Item No.	Project Description	Database ID No.	BES	Previous Expenditures Amount	Previous Expenditures Source	2024 Phase	2024 Amount	2024 Source	2025 Phase	2025 Amount	2025 Source	2026 Phase	2026 Amount	2026 Source	2027 Phase	2027 Amount	2027 Source	2028 Phase	2028 Amount	2028 Source	2029 Phase	2029 Amount	2029 Source	Total
LAKE WHATCOM STORMWATER																								
1	**SWP #SWLW23-04 Academy Road Stormwater Improvements:** Evaluate the water quality performance of the existing Academy stormwater system and provide recommended retrofits.	20-005	63.9	$ 1,935,000	REET / LWSU	PE	$ 25,000	LWSU	PE			PE			PE			PE			PE			$ 2,030,000
						RW			RW			RW			RW			RW			RW			
						CN			CN			CN			CN			CN			CN			
						CN	$ 70,000	LWSU	CN			CN			CN			CN			CN			
2	**SWP #SWLW23-03 Geneva Bioretention Pilot Project:** Install new water quality treatment media, evaluate the effectiveness and constructability of new water quality treatment media	20-006	63.9	$ 1,000,000	REET/Grant/LWSU	PE			PE			PE			PE			PE			PE			$ 1,112,000
						RW			RW			RW			RW			RW			RW			
						CN	$ 90,000	ECY Grant	CN			CN			CN			CN			CN			
						CN	$ 22,000	REET	CN			CN			CN			CN			CN			
3	**SWP #SWLW23-01 Silver Beach Creek Stormwater Improvements Phase 2:** Main channel restoration below Hillsdale using natural vegetation	07-095	60.5	$ 250,000	REET / LWSU	PE	$ 40,000	LWSU	PE			PE			PE			PE			PE			$ 1,160,000
						RW	$ 20,000	REET	RW			RW			RW			RW			RW			
						CN	$ 600,000	REET	CN			CN			CN			CN			CN			
						CN	$ 250,000	LWSU	CN			CN			CN			CN			CN			
4	**Eagleridge Stormwater Improvements:** Install a water quality system to treat stormwater from the Eagleridge development.	20-007	61.4	$ 15,000	LWSU	PE	$ 280,000	REET	PE			PE			PE			PE			PE			$ 810,000
						RW	$ 15,000	LWSU	RW			RW			RW			RW			RW			
						CN			CN	$ 500,000	LWSU	CN			CN			CN			CN			
						CN			CN			CN			CN			CN			CN			
5	**Austin Court Stormwater Improvements:** Install water quality system on the discharge from Austin Court.	20-008	58.8			PE	$ 200,000	LWSU	PE			PE			PE			PE			PE			$ 675,000
						RW	$ 25,000	REET	RW			RW			RW			RW			RW			
						CN			CN			CN	$ 450,000	LWSU	CN			CN			CN			
6	**SWP #SWLW23-05 Cedar Hills Culvert Replacement:** Replacement of culvert damaged during the 2021 flooding event with FEMA funding contribution.	23-001	44.2	$ 12,000	LWSU	PE	$ 60,000	FEMA	PE			PE			PE			PE			PE			$ 392,000
						PE	$ 100,000	REET	PE			PE			PE			PE			PE			
						RW	$ 15,000	LWSU	RW			RW			RW			RW			RW			
						CN			CN	$ 180,000	FEMA	CN			CN			CN			CN			
						CN			CN	$ 25,000	REET	CN			CN			CN			CN			
7	**Strawberry Point/Lake Whatcom Blvd Stormwater Improvements:** System upgrades to improve water quality including vaults, biofiltration swales, and channel restoration	17-001	62.2			PE			PE	$ 30,000	LWSU	PE	$ 300,000	REET	PE	$ 50,000	LWSU	PE			PE			$ 1,170,000
						RW			RW			RW	$ 35,000	LWSU	RW			RW			RW			
						CN			CN			CN			CN	$ 455,000	REET	CN			CN			
						CN			CN			CN			CN	$ 300,000	LWSU	CN			CN			
8	**Geneva Street & Lake Louise Road Culvert Replacement:** Replace culverts along Geneva Street and Lake Louise Road to improve water quality and conveyance	20-010	58.8			PE			PE			PE			PE	$ 70,000	REET	PE			PE			$ 270,000
						PE			PE			PE			PE			PE			PE			
						RW			RW			RW			RW			RW			RW			
						CN			CN			CN			CN			CN	$ 200,000	LWSU	CN			
9	**Lake Whatcom Boulevard Media Filter Drain (EG-1):** Install media filter drain or other water quality system along west side of Lake Whatcom Blvd to improve water quality.	22-006	58.8			PE			PE			PE			PE	$ 180,000	LWSU	PE			PE			$ 835,000
						RW			RW			RW			RW	$ 25,000	REET	RW			RW			
						CN			CN			CN			CN			CN	$ 630,000	REET	CN			
10	**Sudden Valley Stormwater Improvements No. 2:** Construct drainage system upgrades and retrofits in the Sudden Valley area of the Lake Whatcom watershed.	22-007	49.0			PE			PE			PE	$ 10,000	LWSU	PE	$ 200,000	LWSU	PE	$ 60,000	REET	PE			$ 1,260,000
						PE			PE			PE			PE			PE			PE			
						RW			RW			RW			RW	$ 10,000	REET	RW			RW			
						CN			CN			CN			CN			CN	$ 500,000	REET	CN			
						CN			CN			CN			CN			CN	$ 480,000	LWSU	CN			
11	**Lake Whatcom Boulevard Water Quality Vault (EG-4):** Install a water quality system to remove phosphorus and other pollutants from residential runoff prior to entering Lake Whatcom.	22-008	57.1			PE			PE			PE			PE			PE	$ 200,000	REET	PE			$ 225,000
						PE			PE			PE			PE			PE			PE			
						RW			RW			RW			RW			RW	$ 25,000	LWSU	RW			
						CN			CN			CN			CN			CN			CN			
12	**Viewhaven Lane Water Quality & Conveyance Improvements:** Install water quality systems and improve conveyance near Viewhaven Lane.	20-009	58.8			PE			PE			PE			PE			PE			PE	$ 100,000	LWSU	$ 115,000
						RW			RW			RW			RW			RW			RW	$ 15,000	LWSU	
						CN			CN			CN			CN			CN			CN			
						CN			CN			CN			CN			CN			CN			
BIRCH BAY WATERSHED & AQUATIC RESOURCES MNGT. DIST. (BBWARM)																								
13	**SWP #SWBB23-02 Charel Terrace Stormwater Outfall Repair:** Marine outfall stabilization to protect a bluff slope (emergency repair 2022) and permanent stabilization (2023)	20-011	29.8	$ 290,000	BBWARM / FEMA	PE	$ 60,000	FEMA	PE			PE			PE			PE			PE			$ 750,000
						RW			RW			RW			RW			RW			RW			
						CN	$ 350,000	FEMA																
						CN	$ 50,000	BBWARM	CN			CN			CN			CN			CN			
14	**SWP #SWBB23-03 Holeman Avenue Stormwater Improvements (PW-1):** Replace CBs, upsize culverts, re-establish ditch on Holeman Ave near Birch Bay Dr	07-242	37.8	$ 140,000	BBWARM	PE	$ 65,000	BBWARM	PE			PE			PE			PE			PE			$ 905,000
						RW			RW			RW			RW			RW			RW			
						CN	$ 300,000	BBWARM	CN			CN			CN			CN			CN			
						CN	$ 400,000	REET	CN			CN			CN			CN			CN			
15	**SWP #SWBB23-04 Semiahmoo Drive South & Outfall Improvements (BP-2, BP-5):** Upsize culverts and re-establish roadside ditch on east side of Semiahmoo Drive**.**	18-009 18-010	50.3	$ 320,000	BBWARM	PE	$ 35,000	BBWARM	PE	$ 50,000	BBWARM	PE			PE			PE			PE			$ 1,355,000
						PE			PE			PE			PE			PE			PE			
						RW	$ 15,000	BBWARM	CN	$ 410,000	Road Funds	RW			RW			RW			RW			
						CN			CN	$ 525,000	BBWARM	CN			CN			CN			CN			
16	**SWP #SWBB23-05 Normar Place Stormwater Improvements (BP-1):** Upsize pipes, replace CBs and install energy dissipater at pipe outfall on Normar Place	19-004	52.0	$ 280,000	BBWARM	PE			PE	$ 60,000	BBWARM	PE			PE			PE			PE			$ 1,160,000
						PE			PE														
						RW	$ 20,000	BBWARM	CN			RW			RW			RW			RW			
						CN			CN	$ 500,000	BBWARM	CN			CN			CN			CN			
						CN			CN	$ 300,000	REET	CN			CN			CN			CN			
17	**SWP #SWBB23-06 Lora Lane Drainage & Tide Gate Modifications (TC1-2):** Replace tide gate structure and repair embankment; install Type 2 CB and culvert under Birch Bay Dr	18-008	42.5	$ 6,500	BBWARM	PE	$ 280,000	BBWARM	PE			PE	$ 60,000	BBWARM	PE			PE			PE			$ 1,716,500
						RW			RW			RW			RW			RW			RW			
						CN			CN			CN	$ 200,000	BBWARM	CN			CN			CN			
						CN			CN			CN	$ 300,000	REET	CN			CN			CN			
						CN			CN			CN	$ 870,000	Road Funds	CN			CN			CN			
18	**SWP #SWBB23-07 Birch Point Road Stormwater & Outfall Improvements (BP-3, BP-6):** Upsize culverts and replace outfall to the beach to reduce bluff erosion	21-001	33.3			PE			PE	$ 300,000	BBWARM	PE			PE			PE			PE			$ 970,000
						RW			RW	$ 20,000	BBWARM	RW			RW			RW			RW			
						CN			CN			CN			CN	$ 100,000	Road Funds	CN			CN			
						CN			CN			CN			CN	$ 250,000	BBWARM	CN			CN			
						CN			CN			CN			CN	$ 300,000	REET	CN			CN			
19	**SWP #SWBB23-08 Richmond Park Stormwater Improvements (SH-2):** Address drainage concerns in Richmond Park by re-routing stormwater down Shintaffer Road to a Birch Bay outfall	22-010	42.5			PE			PE			PE	$ 660,000	BBWARM	PE			PE	$ 140,000	BBWARM	PE			$ 2,600,000
						RW			RW			RW	$ 40,000	BBWARM	RW			RW			RW			
						CN			CN			CN			CN			CN	$ 680,000	Road Funds	CN			
						CN			CN			CN			CN			CN	$ 780,000	BBWARM	CN			
						CN			CN			CN			CN			CN	$ 300,000	REET	CN			
20	**Roger's Slough Drainage Improvements:** Re-grade ditches, install new culverts, and replace existing pipe with concrete box culvert under Birch Point Road into Roger's Slough	23-002	70.2			PE			PE			PE			PE	$ 750,000	BBWARM	PE			PE	$ 150,000	BBWARM	$ 2,850,000
						RW			RW			RW			RW			RW			RW			
						CN			CN			CN			CN			CN			CN	$ 1,950,000	BBWARM	
						CN			CN			CN			CN			CN			CN			
21	**Birch Bay Village Drainage Improvements:** Upsize existing culverts and install new pipe and catch basins in Birch Bay Village to reduce flooding	23-003	52.9			PE			PE			PE			PE			PE	$ 350,000	BBWARM	PE			$ 350,000
						RW			CN			CN			CN			CN			CN			
						CN			CN			CN			CN			CN			CN			
						CN			CN			CN			CN			CN			CN			
22	**Bay Ridge Estates Drainage Improvements:** Upsize and install new culverts and CBs on Birch Point Road and Selder Road to reduce flooding	23-004	46.1			PE			PE			PE			PE			PE			PE	$ 220,000	BBWARM	$ 220,000
						CN			CN			CN			RW			RW			RW			
						CN			CN			CN			CN			CN			CN			
						CN			CN			CN			CN			CN			CN			

