested that STRATA perform a geotechnical investigation to determine the extent of the undocumented fill and provide expedited geotechnical recommendations for the undocumented fill on the project site. STRATA's scope of service excludes recommendations for stormwater disposal, shallow foundation recommendations,

and pavement section design. The stormwater recommendations provided by Budinger and Associates in 2009, and subgrade preparation and compaction requirements for native soil and the pavement section design, are provided by Coffman Engineers on the project contract drawings.

The project consists of three phases of demolition and construction of the new parking lot area. Phase 1 consists of demolition of two residences on Princeton Avenue and Madison Street. After demolition, the area will be regraded for a landscaped area. Phase 2 will consist of demolition and removal of three, approximately 5,400 square foot parking lots to the west of the existing Department of Ecology Building. Two new drywells will be placed along the western side of the project site. Phase 3 consists of demolition and removal of two 5,000 square foot parking lots north of the existing Department of Ecology Building.

FIELD EVALUATION

Site Exploration

Subsurface conditions were evaluated within the proposed project area by observing ten exploratory test pits on March 20, 2019. Test pits were advanced to depths extending from 5.0- to 7.0-feet below the existing ground surface. Test pits were advanced using a John Deere 60g mini-excavator, equipped with an 18-inch-wide toothed-blade bucket. Test pits were loosely backfilled and smoothed approximately level with the surrounding ground surface elevation.

Plate 1 illustrates approximate exploration locations documented in the field. A STRATA GeoProfessional visually described, classified, and logged the subsurface conditions encountered during exploration referencing ASTM D2488 *Standard Practice for Description and Identification of Soils (Visual-Manual Procedures*. Appendix A presents exploratory test pit logs and a *Unified Soil Classification System* (USCS) explanation, which should be used to help interpret soil terms used throughout this report and on the exploratory logs.

Subsurface Conditions

Asphaltic-concrete pavement was encountered in TP-1 through TP-4. No crushed surfacing was observed under all of the asphaltic-concrete pavement. Undocumented fill was observed at all of the test pit locations. The undocumented fill varied in depth between 1.0- and 5.0-feet below the existing ground surface. Below the undocumented fill was an alluvial deposit of silty sand or poorly-graded sand. The sand was generally medium dense, light brown and wet. With depth, the sand changed in color from light brown to black and white grains and the percent passing the No. 200 sieve decreased below five percent. Groundwater or bedrock was not encountered during the exploration.

Soil conditions encountered in locations explored were not uniform across the site. However, exploratory excavations only allow observation of a relatively small sample of the subsurface conditions at the site. Due to the extensive existing site developments, the undocumented fill depth will likely vary beyond our exploration locations, and laterally across the entire site. Such variations will not be apparent until construction and may impact project schedules and costs. Where such variations exist, it may affect the opinions and recommendations presented in this report, as well as construction timing and costs, and STRATA must be contacted to review the encountered conditions and recommendations to make any necessary revisions. See *General Project Considerations Discussion* section of this report for further discussion on variability and risk assessment.

GEOTECHNICAL OPINIONS AND RECOMMENDATIONS

General Project Considerations Discussion

As summarized herein, several subsurface conditions and considerations have been identified which will impact project construction and should be considered by the project team during final design and also prospective bidding contractors:

- If costs prohibit complete fill removal beneath the planned pavement areas, the DES may elect to leave the undocumented fill below asphalt paved areas; provided the Department of Ecology accepts the risks associated with pavement settlement and maintenance. **Constructing pavements over undocumented fill is not without risk of pavement settlement, ponding, increased weathering, and long-term distress.** We provide the following risk summary for potential settlement within the asphalt paved areas if undocumented fill is encountered:
  - Low Risk – Complete removal and replacement of undocumented fill with compacted *Structural Fill*.
  - Moderate Risk – Partial removal of undocumented fill within asphalt pavement and concrete hardscape areas. Removal of upper 2.5-feet of undocumented fill, scarification and re-compaction of resulting surface, followed by placing compacted *Structural Fill* to pavement subgrade elevations.
  - High Risk – No removal of undocumented fill within asphalt pavement and concrete hardscape areas. Scarification and re-compaction of the upper 10-inches of onsite fill at the pavement subgrade.
- The extent of undocumented fill is presently unknown, but can be further evaluated during construction. We recommend providing a project contingency specific to undocumented fill removal.

Based on a conference call with the Department of Ecology and DES, the high-risk option has been selected for this project. The recommendations provided throughout this report are consistent with that risk selection.

