

DRAFT Snohomish Floodplains by Design 2023-25 Project Descriptions







February 2022






Tasks:






- Task 1 – Administration
- Task 2 – Project Development, Scoping, and Feasibility
- Task 3 – Easements and Acquisitions
- Task 4 – Project Design and Construction








- = Primary benefits
- = Secondary benefits




Task	Project/Component	Description	Lead	Base \$10M ⁱ		Bonus \$8M ⁱ		Benefits		
				Grant Cost	Match	Grant Cost	Match	Fish	Farm	Flood
1	Project Management	This task would cover grant administration, including sub-award management. It would also cover project management needed to successfully undertake a coordinated package of projects, including facilitation and strategic planning.	County	\$250,000	\$0	\$0	\$0	●	●	●
2	Communication/Outreach	This task would cover outreach and engagement for each project included in the entire project package. The funding would be applied to project outreach as needed for each project. This task would not cover SLS outreach support.	County	\$250,000	\$100,000	\$0	\$0	●	●	●
2	Agricultural Landowner Best Practices Outreach and Technical Assistance	This project will provide agricultural resilience and water quality improvement technical assistance and BMP planning to agricultural producers in the Community Floodplain Solutions Phase III project areas (including French Creek sub-basin; Snohomish	SCD	\$100,000	\$0	\$0	\$0	○	●	○




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				Grant Cost	Match	Grant Cost	Match	Fish	Farm	Flood
		River and Estuary sub-reaches French Creek, Marshland, and Snohomish River; Lower Skykomish River subreaches 1 - 4; Woods Creek sub-basins, Pilchuck River sub-basins; Fobes Hill sub-basin; and Sunnyside sub-basin.								
2	Snohomish IT Support	Support continued leadership, coordination, and participation of Integration Team (consultant and partners). Development and maintenance of tools that support integrated floodplain management.	County	\$300,000	\$200,000	\$0	\$0			
2	Formerly DD6 Restoration Design	Improve the quality and quantity of intertidal wetland and off-channel habitat by restoring connectivity between the main channel, floodplain and associated wetlands in areas that have previously diked and drained for agricultural production. Proposed actions include removal of levee (or portion), evaluation of construction of new cross-levee, accommodating existing utilities, providing drainage, and all activities needed to restore tidal freshwater marsh conditions. The proposal is to fund design and outreach and stakeholder engagement to achieve agreement on a preferred alternative. Project will involve substantial engagement with City of Everett, PSE, Olympic Pipeline, WDFW, DNR, and park stakeholders (trail users, birders, dog walkers, and other park users).	County	\$200,000	\$0	\$800,000	\$2,000,000			



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2	Upland Agriculture Conservation Study and Capacity (related to LCI)	The effort would leverage a \$4M investment Snohomish County has made in a Land Conservation Initiative intended to protect resource lands throughout Snohomish County. LCI features many approaches to land conservation, including the preservation of upland agriculture for the benefit of local food production in Snohomish County. The funding request would support an upland agriculture conservation plan and associated implementation capacity, including landowner negotiations and community engagement.	County	\$400,000	\$0	\$200,000	\$0			
3	Multi-Benefit Acquisitions	Protection of floodplain land for permanent flood risk reduction and future restoration of natural river processes while supporting agricultural viability. Property acquisitions would follow the Acquisition Strategy being developed under the 2019-2021 Floodplains by Design grant. The County will continue outreach to landowners to work towards future acquisitions. Acquisitions will reduce the potential to encourage new development in the floodplain while protecting existing infrastructure, create a buffer between the river and agricultural enterprises, and enabling consolidation of agricultural operations in defensible locations with reduced long-term risk. Not included in the 23-25 FbD ask, but match secured.	County	\$0	\$200,000	\$0	\$0			