WHATCOM COUNTY FLOOD CONTROL ZONE DISTRICT

2024-2029 SIX-YEAR WATER RESOURCES IMPROVEMENT PROGRAM

EXHIBIT A

Item No.	Project Description	Database ID No.	BES	Previous Expenditures		2024			2025			2026			2027			2028			2029			Total
				Amount	Source	Phase	Amount	Source	Phase	Amount	Source	Phase	Amount	Source	Phase	Amount	Source	Phase	Amount	Source	Phase	Amount	Source	
RIVER & FLOOD																								
23	**Everson Overflow Pipeline Bank Stabilization (720009):** Stabilize bank at erosion site from 2020 flood at pipeline crossing	20-002	66.3	$ 18,000	FCZD	PE			PE			PE			PE			PE			PE			Project Total:
				$ 1,054,000	FEMA/State	PE			PE			PE			PE			PE			PE			$ 1,129,500
				$ 37,500	Pipeline	PE			PE			PE			PE			PE			PE			
						CN	$ 1,000	FCZD	CN			CN			CN			CN			CN			FCZD Total:
						CN	$ 19,000	FEMA/State	CN			CN			CN			CN			CN			$ 19,000
						CN			CN			CN			CN			CN			CN			
24	**Jones Creek Debris Flow Risk Reduction (712004):** Construct deflection berms and realign roadway	07-105	70.6	$ 6,131,000	FCZD	PE	$ -	FCZD	PE			PE			PE			PE			PE			
				$ 350,000	FEMA/State grant	PE	$ -	Roads	PE			PE			PE			PE			PE			Project Total:
				$ 3,879,000	FbD grant	RW	$ -	FCZD	RW			RW			RW			RW			RW			$ 10,383,000
						RW	$ -	FbD grant	CN			CN			CN			CN			CN			
						CN	$ 5,000	FCZD	CN			CN			CN			CN			CN			FCZD Total:
						CN	$ 18,000	FbD grant	CN			CN			CN			CN			CN			$ 6,136,000
						CN	$ -	Roads	CN			CN			CN			CN			CN			
						CN	$ -	Utilities	CN			CN			CN			CN			CN			
25	**Marine Drive Emergency Levee Repair (720004):** Repair crest and backslope flood damage	20-001	61.4	$ 121,000	FCZD	PE			PE			PE			PE			PE			PE			Project Total:
				$ 2,181,000	FEMA	PE			PE			PE			PE			PE			PE			$ 2,463,000
				$ 121,000	State	CN	$ 2,000	FCZD	CN			CN			CN			CN			CN			FCZD Total:
						CN	$ 38,000	FEMA/State	CN			CN			CN			CN			CN			$ 123,000
26	**Truck Road Bank Stabilization (720008):** Phase 1 emergency construction in 2022 and Phase 2 road rehab and environmental mitigation in 2023	20-003	59.4	$ 37,000	FCZD	PE	$ 1,400	FCZD	PE			PE			PE			PE			PE			Project Total
				$ 1,345,000	FEMA	PE	$ 54,600	FEMA/State	PE			PE			PE			PE			PE			$ 3,951,000
				$ 75,000	State	PE	$ 1,400	Roads	PE			PE			PE			PE			PE			
				$ 37,000	Roads	CN	$ 58,600	FCZD	CN	$ 1,400	FCZD	CN			CN			CN			CN			FCZD Total
						CN	$ 2,224,900	FEMA/State	CN	$ 54,600	FEMA/State	CN			CN			CN			CN			$ 98,000
						CN	$ 58,600	Roads	CN	$ 1,400	Roads	CN			CN			CN			CN			
27	**Hudson Rd Bridge No. 132 Repair (722006):** Repair Nov 2021 damages to bridge approaches	22-001	38.9	$ 375	FCZD	PE	$ 375	FCZD	PE			PE			PE			PE			PE			Project Total:
				$ 7,125	FEMA/State	PE	$ 7,125	FEMA/State	PE			PE			PE			PE			PE			$ 127,500
						CN	$ 5,500	FCZD	CN	$ 125	FCZD	CN			CN			CN			CN			FCZD Total
						CN	$ 104,500	FEMA/State	CN	$ 2,375	FEMA/State	CN			CN			CN			CN			$ 6,375
28	**Timon Levee USACE Rehabilitation (722001):** USACE to repair Nov 2021 flood damages.	22-002	64.5	$ 12,000	FCZD	PE			PE			PE			PE			PE			PE			Project Total:
						CN			CN			CN			CN			CN			CN			$ 2,064,000
						CN	$ 1,621,000	USACE	CN			CN			CN			CN			CN			(See Note 1)
						CN	$ 406,000	FCZD	CN			CN			CN			CN			CN			FCZD Total
						CN	$ 25,000	LE Subzone	CN			CN			CN			CN			CN			$ 418,000
29	**Upper Hampton USACE Levee Rehabilitation (722008):** USACE to repair Nov 2021 flood damages.	22-004	58.7	$ 5,000	FCZD	PE			PE			PE			PE			PE			PE			Project Total:
						CN			CN			CN			CN			CN			CN			$ 1,504,750
						CN	$ 1,109,000	USACE	CN			CN			CN			CN			CN			(See Note 1)
						CN	$ 222,000	FCZD	CN			CN			CN			CN			CN			FCZD Total
						CN	$ 25,000	LE Subzone	CN			CN			CN			CN			CN			$ 227,000
30	**Cougar Creek and Neevel Levee Improvement (720010):** Stabilize oversteepened section of levee (SWIF project) with new flood gate and restoration (FLIP project)	16-008	59.4	$ 109,000	FCZD	PE	$ 32,500	FCZD	PE			PE			PE			PE			PE			Project Total:
				$ 117,000	NOAA grant	PE			PE			PE			PE			PE			PE			$ 2,375,000
				$ 77,000	FbD grant	PE			RW			RW			RW			RW			RW			
						RW			CN	$ 1,608,235	FCZD	CN			PE			PE			PE			
						CN	$ 45,000	FCZD	CN	$ 386,235	EQUIP	CN			CN			CN			CN			FCZD Total:
						CN			CN			CN			CN			CN			CN			$ 1,795,000
31	**Abbott Levee Protection and Improvement (718010):** Interim erosion protection measures for levee & road (Ph. 1); Extend and realign upstream end of levee (Ph. 2 - SWIF project)	16-007	70.4	$ 655,000	FCZD	PE	$ 138,300	FCZD	PE	$ 25,000	FCZD	PE			PE			PE			PE			Project Total:
				$ 443,000	Roads	PE	$ 138,300	Roads	PE	$ 25,000	Roads	PE			PE			PE			PE			$ 3,740,000
						RW			CN	$ 1,000,000	FCZD	CN	$ 7,500	FCZD	CN			CN			CN			FCZD Total:
						RW			CN	$ 1,300,000	Roads	CN	$ 7,500	Roads	CN			CN			CN			$ 1,964,000
32	**Acme Woody Revetment Repair (723008):** FEMA funded repair to Acme Early Chinook Restoration Project	23-005	67.7			PE	$ 14,225	FCZD	PE		FCZD													Project Total:
						PE	$ 270,275	FEMA/State	PE		FEMA/State													$ 1,285,000
									CN	$ 50,000	FCZD													FCZD Total:
									CN	$ 950,000	FEMA/State													$ 78,000
33	**Bertrand Creek Levee Stabilization (721002):** Restore right and left levee prisms and install bank protection (SWIF project)	16-005	54.4	$ 7,000	FCZD	PE	$ 30,000		PE	$ 5,000	FCZD	PE			PE			PE			PE			Project Total:
						CN			CN	$ 225,000	FCZD	CN			CN			CN			CN			$ 292,000
						CN			CN	$ 25,000	DD#4?	CN			CN			CN			CN			
34	**Devries Levee Improvements:** Widen and establish full crest width and backslope levee (SWIF project)	19-001	49.3			PE	$ 10,000		PE	$ 25,000		PE			PE			PE			PE			Project Total:
						CN			CN	*$ 200,000*		CN			CN			CN			CN			$ 225,000
35	**Ferndale Levee Improvement (719008):** Reconstruct and realign Ferndale and Treatment Plant Levees to improve level of protection and address deficiencies	07-104	68.9	$ 171,000	FCZD	PE	$ 96,000	FCZD	PE	$ 20,000	FCZD	PE	*$ 50,000*		PE	*$ 50,000*		PE	*$ 50,000*		PE			Construction
				$ 805,000	FbD grant	PE	$ 384,000	FbD grant	PE	$ 80,000	FbD grant	RW			RW			RW			RW			Expected
						RW			RW	$ 100,000	FCZD	CN	$ 380,000	FCZD	CN			CN			CN			in 2026-27
						CN			RW	$ 400,000	FbD grant	CN	*$ 1,520,000*	FbD grant	CN	*$ 5,000,000*		CN	*$ 1,000,000*		CN			
36	**Glacier-Gallup Alluvial Fan Restoration (718007):** Remove all or part of Glacier Creek levee and construct setback levee along Gallup Creek. Interim revetment fix in 2023	18-006	88.9	$ 413,000	FCZD	PE	$ 116,600	FCZD	PE	$ 40,000	FCZD	PE	$ 40,000	FCZD	PE		FCZD	PE			PE			Construction
				$ 1,079,000	FbD grant	PE	$ 466,400	FbD grant	PE	$ 160,000	FbD grant	PE	$ 160,000	FbD grant	PE		FbD grant	PE			PE			Expected
						RW	$ 120,000	FCZD	RW	*$ 200,000*	FCZD	RW		FCZD	RW		FCZD	RW			RW			in
						RW	$ 480,000	FbD grant	RW	*$ 800,000*	FbD grant	RW		FbD grant	RW		FbD grant	RW			RW			2027-2028
						CN			CN		FCZD	CN		FCZD	CN	*$ 1,000,000*	FCZD	CN	*$ 1,000,000*	FCZD	CN			
						CN			CN		FbD grant	CN		FbD grant	CN	*$ 4,000,000*	FbD grant	CN	*$ 4,000,000*	FbD grant	CN			
37	**Dahlberg Wetland Mitigation Site (719006):** Develop advanced mitigation site for future impacts from Flood and Road projects (likely phased implementation as projects are permitted)	20-004	66.3	$ 873,000	FCZD	PE	$ 15,000	FCZD	PE	*$ 240,000*	FCZD	PE	*$ 100,000*		PE			PE	*$ 100,000*		PE			Project Total:
						CN			CN			CN			CN	*$ 1,000,000*		CN			CN	*$ 500,000*		*$ 2,828,000*
						CN			CN			CN			CN			CN			CN			
38	**Upper Hampton Levee Improvements:** Widen levee crest and flatten backslope at two sites and seepage at retaining wall deficiencies (SWIF project)	16-006	70.4	$ 6,000	LE Subzone	PE			PE	$ 5,000		PE			PE			PE			PE			Project Total:
					Under Lynden project	RW			RW			RW			RW			RW			RW			$ 36,000
						CN			CN	$ 25,000	FCZD/LE Subzone	CN			CN			CN			CN			
39	**Floodplain Acquisition:** Acquire key properties for future levee reconfiguration to reduce risk and improve habitat	07-002	79.6	$ 236,000	FCZD	RW	$ 1,100,000	FCZD	RW	*$ 5,000,000*		RW	*$ 5,000,000*		RW			RW			RW			
				$ 943,000	FbD grant	RW	$ 4,400,000	FbD grant																
						RW	$ 9,600,000	FEMA/CBDG																
				$ 843,000	Commerce grant	RW	$ 866,000	Commerce grant	RW			RW			RW			RW			RW			
40	**Marietta Acquisition:** Acquire properties in repetitive flood loss area and remove structures	07-002	79.6	$ 663,000	FCZD	RW			RW			RW			RW			RW			RW			Total through '21
				$ 1,044,000	FEMA/State	RW	$ 55,000		RW	$ 100,000		RW	$ 100,000		RW	$ 100,000		RW	$ 100,000		RW			$ 1,852,000
				$ 145,000	ESRP grant	CN			CN	$ 25,000		CN	$ 25,000		CN	$ 25,000		CN	$ 25,000		CN			FCZD Total:
						CN			CN			CN			CN			CN			CN			$ 663,000
41	**High Creek Sediment Trap (720005):** Annual clean out of sediment traps	22-005	58.8	$ 137,000	FCZD	CN			CN			CN			CN			CN			CN			FCZD Total thru '24
				$ 105,000	FEMA/State	CN	$ 115,000	FCZD	CN	*$ 120,000*	*FCZD*	CN	*$ 125,000*	*FCZD*	CN	*$ 130,000*	*FCZD*	CN	*$ 135,000*	*FCZD*	CN	*$ 140,000*	*FCZD*	$ 252,000
42	**Emergency/New Projects:** Typically repair projects that result from new damage, as needed	08-003	Varies			PE	$ 25,000	FCZD	PE	$ 25,000	FCZD	PE	$ 25,000	FCZD	PE	$ 25,000	FCZD	PE	$ 25,000	FCZD	PE	$ 25,000	FCZD	
						RW			RW			RW			RW			RW			RW			Total/year:
						CN	$ 50,000	Local sponsor	CN	$ 50,000	Local sponsor	CN	$ 50,000	Local sponsor	CN	$ 50,000	Local sponsor	CN	$ 50,000	Local sponsor	CN	$ 50,000	Local sponsor	$ 425,000
						CN	$ 350,000	FCZD	CN	$ 350,000	FCZD	CN	$ 350,000	FCZD	CN	$ 350,000	FCZD	CN	$ 350,000	FCZD	CN	$ 350,000	FCZD	