The following geotechnical recommendations are presented to assist construction and the project team for the ECY Eastern Regional Office Site to be constructed at 4601 North Monroe Street in Spokane, Washington. Geotechnical recommendations are based on experience with similar soil and geologic conditions, findings from field evaluation, and understanding of the proposed construction. If development plans change, STRATA recommends to be contacted to review any project modifications relative to recommendations and, if necessary, provide any necessary revisions or modifications. Additionally, if subsurface conditions exposed during construction are different than what was encountered during exploration, STRATA should be contacted to review the recommendations and provide any necessary revisions or modifications.

Earthwork

Establishing Subgrades Under Pavements

After excavation and demolition has been completed to achieve site grades, the pavement subgrade will be established by scarification and re-compaction of the upper 10-inches of undocumented fill in accordance with the Department of Ecology's selected pavement risk option. All undocumented fill under light pole foundations should be removed 2-feet beyond the edge of the foundation to a depth of 2.5-feet below the bottom of the foundation.

After preparing subgrades, it is the contractor's sole responsibility to protect subgrades from degradation, freezing, saturation, or other disturbance. Careful construction and earthwork procedures will be critical to achieving adequate subgrade preparation and reducing over-excavation. Specifically, these procedures could include, but are not limited to, carefully staging equipment and/or stockpiles, routing construction equipment away from subgrades, and implementing aggressive site drainage procedures to help reduce saturating subgrades during wet weather conditions. As stated above, it is the contractor's responsibility to protect subgrades throughout construction. If a subgrade freezes, it must be re-compacted and retested prior to acceptance. Subgrade disturbance that occurs due to the contractor's means and methods must be repaired at no cost to the owner. STRATA will remain available to consult with the owner, the project team, and the contractor as the project moves forward regarding subgrade preparation procedures.

Excavation Characteristics

The on-site soil is anticipated to be excavated using conventional soil excavation techniques. In general, slopes and excavations must be excavated, shored, or braced in accordance with the *Washington Industrial Safety and Health Act* (WISHA) regulations and local codes. The near-surface

on-site soil is classified as a “C” type soil according to WISHA requirements. Type “C” soil can be benched 1.5H:1.0V. Ultimately, the selected contractor is responsible for site safety and determining appropriate excavations for the conditions and soil types encountered during construction. STRATA accepts no responsibility for temporary excavation stability.

Exploration classification indicate the on-site native soil is moderately moisture-sensitive and susceptible to disturbance when moist or wet. Soil disturbance will negatively impact the soil’s performance hardscapes, pavement, and foundations. Equipment with large tracks, lugs, or having toothed buckets has a significant potential to disturb the site soil before, or following compaction. Rubber-tired transport vehicles should not access prepared subgrades unless the subgrade is sufficiently stiff to allow construction traffic without disturbance. Project earthwork specifications specifically outline that the contractor is required to maintain the subgrade in a compacted condition and protect subgrades from construction traffic disturbance after they have been prepared and meet compaction requirements. Further information can be found in this report’s *Wet Weather, Wet Soil Construction and Over-Excavation*.

Soil Product Specifications

All fill placed beneath anticipated light pole foundations, hardscapes and foundations is recommended to consist of *Structural Fill* meeting the requirements presented in Table 1. Undocumented fill can be re-used as *Structural Fill* if has less than three percent deleterious material and screened of all particles smaller than 6-inches.

Table 1. Soil Fill Specifications and Allowable Use

Soil Fill Product	Allowable Use	Material Specifications
Structural Fill[1]	• Site grading and fill placement • Over-excavations	Soil must be classified as GP, GM, GW, SP, SM or SW according to the USCS. Soil may not contain particles larger than 6 inches in median diameter. Soil must contain less than 3 percent (by weight) of organics, vegetation, wood, metal, plastic or other deleterious substances.
Unsatisfactory Soil	• NONE	Soil classified as CH, MH, OH, OL or PT may not be used at the project site. Any soil type not maintaining moisture contents within 5 percent of optimum during compaction. Any soil containing more than 3 percent (by weight) of organics, vegetation, wood, metal, plastic or other deleterious substances.

Required Compaction

Table 2 summarizes soil product compaction requirements.

