



DEPARTMENT OF
ECOLOGY
State of Washington

AMENDMENT NO. 2

To

IAA No. C1500059

**INTERAGENCY
AGREEMENT (IAA)
BETWEEN**

**THE STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY
AND
CITY OF REDMOND**

PURPOSE: To amend the Agreement between the state of Washington, Department of Ecology, hereinafter referred to as "ECOLOGY" and CITY OF REDMOND, hereinafter referred to as "CITY," or "CONTRACTOR".

WHEREAS: This Agreement is undergoing an increase in scope and extension of the timeline to allow for completion of the work described in the new Attachment B.

IT IS MUTUALLY AGREED the agreement is amended as follows:

- 1) The project end date is changed from July 31st, 2018 to July 31st, 2019.
- 2) Compensation is increased for additional tasks added by this amendment. The total amount is changed from \$362,440 to \$1,298,000, an increase of \$935,560.
- 3) Appendix B - Statement of Work is a new appendix with Tasks B1 – B4 to implement flow and water quality monitoring, data analysis and summarize results in annual reports through water year 2018.

APPENDIX B

STATEMENT OF WORK

Background

In February 2014, the Washington State Department of Ecology (Ecology) approved a Citywide Watershed Management Plan (WMP) for the City of Redmond (REDMOND) that allows use of a watershed approach for implementing required structural and nonstructural stormwater controls pursuant to the Phase II municipal stormwater permit. Through the implementation of this WMP, REDMOND will focus these stormwater controls in a subset of priority watersheds that are moderately impacted by urbanization and therefore expected to respond more quickly to rehabilitation efforts. This provides a unique opportunity to study the effectiveness of stormwater controls for improving receiving water conditions on an accelerated time frame. Recognizing this opportunity, REDMOND is implementing a study (hereafter referred to as the Paired Watershed Study) to quantify improvements in receiving water conditions based on routine and continuous measurements of various hydrologic, chemical, physical, and biological indicators of stream health. The Paired Watershed Study will initiate in the fall of 2015 and will be implemented over an anticipated ten year timeframe. Funding comes from the Regional Stormwater Monitoring Program (RSMP) a coordinated monitoring program founded by stormwater permittees and administered by Ecology.

To guide its implementation, REDMOND developed a quality assurance project plan (QAPP) for the Paired Watershed Study that provides a detailed description of the procedures that will be used for the following components of the study's experimental design:

- Hydrologic monitoring
- Water quality monitoring
- Sediment quality monitoring
- Physical habitat monitoring
- Biological monitoring

In September 2015, Ecology also authorized REDMOND to prepare a scope of work and cost proposal for implementing the Paired Watershed Study pursuant to the QAPP. This scope of work in Appendix B covers required field measurement collection, data management and quality assurance review, and reporting for the study that will occur over a period that encompasses water years 2016, 2017, and 2018 (a water year is defined as the 12-month period that extends from October 1 in any given year through September 30 of the following year). Additional monitoring for the study in subsequent years would occur under a new contract or addendum to this contract.

This scope of work includes a discussion of the activities, assumptions, deliverables, and a schedule associated with the following tasks:

- Task B1.0 – Study Startup Activities
- Task B2.0 – Water Year 2016 Study Implementation

- Task B3.0 – Water Year 2017 Study Implementation
- Task B4.0 – Water Year 2018 Study Implementation

Work on these tasks will be performed by REDMOND with assistance from Herrera Environmental Consultants (Herrera), and King County. REDMOND, Herrera, and King County are collectively referred to as the “Project Team” in this scope of work. Where applicable, specific roles for each member of the Project Team are called out under individual tasks. The cost by deliverable, and schedule by deliverable are included in the table at the end of this Scope of Work.