NOTES

Numbers in italics are placeholders for projects still being conceived.

Previous expenditures includes work contracted in 2022 that will continually appropriate into 2023.

Note 1: Estimated total project cost includes work done by U.S. Army Corps of Engineers (USACE) and funded directly by USACE.

Academy Road Stormwater Improvements
Database ID No. 20-005

Construction Funding Year(s): **2024**

Project Narrative:

Whatcom County and the City of Bellingham jointly developed this project to improve water quality from the approximate 80-acre Academy sub-basin of the Lake Whatcom Watershed. This stormwater treatment facility project was originally constructed in 2015 and will be retrofitted to improve phosphorus removal based upon recently completed evaluations of stormwater treatment performance. City of Bellingham will adopt the facility for future operation and maintenance after the retrofit improvements are completed by Whatcom County in 2024.

Project Status:

Design and permitting is being completed in 2023 and construction scheduled to take place in the summer of 2024.

Initial 2015 completed project cost:	$ 1,204,000
2024 retrofit project cost:	$ 826,000
Total Estimated Project Cost:	$ 2,030,000

Geneva Bioretention Pilot Project
Database ID No. 20-006

Construction Funding Year(s): **2023**

Project Narrative:

This project will utilize a Washington State Department of Ecology grant to install and monitor the performance of new bioretention soil media. The existing swales are approaching the end of the media's effective life. New media will be required to replace the existing depleted media in the near future.

A portion of the existing swales will be used to test the new media, which is designed to reduce the amount of phosphorus and other pollutants entering the lake. Preliminary testing has shown the new media is much more effective in removal of phosphorus than more traditional media. If tests show significant improvement over the original media, the media will be adopted as a Best Management Practice (BMP) and be included in the updated WDOE Stormwater Manual.

Project Status:

Design is occurring in 2021-2022, construction in 2023, and monitoring performance in 2024-2026.

Total Estimated Project Cost: $1,112,000 (without monitoring costs)

Silver Beach Creek Stormwater Improvements Phase 2
Database ID No. 07-095

Construction Funding Year(s): **2024**

Project Narrative:

This project will address the stream bank erosion found on Silver Beach Creek and other tributaries. The project will reduce the amount of erosion and bank material that has been generally associated with the sediment-laden phosphorus loading to Lake Whatcom. The project will reconfigure approximately 950 linear feet of stream channels with a more stable cross-section to reduce erosion and the export of sediment.

Project Status:

Design is underway and construction scheduled to take place in 2024.

Total Estimated Project Cost: $1,160,000

Eagleridge Stormwater Improvements
Database ID No. 20-007

Construction Funding Year(s): **2025**

Project Narrative:
This project includes the installation of a water quality treatment facility associated with the Eagleridge neighborhood in the Lake Whatcom watershed. The Eagleridge development is approximately 34 acres and runoff from this development will be routed through a water quality facility to help remove sediments and phosphorus before entering Lake Whatcom.

Project Status:

Design is anticipated in 2023-2024 and construction scheduled to take place in 2025.

Total Estimated Project Cost: $810,000

Austin Court Stormwater Improvements
Database ID No. 20-008

Construction Funding Year(s): **2026**

Project Narrative:

This project includes the installation of a large filter vault to improve water quality in the existing Austin Court stormwater system. The tributary area is approximately three acres and the water quality system will remove sediments and phosphorus prior to entering Lake Whatcom.

Project Status:

Design is anticipated in 2023-2024 and construction scheduled to take place in 2026.

Total Estimated Project Cost: $675,000

Cedar Hills Culvert Replacement
Database ID No. 23-001

Construction Funding Year(s): **2025**

Project Narrative:

This project includes the replacement of a culvert that was damaged during the 2021 flooding event with a new upsized 100-linear feet long 36-inch diameter culvert. The work shall also include the modification of the culvert inlet to enhance erosion and sediment control, along with re-grading and armoring the downstream channel to provide improved conveyance capacity. This will be funded by FEMA, REET and the Lake Whatcom utility.

