PROJECT: 24-1117 REST, RACE LAGOON CULVERTS - PHASE 2

Sponsor: Island County Public Works Program: Salmon State Projects Status: Application Submitted

Parties to the Agreement

PRIMARY SPONSOR

Island County Public Works

Address PO Box 5000

City Coupeville **State** WA **Zip** 98239

Org Type County-Engineering/Public Works

Vendor # SWV0000203-00

UBI

Date Org created

Org Notes Mailing Address for IC Public Works is now: 1 NE 7th Street Coupeville, WA 98239

link to Organization profile
link to PRISM Organization page
☐ Org data updated

SECONDARY SPONSORS

Skagit Fisheries Enhancement Group

Address PO Box 2497

City Mount Vernon **State** WA **Zip** 98273

Org Type Non-Gov-Reg Fisheries Enhance Group

Vendor # SWV0015097-00

UBI 601296455

Date Org created

Org Notes

link to Organization profile
link to PRISM Organization page
☐ Org data updated

MANAGING AGENCY

Recreation and Conservation Office

LEAD ENTITY

Island County LE

QUESTIONS

#1: List project partners and their role and contribution to the project.

External Systems

SPONSOR ASSIGNED INFO

Sponsor-Assigned Project Number

Sponsor-Assigned Regions

EXTERNAL SYSTEM REFERENCE

Source	Project Number	Submitter
HWS	06-NP-01-017	SRPEditUser

Project Contacts

Contact Name Primary Org	Project Role	Work Phone	Work Email
Matthew Lander Island County of	Project Contact	(360) 679-7331	m.lander@islandcountywa.gov
Yuki Reiss Skagit Fish Enhancement Group	Alt Project Contact	(360) 770-3177	kyreiss@skagitfisheries.org
Clea Barenburg Island County LE	Lead Entity Contact	(360) 544-2272	C.Barenburg@islandcountywa.gov
Alison Studley Skagit Fish Enhancement Group	Secondary Sponsor Contac	(360) 336-0172 300	astudley@skagitfisheries.org
Bridget Kaminski Rec. and Conserv. Office	Project Manager	(360) 472-5546	bridget.kaminski@rco.wa.gov

Worksites & Properties

#	Worksite Name
#1	Race Lagoon #1893

Restoration	Property Name
✓	Race Rd Culvert #1893

#	Worksite Name
#2	Race Lagoon #1894 and RFEG053

Restoration	Property Name
✓	Race Road Culvert #1894
✓	507 Race Road

Worksite Map & Description

Worksite #1: Race Lagoon #1893

WORKSITE ADDRESS

Street Address 503 Race Rd
City, State, Zip Coupeville WA 98239

Worksite #2: Race Lagoon #1894 and RFEG053

WORKSITE ADDRESS

Street Address 507 Race Rd
City, State, Zip Coupeville WA 98239

Worksite Details

Worksite #1: Race Lagoon #1893

SITE ACCESS DIRECTIONS

Site is located on Whidbey Island near Coupeville, WA. From Highway 20, travelling either north or south, turn east on West Welcher Road, travel 1.3 miles down W Welcher Road and take a sharp right onto Race Road. The first culvert crossing, 1893, is approximately 0.43 miles south.

TARGETED ESU SPECIES

Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
Chinook-Puget Sound, Threatened		✓		Declining
Coho-Puget Sound/Strait of Georgia, Species of Concern		✓		Unknown
Pink-Odd Year, Not Warranted		✓		Stable
Chum-Puget Sound/Strait of Georgia, Not Warranted		✓		Stable

Reference or source used

WDFW salmonscape cites Coho, Pink, and Chum ESUs in the project area. Fish sampling conducted by Skagit River System Cooperative in 2006 and 2007 confirmed the presence of juvenile Chinook (Age 0 and 1), chum (Age 0), pink salmon (Age 0) in Race Lagoon.

TARGETED NON-ESU SPECIES

Species by Non-ESU	Notes
Searun Cutthroat	Stream is accessible to searun cutthroat trout and cutthroat trout were found in by tribes in Race Lagoon

Questions

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

Culvert #1893 flows under Island County-owned Race Rd near 503 Race Road, Coupeville, WA 98239.

Worksite #2: Race Lagoon #1894 and RFEG053

SITE ACCESS DIRECTIONS

Site is located on Whidbey Island near Coupeville, WA. From Highway 20, travelling either north or south, turn east on West Welcher Road, travel 1.3 miles down W Welcher Road and take a sharp right onto Race Road. The first culvert crossing, 1893, is approximately 0.43 miles south and the second culvert crossing, 1894, is approximately 400 feet south. The private crossing at 507 Race Rd is less than 20 feet downstream of the County culvert #1894.

TARGETED ESU SPECIES

Species by ESU	Egg Present	Juvenile Present	Adult Present	Population Trend
Chinook-Puget Sound, Threatened		✓		Declining
Coho-Puget Sound/Strait of Georgia, Species of Concern		✓		Unknown
Pink-Odd Year, Not Warranted		✓		Stable
Chum-Puget Sound/Strait of Georgia, Not Warranted		✓		Stable

Reference or source used

WDFW salmonscape cites Coho, Pink, and Chum ESUs in the project area. Fish sampling conducted by Skagit River System Cooperative in 2006 and 2007 confirmed the presence of juvenile Chinook (Age 0 and 1), chum (Age 0), pink salmon (Age 0) in Race Lagoon.