Task B1.0 – Study Startup Activities

Under this task, the Project Team will implement a series of startup activities for the Paired Watershed Study that will include field reconnaissance of monitoring stations, staff training on required monitoring procedures, and the development of data management systems. These activities are described in more detail under the following subtasks:

Subtask B1.1 – Field reconnaissance of Monitoring Stations

The QAPP for the Paired Watershed Study identifies the general locations of monitoring stations for each component of the study’s experimental design. However, prior to full implementation of the study, the locations of these stations must be identified with greater precision. To achieve that objective, monitoring leads identified in the QAPP for each component of the study’s experimental design will conduct field reconnaissance to map the specific locations of all monitoring stations. This will include 14 stations that will be used for hydrologic, water quality, and sediment quality monitoring and 19 stations that will be used for physical habitat and biological monitoring. In connection with each reconnaissance, the specific location of each station will be identified and recorded using a handheld Global Positioning System (GPS) unit. Conditions at each station will also be documented photographically.

In addition, the necessary flow and water quality monitoring equipment will be identified, bids solicited from vendors, purchased and installed at the field stations.

Assumptions

- Up to six members of the Project Team will participate in the reconnaissance for stations to be used for hydrologic and water quality monitoring. The reconnaissance of all these stations will be completed in an 8-hour day.
- Up to five members of the Project Team will participate in the reconnaissance for stations to be used for physical habitat, sediment quality, and biological monitoring. The reconnaissance of all these stations will be completed in an 8-hour day.

Deliverables for Subtask B 1.1

- Table summary of GPS coordinates for each monitoring station.

- Photo log and site sketch documenting conditions at each monitoring station.
- Electronic copy of the paid invoices for equipment, not already paid for in Deliverable 6.1 on Appendix A.
- Photos of installed water quality monitoring equipment.

Subtask B1.2 – Staff Training

The procedures to be used for physical habitat monitoring component of the Paired Watershed Study will largely follow those identified in the *Quality Assurance Project Plan for Status and Trends Monitoring of Small Streams in the Puget Lowlands Ecoregion* (Ecology 2014). To ensure consistency with monitoring that is being conducted throughout the region for the RSMP using these procedures, staff from the Project Team will participate in Ecology led training on the associated steps for field measurement collection, data entry and management, and output interpretation.

Assumptions

- The Ecology RSMP coordinator will assist with getting Project Team staff training with the appropriate Ecology technical staff.
- Up to three Project Team staff will participate in the training. The training will be completed in 14-hours.

Subtask B1.3 – Data Management System Development

The Project Team will develop a custom SQL database to serve as a repository for all monitoring data that will be collected for this project (hydrologic, water quality, sediment, physical habitat, and biological data). A simple form-based user interface will be developed to allow data to be easily uploaded or extracted by the project team as needed. This database will be designed to interface easily with water quality and other analytical packages to support streamlined data analysis. It will also be designed to facilitate the transfer of water and sediment quality data collected through the Paired Watershed Study to Ecology's Environmental Information Management (EIM) database.

Assumptions

- Field data entry for physical habitat will be performed using electronic field data collection software that will automatically load the associated data to Ecology's Watershed Health database in EIM system. Ecology will also calculate metrics for assessing physical habitat conditions using scripts that have been developed to work with the EIM system. These metrics will then be downloaded and stored in the custom SQL database developed for the Paired Watershed Study.

Deliverable for Subtask B 1.3

- Custom SQL database with one line of example data in 2016, and study data in the following years.

Task B 2.0 – Water Year 2016 Study Implementation

Under this task, the Project Team will implement required monitoring activities identified in the QAPP for the Paired Watershed Study over water year 2016 (October 1, 2015 through September 30, 2016). This would include field measurement collection, data management and quality assurance review, and reporting. These activities are described in more detail under the following subtasks:

Subtask B2.1 – Hydrologic Monitoring

The hydrologic monitoring component of the Paired Watershed Study will involve continuous flow monitoring at 14 stations. Data from the continuous flow monitoring will be processed to calculate a suite of indicators for evaluating hydrologic impacts from urban development. King County will take the lead role in implementing the hydrologic monitoring component of the study with support from Herrera. Herrera's involvement will entail the post processing of data compiled by King County to generate summary statistics (e.g., antecedent dry period, flow at time of sample collection) from the flow record for storm and base flow events that were sampled for water quality under Subtask B 2.2. These statistics will be stored in the data management system developed under Subtask B1.1 and presented in the data report described under Subtask B 2.6. These statistics will eventually be used in statistical analyses for trends in water quality that will be performed in later phases of the study.

