FBRB Policy Subcommittee

April 2, 2025

Attendees:

FBRB Members: Tom Jameson, Kaylee Kautz, John Foltz, April Magrane, Erik Neatherlin

Triangle Associates: Kate Galambos

Meeting Objective: Discuss and make recommendations for defining the process for projects that fall below the 300 Quality Habitat Assessment (QHA).

Policy Subcommittee Proposal to the Board for Process:

1. Update Manual 22 for 27-29 biennium grant round with a minimum score requirement of 300 QHA and include:
    a. Description of the QHA score
    b. Criteria for appealing to the FBRB Policy Subcommittee, should a project fail to meet minimum requirement
        i. Policy Subcommittee convenes to review projects that fail to meet 300 QHA requirement and invites sponsors to defend their projects.
        ii. Policy Subcommittee makes a recommendation to the Board
        iii. Board decides whether to waive the 300 QHA minimum score requirement

Path forward:

Incorporate additional language into Manual 22 describing the minimum score requirement and process for appeal.

Future Decision: Board approval of Manual 22 at the August Board meeting

Discussion Notes:

- The Policy Subcommittee last met on February 18th to discuss recommendations for a minimum QHA score (see notes 2.18.25 FBRB Policy subcommittee notes.docx)
- At the March 18 Board meeting, the Board was supportive of the proposed 300 QHA and requested that the policy subcommittee recommend a process for sponsors who do not meet that score.
- Kaylee proposed three potential options for this process:
    - Incorporate the 300 QHA score minimum into Manual 22 and do not allow for project exceptions.
    - Incorporate the 300 QHA score as a tiered approach with different appeal processes based on score (i.e. different process for 1-200 than 201-300)

    - Incorporate a process for the project sponsors to appeal projects that do not meet the 300 QHA requirement and work with the Policy Subcommittee.
- The subcommittee discussed what the extenuating circumstances would need to be for projects that did not meet the minimum score to be ultimately approved by the Board. Erik recommended first considering biological factors, then non-biological (funding opportunities, timeline considerations, etc.)
- The subcommittee recommended using the 27-29 grant round as a pilot for this new requirement, with the opportunity to adjust in the following grant round.

BRIAN ABBOTT

Fish Barrier Removal Board

Amendment Form

Date: 4/4/2025 **RCO Project Number**: 21-1419

Sponsor Name: City of Bellingham

Project Name: Padden Cr at 12th St Fish Passage Improvement

Type of Amendment: Cost Increase ☒ Time Extension ☐ Scope Change ☐

Justification: For cost increases, describe the need and specifically what the money will be used for. Please note: a grant cost increase requires the sponsor to increase its total match contribution to maintain the agreement's original cost share percentages. For time extensions that would place the project end date more than four years beyond the project start date, describe the reason and background for the delay and provide a timeline for project completion. For scope changes, describe the reason and what work types or elements of the project will change. Specify changes in quantities and/or metrics of project elements as necessary.

Grant Manager summary of costs: Project costs have increased from $1,615,867 to $2,638,111, an increase of $1,205,901, for reasons explained by project sponsor, below. Of this $1,205,901 increase, the sponsor is requesting $1,022,244 of additional FBRB funding. The project sponsor will provide %15.1 match of total project costs, in the amount of $468,810.

Supporting Documents Provided. (check all that apply):

☒ An updated Cost Estimate Spreadsheet composed of original budget with cost increase provided in a separate column clearly illustrating where costs have changed.

☐ An updated Project Milestone Worksheet

☐ Preliminary design package including design drawings and design report (Manual 22, Appendix C)

Review:

Washington Department of FISH and WILDLIFE

Approved: Yes ☐ **No** ☐

Date: Click here to enter a date.

Name: Click here to enter text.

Reason

WASHINGTON STATE Recreation and Conservation Office

Approved: **Yes** ☐ **No** ☐

Date: Click here to enter a date.

Name: Click here to enter text.

Reason

GeoEngineers

Memorandum

17425 NE Union Hill Road, Suite 250, Redmond, Washington 98052 Telephone: 425.861.6000 www.geoengineers.com

To:	Craig Mueller and Sara Brooke Benjamin, City of Bellingham
From:	Dan Eggers and Lisa Bona, GeoEngineers; Tim Guebert, Mathew Miskovic, and Andrew Gastineau, KPFF
Date:	April 3, 2025
File:	00356-178-01
Subject:	#1.0622 0.50 - Padden Creek at 12th St. Fish Passage Improvement: Estimated Project Costs Justification

INTRODUCTION

The purpose of this memorandum is to document the changes between costs of the 12th St. Fish Passage Improvement Project as estimated at the Fish Barrier Removal Board (FBRB) grant application phase (conceptual design) versus the current 2025 cost estimate based on the final design phase. For the purposes of this memorandum, the level of design at the FBRB grant application will be referred to as "conceptual" design and the level of design in 2025 will be referred to as the "final" design. Itemized costs estimated at the two phases have been included as an attachment at the end of this memorandum.

INCREASE IN PROJECT COST ESTIMATE

Increase in Costs Between Conceptual Design and Final Design

The design team has compared the conceptual design cost estimate submitted with the FBRB application package and the final design cost estimate provided in 2025. The conceptual design construction cost estimate submitted with FBRB grant application was for a total of $1,583,520 and the final design construction cost estimate is for a total of $2,552,031, a difference of $968,511. An additional $937,244 is being requested for the increase in construction costs, with a match increase of $31,268 for construction services. An additional $85,000 is being requested for the Administrative, Architectural & Engineering (AA&E) services, with a match increase of $152,389 for AA&E services. The total increase request for the construction cost estimate and the AA&E services is $1,022,244. A total match of $468,810 is being proposed.