Project Status:

Design is anticipated in 2024-2025 and construction scheduled to take place in 2025.

Total Estimated Project Cost: $392,000

Strawberry Point/ Lake Whatcom Blvd Stormwater Improvements
Database ID No. 17-001

Construction Funding Year(s): **2027**

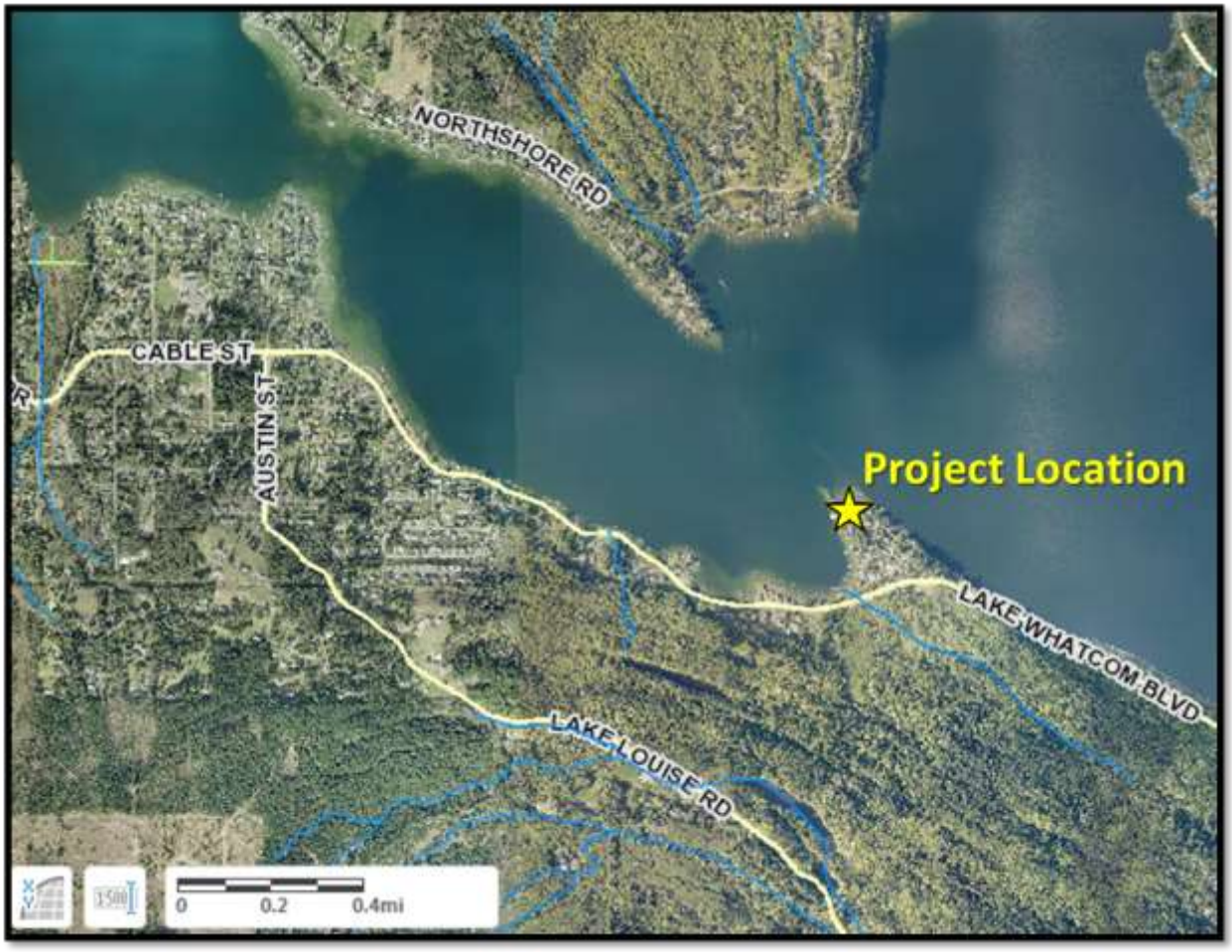
Project Narrative:

This project will involve the installation of a water quality facility to treat approximately three acres of residential area. Project elements may include: bio-infiltration swales, filter vaults, media filter drains, and rain gardens in order to improve water quality.

Project Status:

Design is anticipated in 2025-2026 and construction scheduled to take place in 2027.

Total Estimated Project Cost: $1,170,000



Geneva Street & Lake Louise Road Culvert Replacement
Database ID No. 20-010

Construction Funding Year(s): **2028**

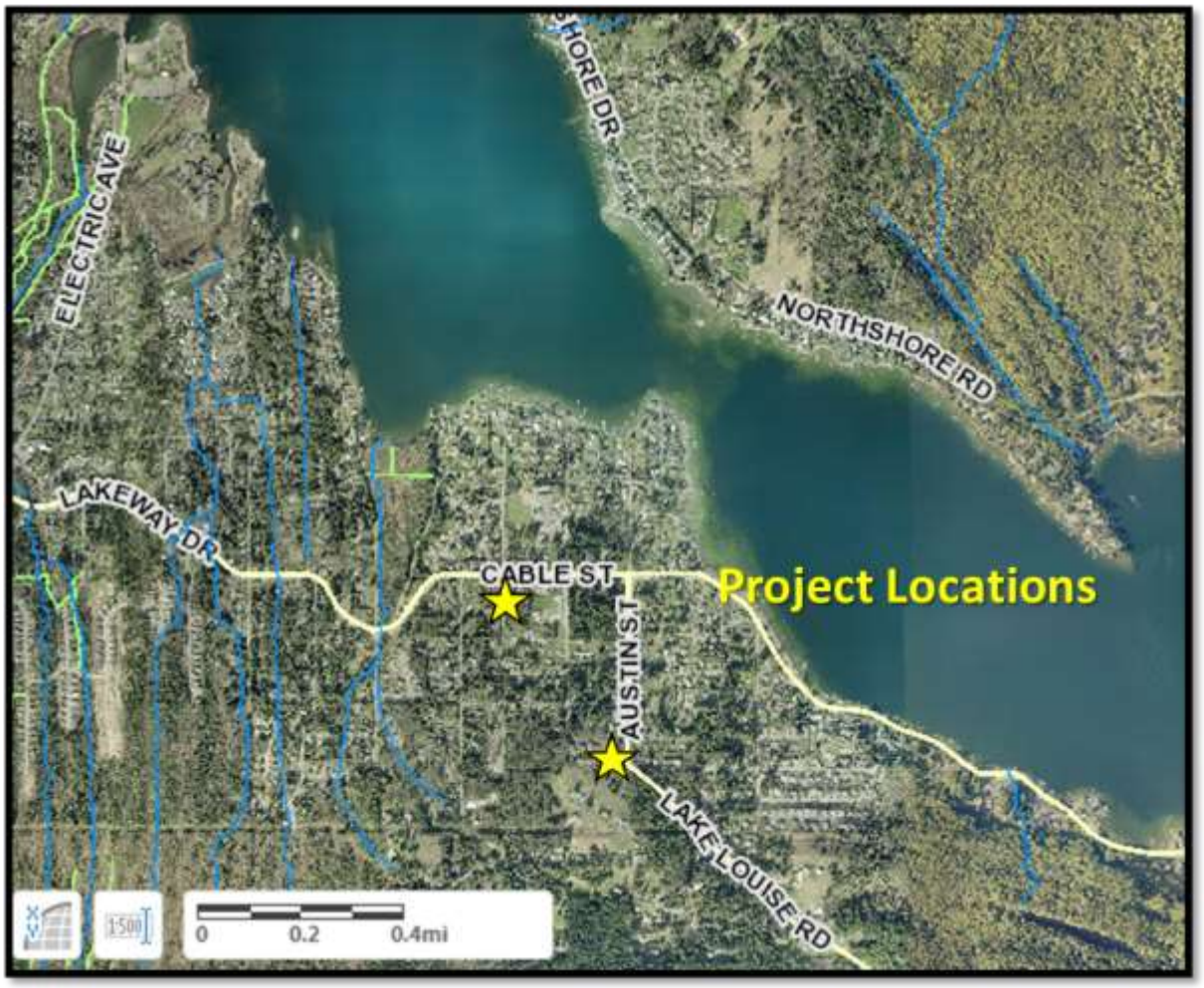
Project Narrative:

Project will improve conveyance of roadside ditches and culverts along Geneva Street and Lake Louise Road. This will improve water quality. The project will replace approximately 200 linear feet of undersized or damaged culverts.

Project Status:

Design is anticipated in 2027 and construction scheduled to take place in 2028.

Total Estimated Project Cost: $270,000



Lake Whatcom Boulevard Media Filter Drain (EG-1)
Database ID No. 22-006

Construction Funding Year(s): **2028**

Project Narrative:

The project would install Media Filter Drain (MFD), or other appropriate water quality system, along approximately 300 linear feet of roadway on the west side of Lake Whatcom Blvd. Stormwater runoff from approximately 8.5 acres on the west side of Lake Whatcom Blvd. is collected in a shallow roadside ditch, this project would treat this water prior to discharging to Lake Whatcom.

Project Status:

Design is anticipated in 2027 and construction scheduled to take place in 2028.

Total Estimated Project Cost: $835,000

Sudden Valley Stormwater Improvements No. 2
Database ID No. 22-007

Construction Funding Year(s): **2028**

Project Narrative:

A project, to be determined, will be constructed within the Sudden Valley area as the second water quality improvement project focused on removing sediment and treating phosphorus in a continued collaboration with the Sudden Valley community. The project will include drainage system upgrades and retrofits to the existing stormwater infrastructure. Details will be forthcoming as Whatcom County works with representatives of the Sudden Valley Community Association.

Project Status:

Design is anticipated in 2026-2027 and construction scheduled to take place in 2028.