Herrera will also coordinate with King County to summarize the continuous flow monitoring data for each station for presentation in the data report described in Subtask B 2.6.

Assumptions

- King County will make available continuous flow monitoring data in electronic format for post processing by Herrera. King County will perform a quality assurance review on these data that will clearly identify any limitations to their use and interpretation.

Deliverable for Subtask B 2.1

- Table with flow summary statistics for sampled storm and base flow events from 14 stations.

Subtask B 2.2 – Water Quality Monitoring

The water quality monitoring component of the Paired Watershed Study will involve the collection of twelve grabs samples over the water year during storm events (three each quarter) at 14 stations. In addition, four grabs samples will also be collected over the water year during base flow (one each quarter) at these stations. Each sample will be analyzed for the following indicators for evaluating water quality impacts from urban development:

- Total suspended solids
- Turbidity

- Conductivity
- Hardness
- Dissolved organic carbon
- Fecal coliform bacteria
- Total phosphorus
- Total nitrogen
- Copper, total and dissolved
- Zinc, total and dissolved

In addition, the following indicators will be continuously measured *in-situ* at each station using probes:

- Temperature
- Conductivity

Under this task, Herrera will oversee the collection of grab samples during both storm and base flow events. This would include the following activities that will be performed in accordance with the QAPP that is being prepared for the study:

- Weather tracking and go/no go decision coordination
- Mobilization of field crews for sampling during the event
- Delivery of samples to the laboratory after the event
- Auditing of laboratory analytical results within seven days of their receipt
- Entry of the analytical result into study's data management system
- Preparation of a data validation memorandum that will establish the usability of all the data
- Preparation of graphical and tabular summaries for the data report described in Subtask B 2.6.

King County will oversee the continuous *in-situ* monitoring at each station using the probes. Herrera will coordinate with King County to provide review these data and summarize them for presentation in the data report described in Subtask B 2.6

Assumptions

- Storm event sampling will be performed by two teams that each have two Herrera staff. Sampling for each event would be performed over an 8-hour period including travel but not including storm tracking and go/no go decision coordination. A 15 percent contingency was added to account for sampling event false starts and allow for make-up sampling.
- Nominally, all 14 stations will be sampled during each storm event. In the event specific stations are not sampled because a sampling event was terminated, they will be prioritized for sampling in subsequent events to ensure the annual sampling goals that have been established for the study are ultimately met for every station.

- Base flow event staffing will be performed by one team consisting of two Herrera staff. Sampling for each event would be performed over a 10-hour period including travel.
- King County will make available continuous water quality monitoring data in electronic format for review by Herrera. King County will perform a quality assurance review on these data that will clearly identify any limitations to their use and interpretation.
- Obtaining storm event samples may not be possible during particularly dry summer months.

Deliverables for Subtask B 2.2

- Laboratory analytical results and documentation of Herrera audits for 14 stations from 16 sampling events (12 storm event + 4 base flow events) uploaded to EIM.
- Data validation memorandum.

Subtask B 2.3 – Sediment Quality Monitoring

The sediment quality monitoring component of the Paired Watershed Study will involve the collection of sediment samples once during the water year at 19 monitoring stations. Each sample will be analyzed for the following indicators for evaluating sediment quality impacts from urban development:

- Total organic carbon
- Copper
- Zinc
- Polycyclic aromatic hydrocarbons
- Phthalates

Under this task, Herrera will oversee collection of sediment grab samples. This would include the following activities that will be performed in accordance with the QAPP that is being prepared for the study:

- Mobilization of field crews for sampling
- Delivery of samples to the laboratory after the event
- Auditing of laboratory analytical results within seven days of their receipt
- Entry of the analytical result into study's data management system
- Preparation of a data validation memorandum that will establish the usability of all the data

Assumptions

- Sediment quality monitoring at each station will be coordinated to occur on the same day as the physical habitat and biological monitoring described in Subtask B 2.4 and Subtask B 2.5, respectively. Sediment sampling will be performed by one team having three Herrera staff. Collection of sediment samples at each station will require approximately 1-hour of field time.

