

PROJECT: 20-1797 REST, RUBY CREEK CULVERT AT SIDNEY RD. PORT ORCHAR
 Sponsor: Port Orchard City of Program: BA Fish Barrier Removal Board Status: Application Complete

Parties to the Agreement

PRIMARY SPONSOR

City of Port Orchard
Address 216 Prospect St
City Port Orchard **State** WA **Zip** 98366
Org Type City/Town
Vendor # SWV0025665-00
UBI
Date Org created
Org Notes [link to Organization profile](#)
☐ Org data updated

SECONDARY SPONSORS

No records to display

Project Contacts

Contact Name Primary Org	Project Role	Work Phone	Work Email
David Caudill Rec. and Conserv. Office	Project Manager	(360) 867-8573	Dave.Caudill@rco.wa.gov
Zack Holt Port Orchard City of	Project Contact	(360) 876-4991	zholt@cityofportorchard.us
Heidi Draper Port Orchard City of	Billing	(360) 874-5523	hdraper@cityofportorchard.us

Worksites & Properties

Worksite Name
 #1 Ruby Creek Culvert at Sidney Rd.

Restoration	Property Name
✓	Sidney Rd. culvert

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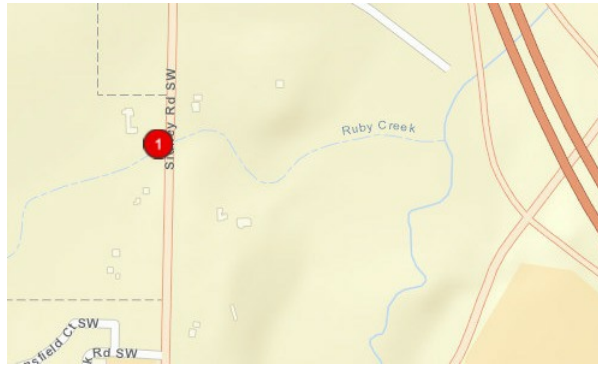
Worksite Map & Description

Worksite #1: Ruby Creek Culvert at Sidney Rd.

WORKSITE ADDRESS

Street Address 5071 Sidney Rd. SW

City, State, Zip Port Orchard WA 98367



Worksite Details

Worksite #1: Ruby Creek Culvert at Sidney Rd.

SITE ACCESS DIRECTIONS

From WA SR-16 Westbound: take the Sedgwick Rd./Southworth Ferry Exit in Port Orchard. turn left at the light and head west on SR 160 (Sedgwick Rd.) until you come to the intersection of Sidney Rd and Sedgwick. Turn right on Sidney Rd. the site is approximately 1200 feet north of the Sidney/Sedgwick intersection.

TARGETED ESU SPECIES

Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
Chinook-unidentified			✓	Unknown
Coho-unidentified	✓	✓	✓	Declining
Chum-unidentified	✓	✓	✓	Declining
Steelhead-Puget Sound, East Kitsap Peninsula Tributaries, Threatened				Unknown

Reference or source used

Puget Sound Steelhead East Kitsap DIP Recovery Plan, 2020. Suquamish Tribe Blackjack Creek Watershed Protection and Restoration Plan, 2017 Suquamish Tribe

TARGETED NON-ESU SPECIES

Species by Non-ESU	Notes
Lamprey	
Searun Cutthroat	

Questions

#1: Give street address or road name and mile post for this worksite if available.

5071 Sidney Rd. SW Port Orchard WA, 98366

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Project Location

RELATED PROJECTS

Projects in PRISM

PRISM Number	Project Name	Current Status	Relationship Type	Notes
20-1011 R	Ruby Creek Fish Passage and Stream Restoration	Wastebasket	Current Phase	This project is upstream of the Sidney Rd. barrier.
10-1701 R	Foster- Ruby Creek R8	Closed Completed	Earlier Phase	This project is upstream of the Sidney Rd. barrier.