An itemized comparison of costs between the two phases has been included as an attachment at the end of this memorandum. The following pages of this memorandum document cost differences for some of the cost items, including the 10% contingency that was added to the final design. The following pages are not intended to comprehensively document every difference in cost between the two estimates but summarize those items that account for most of the increased cost. Also not included in the documentation is an accounting of individual unit cost increases between the conceptual design cost estimate prepared in 2022 and the final design cost estimate prepared in 2025, as these do not account for cost increases commensurate with the individual costs that are discussed below.

JUSTIFICATION OF INCREASE IN PROJECT COST ESTIMATE

Site-specific Demolition Items

Riprap removal and an increase in extents of sewer removal (more pipe length and additional manholes) were added to the scope of the project construction activities.

Conceptual plans included only a small amount of sanitary sewer removal across the culverts and the remainder of remnant pipe would be filled and abandoned in place. As design progressed, it was determined that more of the existing sewer pipe and manholes would need to be removed because of conflicts with the proposed walls and new sewer layout.

An additional increase in scope for the removal of existing riprap located in the stream channel was added. Conceptual estimates indicated that this could be removed as incidental to earthwork excavation. Further review indicated the riprap to be much more extensive. We chose to estimate this as part of demolition and site preparation with its own associated cost. The site preparation and demolition items increased from $53,900 to $95,700, a difference of $41,800.

Culvert and Other Elements

Initially, plans included only a basic pedestrian fall protection along the walls. As the design progressed, this was revised to a more robust and context-sensitive wooden pedestrian/bike guardrail. The railing cost increased from $27,700 to $32,451, a difference of $4,751.

The conceptual design of the culvert used an approximate culvert weight and cost per pound. During final design, a heavier culvert was required because of a deeper burial depth. The foundation size also significantly increased due to the overburden and poor soils. The total culvert installation price increased from $240,450 to $407,374, a difference of $166,924. Most of this increase was foundation- and excavation-related.

Walls

Wall estimates calculated during the conceptual design included exposed wall face above final grade. Further analysis required the wall be embedded deeper to protect against the possibility of scour undermining the wall, increasing wall surface area. Wall backfill material increased accordingly. Wall costs increased from $207,000 to $358,050, a difference of $151,050.

Stream Restoration

The costs of several items related to restoration of the stream increased between the conceptual and final designs. The costs associated with the temporary stream diversion (TSD) and channel excavation increased in part because of increases in recent bids in the region for similarly configured systems.

Ongoing coordination efforts with WDFW on December 5, 2023, June 20, 2024, and July 19, 2024 resulted in the addition of large woody material (LWM) to the system to facilitate a connected low-flow channel for Chum Salmon, the main species utilizing Padden Creek. This additional LWM to create habitat features and prevent plane bed formation. The number of logs (now at 23), anchoring and installation complexity drove the cost increases. With limited right-of-way and large flows at the site, boulder deadman anchors with chain are required to achieve minimum factors of safety for stability. Installation of the LWM will require the boulder

deadman anchors to be drilled and the chain to be secured. Little to no conifer tree species exist on the site today. All trees and anchor materials must be imported to the site and transported down the pedestrian trail from the nearest road. Additionally, the roughened channel material for construction of the stream has been defined in further detail by boulder type.

In total, the stream restoration items increased from $471,150 to $790,071 between conceptual and final design, a difference of $318,921.

Utilities

The conceptual design estimates assumed that the old sewer would not be decommissioned and removed until the new one was operational. As such, no temporary bypass would be needed. As design progressed and the construction sequence was evaluated, the decision was made that a temporary sewer bypass system would be needed in the period between the removal of the existing sewer and the construction and activation of the new sewer. This amounted to an increase from $127,500 to $272,114, a difference of $144,614.

SUMMARY

The estimated cost of construction of the Padden Creek at 12th St. Fish Passage Improvement increased by approximately $968,511 from the conceptual design cost estimate submitted with the FBRB grant application and the final design in 2025. Those estimates of costs of construction were/are $1,583,520 and $2,552,031, respectively. Additionally, a total of $249,347 is being requested for the AA&E tasks, bringing the total increase request for the project to $1,022,244.

There were several primary drivers of these increases that were identified including the complexity of the site, logistics and restricted access, addition of LWM and anchoring, and the complexity of installation of both the LWM and a roughened channel bed mix. The specific cost changes related to the stream restoration account for approximately $318,921.

Other major drivers in the cost increase were related to structural items. As design progressed and more information about the existing soil condition became known, a heavier culvert with a more robust foundation was determined to be required. Wall heights also increased because of the need for scour protection, which also increased excavation and backfill quantities. These accounted for approximately $317,974 of the increases. The need for a temporary sanitary sewer bypass also added $144,614 to the cost of the project.

There were additional incremental increases in the costs of some items related to increased unit costs, increased material quantities, and further design refinement. A 10% contingency also was added to the estimate to account for unknowns encountered during construction. These additional costs resulted in an increase of $140,451 from the conceptual design. Please see the attached cost spreadsheets for itemized costs.