Deliverables for Subtask B 2.3

- Laboratory analytical results and documentation of Herrera audits for 19 stations.
- Data validation memorandum.

Subtask B 2.4 – Physical Habitat Monitoring

Under this subtask, Herrera will conduct physical habitat monitoring for Paired Watershed Study once during the water year at 19 monitoring stations. At each station, the characteristic bed-form type will be recorded as a whole, and physical habitat quality indicators will be measured at 11 cross-sections and one longitudinal (thalweg) profile. Subject to final approval of the QAPP for the study, following indicators will be measured at each cross-section:

- Bank-full width, wetted width, and cumulative bar width
- Bank-full depth, wetted depth, substrate class and embeddedness
- Fish cover
- Riparian shading
- Riparian vegetation structure

The following indicators will be measured along the thalweg profile:

- Thalweg depth and the presence of bars and/or edge pools
- Main channel slope and bearing
- Large woody debris tally, including notation of diameter, length, category, zone, and key-pieces.

Upon completion of field work, physical habitat monitoring data will be uploaded to the data management system that has been developed by Ecology to support physical habitat monitoring for the RSMP. Based on post processing of these data within this system, Ecology will provide a suite of indicators for assessing physical habitat quality that are consistent with those being used for the broader RSMP effort. Herrera will summarize these indicators for presentation in the data report described in Subtask B 2.6

Assumptions

- Physical habitat monitoring at each station will be coordinated to occur on the same day as the sediment quality and biological monitoring described in Subtask B 2.3 and Subtask B 2.5, respectively. Physical habitat monitoring will be performed by one team having three Herrera staff.

Physical habitat monitoring at each station will require approximately 7-hours of field time.

- Data entry for physical habitat and biological monitoring will be performed using electronic field data collection software that has been developed by Ecology to ensure completeness in field data collection, and with loading these data to Ecology's Watershed Health database in the EIM system. Ecology's Environmental Assessment Program (EAP) will perform quality assurance review on these data and calculate metrics for assessing physical habitat conditions using scripts that have been developed to work with the Watershed Health database in the EIM system.
- A delay of approximately 4 months can be expected for obtaining processed metrics for assessing physical habitat conditions from EAP via Watershed Health database in the EIM system.

Deliverable for Subtask B 2.4

- Results from physical habitat monitoring at 19 stations that are uploaded to Ecology's data management system for the RSMP.

Subtask B 2.5 – Biological Monitoring

Under this subtask, Herrera will conduct biological monitoring for the Paired Watershed Study once during the water year at 19 stations. Pursuant to the QAPP for the study, this will entail the collection of a composite sample of benthic macroinvertebrates from specific locations along the cross-sections for physical habitat monitoring that are described in Subtask B 2.4. These samples will be submitted to an analytical laboratory where they will be processed to compute the following indicators for use in evaluating stream health:

- Benthic Index of Biotic Integrity
- Taxa Richness
- Ephemeroptera Richness
- Plecoptera Richness
- Trichoptera Richness
- Clinger Percent
- Long-Lived Richness
- Intolerant Richness
- Percent Dominant
- Predator Percent
- Tolerant Percent

Assumptions

- Biological monitoring at each station will be coordinated to occur on the same day as the sediment quality and physical habitat monitoring described in Subtask B 2.2 and Subtask B 2.3, respectively. Biological

monitoring will be performed by one team having three Herrera staff. Biological monitoring at each station will require approximately 1-hour of field time.

- A delay of approximately 6 months can be expected for obtaining biological metrics from the contract lab.

Deliverable for Subtask B 2.5

- Laboratory results from macroinvertebrate sample analysis for 19 stations entered into the Puget Sound Stream Benthos database or EIM.

Subtask B 2.6 – Water Year Data Summary Report

The Project Team will prepare a data summary report that will provide tabular and/or graphical summaries of all data that were collected over the water year in connection with the following monitoring components of the Paired Watershed Study: hydrologic, water quality, sediment quality, physical habitat, and biological. This report will provide a detailed description of any quality assurance issues associated with these data based on results from audits and data validation memoranda. Any corrective actions that were undertaken to address quality assurance issues will also be described. Finally, this report will document all rehabilitation efforts that have occurred in the Application watersheds over the previous year. Included will be detailed information on the design and operational status of structural stormwater controls and the frequency and geographic extent of nonstructural stormwater control implementation.

