

Local Agency A&E Professional Services Supplemental Agreement	Consultant/Address/Telephone Jacobs Engineering Group, Inc. 1100 112 th Avenue NE, Suite 500 Bellevue, WA 98004	
Supplement Number Supplement No.2	Contact Name / E-Mail Address Jeff D. Benson / jeff.benson@jacobs.com Telephone Fax 425-233-3234 425-468-3100	
Agreement Number CCF01-19	Execution Date 12/12/2019	Completion Date 12/31/2022
Project Title 43rd Ave SE from SR 524 to 180th Street SE	New Maximum Amount Payable \$594,182.00	
Description of Work <i>Provide all design services necessary to complete 60% engineering design, 60% plans and details, and 60% estimate of probably construction costs for improvements to 43rd Ave SE and Sunset Rd between SR 524 and 180th Street SE, east of the Mill Creek city limits, in unincorporated Snohomish County.</i>		

The Local Agency of Snohomish County desires to supplement the Agreement entered into with **Jacobs Engineering Group, Inc.** and executed on December 12, 2019, as amended by Supplement No. 1 on August 5, 2020, and identified as Agreement No. **CCF01-19**. All provisions in the basic agreement remain in effect except as expressly modified by this supplement.

The changes to the Agreement are described as follows:

I

The "Maximum Amount Payable" amount on the Agreement title page is amended as follows:

Maximum Amount Payable \$594,182.00

II

EXHIBIT A-1 Supplemental Scope of Work, attached hereto and by this reference made part of the original Agreement, as additional work to be performed under Exhibit A.

III

EXHIBIT D Prime Consultant Cost Computations, attached hereto by this reference made part of the previously amended Agreement, and adds supplemental cost computations for the additional work to be performed under Exhibit A-1 of this Agreement.

If you concur with this supplement and agree to the changes as stated above, please sign in the appropriate spaces below and return to this office for final action.

By: **JACOBS ENGINEERING GROUP, INC.**

By: **SNOHOMISH COUNTY**

Consultant Signature

Approving Authority Signature

Date

Exhibit A-1

Supplemental Scope of Work

43rd Avenue SE/Sunset Road: SR 524 to 180th Street SE
RC-1592, UPI# 16-0040

SUPPLEMENT NO. 2 – ADDITIONAL STORM DRAINAGE ENGINEERING

Supplement No. 2 provides additional engineering services to update the 60% storm drainage design with the Threshold Drainage Area mapping method as defined in the Washington State Department of Ecology’s 2019 Stormwater Management Manual for Western Washington (SWMMWW- Ecology, 2019) and a conceptual 30% two-lane roundabout layout to support right of way determination.

This supplemental scope of work includes additional work for the following tasks:

Task 8.2	Threshold Discharge Area Maps
Task 8.5	Change in Land Cover Area Maps
Task 8.6	Stormwater Quality Treatment
Task 8.7	Stormwater Flow Control
Task 8.12	Drainage Report
Task 9.2	60% Plans and Estimate
Task 10	Roundabout Design

Design Criteria, unless listed above, are unchanged from the original contract.

Task 8 – Storm Drainage Design

8.1 Design Criteria

No additional tasks.

8.2 Threshold Discharge Area (TDA) Maps

(Amend the original scope of work to update TDA maps)

CONSULTANT will update the threshold discharge area (TDA) maps previously prepared under this contract. The maps will show existing drainage features and patterns within the project corridor, based on any new information observed during the downstream analysis task. They will also identify TDA boundaries considering the clarification of TDA boundaries in SWMMWW- Ecology, 2019, including the quarter mile flow paths used in determining each TDA. The maps, produced by the CONSULTANT, will be prepared with aerial mapping background provided by the AGENCY and show critical areas such as wetlands and streams as delineated by the AGENCY.