Table 2. Required Soil Products for Designated Project Areas

Project Area	Required Soil Product	ASTM D1557 Compaction Requirement
Structural fill placed for site grading and undocumented fill replacement.	*Structural Fill*	93%

Place *Soil Fill Products* over approved subgrades. Never place *Soil Fill Products* over frozen, saturated, or soft subgrades. All S*oil Fill Products* should be moisture-conditioned to near optimum moisture content and be placed in maximum 12-inch-thick loose lifts. If site access precludes the use of large (10 ton or greater) compaction equipment and smaller or lighter equipment is used, a reduction in fill lift thickness and adjustment in compaction effort must be used. The contractor is responsible for selecting compaction equipment suitable for achieving compaction.

Imported *Structural Fill* may be too coarse for conventional Proctor testing if it contains more than 30 percent particles retained on the No. ¾ sieve (i.e., oversize material). If excessive oversize material is present within the imported *Structural Fill*, oversize material is recommended to be compacted using method specification. Method compaction should occur by applying at least five complete passes over the soil using vibratory compaction equipment with a drum energy rating of at least 10 tons. Smaller compaction equipment is not recommended for method compaction. Method compaction should be observed on a full-time basis by STRATA and should achieve a dense, unyielding and interlocking *Structural Fill* surface.

Wet Weather, Wet Soil Construction and Over-Excavations

Earthwork construction is strongly recommended to take place during dry weather conditions. In soft or wet soil areas and during wet weather conditions, earthwork contractors must be familiar with the hazards of using rubber-tired equipment, which exerts a point load on the subgrade. Staggering wheel paths, using tracked equipment to traverse exposed subgrades and other techniques are important processes that reduce the potential for subgrade pumping, rutting, and contractor rework. Construction traffic is strongly recommended to be controlled in a manner that reduces traffic directly on the sensitive soil subgrade.

Earthwork should not be performed immediately after rainfall, or until soil can dry sufficiently to allow construction traffic without disturbing the subgrade. Any soil exhibiting pumping, rutting, weaving, or otherwise exhibiting unstable performance is recommended to be moisture-conditioned (typically drying) and re-compacted to *Structural Fill* requirements, or removed. Moisture-conditioning the on-site soil could be difficult. If moisture-conditioning is impractical or may create project delays, the soil should be removed to undisturbed native soil using smooth-blade equipment and *Structural Fill* placed to desired grades. The “over-excavation” process is recommended to occur as follows:

1. STRATA and the selected contractor should identify and delineate unstable subgrade soil conditions. STRATA must review the affected area and provide feedback to help facilitate the over-excavation process.
2. After attempting proper moisture conditioning, remove unstable areas using smooth-blade equipment to a minimum depth of 1.0-foot below the subgrade surface. Extend the over-excavation a minimum of 2.0 feet laterally beyond the delineated unstable area.
3. STRATA shall verify the resulting subgrade following consists of suitable, undisturbed native soil.
4. Place *Structural Fill* in the over-excavation to desired grades in accordance with the *Soil Product Specifications* and *Required Compaction* report sections.

In some instances, a 1.0-foot deep over-excavation may not be sufficient to expose suitable native soil; additional over-excavation depth may be needed. STRATA recommends to be present to observe all over-excavations to verify they have been constructed according to the above criteria, but also to provide immediate on-site feedback and discussion with the project team regarding soft or unsuitable soil conditions to help facilitate the construction schedule.

ADDITIONAL RECOMMENDED SERVICES

Geotechnical Design Continuity

The information contained in this report is based on current project understanding. STRATA should be contacted if additional exploration is preferred before project completion, to observe conditions following demolition, and once final designs are completed to review opinions and design recommendations contained herein.

Geotechnical Observation During Construction

STRATA should be retained to provide construction observation and testing to document the report recommendations have been followed. Providing these services during construction will help to identify potential earthwork and foundation construction issues, thus allowing the contractor to proactively remedy problems and reduce the potential for errors and omissions.

EVALUATION LIMITATIONS

This geotechnical engineering report has been prepared to assist in planning, design, and construction for the ECY Eastern Regional Office Site to be constructed at 4601 North Monroe Street in Spokane, Washington. The scope does not include a pavement design, stormwater infiltration design, subgrade preparation, hardscape design or landscaping. Variation in subsurface conditions may exist between or beyond explorations, which can necessitate changes to the geotechnical recommendations in this report. Also, changes to the planned development can drastically affect provided recommendations. If the improvement plans change from those described herein, STRATA must be notified so that modifications to recommendations may be made for the modified improvements. If unforeseen conditions are encountered during earthwork, STRATA must be allowed to review recommendations and provide necessary consultation, revision, or modifications to information contained herein.

