

Supplemental Budget Request

Status: Pending

Public Works

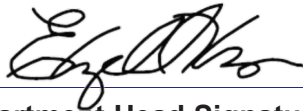
Stormwater

Suppl ID # 3891 Fund 364 Cost Center 364100 Originator: Melissa Donley

Expenditure Type: One-Time Year 1 2023 Add'l FTE Add'l Space Priority 1

Name of Request: Amendment 3 to Academy Rd PBB

X



Department Head Signature (Required on Hard Copy Submission)

Date

Costs:	Object	Object Description	Amount Requested
	6110	Regular Salaries & Wages	\$22,500
	6290	Applied Benefits	\$18,000
	6630	Professional Services	\$70,000
	6699	Other Services-Interfund	\$6,000
	7199	Other Miscellaneous/Inte	\$2,000
	7380	Other Improvements	\$570,000
	8301.132	Operating Transfer In	(\$420,000)
	8301.324	Operating Transfer In	(\$268,500)
	Request Total		\$0

1a. Description of request:

The Academy Road Project Phase 1 was initiated on June 1, 2015. This project was a joint Whatcom County and City of Bellingham stormwater retrofit project focused on improving water quality in the Lake Whatcom watershed. Partially grant funded by Department of Ecology as an incentive to utilize a new phosphorus treating media, this project also received funding from Whatcom County which covered design and construction of the project, the City of Bellingham provided the property (located within city limits). The project construction began in the summer of 2015 and received final completion in May of 2016. The project never met design treatment expectations, partially due to excessive sediment fouling the treatment media in the treatment cells, greater quantity and velocity of flows than anticipated, and a continuous base flow that didn't provide the treatment media sufficient dry out periods.

After several seasons of operation, it was determined that the system required an upgrade to achieve improved water quality treatment performance. City of Bellingham will be the permanent recipient of this joint project and is presently unwilling to accept this project in its current state. Whatcom County has initiated two investigative efforts to better understand the current system's limitations and to verify actual stormwater flows. This information is being used as site-specific background information in the design and upgrade of this facility.

As an early implementation of this type of treatment cell and treatment media, many of the specific complexities of this type of system were unknown and inadequately accommodated in the original design. The majority of the funding was provided by a Washington Department of Ecology grant, partially as an incentive to test this new technology. Since this project was installed, much has been learned about the specific applications and limitations of this type of system. This current project phase seeks to leverage that new knowledge and greatly enhance the performance of the Academy Road Stormwater Improvements project.

1b. Primary customers:

The City of Bellingham will be taking over the operation and management of this facility upon the successful completion of this upgrade. The 100,000 people and associated businesses that rely on Lake

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Whatcom are also beneficiaries of this project, which is intended to have a long service life.

2. Problem to be solved:

Whatcom County's investment in the Academy Stormwater Improvement Project is well over one million dollars. The City of Bellingham has also contributed the property, which included demolishing an existing house. The value of lakeside real estate and the level of investment to date in this project justifies optimizing the performance of this system. The City of Bellingham is currently unwilling to accept the project without improvements. The initial county/city agreement stipulated that the city would accepting the project if functioning within the design parameters, which the system is currently unable to do without upgrades.

3a. Options / Advantages:

After consulting with staff from the City of Bellingham's Stormwater and Maintenance and Operations divisions, Whatcom County solicited proposals for qualified firms to perform an evaluation of the Academy Road Stormwater Facility. In May of 2018, Whatcom County contracted with a local consulting firm to conduct that evaluation. The scope of the consultant contract and results were shared with City of Bellingham staff. Three main questions were evaluated:

- Are flows entering the treatment system higher than expected?
- Are levels of Total Suspended Solids (TSS) and debris entering the treatment system higher than expected?
- Is the hydraulic conductivity of the treatment media lower than expected?

The guidance provided was not intended to provide engineering-level specifications for modifications to the system. Recommendations were divided into tiers: options for improving basic functioning (Tier 1), options for increasing performance within the existing structures (Tier 2), and options for increasing performance through additions to the existing facility (Tier 3). The report also recommended some near term (immediate) activities that could be done.

Since the completion of the report, the City of Bellingham has installed a pipe to greatly reduce the off-site sediment entering the system, and Whatcom County has completed a water quantity monitoring study to verify

actual flow rates, as well as made minor modifications to improve existing performance of the current system.

Options that were considered included: 1. do nothing or make minor adjustments, 2. increase performance to as close to original design treatment as possible using existing footprint, and 3. redesign and construct an optimum treatment option. We anticipate moving forward with the aim to achieve as close to the original design treatment as possible (option 2).

3b. Cost savings:

Cost savings would result by improving efficiency of removal of TSS. The Total Maximum Daily Load (TMDL) requires the county and City of Bellingham to provide water quality treatment where possible. The opportunities for installing systems of this size are limited within the Lake Whatcom watershed. Increasing the efficiency of the existing system is potentially more cost effective than leaving the system as is and developing new systems in the same basin area.

The combined city/county costs well exceed 1.5 million dollars to date. The area treated may actually be bigger than initially determined and could contribute up to 33% more phosphorus. This project seeks to maximize the benefit of the current investment by adding additional treatment capacity to the same site.

4a. Outcomes:

The outcome to be delivered is that the treatment system removes 40 pounds of phosphorus annually. Currently the system is run at half capacity which is providing 20 pounds of removal annually, at best. Based on our recent evaluation, the contributing area is about 33% larger than initially determined, which would potentially generate closer to 60 pounds of phosphorus annually. It is feasible that through the upgrade, the system would treat 60 pounds annually.

4b. Measures:

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Success will be measured based on whether our modification to the system provide continuous phosphorus removal (i.e. multiple treatment cells allow for adequate dry out period which would allow for a higher level of treatment).

5a. Other Departments/Agencies:

The project is currently operated by the City of Bellingham Maintenance and Operations Department. At present the system is working at half capacity to allow the media some dry out time, which is essential to provide phosphorus removal. Part of the upgrade will further automate the system operation to reduce the time commitment for future operations.

The other group impacted is the Stormwater Division of Whatcom County Public Works. Design and construction management as well as project coordination with the City of Bellingham will fall to Stormwater staff.

5b. Name the person in charge of implementation and what they are responsible for:

For Whatcom County, Kraig Olason will be the primary responsible individual. For the City of Bellingham, Mike Olinger, Assistance Director of Operation, Public Works, will be the primary contact.

6. Funding Source:

This request, in the amount of \$688,500 will be funded by a transfer from the Real Estate Excise Tax II fund (\$268,500) and from the Lake Whatcom Stormwater Utility fund (\$420,000).