Project Name Padden Creek at 12th Street Fish Passage Improvement Conceptual Design
PRISM # 21-1419
Sponsor City of Bellingham

RESTORATION

				OVERALL PROJECT	GRANT REQUEST	MATCH			
				Budget must account for all costs to complete the project	*Enter only the amount of the grant request*	*The Grant Request and Match should equal the total project cost and Budget Check cell should be 0. Sponsors must account for all sources and types of match need to complete the project.*			
				Amount	Amount	Match in PRISM	Funding not reported in PRISM	Source (Grant, Cash, Materials, Labor, Volunteers, etc)	Match Type (federal, state, local)
Construction									
Category (choose one)	**Task Description**	**Qty**	**Rate**						
Mobilization	*Contractor Mobilization*	1.00	$ 132,000.00	$ 132,000		$ 132,000		Cash	
Equipment and equipment use	*Demo*	1.00	$ 32,300.00	$ 32,300	$ 32,300				
Equipment and equipment use	*Earthwork - cut & fill*	1.00	$ 15,000.00	$ 15,000	$ 15,000				
Equipment and equipment use	*Surfacing*	1.00	$ 4,100.00	$ 4,100	$ 4,100				
Equipment and equipment use	*Culvert*	1.00	$ 72,150.00	$ 72,150	$ 72,150				
Equipment and equipment use	*Walls*	1.00	$ 62,100.00	$ 62,100	$ 62,100				
Equipment and equipment use	*Railing/Fall Protection*	1.00	$ 7,500.00	$ 7,500	$ 7,500				
Equipment and equipment use	*Stream Restoration*	1.00	$ 141,350.00	$ 141,350	$ 141,350				
Equipment and equipment use	*Utilities*	1.00	$ 38,250.00	$ 38,250	$ 38,250				
				$ -	$ -				
Materials	*Demo*	1.00	$ 5,400.00	$ 5,400	$ 5,400				
Materials	*Earthwork - cut & fill*	1.00	$ 24,900.00	$ 24,900	$ 24,900				
Materials	*Surfacing*	1.00	$ 8,150.00	$ 8,150	$ 8,150				
Materials	*Culvert*	1.00	$ 144,300.00	$ 144,300	$ 144,300				
Materials	*Walls*	1.00	$ 124,200.00	$ 124,200	$ 124,200				
Materials	*Railing/Fall Protection*	1.00	$ 17,400.00	$ 17,400	$ 17,400				
Materials	*Stream Restoration*	1.00	$ 282,700.00	$ 282,700	$ 282,700				
Materials	*Utilities*	1.00	$ 76,500.00	$ 76,500	$ 76,500				
Materials	*Planting*	1.00	$ 7,350.00	$ 7,350	$ 7,350				
Construction labor	*Demo*	1.00	$ 16,200.00	$ 16,200	$ 16,200				
Construction labor	*Earthwork - cut & fill*	1.00	$ 9,960.00	$ 9,960	$ 9,960				
Construction labor	*Surfacing*	1.00	$ 1,360.00	$ 1,360	$ 1,360				
Construction labor	*Culvert*	1.00	$ 24,000.00	$ 24,000	$ 24,000				
Construction labor	*Walls*	1.00	$ 20,700.00	$ 20,700	$ 20,700				
Construction labor	*Railing/Fall Protection*	1.00	$ 2,800.00	$ 2,800	$ 2,800				
Construction labor	*Stream Restoration*	1.00	$ 47,100.00	$ 47,100	$ 47,100				
Construction labor	*Utilities*	1.00	$ 12,750.00	$ 12,750	$ 12,750				
Construction	*BMPs, TESC*	1.00	$ 93,000.00	$ 93,000	$ 93,000				
Project signs	*traffic control*		$ -	$ -	$ -				
Surveys	*Construction & as-built*	1.00	$ 30,000.00	$ 30,000	$ 30,000				
Construction supervision	*Construction observation (days)*	8.00	$ 2,500.00	$ 20,000	$ 20,000				
Permits	*Programmatic ESA, Streamlined Fish Enhancement HPA & COB Flood hazard (FEMA no-rise analysis) Permits, including supporting documents (wetland delineation, JARPA, design phase Geotech borings (SEPA, cultural review, COB exemptions for local permits). Stream hydraulic modeling to support final design & permitting.*	1.00	$ 95,000.00	$ 95,000.00	$ 95,000				
Cultural resources	*Cultural Resource Investigation and coordination with SHPO/Tribes*	1.00	$ 15,000.00	$ 15,000.00	$ 15,000				
			STotal	**$ 1,583,520**	**$ 1,451,520**	**$ 132,000**			

Administrative, Architechtural & Engineering									
Category	**Task Description**	**Qty**	**Rate**						
Preliminary design	*Alternatives, Design Report, C*	1.00	$ 100,000.00	$ 100,000.00		$ 100,000		Cash	
Final design	*20% to 60% Design Dwgs*	1.00	$ 60,000.00	$ 60,000.00	$ 6,847	$ 53,153		Cash	
Final design	*Final Design Rpt, Dwgs, Specs, Bid documents*	1.00	$ 60,000.00	$ 60,000.00	$ 60,000				
Data collection	*Geotechnical explorations*	1.00	$ 15,000.00	$ 15,000.00	$ 15,000				
Assessments (geologic, hydraulic, etc.)	*Geotechnical report and design collaboration*	1.00	$ 12,500.00	$ 12,500.00	$ 12,500				
Data collection	*survey*	1.00	$ 10,000.00	$ 10,000.00	$ 10,000				
Administrative	*Monthly Project Management - final design (2 years)*	12.00	$ 5,000.00	$ 60,000.00	$ 60,000				
			STotal	$ 317,500	$ 164,347	$ 153,153			

AA&E Budget Check
A&E maximum allowed in PRISM $ *475,056.00*
A&E validation 157,556

GTOTAL	**$ 1,901,020**	**$ 1,615,867**	**$ 285,153**	**$ -**
15% Match	$ 285,153	PRISM Project Total	$ 1,901,020	
		RCO Percentage	**Match Percentage**	
		85.00%	**15.00%**	

Project Name: Padden Creek at 12th Street Fish Passage Improvement Final Design
PRISM #: 21-1419
Sponsor: City of Bellingham

