



June 2, 2021

TO: Andrea McNamara Doyle, Office of Chehalis Basin Director

FROM: Vickie Raines, Flood Authority Chair and Edna Fund, Flood Authority Vice-Chair

Two handwritten signatures in black ink. The first signature is "Vickie R. Raines" and the second is "Edna J. Fund".

SUBJECT: 2021-23 Local Projects Funding Options

Purpose of this memo is to share information and offer our thoughts/perspectives on funding local projects as outlined in your May 13, 2021 Chehalis Basin Board (CBB) memo. We look forward to our upcoming discussions at the June 3, 2021 CBB meeting, and hope this information from the perspective of the Flood Authority is helpful. Please feel free to call or email with questions. You may also contact Flood Authority staff member Scott Boettcher (360/480-6600, scottb@sbgh-partners.com).

A. Proposed Local Projects Funding Options (see Attachment A)

At the last CBB mtg there was a fair amount of conversation about the need for "tangible, on-the-ground results." At that same meeting the CBB reviewed a May 13, 2021 memo from OCB that identified (among other things) a funding need of \$10M for local projects.

Attachment A provides funding options for 2021-23 local flood damage reduction projects that have been structured to deliver "tangible, on-the-ground results" for under \$10M. In all cases, funds can be returned to the general pot by carrying forward and using unspent 2019-21 Flood Authority staffing funds to reduce 2021-23 staffing costs. In other cases, additional funds can be returned to the general pot by shifting (either or both) the Grays Harbor County Lower Satsop Phase II Construction project and Port of Grays Harbor Chehalis Riverbank Stabilization project partially or fully onto other funding sources. These projects are logical crossovers with other funding sources. Attachment A intends to illustrate this.

Attachment A costs can be further reduced by using other Chehalis Basin Strategy funds that will not be spent by the end of the biennium and need to be carried forward (into the 2021-23 biennium).

B. Flood Authority Local Projects (see Attachments B and C)

Since 2012 the Flood Authority has run a local projects program specifically focused on delivering tangible, on-the-ground flood damage reduction results that are cost-effective, distributed throughout the basin, and

provide high-value return on investment (i.e., values protected from flood damage substantially exceed project costs). See Attachment B and C.

This program has delivered (basin-wide):

- 26 construction projects.
- 24 planning, study, design projects.
- At an average cost of \$721,951.
- With an average completion time of 657 days.

Funding the nine 2021-23 local projects at the levels prescribed will continue to:

- Deliver on the ground results that are cost-effective and high-value return on investments. For example, the three proposed lower basin pump projects can:
 - all be delivered within the biennium.
 - immediately protect over \$100M in assessed value.
 - reduce required flood insurance.
 - substantially aid lower basin community and economic revitalization efforts.
 - spur generation of increased local and state tax revenue through increased property values and economic activity.
- Serve as an effective counter to the “all you do is study” perspective.
- Add to the successful local projects track record by completing nine more local projects in the upcoming biennium.

C. Thoughts/Perspectives on Funding Local Projects

In our positions as Flood Authority Chair and Vice-Chair for the past many years, we have come to develop several thoughts and perspectives on funding local projects. These might be helpful for Thursday’s meeting.

1. Tracking, monitoring, and regularly checking-in on spending progress is very helpful in identifying underspending that can be:

- Redeployed and used elsewhere.
- Carried forward into the next biennium.

We do this regularly as a full (Flood Authority) body. This is essential to ensuring monies provided are efficiently and effectively used to maximize delivery of on-the-ground flood hazard reduction across the basin.

2. Sharing resources enables realization of unforeseen opportunities, and engenders goodwill among Flood Authority members and jurisdictions, up and down the basin.

We also do this regularly and can confidently say it is an honor to participate in such a process where jurisdictions share resources across funding allotments and across funding borders in pursuit of best investments and meeting critical needs.

Again, we look forward to discussing our thoughts and perspectives on achieving “tangible, on-the-ground results” at the June 3rd CBB mtg.

Thank you.