TARGETED NON-ESU SPECIES

Species by Non-ESU	Notes
Searun Cutthroat	Stream is accessible to searun cutthroat trout and cutthroat trout were found in by tribes in Race Lagoon

Questions

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

Culvert #1894 flows under Island County-owned Race Road near 507 Race Road, Coupeville, WA 98239. Another privately owned culvert barrier less than 20 feet downstream will be removed and the stream regraded ~40 feet to eliminate a stream drop.

Project Location

RELATED PROJECTS

Projects in PRISM

PRISM Number	Project Name	Program Name	Current Status	Relationship Type	Notes
19-1343 P	Island County Culvert Prioritization - Area 2	Salmon State Projects	Closed Completed	Earlier Phase	Current culvert prioritization identified the two Race Lagoon culverts as a restoration priority.
22-1089 P	Race Lagoon Passage - Culverts #1893 & 1894	Salmon Federal Projects	Active	Current Phase	Currently working on completing the design phase of this project.

Related Project Notes

Questions

#1: Project location. Describe the geographic location, water bodies or habitat types, and the location of the project in the watershed, i.e. nearshore, tributary, main-stem, off-channel, etc.

The proposed barrier removal projects are located on central Whidbey Island just east of Coupeville, WA. on two unnamed tributary streams that flow directly into nearby estuary habitat, Race Lagoon. Both culvert barriers are located on Race Road are approximately 400 feet apart and limit fish access to rearing habitat in coastal tributary streams that flow into Race Lagoon. Culverts are each located less than 200 feet upstream from the lagoon.

#2: How does this project fit within your regional recovery plan and/or local lead entity's strategy to restore or protect salmonid habitat? Cite section and page number.

Island County nearshore has been determined to be critical rearing habitat for out-migrating juvenile salmon from the Skagit River and other Puget Sound Rivers (Beamer et al, 2000; Beamer et al, 2005). The amount of rearing habitat for juvenile salmonids is limited in WRIA 6 and removal of fish passage barriers in the nearshore is critical for population recovery of Puget Sound salmon populations. The central location of WRIA 6 in the Salish Sea, at the junction of Puget Sound, the Strait of Juan de Fuca and Georgia Strait, means that most Puget Sound juvenile and adult salmon and trout populations utilize WRIA 6 marine and nearshore waters to some extent (WRIA 6 Technical Advisory Group, 2005).
One of the goals of the WRIA 6 Multi-species Salmon Recovery Plan is to "Over the long term, achieve a net increase in salmon habitat through protection, enhancement, and restoration of naturally-functioning ecosystems that support self-sustaining salmon populations and the species that depend on salmon." One of the objectives included in this goal is to "restore/enhance critical rearing habitats for forage fish and juvenile salmon." Estuaries are one of those habitat types. This project falls within Geographic priority area 2, priority area 1 is the most used by juvenile salmonids but juvenile rearing usage has been documented all over priority area 2, especially in pocket estuaries.
The WRIA 6 recovery plan explicitly identifies connectivity modifications, streamflow modifications, and undersized culverts as pressures/limiting factors which need to be addressed by restoration entities. "Removing fish passage barriers to benefit anadromous fish," and "reconnecting creek mouths, backshore areas, and estuaries" are both explicitly listed as tier 1 recovery strategy priorities in the 2019 recover plan. In this same plan, "providing adequate streamflow" is listed as a tier 2 recovery strategy priority. This project meets these goals and objectives and is in line with the most up to date research and recovery plans. Lack of rearing habitat is a limiting factor in Chinook recovery. Lack of rearing habitat is a limiting factor in Chinook recovery. Research by Skagit River System Cooperative (SRSC) and others indicates that small, non-natal estuaries (pocket estuaries) within Whidbey Basin are preferred 20 to 1 by endangered Chinook salmon for nearshore rearing during the early stages of their out-migration.

#3: Is this project part of a larger overall project?

No

#4: 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

Property Details

Property: Race Rd Culvert #1893 (Worksite #1: Race Lagoon #1893)

✓ **Restoration**

LANDOWNER

Name	Island County Public Works
Address	1 NE 7th Street
City	Coupeville
State	WA Zip 98239
Type	Local

CONTROL & TENURE

Instrument Type	Sponsor owned property (deed)
Timing	Existing
Term Length	Perpetuity
# Yrs	
Expiration Date	
Note	Right of Way of Race Rd

Property: Race Road Culvert #1894 (Worksite #2: Race Lagoon #1894 and RFEG053)

✓ **Restoration**

LANDOWNER

Name	Island County Public Works
Address	1 NE 7th Street
City	Coupeville
State	WA Zip 98239
Type	Local

CONTROL & TENURE

Instrument Type	Sponsor owned property (deed)
Timing	Existing
Term Length	Perpetuity
# Yrs	
Expiration Date	
Note	Right of Way of Race Rd

Property: 507 Race Road (Worksite #2: Race Lagoon #1894 and RFEG053)

✓ **Restoration**

LANDOWNER

Name	BLUBAUGH, ANDREA
Address	507 Race Rd
City	Coupeville
State	WA Zip 98239
Type	Private

CONTROL & TENURE

Instrument Type	Landowner Agreement
Timing	Proposed
Term Length	Fixed # of years
# Yrs	10
Expiration Date	
Note	Right of Way of Race Rd