RESTORATION

				OVERALL PROJECT	GRANT REQUEST	MATCH			
				Budget must account for all costs to complete the project	*Enter only the amount of the grant request*	*The Grant Request and Match should equal the total project cost and Budget Check cell should be 0. Sponsors must account for all sources and types of match need to complete the project.*			
				Amount	Amount	Match in PRISM	Funding not reported in PRISM	Source (Grant, Cash, Materials, Labor, Volunteers, etc)	Match Type (federal, state, local)
Construction									
Category (choose one)	**Task Description**	**Qty**	**Rate**						
Mobilization	*Contractor Mobilization*	1.00	$ 232,100	$ 232,100	$ 232,100				
Equipment and equipment use	*Demo*	1.00	$ 57,420	$ 57,420	$ 57,420				
Equipment and equipment use	*Earthwork - cut & fill*	1.00	$ 12,045	$ 12,045	$ 12,045				
Equipment and equipment use	*Surfacing*	1.00	$ 6,435	$ 6,435	$ 6,435				
Equipment and equipment use	*Culvert*	1.00	$ 122,212	$ 122,212	$ 122,212				
Equipment and equipment use	*Walls*	1.00	$ 107,415	$ 107,415	$ 107,415				
Equipment and equipment use	*Railing/Fall Protection*	1.00	$ 8,113	$ 8,113	$ 8,113				
Equipment and equipment use	*Stream Restoration*	1.00	$ 237,021	$ 237,021	$ 237,021				
Equipment and equipment use	*Utilities*	1.00	$ 81,634	$ 81,634	$ 81,634				
Materials	*Demo*	1.00	$ 9,570	$ 9,570	$ 9,570				
Materials	*Earthwork - cut & fill*	1.00	$ 20,075	$ 20,075	$ 20,075				
Materials	*Surfacing*	1.00	$ 12,870	$ 12,870	$ 12,870				
Materials	*Culvert*	1.00	$ 244,424	$ 244,424	$ 244,424				
Materials	*Walls*	1.00	$ 214,830	$ 214,830	$ 214,830				
Materials	*Railing/Fall Protection*	1.00	$ 21,093	$ 21,093	$ 21,093				
Materials	*Stream Restoration*	1.00	$ 474,043	$ 474,043	$ 474,043				
Materials	*Utilities*	1.00	$ 163,268	$ 163,268		$ 163,268		Cash	
Materials	*Planting*	1.00	$ 59,286	$ 59,286	$ 59,286				
Construction labor	*Demo*	1.00	$ 28,710	$ 28,710	$ 28,710				
Construction labor	*Earthwork - cut & fill*	1.00	$ 8,030	$ 8,030	$ 8,030				
Construction labor	*Surfacing*	1.00	$ 2,145	$ 2,145	$ 2,145				
Construction labor	*Culvert*	1.00	$ 40,737	$ 40,737	$ 40,737				
Construction labor	*Walls*	1.00	$ 35,805	$ 35,805	$ 35,805				
Construction labor	*Railing/Fall Protection*	1.00	$ 3,245	$ 3,245	$ 3,245				
Construction labor	*Stream Restoration*	1.00	$ 79,008	$ 79,008	$ 79,008				
Construction labor	*Utilities*	1.00	$ 27,212	$ 27,212	$ 27,212				
Construction	*BMPs, TESC*	1.00	$ 69,287	$ 69,287	$ 69,287				
Project signs	*traffic control*		$ 11,000	$ 11,000	$ 11,000				
Surveys	*Construction & as-built*	1.00	$ 33,000	$ 33,000	$ 33,000				
Construction supervision	*Construction observation (days)*	8.00	$ 2,500	$ 20,000	$ 20,000				
Permits	*Programmatic ESA, Streamlined Fish Enhancement HPA & COB Flood hazard (FEMA no-rise analysis) Permits, including supporting documents (wetland delineation, JARPA, design phase Geotech borings (SEPA, cultural review, COB exemptions for local permits). Stream hydraulic modeling to support final design & permitting.*	1.00	$ 95,000	$ 95,000	$ 95,000				
Cultural resources	*Cultural Resource Investigation and coordination with SHPO/Tribes*	1.00	$ 15,000	$ 15,000	$ 15,000				
			STotal	**$ 2,552,031**	**$ 2,388,764**	**$ 163,268**		Cash	

Administrative, Architechtural & Engineering									
Category	**Task Description**	**Qty**	**Rate**						
Preliminary design	*Assessment, Survey, Reports, Design, Drawings, PM*	1.00	$ 305,542	$ 305,542		$ 305,542		Cash	
Final design	*Final Design, Dwgs, Specs, Bid Docs, PM*	1.00	$ 249,347	$ 249,347	$ 249,347				
			STotal	$ 554,889	$ 249,347	$ 305,542		Cash	

AA&E Budget Check						
A&E maximum allowed in PRISM	$	*765,609.39*	**GTOTAL**	**$ 3,106,920**	**$ 2,638,111**	**$ 468,810**	**$ -**
			15% Match	$ 466,038	PRISM Project Total	$ 3,106,920	
A&E validation	210,720				**RCO Percentage**	**Match Percentage**	
					84.91%	**15.09%**	

BRIAN ABBOTT

Fish Barrier Removal Board

Amendment Form

Date: 4/4/2025 **RCO Project Number**: 21-1418

Sponsor Name: City of Bellingham

Project Name: Padden Cr at 14th St Fish Passage Improvement

Type of Amendment: Cost Increase ☒ Time Extension ☐ Scope Change ☐

Justification: For cost increases, describe the need and specifically what the money will be used for. Please note: a grant cost increase requires the sponsor to increase its total match contribution to maintain the agreement's original cost share percentages. For time extensions that would place the project end date more than four years beyond the project start date, describe the reason and background for the delay and provide a timeline for project completion. For scope changes, describe the reason and what work types or elements of the project will change. Specify changes in quantities and/or metrics of project elements as necessary.