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3	Tualco Valley Acquisitions	The Tualco Valley Connectivity project involves connecting and enhancing vital side channel habitat in Haskel and Riley Sloughs (total of 10.6 miles of side channel length). This includes potential levee modifications/setbacks, removal/replacement of inadequately sized stream crossings, and in-channel and riparian habitat enhancements. In order to implement this work at the appropriate scale, we will work with willing landowners to purchase property (fee/easements) where needed to complete project implementation.	Tulalip Tribes	\$1,500,000	\$532,500	\$1,500,000	\$508,125			
3	Agricultural Conservation Easements	As natural floodplain processes are restored to create vital fish habitat and reduce the risks posed by more frequent and/or extreme flood events, it is critical that the land base necessary to support local, commercial-scale farming be permanently protected to ensure the continued sustainability of the agricultural industry. Project partners will work to prioritize easement acquisitions that protect productive, high-quality farmland that supports a diversity of agriculture and where continued agricultural use is viable and complementary to other natural resource protection goals. This third phase of work will build of the Sultan Reach farmland conservation work funded by previous FbD Grants through the Community Floodplain Solutions project. Using tools developed in phases one and two of Community Floodplain Solutions, this work aims to	Land trusts	\$200,000	\$0	\$800,000	\$0			





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				Grant Cost	Match	Grant Cost	Match	Fish	Farm	Flood
		match permanent farmland conservation easements with channel migration and riparian easements to conserve working farms in a way that supports continued production and helps compensate landowners for areas that will be transitioned to flood storage or restoration.								
3	Project manager for ag easements	As work in the Snohomish basin scales up, land trusts need additional capacity to execute the pipeline of projects developed over several years of outreach and local investment. This task will provide the ability to contract project management support to handle communication with the landowners, coordinating due diligence process and engaging and working with other contractors (i.e. surveyors, title company, attorneys, etc.), scheduling and completing site visits, drafting and reviewing deed language, purchase agreements and stewardship plans.	Land trusts	\$75,000	\$0	\$0	\$0			
4	Riparian plantings and knotweed management	Riparian plantings and knotweed management as part of the Community Floodplain Solutions effort. This project will take a top down approach and is located near the Shinglebolt project area.	County	\$125,000	\$250,000	\$0	\$125,000			
4	Shinglebolt	Remove fill from old channel and incorporate LWD into Shinglebolt Slough located south of Sultan on the left bank of Skykomish River. Project concepts explore elements that provide some flood relief to the City of Sultan and other Mann Road infrastructure through the removal of floodplain fill	County	\$1,400,000	\$300,000	\$1,000,000	\$0			



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				Grant Cost	Match	Grant Cost	Match	Fish	Farm	Flood
		and a wider floodplain flood flow inundation connection. The project concepts will address risk reduction and habitat improvements by reconnecting the east, upstream section of Shingle Bolt Slough, removing the existing rip rap and berm along 600-900 feet east of the remnant bridge infrastructure, as well as removing the existing bridge infrastructure. This would restore over 1600 feet of side channel to spring out migration flows (quantity to be determined upon conceptual modeling).								
4	Thomas' Eddy	Continue outreach and planning for Thomas' Eddy restoration on the Snohomish River to improve the quality and quantity of channel edge and off-channel habitat and connectivity between the main channel, floodplain and associated floodplain waterbodies. The project is located in the Heirman Wildlife Preserve between river mile 16 and 18 of the Snohomish River. In the 1930s, levee construction in this area isolated more than 200 acres of Snohomish River floodplain including approximately 1.5 miles of off/side channel habitat and added nearly a mile of modified and rip-rapped edge to the river. Proposed future restoration actions include removal of levee (or portion), side channel connection, edge habitat enhancements, large wood placement, and riparian planting. The proposal is to fund preliminary design (60% design) and outreach and stakeholder engagement to	County	\$1,000,000	\$200,000	\$1,000,000	\$2,961,300			