CC: Chehalis River Basin Flood Authority members



Read More: 2021-23 Local Project Descriptions	Option A OCB Memo		Option B Shift "Fish & Flood" Project 50%			Option C Shift "Fish & Flood" Project 100%		
Project	"Flood Damage Reduction"	"Integrated Projects and Programs"	"Flood Damage Reduction"	"Aquatic Species Habitat Restoration"	"Integrated Projects and Programs"	"Flood Damage Reduction"	"Aquatic Species Habitat Restoration"	"Integrated Projects and Programs"
CONSTRUCTION								
<i>Grays Harbor County</i> -- Lower Satsop Restoration & Protection, Phase II Construction (\$1.56M), Emergency Action (425K)	\$1,561,405		\$ 780,703	\$ 780,703			\$ 1,561,405	
	\$425,000		\$ 425,000			\$ 425,000		
<i>LCFD#1</i> -- Chehalis Industrial Park	\$1,347,000		\$ 1,347,000			\$ 1,347,000		
<i>Aberdeen</i> -- Farragut Street PS	\$2,283,119		\$ 2,283,119			\$ 2,283,119		
<i>Hoquiam</i> -- 10th Street PS	\$2,204,167		\$ 2,204,167			\$ 2,204,167		
<i>Hoquiam</i> -- Queen Ave PS	\$1,581,918		\$ 1,581,918			\$ 1,581,918		
PLAN, STUDY, DESIGN								
<i>Aberdeen</i> -- Fry Creek Phase IIIa	\$145,000		\$ 145,000			\$ 145,000		
<i>Cosmopolis</i> -- Mill Creek Multi - Objective Impl. Plan, Phase II	\$145,000		\$ 145,000			\$ 145,000		
<i>Lewis County</i> -- Boistfort Valley CMZ	\$60,000		\$ 60,000			\$ 60,000		
<i>POGH</i> -- Chehalis River Bank Stabilization Study		\$ 60,000			\$ 60,000			\$ 60,000
FLOOD AUTHORITY STAFFING SUPPORT								
<i>Lewis County</i> -- Flood Authority staff, fiscal agent	\$ 199,494		\$ 199,494			\$ 199,494		
Actual Need -->	\$ 9,952,103	\$ 60,000	\$ 9,171,401	\$ 780,703	\$ 60,000	\$ 8,390,698	\$ 1,561,405	\$ 60,000
OCB Reported Need -->	\$ 10,000,000		\$ 10,000,000			\$ 10,000,000		
Not Needed -->	\$ 47,897		\$ 828,599			\$ 1,609,302		