Grant Manager summary of costs: Project costs have increased from $1,571,733 to $3,227,195, an increase of $1,655,462, for reasons explained by project sponsor, below. Of this $1,655,462 increase, the sponsor is requesting $1,393,320 of additional FBRB funding. The project sponsor will provide %15.4 match of total project costs, in the amount of $497,902.

Supporting Documents Provided. (check all that apply):

☒ An updated Cost Estimate Spreadsheet composed of original budget with cost increase provided in a separate column clearly illustrating where costs have changed.

☐ An updated Project Milestone Worksheet

☐ Preliminary design package including design drawings and design report (Manual 22, Appendix C)

Review:

Washington Department of FISH and WILDLIFE

Approved: Yes ☐ **No** ☐

Date: Click here to enter a date.

Name: Click here to enter text.

Reason

WASHINGTON STATE Recreation and Conservation Office

Approved: **Yes** ☐ **No** ☐

Date: Click here to enter a date.

Name: Click here to enter text.

Reason

GeoEngineers

Memorandum

17425 NE Union Hill Road, Suite 250, Redmond, Washington 98052 Telephone: 425.861.6000 www.geoengineers.com

To:	Craig Mueller and Sara Brooke Benjamin, City of Bellingham
From:	Dan Eggers and Lisa Bona, GeoEngineers; Tim Guebert, Mat Miskovic, and Andrew Gastineau, KPFF
Date:	April 3, 2025
File:	00356-178-01
Subject:	#01.0622 0.70 - Padden Creek at 14th St. Fish Passage Improvement: Estimated Project Costs Justification

INTRODUCTION

The purpose of this memorandum is to document the differences between the estimated costs of the 14th St. Fish Passage Improvement Project at the Fish Barrier Removal Board (FBRB) grant application phase (conceptual design) vs. the 2024 cost estimate based on the final design phase. For the purposes of this memorandum, the level of design at the FBRB grant application will be referred to as "conceptual" design and the level of design in 2024 will be referred to as the "final" design. Itemized costs estimated at the two phases have been included as an attachment at the end of this memorandum.

INCREASE IN PROJECT COST ESTIMATE

Increase in Costs Between Conceptual Design and Final Design

The design team has compared the conceptual design cost estimate submitted with the FBRB application package and the final design cost estimate provided in 2024. The conceptual design construction cost estimate submitted with FBRB grant application was for a total of $1,284,233 and the final design construction cost estimate is for a total of $2,731,115, a difference of $1,446,882. An additional $1,341,946 is requested for the increase in construction costs, with a match increase of $104,936 for construction services. An additional $51,374 is being requested for Administrative, Architectural & Engineering (AA&E) services, with a match increase of $157,206 for AA&E services. The total increase request for the construction cost estimate and the AA&E services is $1,393,320. A total match of $497,902 is being proposed.

An itemized comparison of costs between the two phases has been included as an attachment at the end of this memorandum. The following pages of this memorandum document cost differences for some of the cost items, including the 10% contingency that was added to the final design. The following pages are not intended to comprehensively document every difference in cost between the two estimates but summarize those items that account for most of the increased cost. Also not included in the documentation is an accounting of individual unit cost increases between the conceptual design cost estimate prepared in 2022 and the final design cost estimate prepared in 2024, as these do not account for cost increases commensurate to the individual costs that are discussed below.

JUSTIFICATION OF INCREASE IN PROJECT COST ESTIMATE

Site-specific Demolition Items

In a meeting with Tribal and WDFW co-managers on July 5, 2023, a decrease in the channel gradient was requested. KPFF, WDFW and tribal co-managers agreed to decrease the proposed channel gradient from 1.76% to 1.52% by extending the channel grading by 100 feet. As a result, the proposed disturbed area increased from 0.1 acre to 0.4 acre. The site preparation and demolition items increased from $43,200 to $64,900, a difference of $21,700

Culvert and Other Elements

Conceptual plans included only basic pedestrian fall protection along the walls. As the design progressed, this changed to a more robust and context-sensitive wooden pedestrian/bike guardrail. Additional railing length along all steep slopes along both the main trail and the two connecting trails to the north and south, which also increased the total cost of railing. Work along these two trails was added since they will be disturbed for the contractor to access the site. This resulted in the need for the trails to be resurfaced and brought up to the current safety standards. The increase in length of railing increased the cost from $12,000 to $162,360, a difference of $150,360.

The conceptual design of the culvert used an approximate culvert weight and cost per pound. During final design, a heavier culvert was required because of a deeper burial depth. The foundation size also significantly increased due to the overburden and poor soils. The total culvert installation price increased from $214,135 to $427,587, a difference of $213,452. Most of this increase was foundation related.

Walls

Wall estimates calculated during the conceptual design included exposed wall face above final grade. Further analysis required a more deeply buried wall to protect against the possibility of scour undermining the wall, which increased the wall surface area. Wall backfill material also was calculated as a separate item. Wall costs increased from $134,550 to $263,340, a difference of $128,790.

Stream Restoration

The costs of several items related to restoration of the stream increased between the conceptual and final design. The cost associated with the temporary stream diversion increased partially because of recent bid results for similarly configured systems.

The cost associated with channel excavation and streambed material increased due to an additional 100 feet of grading to decrease the proposed channel gradient, as requested by the WDFW and tribal co-managers on July 5, 2023. The lower gradient allows for a stream simulation bed mix to be utilized instead of a roughened channel mixture.