Projects not in PRISM

Project Number	Project Name	Current Status	Relationship Type	Project Funder
996755	Blackjack Creek Culvert repair SR-16	In Progress	Future Phase	WSDOT
990038	Blackjack Creek Culvert repair SR-16	In Progress	Future Phase	WSDOT
996756	Blackjack Creek Culvert repair SR-16	In Progress	Future Phase	WSDOT

Related Project Notes

All three WSDOT culverts are approximately 0.1RM downstream of the Ruby Creek Culvert at Sidney. Both of the Kitsap Conservation District projects are upstream of the Sidney Rd. culvert. The Sidney Rd. culvert is the lowest and most restrictive barrier on Ruby Creek. Removing this barrier in conjunction with these surrounding barrier removal projects would open up all of Ruby Creek for fish passage.

Questions

#1: Is the project on State Owned Aquatic Lands? Please contact the Washington State Department of Natural Resources to make a determination. [Aquatic Districts and Managers](#)

No

Project is within City UGA and is located on City owned Right-of-Way for Sidney Rd.

Property Details

Property: Sidney Rd. culvert (Worksite #1: Ruby Creek Culvert at Sidney Rd.)

Project Proposal

Project Description

The City of Port Orchard will use this grant to fund the removal of the Ruby Creek Barrier at Sidney Rd. to improve fish passage within the creek. The barrier is located on Sidney Rd. approximately 3000 ft north of the intersection of Sedgwick Rd. and Sidney Rd. (-122.65304 x 47.50117). This is the lowest and most significant barrier on Ruby Creek before it merges with Blackjack Creek, substantially blocking fish migration from Blackjack upstream to Ruby. Funding this project will help to restore stream connectivity between Ruby Creek and Blackjack Creek, improving passage of populations of Endangered Species Act listed East Kitsap DIP Steelhead, Coho, Chinook, Chum and Cutthroat that are present in both streams. The primary habitat that will be restored is in-stream habitat and riparian habitat creating accessibility for fish to approximately 1,102 sq M of spawning habitat and 44,382 sq M of rearing habitat. This culvert has been rated by WDFW with a PI total of 37.86. This barrier removal will improve habitat connectivity and increase fecundity of existing fish populations by removing anthropogenic barriers and restoring natural vegetation and processes to Ruby Creek, promoting angling and wildlife viewing opportunities. Several other barrier removals have been conducted or are scheduled upstream and downstream of the Sidney Rd. barrier, leaving this culvert the last limiting barrier for fish migration on Ruby Creek.

Project Questions

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#1: Provide the WDFW Site ID for the proposed culvert barrier correction worksite(s) or enter Unknown.

1320082

#2: Are you planning on using the Fish Habitat Enhancement Project (FHEP) **Streamlining Process** ? If no, please let us know why.

Yes

#3: Contribution to Recovery Plan and Additional Supporting Information. Describe the proposed project's contribution to an approved recovery plan and provide any other relevant information you would like for the Board to consider in the evaluation of the proposed project.

This project contributes to the following recovery plans:

Blackjack Creek Watershed Assessment and Protection and Restoration Plan - (Document available online at: https://82u.26b.myftpupload.com/wp-content/uploads/2018/03/Blackjack_WatershedPlan_FINALv2_29Dec2017_complete.pdf)

DRAFT Puget Sound Steelhead East Kitsap DIP Recovery Plan - (Final version to be published in late spring, 2020)

The Sidney Rd barrier is the lowest and most significant barrier on Ruby Creek before it merges with Blackjack Creek, limiting fish migration from Blackjack Creek to Ruby Creeks 1,102 sq M of spawning habitat and 44,382 sq M of rearing habitat. Removal of this barrier is identified in the Blackjack Creek Watershed Assessment and Protection and Restoration Plan as a priority project. Funding this project will help to restore stream connectivity between Ruby Creek and Blackjack Creek, improving populations of Endangered Species Act listed East Kitsap DIP Steelhead, Coho, Chinook, Chum and Cutthroat that are present in both streams.

#4: When was the last barrier evaluation and downstream check conducted for the proposed barrier correction worksite(s)? Please provide an overview of the barrier evaluation and downstream check results (for example: The existing culvert was evaluated in 2014 and determined to be a 33% passable slope barrier. There are no barriers downstream.)

This culvert was last evaluated by WDFW on 2/12/2018. It is the most significant barrier in the Ruby Creek basin. It is listed with 33% passability due to depth (see attached PI report). Ruby Creek merges with Blackjack Creek approx. 1200 ft downstream of this barrier. WSDOT is currently working to remove significant barriers downstream of the Sidney culvert on Blackjack Creek (ID#s 996756, 990038, 996755) where it crosses under SR-16. Upstream barriers are being removed by Kitsap Cons. Dist.