Project Proposal

Project Description

This project proposes to implement Phase 2 of the Race Lagoon Culvert No. 1893/1894 replacements.
Island County Public Works has been working with the Skagit Fisheries Enhancement Group to replace two fish barrier culverts,
culvert 1893 and 1894, under Race Road near Coupeville. Removal of these fish passage barriers will open up critical rearing habitat for juvenile salmonids including ESA-listed Threatened Chinook, pink, coho, and chum salmon. These two coastal streams drain to Race Lagoon which has been identified as important pocket estuary habitat for outmigrating salmon from the Skagit, Stillaguamish, and Snohomish Rivers. Pocket estuaries and small coastal streams such as these provide important feeding, resting, and and refuge habitat as juvenile salmon transition from freshwater to saltwater habitat. These culverts were identified in the Culvert Prioritization Inventory conducted by SFEG and Island County in 2021 during which
time a Chinook smolt was found in the stream above culvert #1893. In addition, SFEG has been working with local landowners who are open to additional wetland and riparian restoration upstream of these culverts. This grant would fund the final design and construction of two fish passable structures at culverts 1893 and 1894, as well as remove the privately owned barrier (RFEG053) immediately downstream of #1894. Fish passage barrier removal is one of the most rapid and cost-effective ways of increasing the amount of accessible habitat for salmon.

Project Questions

#1: Problem statement. What are the problems your project seeks to address? Include the source and scale of each problem. Describe the site, reach, and watershed conditions. Describe how those conditions impact salmon populations. Include current and historic factors important to understand the problems.

Pacific salmon rely on estuaries to rear. A lack of estuary habitat for rearing is known to be one of the limiting factors in threatened Puget Sound Chinook salmon recovery. Estuary habitat restoration is a vital component of salmon recovery. Multiple studies, including one research project completed by tribal biologists in 2013, demonstrated 1) Skagit, Samish, and Stillaguamish juvenile salmon use pocket estuaries and coastal streams on Whidbey Island to rear in, even when those streams do not host spawning adults and, 2) shoreline culverts on these streams and pocket estuaries are detrimental to rearing juvenile salmon. Undersized culverts limit access to usable habitat in streams, interfere with natural tidal exchange, and cause fatal stranding during the normal tidal cycle. This research has shown that culverts at the mouth of streams are associated with lower numbers of juvenile Chinook, suggesting that these culverts impair the ability of fish to access rearing habitat, particularly at sites that do not backwater during the tidal cycle. The study concluded, "…juvenile Chinook salmon are not just present in these small streams, but are actively rearing and growing. They appear to be using the streams as a nursery, much like natal and pocket estuaries are used by juvenile Chinook salmon, and "…A small streams restoration strategy should include removing culverts or retrofitting streams with culverts at their mouth to a design that allows upstream juvenile salmon passage." (Beamer et al 2013). The amount of rearing habitat for juvenile salmonids is limited in WRIA 6 and removal of fish passage barriers particularly in the nearshore including these two barriers along Race Lagoon is critical for population recovery of Puget Sound salmon populations. Race Lagoon is identified in the Skagit Watershed Council (2022) Strategic Approach as a Tier 2 potential pocket estuary in the Whidbey Basin.

SFEG partnered with Island County Public Works and several tribes to complete phase two of an Island County fish passage barrier inventory project in 2022 (RCO#19-1343). This inventory focused on identifying barriers within 200 meters of the shoreline. SFEG used current (2019) WDFW inventory methods for tidally influenced culverts to identify fish passage barriers. Culverts were further prioritized for habitat assessments that met the following additional criteria: Chinook use in stream or nearshore, watershed area greater than 45 hectares, stream slope <10%, known as fish-bearing, and associated with a pocket estuary. SFEG met with Island County Public Works, Island County Salmon Recovery Lead Entity staff, and Tribal biologists to identify the best projects out of the list of known barriers which also met the criteria for habitat assessment. These two on Race Road along Race Lagoon were identified as priority culverts as they are both within 200 meters of important pocket estuary habitat in Race Lagoon. Culvert 1893 is currently only 33% passible according to a WDFW Level A Assessment (to adult fish, there are no criteria to access juvenile however juveniles are poorer swimmers than adults) and 1894 is a 100% barrier even for adult fish according to a WDFW Level B assessment due to excessive water velocities. The private culvert crossing, RFEG053, below culvert 1894 is identified as slope barrier.

#2: Describe the limiting factors, and/or ecological concerns, and limiting life stages (by fish species) that your project expects to address.

Limiting factors for Puget Sound salmon recovery include a lack of rearing habitat including loss of pocket estuary and coastal stream habitat. Research by Skagit River System Cooperative (SRSC) and others indicates that small, non-natal estuaries (pocket estuaries) within Whidbey Basin are preferred 20 to 1 by endangered Chinook salmon for nearshore rearing during the early stages of their out-migration. Pocket estuaries also provide a faster growing environment and are safer for fry sized chinook than adjacent nearshore or offshore areas (Beamer et al 2006). The nearshore environment has been heavily altered and access for salmonids is very limited compared to historic conditions. A total of 96 historic pocket estuaries within the Whidbey Basin region have been identified. All but 26 of these have either been completely destroyed or are too small to be sustainably maintained for fish habitat (McBride 2006).