Total Estimated Project Cost: $1,260,000

Lake Whatcom Boulevard Water Quality Vault (EG-4)
Database ID No. 22-008

Construction Funding Year(s): **2030**

Project Narrative:

This project includes the installation of a filter vault to improve water quality in the existing Lake Whatcom Blvd stormwater system. The water quality system will remove sediments and phosphorus from approximately 3 acres of residential runoff prior to entering Lake Whatcom.

Project Status:

Design is anticipated in 2028-2029 and construction scheduled to take place in 2030.

Total Estimated Project Cost: $650,000

Viewhaven Lane Water Quality & Conveyance Improvements
Database ID No. 20-009

Construction Funding Year(s): **2030**

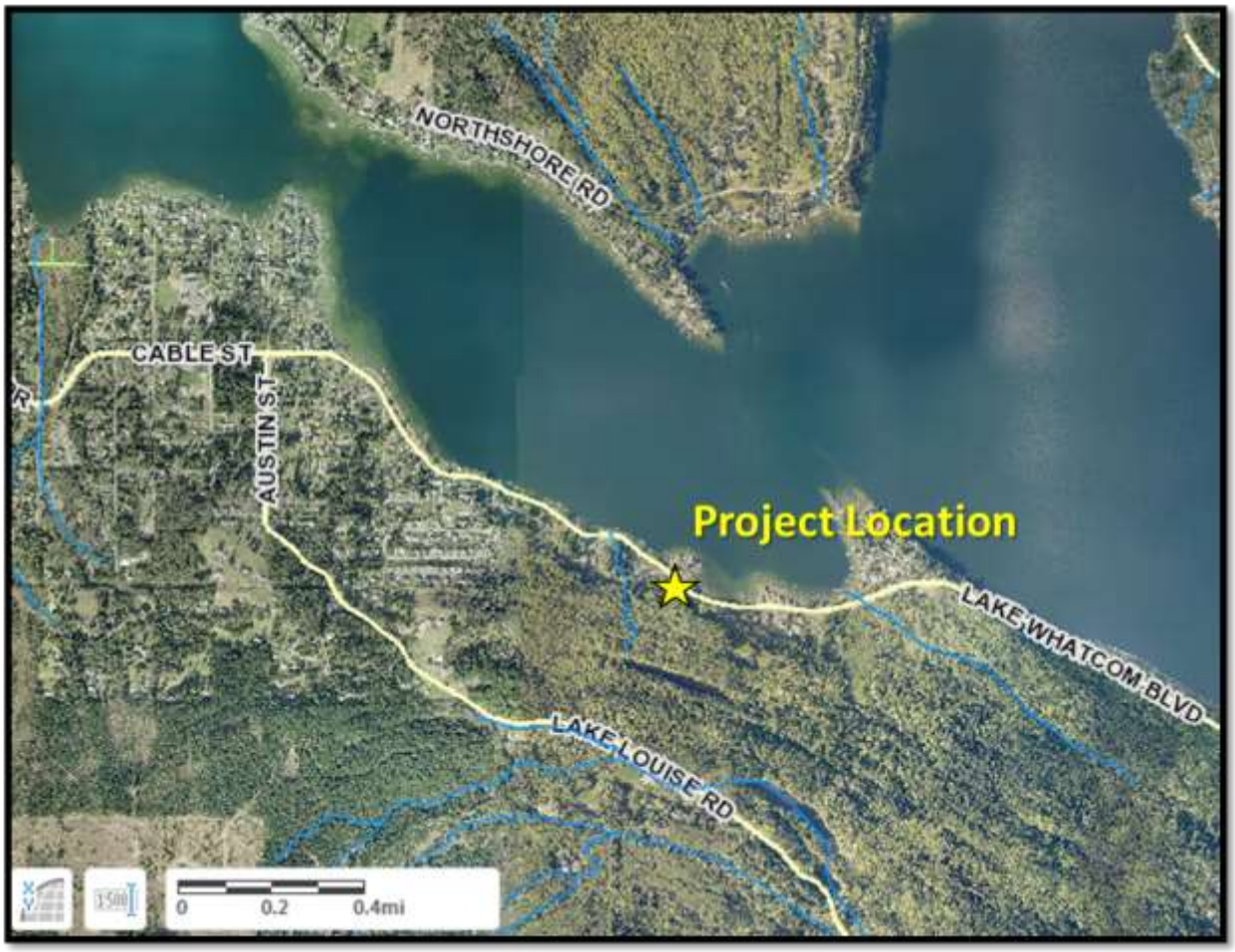
Project Narrative:

This project will improve conveyance and water quality near Viewhaven Lane and Lake Whatcom Blvd intersection. Project will include approximately 100 linear feet of conveyance improvements by replacing two undersized culverts and regrading a ditch. The project will also install approximately 135 linear feet of water quality facility. Project elements may include: bioinfiltration swales, filter vaults, media filter drains, and rain gardens.

Project Status:

Design is anticipated in 2029-2030 and construction scheduled to take place in 2030.

Total Estimated Project Cost: $475,000



Charel Terrace Stormwater Outfall Repair
Database ID No. 20-011

Construction Funding Year(s): **2024**

Project Narrative:

The December 20, 2018 “Solstice Eve” windstorm caused damage to the stormwater outfall on Birch Point installed as part of the Charel Terrace project in 2011. In March 2019 a “Major Disaster Declaration” that covered Whatcom County for the December storm was granted. In December 2019, the Consolidated Resource Center approved the Washington State Emergency Management Division’s $110,887 request for Architectural & Engineering Services to assess the site and develop conceptual design options. An RFP was advertised by Whatcom County in March 2020 and Herrera Environmental Consultants completed a preliminary study that assessed the outfall stabilization approaches to maintain a functional outfall. From this study, a temporary repair was constructed in fall 2022 to secure the catch basin to the bluff and reposition the outfall tee. The permanent repair will be constructed in the summer of 2024.

Project Status:

Design occurring in 2021-2023 and construction is scheduled to take place in 2024.

Total Estimated Project Cost: $750,000

Holeman Avenue Stormwater Improvements (PW-1)
Database ID No. 07-242

Construction Funding Year(s): **2024**

Project Narrative:

The project goal is to reduce roadway flooding on Holeman Avenue by replacing undersized pipe and catch basins and re-establish existing ditch to match pipe invert elevations. This area is particularly sensitive due to the steep, unstable bluff along the shoreline and the concern is that flooding could lead to bluff failure and property damage. This is a critical public safety issue.

Project Status:

Design is occuring in 2022-23 and construction is scheduled to take place in 2024.

Total Estimated Project Cost: $905,000

Semiahmoo Drive South & Outfall Improvements (BP-2, BP-5)
Database ID No. 18-009 & 18-010

Construction Funding Year(s): **2025**

Project Narrative:

This project will improve the stormwater conveyance system at the south end of Semiahmoo Drive by upsizing the cross culvert to reduce flooding and increase traffic safety, and reconstruct the outfall conveyance system to the Strait of Georgia damaged during the November 2021 extreme rainfall event.

Project Status:

Design and permitting is occurring 2021 to 2024 and construction scheduled to take place in 2025.

Total Estimated Project Cost: $1,355,000

Normar Place Stormwater Improvements (BP-1)
Database ID No. 19-004

Construction Funding Year(s): **2025**

Project Narrative:

This project involves upsizing pipes, replacing catch basins and installing an outfall pipe over the bluff with an energy dissipater at Normar Place to reduce roadway flooding, scour and sediment transport.

Project Status:

Design is anticipated in 2023-2024 and construction in 2025.

Total Estimated Project Cost: $1,160,000

Lora Lane Drainage & Tide Gate Modifications (TC1-2)
Database ID No. 18-008

Construction Funding Year(s): **2026**

Project Narrative:

The purpose of this project is to replace the existing 48" corrugated metal culvert under Birch Bay Drive with an 8-ft wide fish passable box culvert, replace the existing tide gate on the water side of Birch Bay Drive with a new side hinge tide gate, and install shoreline armoring at the outfall area. This project will collaborate with the Design and Construction Division of Whatcom County Public Works.

Project Status:

Preliminary engineering design concluded in 2021. Permanent repair design will begin 2024 and construction is anticipated for 2026.

Total Estimated Project Cost: $1,716,500

Birch Point Road Stormwater & Outfall Improvements (BP-3 & BP-6)
Database ID No. 21-001

Construction Funding Year(s): **2027**

Project Narrative:

A corrugated metal outfall pipe over a steep bluff on Birch Point collapsed due to erosional undermining. The driveway culverts, ditches and upstream storm drain system leading to the outfall are undersized and cause flooding and erosion during storm events. This project will involve upsizing culverts, reestablishing ditches and replacing and anchoring the outfall pipe and construction of pipe-end energy dissipater.

Project Status:

Design will be completed in 2025-26. Construction is scheduled to take place in 2027.

Total Estimated Project Cost: $970,000

Richmond Park Stormwater Improvements (SH-2)
Database ID No. 22-010

Construction Funding Year(s): **2028**

Project Narrative:

This project will address drainage concerns in Richmond Park by re-routing the large volume of water that currently moves through the development down Shintaffer Road to an outfall in Birch Bay. It would involve replacing 1,640 feet of ditch/culvert on Shintaffer Road with 36" diameter HDPE pipe, installing 13 type 2 catch basins and building a new outfall into Birch Bay.

Project Status:

Design will occur in 2026-2027 and construction is scheduled to take place in 2028.