#5: Limiting Factors. Describe how the proposed project addresses limiting factors to salmon and steelhead productivity and life history stages within the watershed.

The Sidney Rd. culvert is the furthest downstream barrier for Ruby Creek before it merges with Blackjack Creek (Sidney culvert ID# 1320082). It is the most significant barrier in the Ruby Creek drainage basin. This culvert is impeding fish passage to approximately 1,102 m2 of spawning habitat and approximately 44,382 m2 of rearing habitat. The culvert currently has a PI rating of 37.86. Ruby Creek hosts populations of Chum, Coho and Steelhead as well as Sea Run and Resident trout. Preliminary design for this barrier removal is attached to this submittal. Ruby Creek is an important tributary to Blackjack Creek, which hosts populations of Chinook and ESA listed Steelhead. Blackjack Creek watershed is a priority salmonid watershed for the West Sound Partners for Ecosystem Recovery Lead Entity. This is a project of local significance listed in the Blackjack Creek Watershed Assessment and Protection Restoration Plan (Suquamish tribe, 2017)

#6: Project Scope. Describe the scope of the proposed project and the goals and objectives. Describe how the project scope is appropriate to meet the identified goals and objectives. Include milestones and a detailed schedule.

This project is based on partial designs developed by the city to replace the existing barrier culvert with a larger three sided precast bridge. Goals of this project include:

1. Conduct a due diligence assessment to determine which permits are required, conduct a survey of the existing conditions, section 106 cultural resources assessment, habitat improvement assessment and geotechnical exploration. Conduct outreach to all involved stakeholders and public informing them about the project.
2. Develop final design based upon due diligence assessment and feedback from stakeholder group.
- 3 Remove barrier culvert and replace structure with improved, fish friendly passage. Perform habitat remediation as needed to improve and mitigate for any disturbance caused by the construction. Monitor the site for maintenance needs and plant establishment.

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#7: Cost Effectiveness. Describe how the project is cost-effective in terms of cost and biological benefit.

Partial designs assessed several different configurations for best fit to cost and biological benefit. Pre-fabricated structures were decided upon in preliminary considerations to save costs over fabricating in-place. Precast concrete vs steel is another consideration being taken into account that may result in cost savings. Determining the best fit between the two choices for this crossing retrofit will be assessed in final design. Reductions in cost due to these savings can then be transferred into design criteria that better suit biological benefit (e.g. wider expanse of the three sided structure to increase safety factors for scour, extend habitat restoration component further up or downstream, etc.)

#8: Level of Coordination. Describe the level of coordination of the proposed project with other recently completed or ongoing restoration projects within the watershed. Only describe projects within the same HUC 10 and completed since 2010 or funded for implementation by 2023. (Note: this can be any type of habitat restoration, e.g., large wood placement or floodplain restoration.) If more space is needed to answer this question create a document providing the required information and attach it in PRISM - document type should be FBRB Level of Coordination. This document should provide the coordinating projects providing the project type, PRISM number if it has one, project location, latitude and longitude preferred, and a brief description of the project(s).

This project will compliment barrier removals and habitat restoration projects that have been conducted by the Kitsap Conservation District (KCD) upstream of the Sidney Rd. barrier. KCD is scheduling additional restoration projects upstream to be conducted in the 2021-2023 biennium that will further benefit the Ruby Creek basin. Immediately downstream of the Sidney Rd. barrier the City is conducting a feasibility study for a stream augmentation and floodplain/habitat restoration project to improve floodplain storage and offset seasonal low flows in Blackjack creek at the confluence of Blackjack and Ruby Creek. In addition, WSDOT is removing three significant barriers where SR-16 crosses Blackjack Creek, approximately 0.2 RM downstream of the Sidney Rd. barrier leaving the Sidney Rd. culvert the last limiting barrier for fish migration on Ruby Creek. Other projects within this basin include the recent removal of a WSDOT owned barrier at the mouth of Anderson Creek and the Vedin FFFPP Project on Kabelac Creek located near Anderson Creek.