The Project Team to prepare a draft of the data summary report for review by Ecology and the technical advisory committee for the study. The Project Team then prepare a finalized version of the report based on comments received.

Deliverables for Subtask B 2.6

- Draft data summary report.
- Final data summary report.
- Fact Sheet and communication materials for distribution

Subtask B 2.7 – Technical Advisory Committee Coordination

The technical advisory committee for this study includes representation from the following agencies: Ecology, King County, Kitsap County, City of Seattle, U.S. Geological Survey (USGS), and U.S. Environmental Protection Agency. Under this task, the Project Team will coordinate and participate in up to two meetings to obtain input from the steering committee on technical issues related to the study over each water year. It is anticipated that one of these meetings would occur one to two months after the initiation of monitoring to evaluate and refine field measurement collection procedures as necessary. A second meeting would then occur after the release of the data report from Subtask B2.6 to review and discuss the monitoring results from the water year.

Assumptions

- Technical advisory committee meetings will last 2-hours.

Deliverable for Subtask B 2.7

- Meeting notes documenting discussion items and consensus decisions from the technical advisory committee.

Subtask B 2.8 – Project Management

REDMOND will be responsible for ongoing contract administration of this project, including preparing invoices and progress reports, as well as coordination of all work efforts with the designated Ecology point of contact and the Project Team. REDMOND's project manager (Andy Rheaume) will have phone and e-mail contact with Ecology's RSMP Coordinator on an as-needed basis.

Deliverable for Subtask B 2.8

- Monthly invoices and progress reports.

Task B 3.0 – Water Year 2017 Study Implementation

Under this task, the Project Team will implement required monitoring activities identified in the QAPP for the Paired Watershed Study over water year 2017 (October 1, 2016 through September 30, 2017). The activities, assumptions, and deliverables for Task B 3.0 are identical to those for Task B 2.0. The cost proposal for Task B 3.0 is also identical to the cost proposal for Task B 2.0 with the exception that it includes a 3 percent escalation factor on labor. Tasks by Deliverable spreadsheet included in this agreement details the subtask deliverable cost for Task B 3.0.

Task B 4.0 – Water Year 2018 Study Implementation

Under this task, the Project Team will implement required monitoring activities identified in the QAPP for the Paired Watershed Study over water year 2018 (October 1, 2017 through September 30, 2018). The activities, assumptions, and deliverables for Task B 4.0 are identical to those for Task B 2.0. The cost proposal for Task B 4.0 is also identical to the cost proposal for Task B 2.0 with the exception that it includes a 6.1 percent escalation factor on labor. Tasks by Deliverable spreadsheet included in this agreement details the subtask deliverable cost for Task B 4.0.

Task/Deliverable	Quantity	Unit Cost	Total by Deliverable	Target End Date
Redmond Paired Basin Retrofit Effectiveness monitoring Implementation - Water Years 2016, 2017, 2018				
Task B1 - Project Startup				
<i>Subtask B1.1 – Field reconnaissance of Monitoring Stations</i>				
Table summary of GPS coordinates for each monitoring station.	1	\$ 8,000	\$ 8,000	6/30/2016
Photo log and site sketch documenting conditions at each monitoring station.	1	\$ 8,000	\$ 8,000	6/30/2016
Flow Gauging and Water Quality Monitoring Equipment	1	\$65,000	\$65,000	6/30/2016
<i>Subtask Total</i>			\$ 81,000	
<i>Subtask B 1.2 – Staff Training</i>				
No Deliverable	0	\$ -	\$ -	
<i>Subtask Total</i>			\$ -	
<i>Subtask B 1.3 – Data Management System Development</i>				
Custom SQL database	1	\$ 17,500	\$ 17,500	6/30/2016
<i>Subtask Total</i>			\$ 17,500	
Task Total			\$ 98,500	
Task B 2.0 – Water Year 2016 Study Implementation				
<i>Subtask B 2.1 – Hydrologic Monitoring</i>				
Table with flow summary statistics for sampled storm and base flow events from 14 stations	1	\$ 6,600	\$ 6,600	12/31/2016
<i>Subtask Total</i>			\$ 6,600	