This report was prepared for the exclusive use of DES/Engineering and Architectural Services and their project design team, for the specific project referenced herein. STRATA cannot be held responsible for unauthorized duplication or reliance upon this report or its contents without written authorization. The geotechnical recommendations provided herein are based on the premise that an

adequate program of tests and observations will be conducted by STRATA during construction in order to verify compliance with provided recommendations and to confirm conditions between exploration locations. Subsurface conditions may vary from the locations explored and the extent of variation may only be known at the time of construction. Where variations occur, it is critical STRATA be allowed to modify this report to reflect the site conditions exposed. This acknowledgment is instead of all warranties either express or implied.

APPROXIMATE SCALE - FEET

0 25 50

LEGEND

EXPLORATION LOCATIONS

(#) DEPTH OF UNDOCUMENTED FILL

EXPLORATION SITE PLAN

EASTERN REGIONAL OFFICE SITE IMPROVEMENTS

4601 N MONROE ST

SPOKANE, WASHINGTON

STRATA

Integrity from the Ground Up

SP19020B	MARCH 21, 2019	PLATE 1

Photo 1: TP-1

Photo 2: TP-1

Photo 3: TP-2

Photo 4: TP-2

EASTERN REGIONAL OFFICE SITE
IMPROVEMENTS
4601 N MONROE
SPOKANE, WASHINGTON

Photo 5: TP-3

Photo 6: TP-3

Photo 7: TP-4

Photo 8: TP-5

STRATA

SP19020B

MARCH 26, 2019

SHEET 1 OF 3

Photo 9: TP-5

Photo 10: TP-6

Photo 11: TP-6

Photo 12: TP-7

Photo 13: TP-7

Photo 14: TP-8

Photo 15: TP-8

Photo 16: TP-9

EASTERN REGIONAL OFFICE SITE
IMPROVEMENTS
4601 N MONROE
SPOKANE, WASHINGTON

STRATA

SP19020B

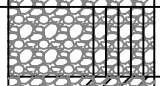
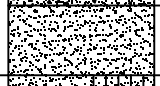
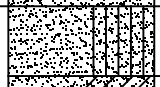
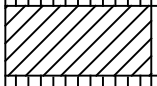
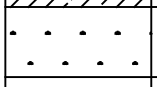
MARCH 26, 2019

Photo 17: TP-9

Photo 18: TP-10

Photo 19: TP-11

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GRAPHIC SYMBOL	USCS GROUP SYMBOL	SOIL DECRIPTION
COURSE GRAINED SOIL	GRAVEL	CLEAN GRAVEL		GW	WELL-GRADED GRAVEL
				GP	POORLY-GRADED GRAVEL
		GRAVEL WITH FINES		GM	SILTY GRAVEL SILTY GRAVEL WITH SAND
				GC	CLAYEY GRAVEL CLAYEY GRAVEL WITH SAND
	SAND	CLEAN SAND		SW	WELL-GRADED SAND
				SP	POORLY-GRADED SAND
		SAND WITH FINES		SM	SILTY SAND
				SC	CLAYEY SAND
	SILT AND CLAY LIQUID LIMIT LESS THAN 50%			ML	INELASTIC SILT
				CL	LEAN CLAY
				OL	ORGANIC SILT
FINE GRAINED SOIL	SILT AND CLAY LIQUID LIMIT GREATER THAN 50%			MH	ELASTIC SILT
				CH	FAT CLAY
				OH	ORGANIC CLAY
				PT	PEAT

ABBREVATIONS
BGS - BELOW EXISTING GROUND SURFACE
N.E. - NOT ENCOUNTERED

STRATA
Integrity From the Ground Up

USCS DESCRIPTION	ELEVATION (FT)	DEPTH (FT)	LITHOLOGY	SAMPLE INTERVAL	USDA SOIL TEXTURAL CLASS.	% PASSING NO. 200 SIEVE	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	POCKET PEN. (TSF)	ADDITIONAL NOTES
ASPHALT		0								
UNDOCUMENTED FILL - Poorly-Graded Sand with Silt (SP-SM) Medium Dense, Light Brown, Wet	2055									
ALLUVIUM - Poorly-Graded Sand with Silt (SP-SM) Medium Dense, Light Brown, Wet										
ALLUVIUM - Poorly-Graded Sand (SP) Medium Dense, Mottled Black and White, Wet		5								

Test pit terminated at 6.5-feet bgs at the proposed depth.