Impassable culverts on coastal streams that outlet into pocket estuaries such as these prevent access to important nearshore resources including food and shelter for out-migrating juvenile salmon. In 2021 while surveying the culverts, SFEG found a Chinook salmon smolt in peril above culvert #1893 as the tide receded and left the salmon stranded and in too shallow water. This project aims to provide coastal stream juvenile Chinook rearing habitat accessible from the Race Lagoon pocket estuary. The project will also substantially benefit coho, chum and pink juvenile salmon, and sea-run cutthroat trout.

#3: What are the project goals? The goal of the project should be to solve identified problems by addressing the root causes. Then clearly state the desired future condition. Include which species and life stages will benefit from the outcome, and the time of year the benefits will be realized. **Example Goals and Objectives**

The goal of this project is to improve access to limited quality rearing habitat for Chinook salmon within these two coastal streams associated with the Race Lagoon pocket estuary. This will be accomplished by removing two fish passage barriers and replacing them with larger fish passable culverts as well as removing the privately owned fish passage barrier (RFEG053) located immediately downstream of #1894 and providing an alternate access route for property owners. Replacing the Race Road culverts will improve natural flow, and sediment transport processes in these streams improving pocket estuary function.

#4: What are the project objectives? Objectives support and refine biological goals, breaking them down into smaller steps. Objectives are specific, quantifiable actions the project will complete to achieve the stated goal. Each objective should be SMART (Specific, Measurable, Achievable, Relevant, and Time-bound). **Example Goals and Objectives**

The project objectives are to remove three fish passage barriers and a waterdrop to benefit upstream fish movement. The project design will also restore natural flows under Race Road to Race Lagoon.

#5: Scope of work and deliverables. Provide a detailed description of each project task/element. With each task/element, identify who will be responsible for each, what the deliverables will be, and the schedule for completion.

For the 1893 and 1894 barrier replacement project, Island County Public Works will be responsible for: permit applications, final design reports and drawings, technical specifications, construction quantities and costs, cultural resource compliance, bidding documents, control and tenure documents, and as built documentation. Island County will also provide construction oversight for all work occurring in the Island County Right-of Way.
SFEG would be utilized for fish exclusion (in the unlikely event that it was necessary) and planting of disturbed areas. SFEG will be responsible for working with local landowners and the work taking place outside of the County right-of-way.
Environmental investigation and reports would begin January of 2025 or July 2025 (when RCO funds are awarded) Permits would be expected by August 2026. Construction contract documentation would begin after securing permits and prepared by December 2026. The project would go to bid in early January of 2027. Construction would occur July to September of 2027.

#6: What are the assumptions and physical constraints that could impact whether you achieve your objectives? Assumptions and constrains are external conditions that are not under the direct control of the project, but directly impact the outcome of the project. These may include ecological and geomorphic factors, land use constraints, public acceptance of the project, delays, or other factors. How will you address these issues if they arise?

Both culverts are located on a publicly owned two-lane road that is the access for local residences. The project construction may need to be phased to keep one lane open or a temporary detour around the project may need to be constructed. Any temporary construction impacts would be restored. SFEG conducted landowner outreach while conducting habitat surveys of these two streams with positive feedback from the community and willingness to look at larger restoration of wetland and stream buffers upstream of the culverts.

#7: How have lessons learned from completed projects or monitoring studies informed this project?

SFEGs experience on other projects has been that the best approach to restoration projects is to first engage and get to know landowners. For this project we have the support of the current property owner, Island County, the landowner of culvert RFEG053, as well as the support of private landowners along these two streams to do planting restoration. To date, SFEG has successfully completed over 74 salmon passage barrier removal projects. SFEG is currently conducting fish sampling with the assistance of SRSC to better determine fish use in Race Lagoon and using DNA analysis be able to determine the Chinook stocks utilizing Race Lagoon.

#8: Describe the alternatives considered and why the preferred was chosen.

A correction analysis form was completed for both culverts, #1893 and #1894. The preferred alternatives were chosen based on input from Island County. For both locations concrete box culverts were chosen as the preferred design. Metal arch culverts were considered as cheaper alternatives, however they could be susceptible to saltwater corrosion due to their proximity to Race Lagoon and do not meet site specific standards for 75 year life structure.
At culvert 1893, a 14'x4.67"x64' concrete box culvert was chosen based on meeting WDFW fish passage standards and longevity (concrete) in the tidal environment. Similarly, at #1894, a 12.5'x5.67'x72' concrete box culvert was chosen based on meeting WDFW fish passage criteria and longevity in the tidal environment. For #1894 the CAF originally used a much smaller bankfull width and designed alternatives for a 7' wide opening. However, after further discussion with WDFW engineer Duncan Pfiefer is was agreed that this bankfull width was underestimated in the CAF and a larger bankfull width should be utilized of 8' to accommodate predicted changes due to climate in this coastal environment which increased the width of the proposed culvert to 12.5'

#9: How were stakeholders consulted in the development of this project? Identify the stakeholders, their concerns or feedback, and how those concerns were addressed.

Stakeholders for this project include Island County, adjacent landowners, and neighbors. SFEG only works with interested landowners and will acquire signed landowner acknowledgment forms and agreements from the land owners. SFEG has done outreach and worked with landowners along these streams to conduct habitat assessments. Adjacent landowners have expressed interest in riparian and wetland restoration along these streams and have given verbal/email approval. Neighbors are aware of this proposed project and have raised no concerns. Signed access agreements will be obtained with all landowners where work will occur during construction.

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

Yes

#10a: How will your project be climate resilient given future conditions?