SCOPE OF WORK

Subtask B 2.2 – Water Quality Monitoring

Laboratory analytical results and documentation of Herrera audits for 14 stations x 16 sampling events	16	\$ 7,000	\$ 112,000	12/31/2016
Data validation memorandum	1	\$ 15,700	\$ 15,700	12/31/2016
<i>Subtask Total</i>				\$ 127,700

Subtask B 2.3 – Sediment Quality Monitoring

Laboratory analytical results and documentation of Herrera audits for 19 stations	1	\$ 10,450	\$ 10,450	12/31/2016
Data validation memorandum	1	\$ 8,000	\$ 8,000	12/31/2016
<i>Subtask Total</i>				\$ 18,450

Subtask B 2.4 – Physical Habitat Monitoring

Results from physical habitat monitoring at 19 stations that are uploaded to Ecology's data management system for the RSMP	1	\$ 51,000	\$ 51,000	3/31/2017
Environmental Assessment Program support for training, habitat data management, QC of habitat data, uploading to EIM, and metric calculations	1	\$ 7,030	\$ 7,030	3/31/2017
<i>Subtask Total</i>				\$ 58,030

Subtask B 2.5 – Biological Monitoring

Laboratory results from macroinvertebrate sample analysis for 19 stations	1	\$ 22,100	\$ 22,100	3/31/2017
<i>Subtask Total</i>				\$ 22,100

Subtask B 2.6 – Water Year Data Summary Report

Draft data summary report	1	\$ 18,000	\$ 18,000	12/31/2016
Final data summary report	1	\$ 4,250	\$ 4,250	3/31/2017
<i>Subtask Total</i>				\$ 22,250

Subtask B 2.7 – Technical Advisory Committee Coordination

Meeting notes documenting discussion items and consensus decisions from the technical advisory committee x 2 meetings	2	\$ 1,250	\$ 2,500	3/31/2017
<i>Subtask Total</i>				\$ 2,500

Subtask B 2.8 – Project Management

SCOPE OF WORK

Monthly invoices and progress reports	12	\$ 1,300	\$ 15,600	3/31/2017
<i>Subtask Total</i>			\$ 15,600	
Task Total			\$ 273,230	

Task B 3.0 – Water Year 2017 Study Implementation*Subtask B 3.1 – Hydrologic Monitoring*

Table with flow summary statistics for sampled storm and base flow events from 14 stations

	1	\$ 6,800	\$ 6,800	12/31/2017
<i>Subtask Total</i>			\$ 6,800	

Subtask B 3.2 – Water Quality Monitoring

Laboratory analytical results and documentation of Herrera audits for 14 stations x 16 sampling events

	16	\$ 7,120	\$ 113,920	12/31/2017
Data validation memorandum	1	\$ 15,980	\$ 15,980	12/31/2017

<i>Subtask Total</i>			\$ 129,900	
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Subtask B 3.3 – Sediment Quality Monitoring

Laboratory analytical results and documentation of Herrera audits for 19 stations

	1	\$ 10,670	\$ 10,670	12/31/2017
Data validation memorandum	1	\$ 8,170	\$ 8,170	12/31/2017

<i>Subtask Total</i>			\$ 18,840	
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Subtask B 3.4 – Physical Habitat Monitoring

Results from physical habitat monitoring at 19 stations that are uploaded to Ecology's data management system for the RSMP
Environmental Assessment Program support for training, habitat data management, QC of habitat data, uploading to EIM, and metric calculations

	1	\$ 52,440	\$ 52,440	3/31/2018
	1	\$ 7,030	\$ 7,030	3/31/2018
			\$ 59,470	

Subtask B 3.5 – Biological Monitoring

Laboratory results from macroinvertebrate sample analysis for 19 stations	1	\$ 22,380	\$ 22,380	3/31/2017
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SCOPE OF WORK