Additionally, an increase in large woody material (LWM) and anchoring and installation complexity. Additional coordination with WDFW on December 5, 2023 and June 20, 2024 resulted in more logs to help provide a connected low-flow channel for Chum Salmon, the main species utilizing Padden Creek. The number of logs increased from five logs to 38 logs. LWM is configured to engage with low flows and will contribute to the overall stability of the channel, in lieu of a roughened channel design. Additionally, the increase in LWM provides

habitat and prevents plane bed formation. With limited right-of-way and large flows at the site, boulder deadman anchors with chain are required to achieve minimum factors of safety for stability. Installation of the LWM will require the boulder deadman anchors to be drilled and the chain to be secured. The strength of the chain must be tested before the LWM can be installed. Little to no conifer tree species exist on the site today. All trees and anchor materials must be imported to the site and transported down the pedestrian trail from the nearest road.

In total, the Stream restoration items increased from $303,200 to $829,417 between conceptual and final design, a difference of $526,217.

Utilities

The conceptual design estimates assumed that the old sewer would not be decommissioned and removed until the new one was operational. As such, no temporary bypass would be needed. As design progressed and a construction sequence evaluated, the decision was made that a temporary sewer bypass system would be needed in the period between the removal of the existing sewer and the construction and activation of the new sewer. This added cost is partially offset by a reduction in replaced sewer pipe. Utility costs increased from $220,888 to $349,895, coming to a net increase of $129,007 from the previous estimate.

SUMMARY

The estimated cost of construction of the Padden Creek at 14th St. Fish Passage Improvement increased by approximately $1,446,882 from the conceptual design cost estimate submitted with the FBRB grant application and the final design in 2024. Those estimates of costs of construction were/are $1,284,233 and $2,731,115, respectively. Additionally, a total of $208,114 is being requested for the AA&E tasks, bringing the total increase request for the project to $1,393,320.

There were several primary drivers of these increases that were identified. One was the decision to decrease the channel gradient from 1.76% to 1.52%, which increased the channel grading by 100 feet. This impacted items such as demolition and stream channel restoration. Another driver was the complexity of LWM installation, increased number of logs, and need for anchoring. The specific cost changes related to this are difficult to parse out, but account for approximately $526,217 of the overall increase, as discussed above.

Other major drivers in the cost increase were related to structural items. A more substantial and longer fall protection railing was required. As design progressed and more information about the existing soil condition became known, a heavier culvert with a more robust foundation was determined to be required. Wall heights also increased because of the need for scour protection, which also increased excavation and backfill quantities. These accounted for approximately $492,602 of the cost increase. The need for a temporary sanitary sewer bypass and other utility considerations added $129,007 to the cost of the project.

There were additional incremental increases in the costs of some items related to increased unit costs, increased material quantities, and further design refinement. A 10% contingency also was added to the estimate to account for unknowns during construction. These additional costs resulted in an increase of $299,056 from conceptual design. Please see the attached cost spreadsheets for itemized costs.

Project Name Padden Creek at 14th Street Fish Passage Improvement Conceptual Design
PRISM # 21-1418
Sponsor City of Bellingham

RESTORATION

				OVERALL PROJECT	GRANT REQUEST	MATCH			
				Budget must account for all costs to complete the project	*Enter only the amount of the grant request*	*The Grant Request and Match should equal the total project cost and Budget Check cell should be 0. Sponsors must account for all sources and types of match need to complete the project.*			
				Amount	Amount	Match in PRISM	Funding not reported in PRISM	Source (Grant, Cash, Materials, Labor, Volunteers, etc)	Match Type (federal, state, local)
Construction									
Category (choose one)	**Task Description**	**Qty**	**Rate**						
Mobilization	*Contractor Mobilization*	1.00	$ 105,000.00	$ 105,000		$ 105,000		Cash	
Equipment and equipment use	*Demo*	1.00	$ 25,900.00	$ 25,900	$ 25,900				
Equipment and equipment use	*Earthwork - cut & fill*	1.00	$ 15,000.00	$ 15,000	$ 15,000				
Equipment and equipment use	*Surfacing*	1.00	$ 4,100.00	$ 4,100	$ 4,100				
Equipment and equipment use	*Culvert*	1.00	$ 64,235.00	$ 64,235	$ 64,235				
Equipment and equipment use	*Walls*	1.00	$ 40,350.00	$ 40,350	$ 40,350				
Equipment and equipment use	*Railing/Fall Protection*	1.00	$ 3,600.00	$ 3,600	$ 3,600				
Equipment and equipment use	*Stream Restoration*	1.00	$ 88,000.00	$ 88,000	$ 88,000				
Equipment and equipment use	*Utilities*	1.00	$ 66,263.00	$ 66,263	$ 66,263				
Materials	*Demo*	1.00	$ 4,300.00	$ 4,300	$ 4,300				
Materials	*Earthwork - cut & fill*	1.00	$ 24,900.00	$ 24,900	$ 24,900				
Materials	*Surfacing*	1.00	$ 8,150.00	$ 8,150	$ 8,150				
Materials	*Culvert*	1.00	$ 128,500.00	$ 128,500	$ 128,500				
Materials	*Walls*	1.00	$ 80,700.00	$ 80,700	$ 80,700				
Materials	*Railing/Fall Protection*	1.00	$ 7,200.00	$ 7,200	$ 7,200				
Materials	*Stream Restoration*	1.00	$ 175,900.00	$ 175,900	$ 175,900				
Materials	*Utilities*	1.00	$ 132,525.00	$ 132,525	$ 132,525				
Materials	*Planting*	1.00	$ 5,250.00	$ 5,250	$ 5,250				
Construction labor	*Demo*	1.00	$ 13,000.00	$ 13,000	$ 13,000				
Construction labor	*Earthwork - cut & fill*	1.00	$ 10,000.00	$ 10,000	$ 10,000				
Construction labor	*Surfacing*	1.00	$ 1,360.00	$ 1,360	$ 1,360				
Construction labor	*Culvert*	1.00	$ 21,400.00	$ 21,400	$ 21,400				
Construction labor	*Walls*	1.00	$ 13,500.00	$ 13,500	$ 13,500				
Construction labor	*Railing/Fall Protection*	1.00	$ 1,200.00	$ 1,200	$ 1,200				
Construction labor	*Stream Restoration*	1.00	$ 39,300.00	$ 39,300	$ 39,300				
Construction labor	*Utilities*	1.00	$ 22,100.00	$ 22,100	$ 22,100				
Construction	*BMPs, TESC*	1.00	$ 57,500.00	$ 57,500	$ 57,500				
Project signs	*traffic control*		$ -	$ -	$ -				
Surveys	*Construction & as-built*	1.00	$ 30,000.00	$ 30,000	$ 30,000				
Construction supervision	*Construction observation (days)*	8.00	$ 2,500.00	$ 20,000	$ 20,000				
Permits	*Programmatic ESA, Streamlined Fish Enhancement HPA & COB Flood hazard (FEMA no-rise analysis) Permits, including supporting documents (wetland delineation, JARPA, design phase Geotech borings (SEPA, cultural review, COB exemptions for local permits). Stream Hydraulic Modeling to support final design and permitting.*	1.00	$ 60,000.00	$ 60,000.00	$ 60,000				
Cultural resources	*Cultural Resource Investigation and coordination with SHPO/Tribes*	1.00	$ 15,000.00	$ 15,000.00	$ 15,000				
			STotal	**$ 1,284,233**	**$ 1,179,233**	**$ 105,000**			