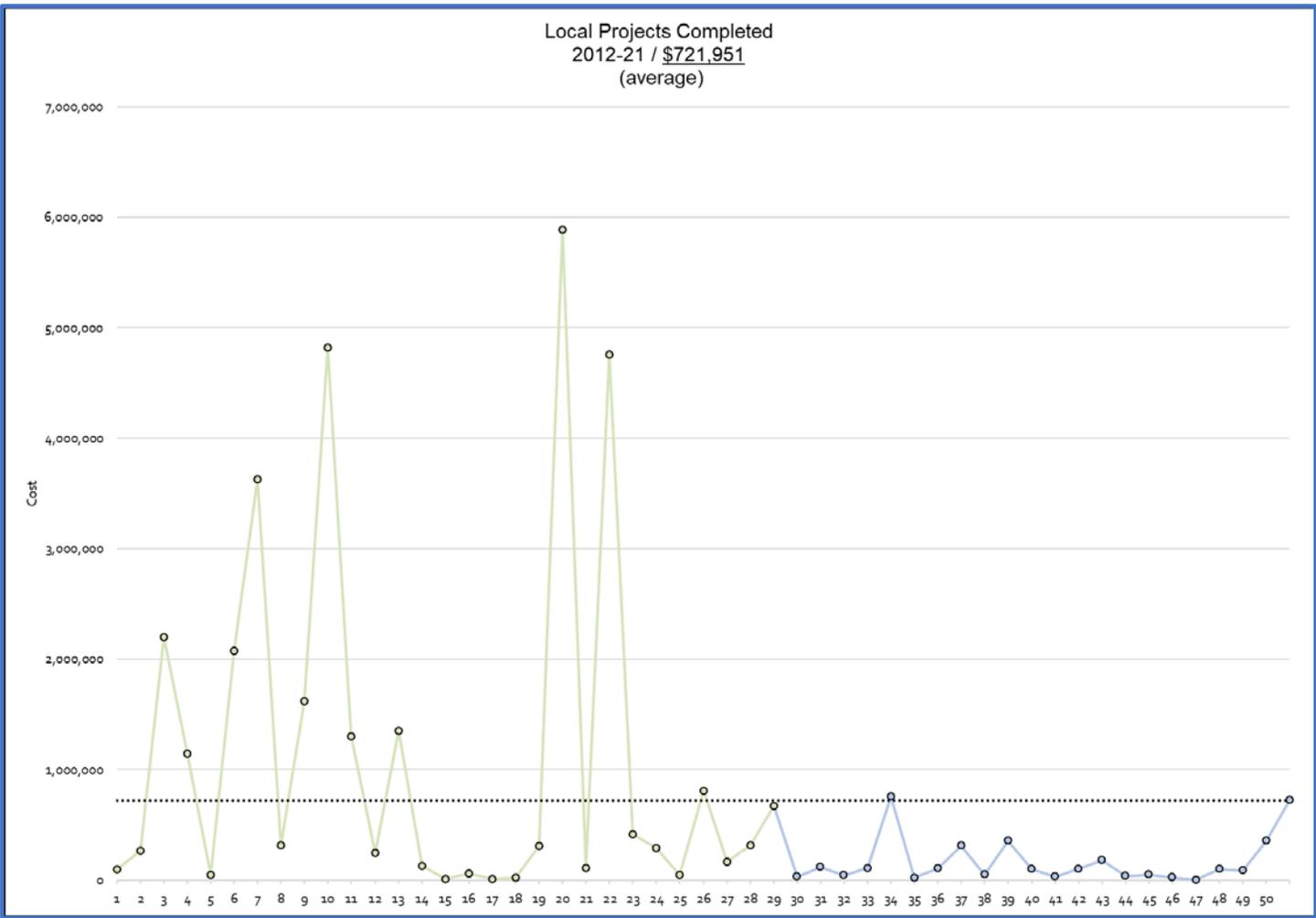
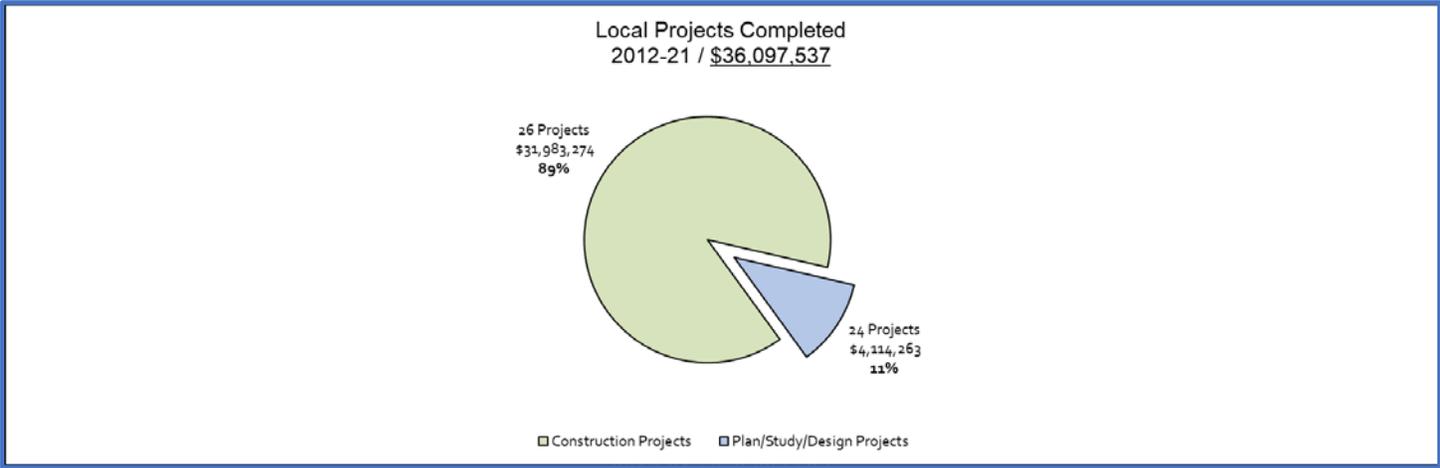
<p>NOTES:</p>	<ol style="list-style-type: none"> Reduces funding by \$51K. Delivers tangible, on-the-ground flood damage reduction results across basin. Construction projects provide demonstrable, immediate high-value return on investment (values protected substantially exceed project costs). Fully funds Lower Satsop Phase II construction with flood damage reduction funds. NOTE: Phase II construction implements Phase II design that was funded by ASRP (\$320K). Implements OCB memo. 	<ol style="list-style-type: none"> Reduces funding by \$831K. Same as option A. Same as option A. Partially funds Lower Satsop Phase II construction with flood damage reduction funds. NOTE: Phase II construction implements Phase II design that was funded by ASRP (\$320K). With exception of Lower Satsop Phase II project, implements OCB memo. 	<ol style="list-style-type: none"> Reduces funding by \$1.6M. Same as option A and B. Same as option A and B. Does not fund Lower Satsop Phase II construction with flood damage reduction funds. NOTE: Phase II construction implements Phase II design that was funded by ASRP (\$320K). With exception of Lower Satsop Phase II project, implements OCB memo. 																																				
<p>Construction Plan, Study, Design Flood Authority Staffing</p>	<table border="0"> <tr> <td>\$</td> <td>9,402,609</td> </tr> <tr> <td>\$</td> <td>350,000</td> </tr> <tr> <td>\$</td> <td>199,494</td> </tr> </table> <div data-bbox="527 1068 892 