				\$ 22,380
<i>Subtask B 3.6 – Water Year Data Summary Report</i>				
Draft data summary report	1	\$ 18,520	\$ 18,520	12/31/2017
Final data summary report	1	\$ 4,370	\$ 4,370	3/31/2018
<i>Subtask Total</i>			\$ 22,890	
<i>Subtask B 3.7 – Technical Advisory Committee Coordination</i>				
Meeting notes documenting discussion items and consensus decisions from the technical advisory committee x 2 meetings	2	\$ 1,290	\$ 2,580	3/31/2018
<i>Subtask Total</i>			\$ 2,580	
<i>Subtask B 3.8 – Project Management</i>				
Monthly invoices and progress reports	12	\$ 1,340	\$ 16,080	3/31/2018
<i>Subtask Total</i>			\$ 16,080	
Task Total			\$ 278,940	
Task B 4.0 – Water Year 2018 Study Implementation				
<i>Subtask B 4.1 – Hydrologic Monitoring</i>				
Table with flow summary statistics for sampled storm and base flow events from 14 stations	1	\$ 7,010	\$ 7,010	12/31/2018
<i>Subtask Total</i>			\$ 7,010	
<i>Subtask B 4.2 – Water Quality Monitoring</i>				
Laboratory analytical results and documentation of Herrera audits for 14 stations x 16 sampling events	16	\$ 7,250	\$ 116,000	12/31/2018
Data validation memorandum	1	\$ 16,260	\$ 16,260	12/31/2018
<i>Subtask Total</i>			\$ 132,260	
<i>Subtask B 4.3 – Sediment Quality Monitoring</i>				

SCOPE OF WORK

Laboratory analytical results and documentation of Herrera audits for 19 stations	1	\$ 10,890	\$ 10,890	12/31/2018
Data validation memorandum	1	\$ 8,340	\$ 8,340	12/31/2018
<i>Subtask Total</i>				\$ 19,230
<i>Subtask B 4.4 – Physical Habitat Monitoring</i>				
Results from physical habitat monitoring at 19 stations that are uploaded to Ecology's data management system for the RSMP	1	\$ 53,930	\$ 53,930	3/31/2019
Environmental Assessment Program support for training, habitat data management, QC of habitat data, uploading to EIM, and metric calculations	1	\$ 7,030	\$ 7,030	3/31/2019
				\$ 60,960
<i>Subtask B 4.5 – Biological Monitoring</i>				
Laboratory results from macroinvertebrate sample analysis for 19 stations	1	\$ 22,660	\$ 22,660	3/31/2019
				\$ 22,660
<i>Subtask B 4.6 – Water Year Data Summary Report</i>				
Draft data summary report	1	\$ 19,050	\$ 19,050	12/31/2018
Final data summary report	1	\$ 4,500	\$ 4,500	3/31/2019
<i>Subtask Total</i>				\$ 23,550
<i>Subtask B 4.7 – Technical Advisory Committee Coordination</i>				
Meeting notes documenting discussion items and consensus decisions from the technical advisory committee x 2 meetings	2	\$ 1,330	\$ 2,660	3/31/2019
<i>Subtask Total</i>				\$ 2,660
<i>Subtask B 4.8 – Project Management</i>				
Monthly invoices and progress reports	12	\$ 1,380	\$ 16,560	3/31/2019
<i>Subtask Total</i>				\$ 16,560
<i>Task Total</i>				\$ 284,890
<i>Project Total</i>				\$ 935,560

State of Washington Department of Ecology
Contract no. 1500059, Amendment 2

All other terms and conditions of the original Agreement including any Amendments remain in full force and effect, except as expressly provided by this Amendment.

This Amendment is signed by persons who represent that they have the authority to execute this Amendment and bind their respective organizations to this Amendment.

This Amendment is effective on signature date of ECOLOGY.

IN WITNESS WHEREOF: the parties hereto, having read this Amendment in its entirety, including all attachments, do agree in each and every particular and have thus set their hands hereunto.

**State of Washington
Department of Ecology
By**

Signature	Date
Polly Zehm	
Deputy Director	

**City of Redmond
By**

Signature	Date
Print Name:	
Title:	

Approved as to form only.
Assistant Attorney General