Climate change models predict increased temperature and increased rainfall. In WRIA 06, climate changes impacts include coastal flooding (sea level rise and exaggerated storm surge events) and potentially altered hydrology (higher temperatures and flashier stream flows). Culverts that are somewhat passible today can become complete barriers due to these expected climate change effects. The designs for 1893 and 1894 have considered future conditions, including the expected sea level rise and tidal storm surges and have incorporated WDFW's climate change guidance per their water crossing design manual.

#10b: How will your project increase habitat and species adaptability?

This project will provide critical coastal stream rearing habitat for out-migrating juvenile salmon known to utilize Race Lagoon including ESA listed Chinook salmon. This project will provide additional habitat areas for feeding, resting, and sheltering from predators that is lacking and critical for the recovery of declining salmon populations in the Puget Sound.

#11: Describe the sponsor's experience managing this type of project. Describe other projects where the sponsor has successfully used a similar approach.

Island County Public Works (ICPW) manages Island County's road system and stormwater infrastructure and has extensive experience with bidding and managing public works construction contracts meeting state and federal requirements. Island County replaced a fish barrier culvert under Beach Drive, Camano Island with a concrete box culvert in 2021. ICPW currently has two concrete box fish passage projects, which are permitted and scheduled for construction in 2024.

SFEG is one of 14 Regional Fisheries Enhancement Groups in Washington. We have been managing & implementing restoration projects in the Skagit basin since 1990. SFEG has a long history of fish passage restoration projects in the Skagit basin; we have completed over 74 fish passage barrier removal projects since 1991. SFEG has completed fish passage improvement projects funded by the SRFB, USFWS, FFFPP, and other grant programs over the past 20 years.

#12: Will veterans (including the veterans conservation corps) be involved in the project? If yes, please describe.

No

Restoration Supplemental

#1: What level of design (per Appendix D) have you completed? Please attach.
Preliminary

#1a: What level of design will be produced prior to construction?
Final

#2: Will (or did) a licensed professional engineer design the project?
Yes

#3: Does the project include measures to stabilize an eroding stream bank?
No

#4: Is the primary activity of the project invasive species removal?
No

#5: Is the primary activity of the project riparian planting?
No

#6: Describe the steps you will take to minimize the introduction of invasive species during construction and restoration. Consider how you will use un-infested materials and clean equipment entering and leaving the project area.

Island County will ensure that all work follows the current WDFW (2016) protocols for preventing the spread of aquatic invasive species during all in-water work activities. Island County and its contractors will utilize protocols for the prevention of invasive species spread as outlined in the "WDFW Invasive Species Management Protocols" (Feb 2016). Specifically, Island Co will follow those procedures outlined in Part I. Protocols for Field Work in Terrestrial Areas and Part II. Protocols for Field Work on all Waters (A. Decontamination Protocols–Basic Precautions). SFEG will: 1)Survey the site for any invasive species of concern before work, if found species will be demarcated to prevent spread by the contractor or field staff during dirt moving activities.
2)Contractor will be required to clean equipment prior to doing work on site, if invasive
species present in work area contractor will also clean equipment before leaving site.
3) Crews will clean work boots, clothes, and equipment

#7: Describe the long-term stewardship and maintenance obligations for the project.

Island County Public Works will be responsible for the maintenance of the two fish-passable culverts in the County Road Right of Way. If the non-barrier footbridge is to remain on private property, it is the responsibility of the property owner. Private land management will remain the same as existing except for the waterdrop correction and removal of the barrier culverts on parcel R23107-346-3910.

Restoration Metrics

Worksite: Race Lagoon #1893 (#1)

Miles of Stream and/or Shoreline Treated or Protected (C.0.b)	0.01
Project Identified In a Plan or Watershed Assessment (C.0.c)	The WRIA 06 Multispecies Salmon Recovery Plan Update identifies Race Lagoon as important outmigration rearing habitat for juvenile salmon including Chinook, chum, pink, salmon and cutthroat trout. Access to the coastal stream habitat at the mouth of pocket estuaries is critical for resting, feeding, and refuge for migrating salmon (WRIA 06 MSSRP 2019; pages 16-17)
Priority in Recovery Plan	Removing barriers to benefit anadromous fish use is designated a Tier 1 strategy (WRIA 06 MSSRP, page 21)
Type Of Monitoring (C.0.d.1)	Implementation Monitoring
Monitoring Location (C.0.d.2)	Onsite

FISH PASSAGE IMPROVEMENT

Miles Of Stream Made Accessible (SRFB) (C.2.b.1)	0.84
Habitat made accessible (2489)	A total of 1.35 miles, 0.84 miles of rearing habitat will be made accessible above culvert #1893 and 0.51 miles of rearing habitat above culvert #1894/RFEG053
Additional barriers (2490)	There are 3 unnatural fish passage barriers upstream of #1893. The first one is 67% passable the second one is 33% passable and the 3rd is 0% passable to adult salmon according to a Level A analysis. There is one barrier culvert downstream of #1894 on private property (RFEG053). It is a barrier due to slope. It is a foot crossing and has been designed for removal as part of this project. 0.2 miles upstream of #1894 are a cluster of 4 private driveway culverts that are all 100% barriers.
Type Of Barrier (C.2.b.3)	Culvert
Number of blockages / impediments / barriers impeding passage (C.2.b.4)	1
Describe the current barrier (2486)	Culvert 1893 is a round corrugated steelpipe with a 0.85 meter span and is 18.63 meters in length and a 3.0*% slope. It is 33% passible. It is slightly crushed at the top and the bottom is rusting out. **Note:** Note: Culvert 1894 is a round corrugated steel pipe with a 0.50 meter span and is 23.14 meters in length and a 0.97% slope. The Qfp water Outlet velocity during the fish migration period is 1.368m/s. Velocities above 1.22m/s are considered 0% fish passible.
Passage problem (2487)	Slope **Note:** Note: 1893 is a slope barrier and 1894 is a velocity barrier
Passability (2488)	33% (Partial) **Note:** Note: 1893 is currently only 33% passible according to a WDFW Level A Assessment (to adult fish, there are no criteria to access juvenile however juveniles are poorer swimmers than adults). 1894 is a 100% barrier even for adult fish according to a WDFW Level B assessment due to excessive water velocities.