1495"> <p style="text-align: center;">Option A \$9,952,103</p> <table border="0"> <tr> <td>■ Construction</td> <td>94%</td> </tr> <tr> <td>■ Plan, Study, Design</td> <td>4%</td> </tr> <tr> <td>■ Flood Authority Staffing</td> <td>2%</td> </tr> </table> </div>	\$	9,402,609	\$	350,000	\$	199,494	■ Construction	94%	■ Plan, Study, Design	4%	■ Flood Authority Staffing	2%	<table border="0"> <tr> <td>\$</td> <td>8,621,907</td> </tr> <tr> <td>\$</td> <td>350,000</td> </tr> <tr> <td>\$</td> <td>199,494</td> </tr> </table> <div data-bbox="1005 1068 1371 1495"> <p style="text-align: center;">Option B \$9,171,401</p> <table border="0"> <tr> <td>■ Construction</td> <td>94%</td> </tr> <tr> <td>■ Plan, Study, Design</td> <td>4%</td> </tr> <tr> <td>■ Flood Authority Staffing</td> <td>2%</td> </tr> </table> </div>	\$	8,621,907	\$	350,000	\$	199,494	■ Construction	94%	■ Plan, Study, Design	4%	■ Flood Authority Staffing	2%	<table border="0"> <tr> <td>\$</td> <td>7,841,204</td> </tr> <tr> <td>\$</td> <td>350,000</td> </tr> <tr> <td>\$</td> <td>199,494</td> </tr> </table> <div data-bbox="1577 1068 1942 1495"> <p style="text-align: center;">Option C \$8,390,698</p> <table border="0"> <tr> <td>■ Construction</td> <td>94%</td> </tr> <tr> <td>■ Plan, Study, Design</td> <td>4%</td> </tr> <tr> <td>■ Flood Authority Staffing</td> <td>2%</td> </tr> </table> </div>	\$	7,841,204	\$	350,000	\$	199,494	■ Construction	94%	■ Plan, Study, Design	4%	■ Flood Authority Staffing	2%
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Attachment B Local Projects Program