Client: Department of Engineering Services	Test Pit Number: 1		STRATA Integrity from the Ground Up
Project: ECY Exploration	Project Number: SP19020B		
Equipment: John Deere 60g	Date Excavated: 3/20/2019		
Depth to Groundwater: NE	Logged By: JW		Sheet: 1 of 10

USCS DESCRIPTION	ELEVATION (FT)	DEPTH (FT)	LITHOLOGY	SAMPLE INTERVAL	USDA SOIL TEXTURAL CLASS.	% PASSING NO. 200 SIEVE	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	POCKET PEN. (TSF)	ADDITIONAL NOTES
ASPHALT	2055	0								Heavily Debris Laden
UNDOCUMENTED FILL - Poorly-Graded Sand with Silt and Gravel (SP-SM) Medium Dense, Light Brown, Wet		5								

Test pit terminated at 5-feet bgs due to concrete slab.

Client: Department of Engineering Services	Test Pit Number: 2		STRATA Integrity from the Ground Up
Project: ECY Exploration	Project Number: SP19020B		
Equipment: John Deere 60g	Date Excavated: 3/20/2019		
Depth to Groundwater: NE	Logged By: JW		Sheet: 2 of 10

USCS DESCRIPTION	ELEVATION (FT)	DEPTH (FT)	LITHOLOGY	SAMPLE INTERVAL	USDA SOIL TEXTURAL CLASS.	% PASSING NO. 200 SIEVE	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	POCKET PEN. (TSF)	ADDITIONAL NOTES
ASPHALT	2055	0								
UNDOCUMENTED FILL - Poorly-Graded Sand with Silt (SP-SM) Medium Dense, Light Brown, Wet										
ALLUVIUM - Poorly-Graded Sand with Silt (SP-SM) Medium Dense, Light Brown, Wet		5								

Test pit terminated at 6-feet bgs due to sidewall caving.

Client: Department of Engineering Services	Test Pit Number: 3		STRATA Integrity from the Ground Up
Project: ECY Exploration	Project Number: SP19020B		
Equipment: John Deere 60g	Date Excavated: 3/20/2019		
Depth to Groundwater: NE	Logged By: JW		Sheet: 3 of 10

USCS DESCRIPTION	ELEVATION (FT)	DEPTH (FT)	LITHOLOGY	SAMPLE INTERVAL	USDA SOIL TEXTURAL CLASS.	% PASSING NO. 200 SIEVE	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	POCKET PEN. (TSF)	ADDITIONAL NOTES
ASPHALT	2055	0								
UNDOCUMENTED FILL - Poorly-Graded Sand with Silt (SP-SM) Medium Dense, Light Brown, Wet										
ALLUVIUM - Poorly-Graded Sand with Silt (SP-SM) Medium Dense, Light Brown, Wet		5								

Test pit terminated at 6-feet bgs due to sidewall caving.

Client: Department of Engineering Services	Test Pit Number: 4		STRATA Integrity from the Ground Up
Project: ECY Exploration	Project Number: SP19020B		
Equipment: John Deere 60g	Date Excavated: 3/20/2019		
Depth to Groundwater: NE	Logged By: JW		Sheet: 4 of 10

USCS DESCRIPTION	ELEVATION (FT)	DEPTH (FT)	LITHOLOGY	SAMPLE INTERVAL	USDA SOIL TEXTURAL CLASS.	% PASSING NO. 200 SIEVE	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	POCKET PEN. (TSF)	ADDITIONAL NOTES
UNDOCUMENTED FILL - Poorly-Graded Sand with Silt (SP-SM) Medium Dense, Light Brown, Wet	2055	0								Concrete and glass
ALLUVIUM - Poorly-Graded Sand with Gravel (SP) Medium Dense, Gray, Wet		5								

Test pit terminated at 7-feet bgs at the proposed depth.

Client: Department of Engineering Services	Test Pit Number: 5		STRATA Integrity from the Ground Up
Project: ECY Exploration	Project Number: SP19020B		
Equipment: John Deere 60g	Date Excavated: 3/20/2019		
Depth to Groundwater: NE	Logged By: JW		Sheet: 5 of 10

USCS DESCRIPTION	ELEVATION (FT)	DEPTH (FT)	LITHOLOGY	SAMPLE INTERVAL	USDA SOIL TEXTURAL CLASS.	% PASSING NO. 200 SIEVE	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	POCKET PEN. (TSF)	ADDITIONAL NOTES
UNDOCUMENTED FILL - Poorly-Graded Sand with Silt (SP-SM), Light Brown, Wet	2055	0								
ALLUVIUM - Poorly-Graded Sand with Silt (SP-SM), Light Brown, Wet										
ALLUVIUM - Poorly-Graded Sand with Gravel (SP), Mottled Black and White, Wet		5								

Test pit terminated at 6-feet bgs at the proposed depth.