Culvert installed or improved (C.2.f.1)

Total cost for Culvert installed or improved	$764,429
Number of culverts (C.2.f.2)	1
Miles of stream made accessible by culvert installation/repair (C.2.f.3)	0.84
Correction option (2491)	Stream simulation

Project Application Report - 24-1117

PERMITS

Obtain permits

Total cost to Obtain permits	$63,234
Number of permits required for implementation of project	

ARCHITECTURAL & ENGINEERING

Architectural & Engineering (A&E)

Total cost for Architectural & Engineering (A&E)	$203,754

Project Application Report - 24-1117

Worksite: Race Lagoon #1894 and RFEG053 (#2)

Miles of Stream and/or Shoreline Treated or Protected (C.0.b)	0.01
Project Identified In a Plan or Watershed Assessment (C.0.c)	The WRIA 06 Multispecies Salmon Recovery Plan Update identifies Race Lagoon as important outmigration rearing habitat for juvenile salmon including Chinook, chum, pink, salmon and cutthroat trout. Access to the coastal stream habitat at the mouth of pocket estuaries is critical for resting, feeding, and refuge for migrating salmon (WRIA 06 MSSRP 2019; pages 16-17)
Priority in Recovery Plan	Removing barriers to benefit anadromous fish use is designated a Tier 1 strategy (WRIA 06 MSSRP, page 21)
Type Of Monitoring (C.0.d.1)	Implementation Monitoring None
Monitoring Location (C.0.d.2)	No monitoring completed Downstream Onsite Upslope Upstream

ESTUARINE / NEARSHORE PROJECT

FISH PASSAGE IMPROVEMENT

Miles Of Stream Made Accessible (SRFB) (C.2.b.1)	0.51
Habitat made accessible (2489)	A total of 1.35 miles with both sites fixed. 0.51 miles of rearing habitat above culvert #1894/RFEG053, 0.84 mi above #1893
Additional barriers (2490)	There is one barrier culvert downstream of #1894 on private property (RFEG053). It is a barrier due to slope it consists of twin 12"x20 LG HDPE culverts. It is a foot crossing and has been designed to be removal and the streambed restored as part of this project. 0.2 miles upstream of #1894 are a cluster of 4 private driveway culverts that are all 100% barriers.
Type Of Barrier (C.2.b.3)	Boulders or rock barriers Bridge Culvert Debris Diversion Dam Ford Landslide Logs Push-Up Dam Weir Wood Or Concrete Dam None
Number of blockages / impediments / barriers impeding passage (C.2.b.4)	2
Describe the current barrier (2486)	Culvert 1894 is a round corrugated steel pipe with a 0.50 meter span and is 23.14 meters in length and a 0.97% slope.The Qfp water Outlet velocity during the fish migration period is 1.368m/s. Velocities above 1.22m/s are considered 0% fish passible
Passage problem (2487)	Water surface drop Depth Velocity Slope Debris Other

Passability (2488)	0% (Complete) 33% (Partial) 67% (Partial) Unknown passability
	Note: 1894 is a 100% barrier even for adult fish according to a WDFW Level B assessment due to excessive water velocities

Bridge installed or improved (C.2.g.1)

Culvert installed or improved (C.2.f.1)

Total cost for Culvert installed or improved	$830,646
Number of culverts (C.2.f.2)	1
Miles of stream made accessible by culvert installation/repair (C.2.f.3)	0.51
Correction option (2491)	Stream simulation No slope hydraulic Unknown Other

Fish ladder installed / improved (C.2.e.1)

Fish passage blockages removed or altered (C.2.c.1)

Fishway chutes or pools installed (C.2.d.1)

Road-crossing removal (C.2.i.1)

Rocked ford - road stream crossing (C.2.h.1)

Unspecified or other fish passage project (C.2.j.1)

FISH SCREENING PROJECT

INSTREAM FLOW PROJECT

INSTREAM HABITAT PROJECT

PRE-RESTORATION ACQUISITIONS AND NURSERY OPERATIONS PROJECT

RIPARIAN HABITAT PROJECT

SITE STEWARDSHIP PROJECT

UPLAND HABITAT AND SEDIMENT PROJECT

WATER QUALITY PROJECT

WETLAND PROJECT

CULTURAL RESOURCES

PERMITS

Obtain permits

Total cost to Obtain permits	$68,712
Number of permits required for implementation of project	

ARCHITECTURAL & ENGINEERING

Architectural & Engineering (A&E)