Total Estimated Project Cost: $2,600,000

Roger's Slough Drainage Improvements
Database ID No. 23-002

Construction Funding Year(s): **2029**

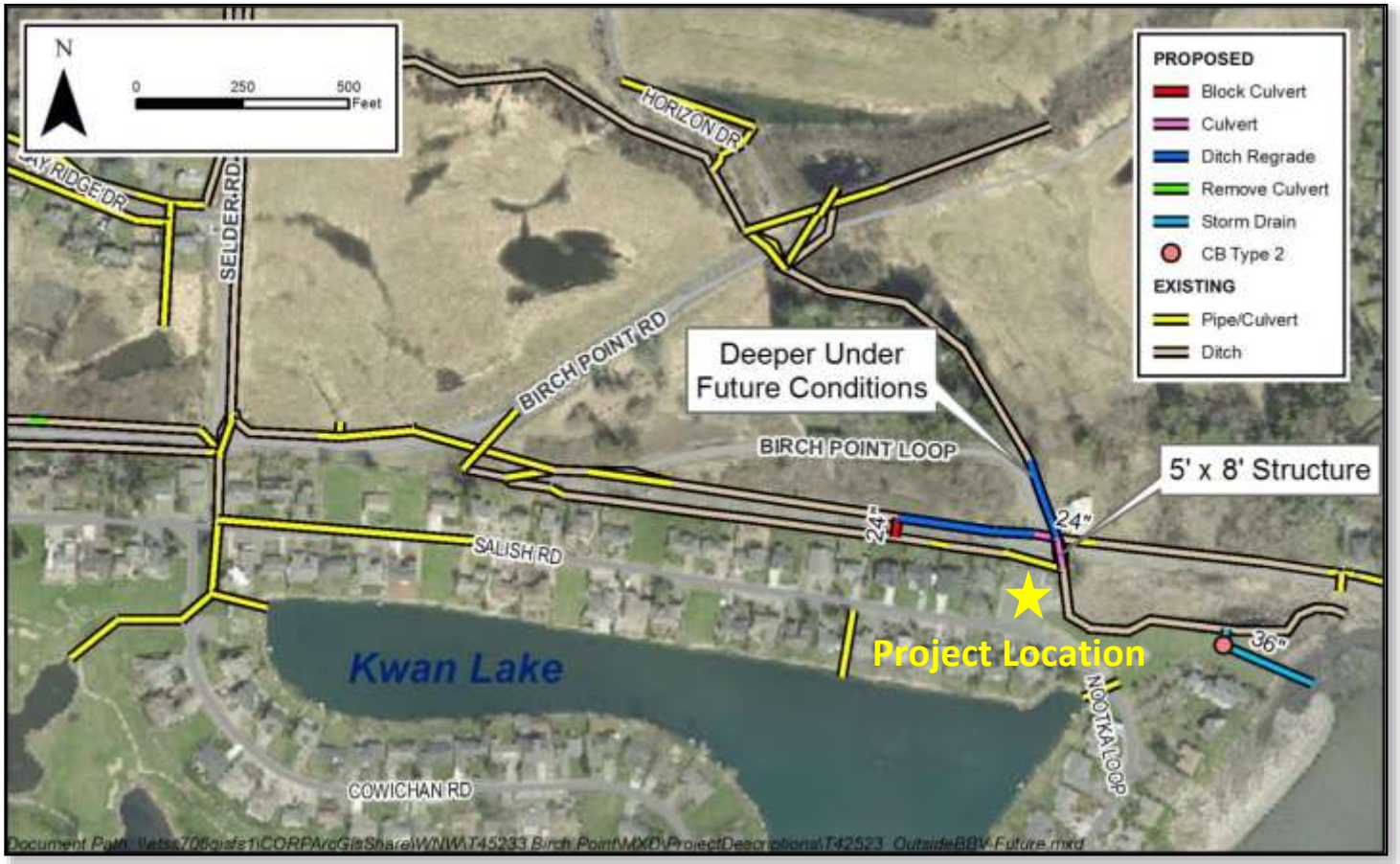
Project Narrative:

This project will address drainage and flooding issues in Birch Bay Village, Birch Bay Drive and Birch Point Loop Road. It will involve replacing twin 30" diameter culverts that direct water under Birch Bay Drive into Roger's Slough with a fish-passable concrete box culvert, installing 285 feet of pipe, regrading 500 feet of ditch, and installing a new type 2 catch basin and overflow pipe near the mouth of Roger's Slough.

Project Status:

Design will occur in 2027-2028 and construction is scheduled to take place in 2029.

Total Estimated Project Cost: $2,850,000



Birch Bay Village Drainage Improvements
Database ID No. 23-003

Construction Funding Year(s): **2030**

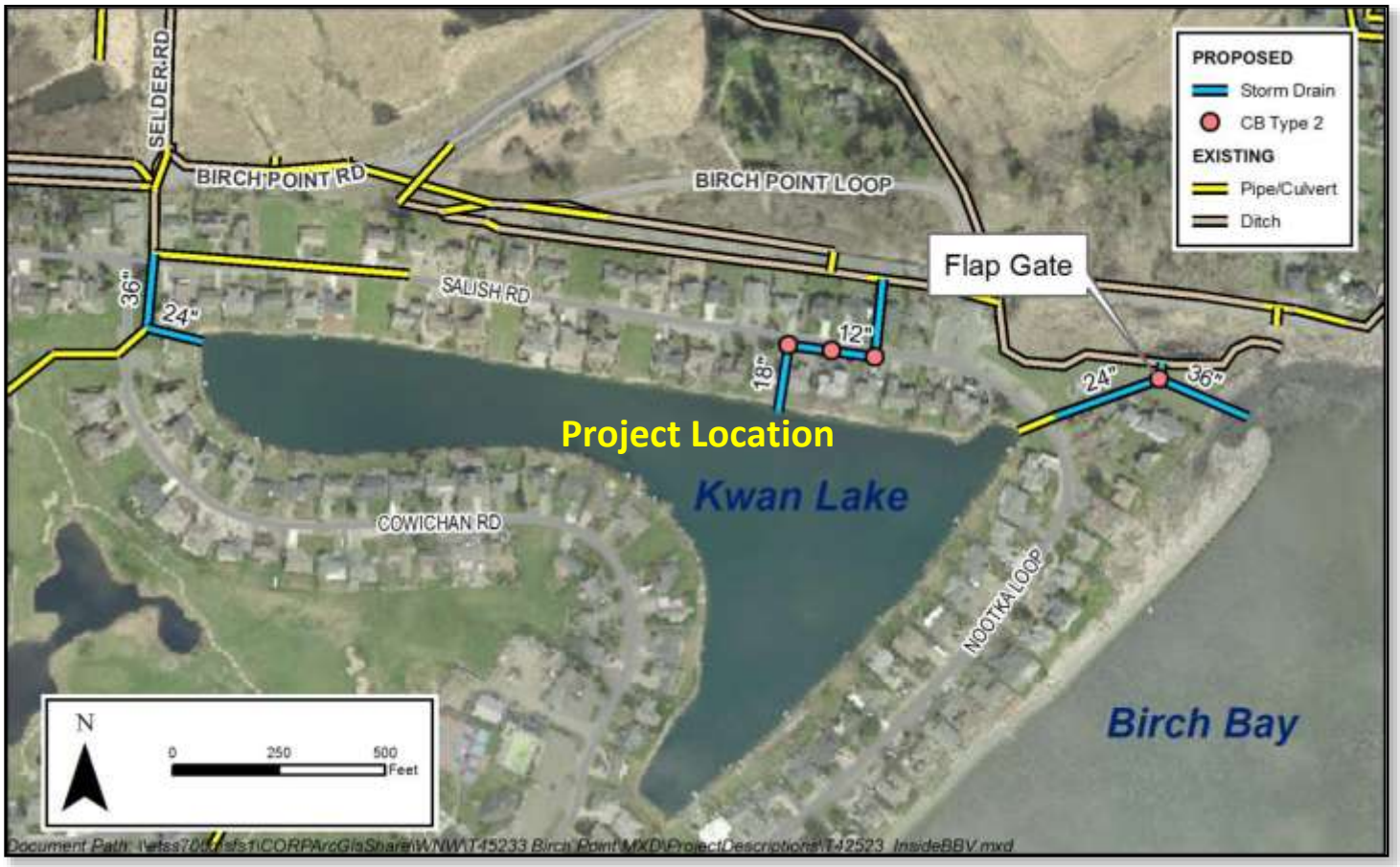
Project Narrative:

This project will address drainage and flooding issues in Birch Bay Village in the vicinity of Salish Road and Kwan Lake. It will involve installing or replacing 1,400 lineal feet of pipe, installing four new catch basins along Nootka Loop and Salish Road and installing a new 36" diameter flap gate near Nootka Loop to reduce tidal backwatering.

Project Status:

Design will occur in 2028-2029 and construction is scheduled to take place in 2030.