Client: Department of Engineering Services	Test Pit Number: 6		STRATA Integrity from the Ground Up
Project: ECY Exploration	Project Number: SP19020B		
Equipment: John Deere 60g	Date Excavated: 3/20/2019		
Depth to Groundwater: NE	Logged By: JW		Sheet: 6 of 10

USCS DESCRIPTION	ELEVATION (FT)	DEPTH (FT)	LITHOLOGY	SAMPLE INTERVAL	USDA SOIL TEXTURAL CLASS.	% PASSING NO. 200 SIEVE	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	POCKET PEN. (TSF)	ADDITIONAL NOTES
UNDOCUMENTED FILL - Poorly-Graded Sand with Silt and Gravel (SP-SM) Medium Dense, Light Brown, Wet	2050	0 5								Heavily Debris Laden

Test pit terminated at 5-feet bgs due to concrete slab.

Client: Department of Engineering Services	Test Pit Number: 7		STRATA Integrity from the Ground Up
Project: ECY Exploration	Project Number: SP19020B		
Equipment: John Deere 60g	Date Excavated: 3/20/2019		
Depth to Groundwater: NE	Logged By: JW		Sheet: 7 of 10

USCS DESCRIPTION	ELEVATION (FT)	DEPTH (FT)	LITHOLOGY	SAMPLE INTERVAL	USDA SOIL TEXTURAL CLASS.	% PASSING NO. 200 SIEVE	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	POCKET PEN. (TSF)	ADDITIONAL NOTES
UNDOCUMENTED FILL - Poorly-Graded Sand with Silt (SP-SM) Medium Dense, Light Brown, Wet		0								Glass and metal debris
ALLUVIUM - Poorly-Graded Sand with Silt (SP-SM) Medium Dense, Light Brown, Wet	2050									
ALLUVIUM - Poorly-Graded Sand (SP) Medium Dense, Mottled Black and White, Wet		5								

Test pit terminated at 6.5-feet bgs at the proposed depth.

Client: Department of Engineering Services	Test Pit Number: 8		STRATA Integrity from the Ground Up
Project: ECY Exploration	Project Number: SP19020B		
Equipment: John Deere 60g	Date Excavated: 3/20/2019		
Depth to Groundwater: NE	Logged By: JW		Sheet: 8 of 10

USCS DESCRIPTION	ELEVATION (FT)	DEPTH (FT)	LITHOLOGY	SAMPLE INTERVAL	USDA SOIL TEXTURAL CLASS.	% PASSING NO. 200 SIEVE	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	POCKET PEN. (TSF)	ADDITIONAL NOTES
UNDOCUMENTED FILL - Poorly-Graded Sand with Silt (SP-SM) Medium Dense, Light Brown, Wet	2050	0								cloth debris
ALLUVIUM - Poorly-Graded Sand with Silt (SP-SM) Medium Dense, Light Brown, Wet										
ALLUVIUM - Poorly-Graded Sand with Gravel (SP) Medium Dense, Light Brown, Wet		5								

Test pit terminated at 6.5-feet bgs at the proposed depth.

Client: Department of Engineering Services	Test Pit Number: 9		STRATA Integrity From the Ground Up
Project: ECY Exploration	Project Number: SP19020B		
Equipment: John Deere 60g	Date Excavated: 3/20/2019		
Depth to Groundwater: NE	Logged By: JW		Sheet: 9 of 10

USCS DESCRIPTION	ELEVATION (FT)	DEPTH (FT)	LITHOLOGY	SAMPLE INTERVAL	USDA SOIL TEXTURAL CLASS.	% PASSING NO. 200 SIEVE	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	POCKET PEN. (TSF)	ADDITIONAL NOTES
UNDOCUMENTED FILL - Poorly-Graded Sand with Silt (SP-SM) Medium Dense, Light Brown, Wet ALLUVIUM - Poorly-Graded Sand with Silt (SP-SM) Medium Dense, Light Brown, Wet	2050	0 5								Concrete debris

Test pit terminated at 6-feet bgs at the proposed depth.

Client: Department of Engineering Services	Test Pit Number: 10		STRATA Integrity From the Ground Up
Project: ECY Exploration	Project Number: SP19020B		
Equipment: John Deere 60g	Date Excavated: 3/20/2019		
Depth to Groundwater: NE	Logged By: JW		Sheet: 10 of 10