Total cost for Architectural & Engineering (A&E)	$221,404

AGENCY INDIRECT COSTS

Project Application Report - 24-1117

Overall Project Metrics

COMPLETION DATE	
Projected date of completion	03/31/2028

Restoration Cost Estimates

Worksite #1: Race Lagoon #1893

Category	Work Type	Estimated Cost	Note
Fish Passage Improvement	Culvert installed or improved (C.2.f.1)	$764,429	
Permits	Obtain permits	$63,234	
	Subtotal:	$827,663	
Admin, Architecture, and Engineering		$203,754	
	Total Estimate For Worksite:	$1,031,417	

Worksite #2: Race Lagoon #1894 and RFEG053

Category	Work Type	Estimated Cost	Note
Fish Passage Improvement	Culvert installed or improved (C.2.f.1)	$830,646	
Permits	Obtain permits	$68,712	
	Subtotal:	$899,358	
Admin, Architecture, and Engineering		$221,404	
	Total Estimate For Worksite:	$1,120,762	

Summary

Total Estimated Costs Without AA&E:	$1,727,021
Total Estimated AA&E:	$425,158
Total Estimated Restoration Costs:	$2,152,179

Cost Summary

	Estimated Cost	Project %	Admin/AA&E %
Restoration Costs			
Restoration	$1,727,021		
Admin, Architecture, and Engineering	$425,158		24.62 %
SUBTOTAL	$2,152,179	100.00 %	
Total Cost Estimate	$2,152,179	100.00 %	

Funding Request and Match

FUNDING PROGRAM

Salmon State Projects	$1,360,000	63.191770 '

SPONSOR MATCH

Other Monetary Funding	Grant - Local		
Amount			$792,179.00
Funding Organization			Island County Public Works
Grant Program			Island County Clean Water Funds
		Match Total:	$792,17936.808230 '
		Total Funding Request (Funding + Match):	$2,152,179100.00000(

Questions

#1: Explain how you determined the cost estimates

Engineer cost estimate was provided as part of the preliminary design package

Cultural Resources

Cultural Resource Areas

Worksite #1: Race Lagoon #1893

Area: 1893

#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)

This project has already received concurrence from DAHP and has an IDP from RCO22-1089

#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.

This project has already received concurrence from DAHP and has an IDP from RCO22-1089

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

This project has already received concurrence from DAHP and has an IDP from RCO 22-1089

#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).

This project has already received concurrence from DAHP and has an IDP from RCO 22-1089

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

Yes

#5a: List the agency that will be issuing the permit and the date you anticipate applying for and receiving the permit. Will the federal permit cover ALL proposed ground disturbing activities included in the project?

ACOE

#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?

Yes

#7a: Summarize the previous cultural resource review; including lead agency and date of review, reference name and numbers, etc. If RCO, include the prior phase grant number. NOTE: Do not provide any site-specific information considered confidential. Attach previous surveys or other reference documents.

RCO was the lead agency on the cultural for phase 1 of this project through project number: 22-1089

#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

Worksite #2: Race Lagoon #1894 and RFEG053

Area: 1894

#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)

This project has already received concurrence from DAHP and has an IDP from RCO22-1089

#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.

This project has already received concurrence from DAHP and has an IDP from RCO22-1089

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

This project has already received concurrence from DAHP and has an IDP from RCO 22-1089

#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).

This project has already received concurrence from DAHP and has an IDP from RCO 22-1089

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

Yes

#5a: List the agency that will be issuing the permit and the date you anticipate applying for and receiving the permit. Will the federal permit cover ALL proposed ground disturbing activities included in the project?

ACOE

#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?

Yes

#7a: Summarize the previous cultural resource review; including lead agency and date of review, reference name and numbers, etc. If RCO, include the prior phase grant number. NOTE: Do not provide any site-specific information considered confidential. Attach previous surveys or other reference documents.

RCO was the lead agency on the cultural for phase 1 of this project through project number: 22-1089

#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

Project Permits

Permits and Reviews	Issuing Organization	Applied Date	Received Date	Expiration Date	Permit #
Archaeological & Cultural Resources (EO 21-02)	DAHP	01/27/2023	08/15/2023		Completed during phase 1
		Note: This project had a cultural survey done during phase 1 and has gone through concurrence with DAHP in 2023 via the last SRFB grant.			
Endangered Species Act Compliance [ESA]	US Fish & Wildlife				
Hydraulics Project Approval [HPA]	Dept of Fish & Wildlife				
Nationwide Permit	Army Corps of Eng.				

Permit Questions

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

Attachments

Required Attachments	6 out of 6 done
Applicant Resolution/Authorizations	✓
Cost Estimate	✓
Landowner acknowledgement form	✓
Map: Restoration Worksite	✓
Photo	✓
RCO Fiscal Data Collection Sheet	✓

PHOTOS (JPG, GIF)

Photos (JPG, GIF)