These TDA maps will include:

- Threshold discharge area boundaries for each basin
- Hatched or colored areas for new PGIS, replaced PGIS, new NPGIS, and pervious surface
- Downstream discharge flow paths (1/4-mile distance)
- Wetlands, streams, riparian areas and other critical areas (mapped and provided by the AGENCY)
- Existing water wells and drain fields (mapped and provided by the AGENCY)

The CONSULTANT will provide the TDA Maps to the AGENCY for one draft review. The CONSULTANT will provide one draft and one final revision to be included in the 60% drainage report.

Deliverables:

- One (1) electronic PDF copy and (1) AutoCAD file of the draft and final 60% design TDA Maps.

8.3 Drain Fields

No additional tasks.

8.4 Downstream Analysis

No additional tasks.

8.5 Change in Land Cover Area Maps

(Amend the original scope of work to update the Change in Land Cover maps.)

The CONSULTANT will update the Change in Land Cover Maps based on the change to the TDA Mapping.

Deliverables:

- One (1) electronic PDF copy of the Change in Land Cover Maps and corresponding table of change in land cover areas. These maps will include:
 - Existing Pollution Generating Impervious Area and Non-Pollution Generating Impervious Area Maps (approximately 10 sheets)
 - Proposed Pollution Generating Impervious Area, Replaced Impervious Area and Non-Pollution Generating Impervious Area Maps (approximately 10 sheets)
 - Tables identifying the different types of impervious surfaces

8.6 Storm Concept Alternative Analysis

No additional tasks.

8.7 Stormwater Alternatives Technical Memorandum

No additional tasks.

8.8 Stormwater Quality Treatment

(Amend the original scope of work to revise the proposed stormwater quality treatment.)

Ecology's clarification of TDA delineations is expected to combine some TDAs previously delineated separately; TDA 10 and 11 in particular.

The AGENCY has examined the Natures Ridge stormwater design and determined this project should not use the existing stormwater treatment in TDA 10 as previously scoped. The CONSULTANT will update the design to add a stormwater treatment facility for the portion of the project identified as TDA 10.

8.9 Stormwater Flow Control

(Amend the original scope of work to update the proposed stormwater flow control.)

Similar to Task 8.8, Ecology's clarification of TDA delineations is expected to combine some TDAs previously delineated separately, TDA 10 and 11 in particular. The CONSULTANT will update the design to provide flow control pond for TDA 10 and 11 at the 180th pond site. An equivalent amount of offsite flow will be controlled instead of project flows, which is allowed by the AGENCY and ECOLOGY. The AGENCY will provide supporting design information for the update, such as existing drainage reports in the nearby areas. MGS Flood modeling will be revised to reflect the revised pond configuration. The storm drain configuration into and out of the pond initially laid out, will be revised to reflect the new configuration of a combined pond/collecting equivalent flows into the pond. A flow splitter is expected to be needed to direct an equivalent amount of flow into the pond.

8.10 Pipe Conveyance Calculations

No additional tasks.

Gutter Flow Calculations

No additional tasks.

8.11 Drainage Report

(Amend the original scope of work to update the drainage report with the updated figures.)

The CONSULTANT will update the Draft 60% County Drainage Report based on the changes to the TDA Mapping. The report will include a written assessment and summary of the surface water design features on the project, summary of tables, Site Assessment Maps, Offsite Analysis, Change in Land Cover Maps, Stormwater Quality Treatment Calculations, Stormwater Flow Control Calculations, Pipe Conveyance Calculations, Gutter Flow Calculations, and supporting exhibits.

Deliverables:

- Draft 60% County Drainage Report – three (3) comb bound hard copies, one (1) electronic copy on CD in Word/Excel (editable) and PDF formats. This report is inclusive of all project limits defined by the 30% plans.

Task 9 –Plan Preparation, Specification List and Opinion of Cost

9.2 60% Plans and Estimate

The CONSULTANT will update the 60% Plans and Estimate based on the changes to the Vault 10 and Pond 11 updates in Tasks 8.8 and 8.9.

Task 10 – Roundabout Design

(Amend the original scope of work to include a preliminary two-lane roundabout at SR 524 and 43rd Ave SE.)