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				Grant Cost	Match	Grant Cost	Match	Fish	Farm	Flood
		achieve agreement on a preferred alternative. Floodplains by Design funded 30% design (attached in PRISM). Project will involve substantial engagement with County Parks Dept. and stakeholders including the Heirman family, fishing community, birders, other park users. Investigations conducted as part of this planning process will likely lead to preconstruction early actions such as removal of non-native fish species and initial site clean-up.								
4	Ben Howard Road Elevation Design	Snohomish County Public Works proposes to repair two portions of Ben Howard Road near mile posts 2.3 and 2.5. The proposed project will consist of removal of unsuitable and failing embankment material, construction of a geogrid reinforced slope, then backfilling and reconstructing the roadway. Approximately 500 linear ft of the embankment will need to be replaced; each of the two failure sites requires 100 linear ft due to embankment failure and 150 linear ft for a construction entrance.	County	\$300,000	\$0	\$527,000	0			
4	Riparian plantings	The Tulalip Tribes are in the process of acquiring two riparian properties in the Skykomish River floodplain. The project will restore 20 acres adjacent to and within the floodplain of the Skykomish River and an associated oxbows/side channels. This includes thinning of overstocked timber stands, blackberry mowing, invasive weed control and the planting of native trees and shrubs.	Tulalip Tribes	\$225,000	\$0	\$0	\$0			

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4	Tualco Valley Design/Permitting	The ultimate result of this project will be enhanced agricultural, flood and fish resilience. The Tualco Valley is located at the heart of the Snohomish Basin where the Skykomish and Snoqualmie Rivers confluence to form the Snohomish River. Haskel and Riley Sloughs flow through the Tualco Valley with the potential to provide critical spawning and rearing habitat for Chinook, coho, and other ESA listed species. The Tualco Valley is also a highly productive agricultural area. However, both sloughs have been largely disconnected by levees or other modifications, significantly reducing salmon access, and habitat quality and quantity. Agriculture, residents and infrastructure in the Tualco Valley is also threatened by deteriorating levee infrastructure, and drainage issues in these sloughs. Haskel Slough (2.4 miles) has a deteriorating training dike at the upstream end that prevents surface flow connectivity with the exception of extreme flood events. Riley Slough (8.2 miles) is largely disconnected at its downstream confluence due to in-channel and floodplain modifications. Juvenile salmon rearing and flood refugia habitat will be enhanced in Haskel and Riley Sloughs by modifying the Haskel inlet dike and implementing a variety of flow conveyance and connectivity projects in Haskel and Riley Sloughs to promote increased connectivity, drainage, water quantity and water quality. This project phase will build off of preliminary designs and acquisitions	Tulalip Tribes	\$937,500	\$0	\$0	\$0			

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		currently underway to produce final designs and conduct continued community outreach to produce a shovel ready project for the subsequent project phase.								
4	Swan's Trail Slough Multi-Benefit Project	Swans Trail Slough runs alongside the slope at the base of the Fobes Hill sub-basin and then connects with a system of managed agricultural conveyances within Drainage Improvement District 13 (DD13) before flowing north into Ebey Slough through a tidegate operated by DD13. Snohomish Conservation District, in cooperation with several landowners in DD13, has completed a conceptual design process to identify four design alternatives for a multi-benefit project that would improve drainage to improve agricultural viability and resilience for the agricultural lands within DD13 and improve off-channel habitat conditions in Swans Trail Slough (primarily juvenile rearing habitat benefits). The conceptual design alternatives yield benefits to both drainage of ag fields and fish habitat. CFS Phase 1 and Phase 2 are funding preliminary design and landowner engagement; Phase 2 includes funding for final design, permit applications, and partial funding for construction of early-action activities. Phase 3 funding is needed for full funding of early-action activities as a first construction phase to the larger-scale multi-benefit project.	SCD	\$1,500,000	\$300,000	\$1,500,000	\$450,000			

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4	Riparian Planting	This project will work with private property owners to reforest 8 acres of riparian area. Planting will occur in the Lower Skykomish watershed including priority riparian properties along Woods Creek, Riley Slough, and the mainstem lower Skykomish River. This funding will build upon coordinated riparian forest buffer planting projects funded as part of Community Floodplain Solutions Phase II and will leverage funding from the Department of Ecology Combined Water Quality Program and the Conservation Reserve Enhancement Program (CREP).	SCD	\$125,000	\$62,500	\$0	\$125,000			
4	Sultan Reach Ag Resilience Project	As part of the Community Floodplain Solutions integrated floodway planning effort sponsored by Snohomish County, the Conservation District will continue to work with partners and agricultural landowners to develop agricultural resilience projects that address the high priority concerns of agricultural landowners in Lower Skykomish subreaches 3 and 4. Activities will include landowner outreach and engagement in coordination with CFS partners (workshops, field visits/tours, one-on-one visits; landowner communications such as newsletters and emails), agriculture resilience scoping including continued investigation of river levee relocation and other agriculture resilience opportunities.	SCD	\$300,000	\$75,000	\$0	\$0			