596842


596843


596846


596858


596859

PROJECT DOCUMENTS AND PHOTOS

Project Documents and Photos

Project Application Report - 24-1117

File Type	Attach Date	Attachment Type	Title	Person	File Name, Number Associations	Shared
	02/14/2024	Project Application Report	Project Application Report, 24-1117R (sub 02/14/24 15:45:19)	MatthewL	Project Application Report - 24-1117 (submitted 02-14-2024_15-45-19).pdf, 597257	✓
	02/13/2024	Preliminary design report	Race Lagoon Tribs Crossing Race Road Basis of Design Report	AlisonS	Race Lagoon Tribs Crossing Race Road Basis of Design Report 2-14-2024.pdf, 596953	✓
	02/13/2024	Cost Estimate	Race Lagoon SAL-CostEstimate.2024.2.13.xlsx	AlisonS	Race Lagoon SAL-CostEstimate.2024.2.13.xlsx, 596925	✓
	02/13/2024	Design document	PrelimDesignRRCR 1893-1894.R24_02.12.24.pdf	AlisonS	PrelimDesignRRCR 1893-1894.R24_02.12.24.pdf, 596894	✓
	02/12/2024	Cost Estimate	Race Road Culvert Replacements Construction Costs.pdf	AlisonS	Race Road Culvert Replacements Construction Costs.pdf, 596863	✓
	02/12/2024	Photo	1894 US Inlet (2).jpg.JPG	AlisonS	1894 US Inlet (2).jpg.jpg, 596861	✓
	02/12/2024	Photo	1893 US Inlet.jpg.JPG	AlisonS	1893 US Inlet.jpg.jpg, 596860	✓
	02/12/2024	Photo	1893 Race Lagoon Estuary (2).jpg.JPG	AlisonS	1893 Race Lagoon Estuary (2).jpg.jpg, 596859	✓
	02/12/2024	Photo	1893 DS Outlet (2).jpg.JPG	AlisonS	1893 DS Outlet (2).jpg.jpg, 596858	✓
	02/12/2024	Map: Restoration Worksite	RaceRoad Culverts MAP.pdf	AlisonS	RaceRoad Culverts MAP.pdf, 596857	✓
	02/12/2024	Visuals	Race Lagoon 1963.pdf	AlisonS	Race Lagoon 1963.pdf, 596856	✓
	02/12/2024	Visuals	Race Lagoon 1942.pdf	AlisonS	Race Lagoon 1942.pdf, 596855	✓
	02/12/2024	Map: Area of Potential Effect (APE)	RaceRoad Culverts APE.pdf	AlisonS	RaceRoad Culverts APE.pdf, 596854	✓
	02/12/2024	Monitoring activity	RaceLagoonFishReport11-30-07.pdf	AlisonS	RaceLagoonFishReport11-30-07.pdf, 596853	✓
	02/12/2024	Correction Analysis Form	Culvert 1894 Correction Analysis Form.docx	AlisonS	Culvert 1894 Correction Analysis Form.docx, 596852	✓
	02/12/2024	Correction Analysis Form	Culvert 1893 Correction Analysis Form.docx	AlisonS	Culvert 1893 Correction Analysis Form.docx, 596851	✓
	02/12/2024	WDFW barrier & screening forms	1894 Survey.pdf.PDF	AlisonS	1894 Survey.pdf.pdf, 596850	✓
	02/12/2024	WDFW barrier & screening forms	1893 Survey.pdf.PDF	AlisonS	1893 Survey.pdf.pdf, 596849	✓
	02/12/2024	Applicant Resolution/Authorizations	applicant resolution_authorization_ICPW 2024 unsigned.pdf	AlisonS	applicant resolution_authorization_ICPW 2024 unsigned.pdf, 596848	✓
	02/12/2024	RCO Fiscal Data Collection Sheet	FiscalDataCollectionSheet_SFEG_060722	AlisonS	FiscalDataCollectionSheet_SFEG_06… 596847	
	02/12/2024	Photo	Private Culvert.jpg	AlisonS	Private Culvert.jpg, 596846	✓
	02/12/2024	Landowner acknowledgement form	SFEG-RCO LOA County Race Lagoon.fully executed.pdf	AlisonS	SFEG-RCO LOA County Race Lagoon.fully executed.pdf, 596845	
	02/12/2024	Landowner acknowledgement form	SFEG-RCO Landowner Agreement Blubaugh.signed.pdf	AlisonS	SFEG-RCO Landowner Agreement Blubaugh.signed.pdf, 596844	
	02/12/2024	Photo	1894 upstream.jpg	AlisonS	1894 upstream.jpg, 596843	✓
	02/12/2024	Photo	1894 downstream.jpg	AlisonS	1894 downstream.jpg, 596842	✓
	02/12/2024	Cultural Resources: Inadvertent Discovery Plan (IDP)	22-1089 IDP-Race Lagoon Passage - Culverts.pdf	AlisonS	22-1089 IDP-Race Lagoon Passage - Culverts.pdf, 596841	
	02/09/2024	Visuals	Race Lagoon Culverts Climate Change Information Visual.pdf	MatthewL	Race Lagoon Culverts Climate Change Information Visual.pdf, 596586	✓
	02/09/2024	Visuals	EJScreen Community Report Race Rd Culverts Blockgroup Cennsu	MatthewL	EJScreen Community Report Race Rd Culverts Blockgroup Cennsus Tract WRIA6.pdf, 596579	✓

Application Status

Application Due Date: 06/24/2024

Project Application Report - 24-1117

Status Name	Status Date	Submitted By	Submission Notes
Application Submitted	02/14/2024	Matthew Lander	
Preapplication	01/18/2024		

I certify that to the best of my knowledge, the information in this application is true and correct. Further, all application requirements due on the application due date have been fully completed to the best of my ability. I understand that if this application is found to be incomplete, it will be rejected by RCO. I understand that I may be required to submit additional documents before evaluation or approval of this project and I agree to provide them. (Matthew Lander, 02/14/2024)

Date of last change: 02/14/2024