#9: Is any part of the scope of work included in this application required as mitigation for another project or action or court injunction? E.g. FERC relicensing, Habitat Conservation Plan, legal settlement, culvert injunction, etc. If yes, explain:

No

#10: Southern Resident Killer Whales. Does this project benefit a Chinook stock within priority areas listed in NOAA Fisheries and WDFW's June 22, 2018 document on Southern Resident Killer Whale Priority Chinook Stocks Report?

This project has the potential to improve East Kitsap Chinook populations and East Kitsap DIP Steelhead populations within Puget Sound.

#11: Does your project address or accommodate the anticipated effects of climate change?

Yes

#11a: How will your project be climate resilient given future conditions?

Final design for the culvert replacement will be engineered to accommodate increases in seasonal flooding and stream channel morphology changes using stream modelling software to account for estimated effects of climate change.

#11b: How will your project increase habitat and species adaptability?

By removing the existing barrier and replacing it with a wider, more structurally sound three sided feature that is better suited to match the bankfull and overbank widths of Ruby Creek, fish passing through the stream underneath the proposed structure should not be impacted by stream velocity, slope or depth barriers. By addressing these limiting factors, reduced stressors to migratory fish should allow better distribution within the large areas of spawning and rearing habitat upstream that were previously difficult for them to reach due to the existing barrier. Increasing available habitat and reducing passability barriers allows for better distribution of healthier, less stressed populations. Healthier migrating fish should result in increased fecundity for species of concern, as more habitat and refugia are available for spawning, foraging and overwintering.

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Restoration Metrics

Worksite: Ruby Creek Culvert at Sidney Rd. (#1)

Project Identified In a Plan or Watershed Assessment (C.0.c)	Blackjack Creek Watershed Assessment Suquamish Tribe (Document available content/uploads/2018/03/Blackjack_Waters DRAFT Puget Sound Steelhead East Kitsa (Fir
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Type Of Monitoring (C.0.d.1)	None
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Monitoring Location (C.0.d.2)	No monitoring completed
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FISH PASSAGE IMPROVEMENT

Miles Of Stream Made Accessible (C.2.b.1)	5.55
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Habitat made accessible (2489)	27.57 square miles of rearing habitat 0.68 square miles of spawning habitat
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Additional barriers (2490)	None downstream on Ruby Creek, approximately seven partial barriers upstream. US barriers are on private property and are being addressed by Kitsap Conservation District.
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Method used to determine miles opened (2496)	WDFW determined the amounts listed above in their PI assessment.
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Type Of Barrier (C.2.b.3)	Culvert
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Number of blockages / impediments / barriers impeding passage (C.2.b.4)	1
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Describe the current barrier (2486)	Culvert is a CMP squash pipe that is 8.5 ft wide x 6 ft tall x 95 feet long that is in fair condition.
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Passage problem (2487)	Depth
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Passability (2488)	33% (Partial)
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Culvert installed or improved (C.2.f.1)

Total cost for Culvert installed or improved	\$1,739,856
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Number of culverts (C.2.f.2)	1
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Miles of stream made accessible by culvert installation/repair (C.2.f.3)	5.50
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Correction option (2491)	Stream simulation No slope
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CULTURAL RESOURCES

Cultural resources

Total cost for Cultural resources	\$20,000
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Acres surveyed for cultural resources	1.00
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PERMITS

Obtain permits

Total cost to Obtain permits	\$15,000
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Number of permits required for implementation of project	
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ARCHITECTURAL & ENGINEERING

Architectural & Engineering (A&E)

Total cost for Architectural & Engineering (A&E)	\$136,529
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Overall Project Metrics

PRIORITY WATERSHED

Select the priority watershed the proposed project is located. If N/A select None.

None

COMPLETION DATE

Projected date of completion

07/31/2023

SPONSOR MATCH: MONETARY FUNDING

Amount of other monetary funding (A.12)

\$286,708

Source of other monetary funding (A.12.a)

City of Port Orchard

Timing of other monetary funding

Funds are allocated in the City's 2021-2023 biennial cycle.