Administrative, Architechtural & Engineering									
Category	**Task Description**	**Qty**	**Rate**						
Preliminary design	*Alternatives, Design Report, C*	1.00	$ 100,000.00	$ 100,000.00		$ 100,000		Cash	
Final design	*60% Design Dwgs*	1.00	$ 40,000.00	$ 40,000.00	$ 9,240	$ 30,760		Cash	
Final design	*Final Design Rpt, Dwgs, Specs, Bid documents.*	1.00	$ 50,000.00	$ 50,000.00	$ 50,000				
Data collection	*Geotechnical explorations*	1.00	$ 15,000.00	$ 15,000.00	$ 15,000				
Assessments (geologic, hydraulic, etc.)	*Geotechnical report and desig*	1.00	$ 12,500.00	$ 12,500.00	$ 12,500				
Data collection	*survey*	1.00	$ 10,000.00	$ 10,000.00	$ 10,000				
Administrative	*Monthly Project Management - final design and construction (2 years)*	12.00	$ 5,000.00	$ 60,000.00	$ 60,000				
			STotal	$ 287,500	$ 156,740	$ 130,760			

GTOTAL	**$ 1,571,733**	**$ 1,335,973**	**$ 235,760**	**$ -**
15% Match	$ 235,760	PRISM Project Total	$ 1,571,733	

AA&E Budget Check	
A&E maximum allowed in PRISM $	*385,269.90*
A&E validation	97,770

RCO Percentage	**Match Percentage**
85.00%	**15.00%**

Project Name: Padden Creek at 14th Street Fish Passage Improvement Final Design
PRISM #: 21-1418
Sponsor: City of Bellingham