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4	Agriculture Weather Stations and 5G Research	<p>The Snohomish County 5G Food Resiliency project is a private/public partnership that was launched in 2021. Its goal was to commission a private 5G/CBRS network providing critical connectivity and cloud computing infrastructure necessary to experimenting with relevant emerging technology. The technology, data, and application this network enables is impacting the resiliency of agriculture for Swan Trails and growers in Snohomish County. Since its launch Swan Trails has reported 50-75% reduction of water consumption directly related to the data developed, connected, and processed via the Swan Trails private CBRS network.</p> <p>Funding could allow us to build upon our existing efforts, enhance other ag transformation efforts, to keep and maintain viable agriculture in Snohomish County. We believe strongly that we can unlock additional benefits by collecting and processing important data to help the Grower better understand their growing operations and, more importantly, to optimize the use of crop inputs (chemicals, irrigation, and labor). According to the USDA. "Combined crop inputs (chemicals, fertilizers, and seeds) are \$56.4 billion, accounting for 28.9 percent of crop farms total expenses." Our intention is to use this grant funding to deploy, experiment, and research new technology capabilities that address, and reduce, the amount of crop inputs necessary for healthy crops. To accomplish this goal, we propose hiring up to 2 technical and data experts</p>	County	\$500,000	\$0	\$500,000	\$0			

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		to coordinate, build, and assess the data being created. A portion of funding will used to deploy additional network, sensors, and automation equipment aligned with our goals to support future capabilities. The practical implementation of smart based technology, connectivity, and services are essential components to reducing the ecological impact, improve outcomes, and to inform a blueprint that can be shared, and used, across Snohomish County's agriculture industry as well.								
4	Al Borlin Spawning and Rearing Feasibility Study	This project will investigate the amount and elevation of groundwater in the park along remnant and other channel locations, look at the feasibility and prepare concepts to enhance the salmonid habitat of the Al Borlin Park. Concepts include several expansions or lowering of several remnant channels for enhancing groundwater and placement of large woody debris installations. Pools and riffles will be constructed to maximize a diversity of habitat. Flood stages will not be impacted in the concept and will be included as criteria for design.	Adopt-a-Stream	\$100,000	\$0	\$0	\$0			
4	Bear Creek Willow Planting	This action enhances 45 acres of floodplain wetlands and riparian habitat by planting scrub-shrub vegetation to establish a beaver-maintained wetland complex surrounded by mature floodplain forest. The Wallace River natural area is just outside Sultan in Snohomish County, Washington. The Tulalip Tribes purchase the property to protect fish and	Ducks Unlimited	\$100,000	\$100,000	\$0	\$0			

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		wildlife habitat and promote natural geomorphic and faunal processes.								
4	High Rock Drainage Improvement	This project will implement drainage improvement for the area adjacent to Riley Slough and the WDFW boat launch.	Ducks Unlimited	\$50,000	\$50,000	\$0	\$0		●	●
4	Poplar Meadows Drainage Project	This project will bring back a fallow farm. The Conservation District has worked with the poplar farm owner to develop a farm plan in preparation for leasing to a local farmer. This is a design project resulting in seasonal wetlands for waterfowl in the winter.	Ducks Unlimited	\$25,000	\$50,000	\$0	\$0		●	●
				\$9,962,500	\$2,420,000	\$7,827,000	\$6,169,425			

ⁱ Note: Snohomish County submitted a Floodplains by Design pre-application with a budget of approximately \$18 million. Subsequently, Ecology requested to have the budget adjusted to describe what could be completed with an approximately \$10 million budget (the “base” budget request) and what could be added for an additional \$8 million (the “bonus” budget request).