Total Estimated Project Cost: $1,185,000



Bay Ridge Estates Drainage Improvements
Database ID No. 23-004

Construction Funding Year(s): **2031**

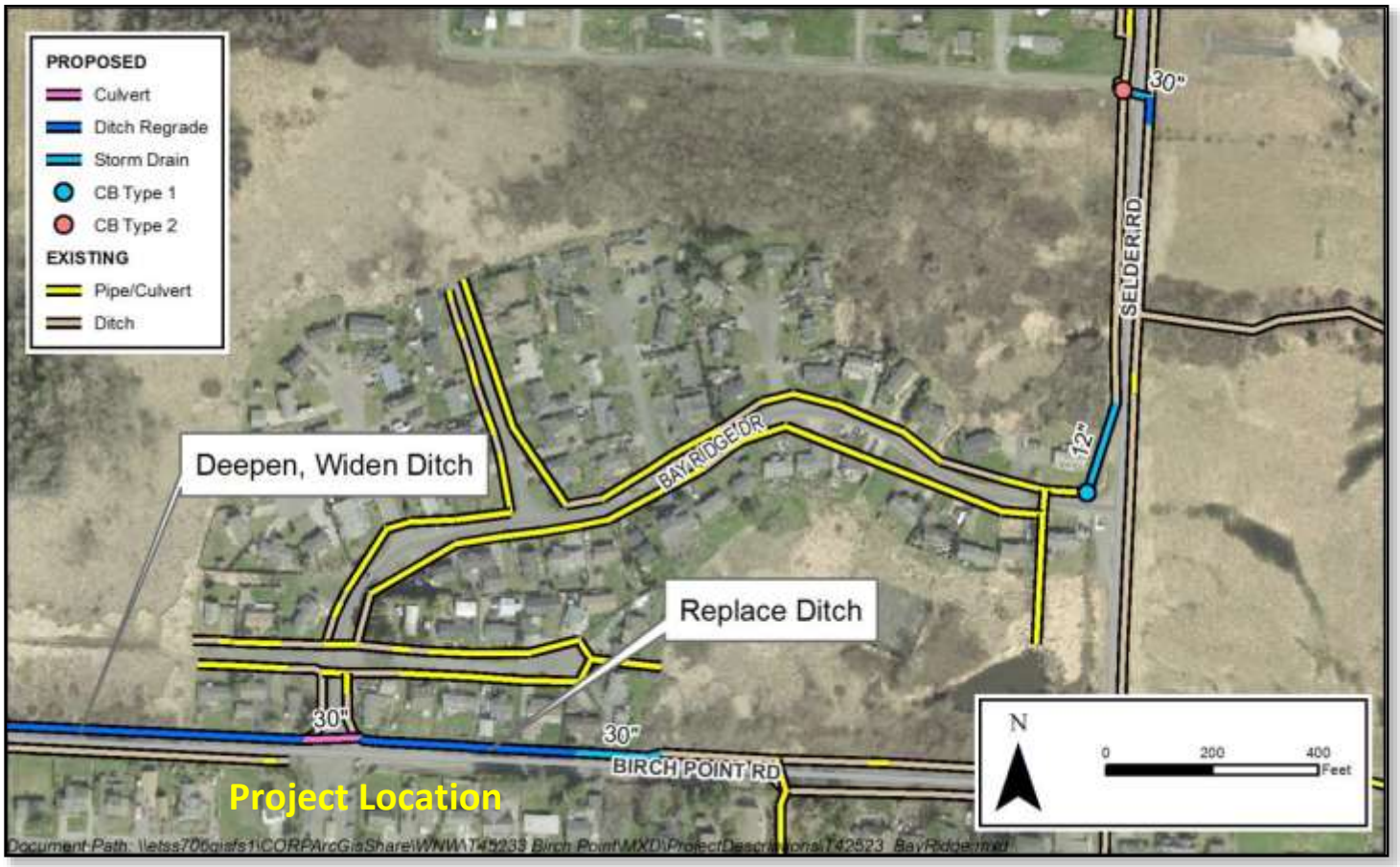
Project Narrative:

This project will address drainage and flooding issues in Bay Ridge Estates and along Selder Road. It will involve installing or replacing 500 lineal feet of pipe, regrading 1,000-feet of ditch, and installing two new catch basins on Selder Road and Birch Point Road.

Project Status:

Design will occur in 2029-2030 and construction is scheduled to take place in 2031.

Total Estimated Project Cost: $770,000



Everson Overflow Pipeline Bank Stabilization
Database ID No. 20-002

Construction Funding Year(s): **2023**

Project Narrative:

A portion of the bank within the Everson overflow corridor was damaged during the 2020 flood season, this erosion was further exacerbated during the November 2021 flood events. The damage site is located near a petroleum pipe crossing the Nooksack River. The FCZD ‘s project will stabilize the bank and protect the high ground divide that controls how much overflow occurs at Everson.

Project Status:

The project is designed and construction is anticipated to be complete in 2023. The FCZD anticipates that FEMA and the State will fund 95% of the project through the Public Disaster Assistance Program.

Total Estimated Cost:	$1,129,500
Expenditures to Date:	$1,109,500

Jones Creek Debris Flow Risk Reduction
Database ID No. 07-105

Construction Funding Year(s): **2023**

Project Narrative:

This project includes acquisition of residential properties in the high hazard area of the Jones Creek alluvial fan and construction of setback deflection berms to reduce the risk of debris flow damage to the town of Acme. The project includes realignment of Turkington Road at the location where it crosses the proposed berm.

Project Status:

All property acquisition, design and construction for the project is complete. A Department of Ecology Floodplains by Design Grant provided 80% funding for the acquisition of two properties and construction. The Road Fund and Acme Water District No. 18 is also providing funding towards construction of the project. Planting will take place in 2024.

Total Estimated Cost:	$10,383,000
Expenditures to Date:	$10,360,000

Marine Drive Emergency Levee Repair
Database ID No. 20-001

Construction Funding Year(s): **2023**

Project Narrative:

The Marine Drive Levee provides flood protection during smaller, more frequent floods to the Marietta area and Slater Road. The levee is located on property owned by the Washington Department of Wildlife who is managing the property for wildlife. The levee was damaged in several locations during flooding in 2020, 2021, and 2022. The project involves restoring the levee crest and backslope.

Project Status:

The project is designed and construction is anticipated to be complete in 2023. An interim project was completed to temporarily stabilize the damage areas prior to the repair. The FCZD is utilizing FEMA funds to partially fund the project.

Total Estimated Cost:	$2,463,000
Expenditures to Date:	$2,423,000

Truck Road Bank Stabilization
Database ID No. 20-003

Construction Funding Year(s): **2022 and 2024**

Project Narrative:

The project is located along Truck Road about 0.3 miles easterly from Mt. Baker Highway (SR 542). During high-water events of the 2017/2018 winter, the North Fork Nooksack River eroded the unprotected bank of Truck Road to within 13 feet of the roadway surface. This prompted an emergency project to construct a passive riprap revetment underneath a section of the roadway to provide immediate protection. Flooding during 2020 eroded the remaining bank exposing the recently constructed riprap revetment and destabilizing a portion of the north bound lane. Jersey barriers were placed by county crews to block off this lane to traffic. Additional erosion sustained the November 2021 floods, threatened the road downstream of the previous damage area. The FCZD undertook an emergency project to address the immediate threat to truck road. Additional work is needed to provide environmental mitigation for that action and to repair and realign the damaged section of road.

Project Status:

The FCZD has completed the emergency repair and is currently designing and permitting the associated Phase 2 project that will provide environmental mitigation and road repair. Construction of the Phase 2 project is anticipated to occur in 2024. The FCZD anticipates that FEMA and the State will fund 95% of the project through the Public Disaster Assistance program

Total Estimated Cost:	$3,951,000
Expenditures to Date:	$1,494,000

Hudson Road Bridge No. 132 Repair
Database ID No. 22-001

Construction Funding Year(s): **2024**

Project Narrative:

The project is located along near the dead end of Hudson Rd in Acme, WA. The FCZD recently purchased the property at the end of this road as a part of the Jones Creek Debris Flow Risk Reduction Project. The approaches to the bridge that serves the property were damaged during the November 2021 flood events. The project will provide for repair to the bridge approaches.

Project Status:

The FCZD has provided FEMA with the damages and cost estimate to repair the project. Design and permitting for the project will be conducted in the winter of 2023/2024. Construction is anticipated to occur in 2024. The FCZD anticipates that FEMA and the State will fund 95% of the project through the Public Disaster Assistance program.

Total Estimated Cost:	$125,000
Expenditures to Date:	$7,500

Timon Levee USACE Levee Rehabilitation
Database ID No. 22-002

Construction Funding Year(s): **2024**

Project Narrative:

The Timon Levee is located near Northwood Rd, southeast of Lynden WA. The levee is eligible for the Public Law (PL) 84-99 Levee Rehabilitation program with the US Army Corps of Engineers (USACE). This program allows for the USACE to repair damages to the levee and requires a 20% local cost-share. The Timon Levee was damaged during the November 2021 flood events. The FCZD worked with the USACE to flood fight the damage during the event, this emergency flood fight was funded 100% by the USACE. This project provides for the USACE to conduct permanent repairs at the site.

Project Status:

USACE anticipates construction of the project in 2024. The FCZD local share of costs is 20%. Total project cost includes USACE construction as a direct contribution.

Total Estimated Cost: $2,030,000

Expenditures to Date: --

Upper Hampton USACE Levee Rehabilitation
Database ID No. 22-004

Construction Funding Year(s): **2024**

Project Narrative:

The Upper Hampton Levee is located near Northwood Rd, southeast of Lynden WA. The levee is eligible for the Public Law (PL) 84-99 Levee Rehabilitation program with the US Army Corps of Engineers (USACE). This program allows for the USACE to repair damages to the levee and requires a 20% local cost-share. The Upper Hampton Levee was damaged during the November 2021 flood events. This project provides for the USACE to conduct permanent repairs at the site.

Project Status:

USACE anticipates construction of the project in 2024. The FCZD local share of costs is 20%. Total project cost includes USACE construction as a direct contribution.

Total Estimated Cost: $1,110,000

Expenditures to Date: --

Cougar Creek Early Action / Neevel Levee Bank Stabilization
Database ID No. 16-008

Construction Funding Year(s): **2025**

Project Narrative:

The Neevel Levee provides varying levels of protection to a significant amount of agricultural land. Approximately 250 feet of the levee running along Cougar Creek is over-steepened and experiencing sloughing of the riverward face. A stabilization project incorporating large woody debris at the toe and reducing the slope of the riverward face is proposed in the System-wide Improvement Framework (SWIF) to resolve the deficiency identified by the US Army Corps of Engineers and keep the levee eligible for repair under the Public Law (PL) 84-99 Program. An early action project developed through the Floodplain Integrated Planning (FLIP) process includes replacement of the Cougar Creek flood gate and installation of large woody debris in the channel downstream.

Project Status:

Design of the project has been finalized. Construction is anticipated for 2025 with funding through NRCS's EQIP program, additional outside funding for construction has not yet been identified.