RESTORATION

				OVERALL PROJECT	GRANT REQUEST	MATCH			
				Budget must account for all costs to complete the project	*Enter only the amount of the grant request*	*The Grant Request and Match should equal the total project cost and Budget Check cell should be 0. Sponsors must account for all sources and types of match need to complete the project.*			
				Amount	Amount	Match in PRISM	Funding not reported in PRISM	Source (Grant, Cash, Materials, Labor, Volunteers, etc)	Match Type (federal, state, local)
Construction									
Category (choose one)	**Task Description**	**Qty**	**Rate**						
Mobilization	*Contractor Mobilization*	1.00	$ 253,000	$ 253,000	$ 253,000				
Equipment and equipment use	*Demo*	1.00	$ 38,940	$ 38,940	$ 38,940				
Equipment and equipment use	*Earthwork - cut & fill*	1.00	$ 15,345	$ 15,345	$ 15,345				
Equipment and equipment use	*Surfacing*	1.00	$ 12,029	$ 12,029	$ 12,029				
Equipment and equipment use	*Culvert*	1.00	$ 128,277	$ 128,277	$ 128,277				
Equipment and equipment use	*Walls*	1.00	$ 79,002	$ 79,002	$ 79,002				
Equipment and equipment use	*Railing/Fall Protection*	1.00	$ 40,590	$ 40,590	$ 40,590				
Equipment and equipment use	*Stream Restoration*	1.00	$ 248,826	$ 248,826	$ 248,826				
Equipment and equipment use	*Utilities*	1.00	$ 104,969	$ 104,969	$ 104,969				
Materials	*Demo*	1.00	$ 6,490	$ 6,490	$ 6,490				
Materials	*Earthwork - cut & fill*	1.00	$ 25,575	$ 25,575	$ 25,575				
Materials	*Surfacing*	1.00	$ 24,057	$ 24,057	$ 24,057				
Materials	*Culvert*	1.00	$ 256,552	$ 256,552	$ 256,552				
Materials	*Walls*	1.00	$ 158,004	$ 158,004	$ 158,004				
Materials	*Railing/Fall Protection*	1.00	$ 105,534	$ 105,534	$ 105,534				
Materials	*Stream Restoration*	1.00	$ 497,650	$ 497,650	$ 497,650				
Materials	*Utilities*	1.00	$ 209,936	$ 209,936		$ 209,936			
Materials	*Planting*	1.00	$ 79,585	$ 79,585	$ 79,585				
Construction labor	*Demo*	1.00	$ 19,470	$ 19,470	$ 19,470				
Construction labor	*Earthwork - cut & fill*	1.00	$ 10,230	$ 10,230	$ 10,230				
Construction labor	*Surfacing*	1.00	$ 4,010	$ 4,010	$ 4,010				
Construction labor	*Culvert*	1.00	$ 42,759	$ 42,759	$ 42,759				
Construction labor	*Walls*	1.00	$ 26,334	$ 26,334	$ 26,334				
Construction labor	*Railing/Fall Protection*	1.00	$ 16,236	$ 16,236	$ 16,236				
Construction labor	*Stream Restoration*	1.00	$ 82,942	$ 82,942	$ 82,942				
Construction labor	*Utilities*	1.00	$ 34,990	$ 34,990	$ 34,990				
Construction	*BMPs, TESC*	1.00	$ 65,285	$ 65,285	$ 65,285				
Project signs	*traffic control*		$ 11,000	$ 11,000	$ 11,000				
Surveys	*Construction & as-built*	1.00	$ 38,500	$ 38,500	$ 38,500				
Construction supervision	*Construction observation (days)*	8.00	$ 2,500	$ 20,000	$ 20,000				
Permits	*Programmatic ESA, Streamlined Fish Enhancement HPA & COB Flood hazard (FEMA no-rise analysis) Permits, including supporting documents (wetland delineation, JARPA, design phase Geotech borings (SEPA, cultural review, COB exemptions for local permits). Stream Hydraulic Modeling to support final design and permitting.*	1.00	$ 60,000.00	$ 60,000.00	$ 60,000				
Cultural resources	*Cultural Resource Investigation and coordination with SHPO/Tribes*	1.00	$ 15,000.00	$ 15,000.00	$ 15,000				
			STotal	**$ 2,731,115**	**$ 2,521,179**	**$ 209,936**		Cash	
Administrative, Architechtural & Engineering									
Category	**Task Description**	**Qty**	**Rate**						
Preliminary design	*Assessment, Survey, Reports, Design, Dwgs, PM*	1.00	$ 287,966.00	$ 287,966.00		$ 287,966		Cash	
Final design	*Final Design, Dwgs, Specs, Bid Docs, PM*	1.00	$ 208,113.90	$ 208,113.90	$ 208,114				
			STotal	$ 496,080	$ 208,114	$ 287,966		Cash	

AA&E Budget Check
A&E maximum allowed in PRISM $ *819,334.50*
A&E validation 323,255

GTOTAL	**$ 3,227,195**	**$ 2,729,293**	**$ 497,902**	**$ -**
15% Match	$ 484,079	PRISM Project Total	$ 3,227,195	
		RCO Percentage	**Match Percentage**	

Project Milestones

22-1084 Johnson Creek Triple Culvert Restoration 2022

Milestone	**Current Date**	**Proposed Date**	**Comments**
Landowner Agreement to RCO	12/31/2024	7/30/2025	Clallam County is drafting a NOSC/County MOU which is needed before they sign a Landowner Agreement.
Progress Report Due	04/15/2025	4/15/2025	
Bid Awarded/Contractor Hired	05/01/2025	5/1/2026	Updated design needed to go to bid. Final piece of ROW needed to go to bid. (Assumes budget shortfall is backfilled)
Restoration Started	07/07/2025	7/6/2026	Construction will occur of two consecutive summers. First summer is channel construction and preload installation. Second summer is preload removal and culvert/road construction.
RCO Final Inspection	10/15/2025	12/31/2027	
Funding Acknowl Sign Posted	10/15/2025	10/15/2027	
Restoration Complete	10/15/2025	10/15/2027	
Agreement End Date	12/31/2025	12/31/2027	
Final Report Due	01/31/2026	1/31/2028	
Final Billing Due	01/31/2026	1/331/2028	

FBRB Cost Increases: Subcommittee Recommendations

Cost Increase Subcommittee Meetings:
April 9

Cost Increase Requests for:

- 21-1418 Padden Cr at 14th St Fish Passage Improvement
- 21-1419 Padden Cr at 12th St Fish Passage Improvement
- 22-1084 Johnson Creek Triple Culverts

21-1418 Padden Cr at 14th St Fish Passage Improvement
Sponsor: City of Bellingham

Key Discussion Points: Higher ranking project, high benefit for multiple salmon species, TRT final design approved, cost increase due to TRT review comments, infrastructure modification requirements to accommodate fish passage, inflation. Sponsor also prioritized downstream barriers on Padden Creek.

Subcommittee Recommendation: Recommend approving the cost increase as presented.

Move to a decision point: Approve cost increase of **$1,393,320** based upon the cost increase request and the subcommittee recommendation.

21-1419 Padden Cr at 12th St Fish Passage Improvement
Sponsor: City of Bellingham

Key Discussion Points: Higher ranking project, high benefit for multiple salmon species, TRT final design approved, cost increase due to TRT review comments, infrastructure modification requirements to accommodate fish passage, inflation. Sponsor also prioritized downstream barriers on Padden Creek.

Subcommittee Recommendation: Recommend approving the cost increase as presented.

Move to a decision point: Approve cost increase of **$1,022,244** based upon the cost increase request and the subcommittee recommendation.

22-1084 Johnson Creek Triple Culverts
Sponsor: North Olympic Salmon Coalition

Key Discussion Points: TRT final design approved, cost increase due to construction requirements from the County.

Subcommittee Recommendation: Recommend approving the cost increase as presented with the available funding from the 21-23 biennium.

Move to a decision point: Approve cost increase of **$205,141** based upon the cost increase request, the subcommittee recommendation, and available funding.