SPONSOR MATCH: DONATED UN-PAID LABOR (VOLUNTEERS)

Value of Donated Unpaid Labor (Volunteers) (A.13.a.2)

\$0

Source of Donated Un-paid labor contributions (A.13.a.4)

0

SPONSOR MATCH: DONATED PAID LABOR

Value of Donated Paid Labor (A.13.b.1)

\$0

Source of Donated Paid Contributions (A.13.b.2)

0

SPONSOR MATCH: OTHER IN-KIND CONTRIBUTIONS

Value of Other In-Kind Contributions (A.13.c.1)

\$0

Source of Other In-Kind Contributions (A.13.c.3)

0

Description of other In-Kind contributions (A.13.c.2)

0

Metric Match Total

\$286,708

Restoration Cost Estimates

Worksite #1: Ruby Creek Culvert at Sidney Rd.

Category	Work Type	Estimated Cost	Note
Cultural Resources	Cultural resources	\$20,000	
Fish Passage Improvement	Culvert installed or improved (C.2.f.1)	\$1,739,856	
Permits	Obtain permits	\$15,000	
	Subtotal:	\$1,774,856	
Admin, Architecture, and Engineering		\$136,529	
	Total Estimate For Worksite:	\$1,911,385	

Summary

Total Estimated Costs Without AA&E:	\$1,774,856
Total Estimated AA&E:	\$136,529
Total Estimated Restoration Costs:	\$1,911,385

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Cost Summary

	Estimated Cost	Project %	Admin/AA&E %
<u>Restoration Costs</u>			
Restoration	\$1,774,856		
Admin, Architecture, and Engineering	\$136,529		7.69 %
SUBTOTAL	\$1,911,385	100.00 %	
Total Cost Estimate	\$1,911,385	100.00 %	

Funding Request and Match

FUNDING PROGRAM

BA Fish Barrier Removal Board	\$1,624,677	85.00 %
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SPONSOR MATCH

Category	Amount	Project %
Appropriation - Local	\$286,708	
Match Total:	\$286,708	15.00 %
Total Funding Request:	\$1,911,385	100.00 %

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Cultural Resources

Worksite #1: Ruby Creek Culvert at Sidney Rd.

#1: Provide a description of the project actions at this worksite (acquisition, development and/or restoration activities that will occur as a part of this project)

Culvert removal and replacement with larger, wider three sided structure

#2: Describe all ground disturbing activities (length, width and depth of disturbance and equipment utilized) that will take place in the Area of Potential Effect (APE). Include the location of any construction staging or access roads associated with your project that will involve ground disturbance.

Existing barrier will be excavated with large excavators. Stream bypass will be gravity with coffer dams. Cranes will set precast sections of replacement structure and footings.
width of disturbance: 96 feet
length of disturbance: 300 feet
depth of disturbance 25 feet
staging area will be adjacent to site in existing open field.
Estimated 300 ft x 300 ft area.

#3: Describe any planned ground disturbing pre-construction/restoration work. This includes geo-technical investigation, fencing, demolition, decommissioning roads, etc.

Geo-technical and cultural resource assessments will be conducted during due diligence assessment for the site. No other pre-construction activities are anticipated.

#4: Describe the existing project area conditions. The description should include existing conditions, current and historic land uses and previous excavation/fill (if depths and extent is known, please describe).

Area has been rural residential with some pasture lands.

#5: Will a federal permit be required to complete the scope of work on the project areas located within this worksite?
Unknown

#6: Are you utilizing Federal Funding to complete the scope of work? This includes funds that are being shown as match or not.
No

#7: Do you have knowledge of any previous cultural resource review within the project boundaries during the past 10 years?
No

#8: Is the worksite located within an existing park, wildlife refuge, natural area preserve, or other recreation or habitat site?
No

#9: Are there any structures over 45 years of age within this worksite? This includes structures such as buildings, tidegates, dikes, residential structures, bridges, rail grades, park infrastructure, etc.
No

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Project Permits

Permits and Reviews	Issuing Organization	Applied Date	Received Date	Expiration Date	Permit #
Building Permit	City/County				
Clear & Grade Permit	City/County				
Cultural Assessment [Section 106]	DAHP				
Hydraulics Project Approval [HPA]	Dept of Fish & Wildlife				
SEPA	Local or State				
Other Required Permits					

Note: right of way permit

Permit Questions

#1: Are you planning on using the federal permit streamlining process? **Limit 8**
Yes