The CONSULTANT will provide a conceptual 30% two-lane roundabout at the intersection of SR 524 (Maltby Rd) and 43rd Ave SE. The CONSULTANT will evaluate fastest paths, geometric data and truck turning movements for each leg of the intersection.

Assumptions:

- WSDOT Design Manual guidelines will be used to design the two-lane roundabout at 43rd Ave SE and Maltby Rd.

- Table and figures documenting the fastest paths, geometric data and truck turning movements will not be provided.
- The roundabout will not be evaluated vertically.
- Roundabout widening improvements will be centered on the proposed 60% single lane roundabout.
- The two-lane roundabout will not include the evaluation of a new south leg.
- The AGENCY will use the preliminary layout to determine roadway ROW impact.
- The same design vehicles assumed for the 60% single-lane roundabout will be used for the two-lane roundabout.
- Truck and trailer vehicles can utilize both lanes of the roundabout when making turning movements.
- Limits of sidewalk will match 60% single lane roundabout.

Deliverables:

- CAD base file showing a two-lane roundabout at 43rd Ave SE and SR 524 (Maltby Rd).

Exhibit D Prime Consultant Cost Computations

43rd Avenue SE/Sunset Road: SR 524 to 180th Street SE
Supplement No. 1 - Storm Drainage and Roundabout Layout

Only key staff are shown and other staff may work on and charge to the project as needed by the project manager.

job title	PM04	PM02	CE-03	CE-01	PM04	WE-06	WE-05	CE-03	WE-01
billing rate	Executive	PM/OC	Rd Lead	Rd Engr	Drn OC	Drn OC	Drn Lead	Drn Engr	Drn Mdel
	\$189.50	\$165.00	\$125.00	\$85.00	\$189.50	\$189.50	\$178.50	\$125.00	\$85.00

Labor:

Work Task										Hours	Budget	
8	Storm Drainage Design									138	\$18,207.00	
8.2	Provide updated Threshold Discharge Area (TDA) maps		2		6		2	4	8	22	\$2,933.00	
8.5	Prepare Change in Land Use area maps				6		2	4	8	20	\$2,603.00	
	Prepare Change in Land Use area summary tables		2			4	2	4	4	16	\$2,681.00	
8.8	Storm water Quality Treatment		2		6		2	4	2	24	\$2,853.00	
8.9	Storm water Flow Control		2		8		2	8	4	40	\$4,677.00	
8.12	Prepare Draft 60% County Drainage Report						2	6	8	16	\$2,450.00	
9	60% Plans and Estimate									56	\$7,255.00	
3.2	Add Vault 10, Revise Pond 11, Revise Storm Drain		2		12	4	2	8	24	4	56	\$7,255.00
10	Roundabout Design									59	\$7,073.00	
10	Project Criteria Meeting									0	\$0.00	
	AutoTurn Evaluation		2	4	8					14	\$1,510.00	
	Fastest Path Evaluation		2	8	4					14	\$1,670.00	
	Horizontal Layout	4	2	16	8					30	\$3,768.00	
	Address County OTS Comments									0	\$0.00	
	Transmit CAD Base File			1						1	\$125.00	
										0	\$0.00	
Total Hours		4	16	29	58	8	14	38	58	28	253	
Total Labor Costs		\$758	\$2,640	\$3,625	\$4,930	\$1,516	\$2,653	\$6,783	\$7,250	\$2,380	\$32,535	

Miscellaneous Expenses:	Item	Reimb Cost
	Federal Express / Courier	\$0
	Postage	\$0
	Graphic supplies	\$0
	Meeting/field supplies	\$0
	Travel expenses (mileage)	\$0
	Reproduction	\$0
	Traffic counts	\$0
	Traffic accident data	\$0
	Other	\$0
Total Reimbursable Expenses		\$0

Subconsultants:	Firm	Sub Cost
	Fehr & Peers - Traffic	\$0
	1 Alliance - Survey/Mapping	\$0
		\$0
		\$0
		\$0
		\$0
		\$0
		\$0
		\$0
		\$0
		\$0
Total Subconsultants		\$0

TOTAL BUDGET \$32,535

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