Total Estimated Cost:	$2,375,000
Expenditures to Date:	$303,000

Abbott Levee Protection and Improvement Project
Database ID No. 16-007

Construction Funding Years: **2021 and 2025**

Project Narrative:

The project is located along Abbott Road about 1.7 miles east of Hannegan Road. Recent erosion along the Nooksack River has removed a section of riprap that previously protected the land adjacent to the Abbott Levee and Abbott Road. Phase1 of this project addressed the ongoing erosion in this location. The FCZD is also investigating possible road and levee setback options to improve the upstream tie-in of the levee and address a deficiency identified by the US Army Corps of Engineers to maintain the levee's eligibility in the PL 84-99 Levee Rehabilitation Program. This work will be implemented as a second phase of the project.

Project Status:

Construction of Phase 1 was completed during Summer or 2021. The FZCD is working with the project consultant on Phase 2. Phase 2 will include a reach assessment to provide the technical basis for developing alternatives for upstream improvements. The FZCD will utilize this reach scale analysis to develop a capital project for Phase 2. Phase 2 construction is anticipated during 2025.

Total Estimated Cost:	$3,740,000
Expenditures to Date:	$1,098,000

Acme Woody Revetment Repair
Database ID No. 23-005

Construction Funding Year(s): **2025**

Project Narrative:

The project site is an approximately 1/4-mile long section of eroding bank located along the left bank of the South Fork Nooksack River in the unincorporated community of Acme in Whatcom County. In 2009 and 2010 the Flood Control Zone District constructed multiple log jams and woody revetments to discourage lateral erosion and stabilize the lower reach of Landingstrip Creek for the purpose of enhancing critical habitat for ESA listed species and providing flood protection to the Acme community and the SR 9 bridge. Flooding in November 2021 eroded the lower portion of the project, destabilized the wood structures, and eroded the streambank. The proposed project will repair the woody revetment along the new stream alignment.

Project Status:

Design is anticipated to start in 2024 and construction is anticipated in the Summer of 2025 with funding through FEMA and FCZD.

Total Estimated Cost:	$1,285,000
Expenditures to Date:	$0

Bertrand Creek Levee Stabilization
Database ID No. 16-005

Construction Funding Year(s): **2025**

Project Narrative:

The Bertrand Creek right and left bank Levees are designed to overtop during larger floods, but provide protection to agricultural land during the growing season. The left bank levee has a 250 foot long section where erosion is threatening the levee prism. The right bank levee face is sloughing at three locations with a total length of approximately 250 feet. The levees will have to be repaired to remain eligible for rehabilitation through the US Army Corps of Engineers Public Law (PL) 84-99 Levee Rehabilitation Program.

Project Status:

A conceptual design has been developed as part of the System-wide Improvement Framework (SWIF) planning process. The project will be designed by the FCZD. Construction is anticipated in the Summer of 2025.

Total Estimated Cost:	$292,000
Expenditures to Date:	$7,000

Devries Levee Improvements
Database ID No. 19-001

Construction Funding Year(s): **2025**

Project Narrative:

This project involves widening the levee crest and backsloping the levee to meet the US Army Corps of Engineers's levee geometry standards for levees in the Public Law (PL) 84-99 Levee Rehabilitation Program (SWIF project).

Project Status:

A conceptual design has been developed as part of the SWIF planning process. Detailed design has not been initiated yet.

Total Estimated Cost:	$225,000
Expenditures to Date:	$0

Ferndale Levee Improvement Project
Database ID No. 07-104

Construction Funding Year(s): **2026 - 2028**

Project Narrative:

Two levee segments, one sponsored by the City of Ferndale and one by the FCZD and Diking District #1 in the US Army Corps of Engineer's Public Law (PL) 84-99 Levee Rehabilitation Program, provide protection to the three treatment facilities along Ferndale Road. The US Army Corps of Engineers has identified several deficiencies along these two levee segments, including a gap in which super sacks filled with sand have been placed. The 1999 Comprehensive Flood Hazard Management Plan recommended improving these levees to provide 100-year protection to the City and the treatment facilities. The System-wide Improvement Framework (SWIF) also includes this project to address the identified levee deficiencies.

Project Status:

This project is currently in the design phase. A preferred alternative for the levee and road alignment has been selected. A 60 percent design level plan of the proposed levee configuration is anticipated Fall of 2023. A 100 Percent design level plan is anticipated in 2024. Grant funding through the State's Floodplain's by Design program has been secured to complete the design. Construction is anticipated to be phased with construction beginning in 2026 and lasting through 2028.

Total Estimated Construction Cost:	TBD
Expenditures to Date:	$976,000

Glacier-Gallup Creeks Alluvial Fan Restoration
Database ID No. 18-006

Construction Funding Year(s): **2023 and 2027**

Project Narrative:

The Glacier Creek Levee on the left (west) bank of the creek was constructed in the 1960s to prevent overflows into Gallup Creek and damage to State Route (SR) 542. Since construction, the levee has been subject to ongoing damage. Constriction of the Glacier-Gallup channel migration zone (CMZ) has exacerbated aggradation upstream of SR 542 and severely degraded fish habitat. WSDOT replaced the Gallup Creek bridge in 2010 and is working to construct a new bridge over Glacier Creek and the alluvial fan between the two creeks. The FCZD is developing a project in coordination with WSDOT and is evaluating the feasibility of full or partial removal of levees blocking natural channel migration on the Glacier and Gallup Creeks alluvial fan and construction of a setback levee on Gallup Creek to protect the Community of Glacier.

Project Status:

A feasibility study and alternatives analysis for evaluating levee removal and setback alternatives was initiated in late 2018. Preliminary design of the preferred alternative will be initiated once the preferred alternative is selected. Construction of an interim project to address levee damage was completed in 2023. Construction of the levee removal and setback is anticipated to occur concurrently with the Glacier Creek bridge replacement in 2027 and 2028.

Total Estimated Project Cost:	TBD
Expenditures to Date:	$1,492,000

Dahlberg Wetland Mitigation Site
Database ID No. 20-004

Construction Funding Year(s): **2026 - 2028**

Project Narrative:

The FCZD purchased a property northeast of Ferndale as a mitigation site for future projects having wetland or riparian impacts. The property contained a dilapidated farm house.

Project Status:

FCZD purchased the subject property and demolished the farm house in Fall of 2020. The FCZD has installed a groundwater monitoring network on the site to support developing a long-term restoration plan for the site.

Total Estimated Cost:	TBD
Expenditures to Date:	$873,000

Upper Hampton Levee Improvements
Database ID No. 16-006

Construction Funding Year(s): **2027**

Project Narrative:

Several deficiencies were identified by the US Army Corps of Engineers on the Upper Hampton Levee. Improvements to the levee geometry are proposed in two locations and improvement to address seepage is proposed at a third location.

Project Status:

A conceptual design has been developed as part of the System-wide Improvement Framework (SWIF) planning process. Detailed design has not been initiated yet. However, we were able to complete a portion of the levee backsloping work at one site using excess material generated at the 2021 Abbott and Lynden Levee Improvement projects.

Total Estimated Cost:	TBD
Expenditures to Date:	$6,000

Floodplain Acquisition
Database ID No. 07-002

Acquisition Funding Year(s): **2017- TBD**

Project Narrative:

Reach-scale projects to reconfigure flood infrastructure are being evaluated through the integrated planning processes that started with the System-wide Improvement Framework (SWIF) and has transitioned into the Floodplain Integrated Planning (FLIP) process. The goal of this work is to reduce flood risk and expenditures and restore habitat and the processes that form it.

Voluntary acquisition of lands is proposed to enable future levee reconfigurations to reduce flood risk and future levee repairs, while improving habitat.

Project Status:

Acquisition of one property in Reach 4 was completed in 2020. Discussions with additional property owners will occur in 2021 and 2022.

Total Estimated Cost:	TBD
Expenditures to Date:	$1,128,000

Marietta Acquisition
Database ID No. 07-002

Construction Funding Year(s): **2001 - Present**

Project Narrative:

Acquisition of residential properties in the frequently-flooded repetitive flood loss area of Marietta, removal of existing structures and restoration of properties with native vegetation.

Project Status:

Property acquisition began in 2001 and is ongoing. As properties are acquired, structures are removed and native vegetation is planted. All acquisitions are voluntary and the project is ongoing as current property owners decide to sell their properties. Total project cost will need to include funding for cleanup of up to four former gas stations, though the exact nature of the work is still undefined.

Total Estimated Project Cost:	TBD
Expenditures to Date:	$1,852,000

High Creek Sediment Trap
Database ID No. 22-005

Construction Funding Year(s): **Annually**

Project Narrative:

High Creek flooding damaged nearby homes and closed Mount Baker Highway in the mid-1990's. A legal settlement resulting from that event directs Whatcom County to prepare a creek management plan. Sediment management in the watershed including the 3400 feet of County owned right of way east of Kendall Creek is an important plan element along with fish habitat mitigation. State permits for future maintenance dredging are dependent on consistency with the final management plan. A management plan was developed and recommended the construction of two sediment traps, one sited upstream of Mount Baker Highway to trap coarser material and one by the confluence with Kendall Creek to trap finer material. The sediment traps were constructed in 2018. The project provides for the annual clean out of those sediment traps.

Project Status:

The 2023 clean out is anticipated to be complete in September 2023 for a cost of $80,000. Total Estimated Cost is for annual estimated cleanout costs funded by the FCZD.

Total Estimated Cost:	$135,000
Expenditures to Date:	--

Emergency/New Projects
Database ID No. 08-003

Construction Funding Year(s): **2024 - 2029**

Project Narrative:

This item provides funding to address unanticipated projects resulting from new damage to flood control facilities.

Project Status:

Design and construction to occur as necessary.

Total Estimated Project Cost:	$425,000/year
Expenditures to Date:	$425,000/year

Due to the nature of this item, no map exists. Board of Supervisors review and prioritization will be sought at the appropriate time.