1. Reduce flood damage from Chehalis Basin floods.
2. Protect people, property, infrastructure.
3. Improve readiness, response, resiliency.
 - Drinking Water (Boistfort, Bucoda).
 - Wastewater (Montesano, Pe Ell).
 - Emergency Response (Grays Harbor County, Chehalis-Centralia Airport).
 - Regional Economic Infrastructure (Montesano, Port of Chehalis).
 - Community Protection (Adna, Bucoda, Centralia, Chehalis, Chehalis Tribe, Oakville).
 - Flood Warning Infrastructure (Basin-wide).
4. Cost = \$721,951 (average)
5. Timeframe = 657 days (average)
6. Sequenced = Start with "Plan/Study/Design" phase; follow with "Construction" phase.

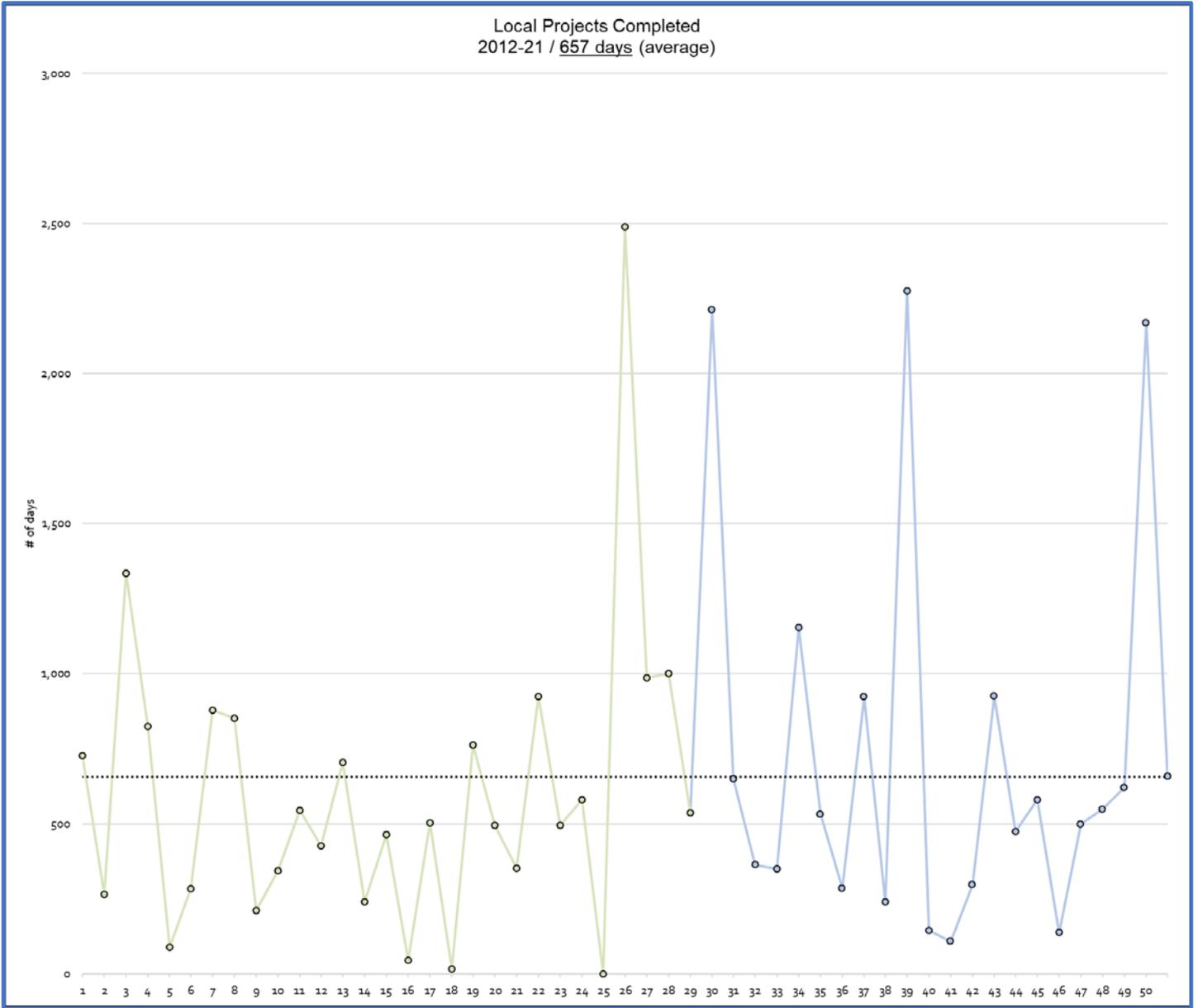


Local Projects



Local Projects

Local Projects Completed
2012-21 / 657 days (average)



ID	Project	2nd H 2020	1st H 2021	2nd H 2021	1st H 2022	2nd H 2022	1st H 2023	2nd H 2023	1st H 2024	2nd H 2024	1st H 2025	2nd H 2025	1st H 2026	2nd H 2026	1st H 2027	2nd H 2027	1st H 2028	2nd H 2028	1st H 2029	2nd H 2029	1st H 2030	2nd H 2030	
1	Bucoda -- Foundation Flood Openings Pilot																						
2	Bucoda -- Wellhead Protection Levee			267,399																			
3	Centralia -- (Phase I) China Creek Floodwater Storage & Habitat																						
4	Chehalis -- Chehalis-Centralia Airport Pump																						
5	Chehalis Tribe -- New Gage (USGS 12028060, Rochester)																						
6	Chehalis Tribe -- Sickman-Ford Overflow Bridge																						
7	Cosmopolis -- Mill Creek Dam																						
8	Elma -- WWTP Outfall Stabilization																						
9	Grays Harbor County -- Phase I, Lower Satsop Restoration & Protection																						
10	Grays Harbor County -- Wishkah Road Flood Levee																						
11	Hoquiam -- Raymer Street Pump Station																						
12	Lewis County -- Adna Levee																						
13	Lewis County -- (Phase I) Airport Levee																						
14	Lewis County -- Airport Road Structure Demolition																						
15	Lewis County -- (Flood Warning System) Reset Flood Authority Gage Datums																						
16	Lewis County -- (Flood Warning System) Replace NWS Gages																						
17	Lewis County -- (Flood Warning System) Replace WF Satsop River Gage																						
18	Lewis County -- (Flood Warning System) Upgrade GOES Radio Transmitters																						
19	Lewis County CD -- Boistfort Valley Water																						
20	Montesano -- Protect Montesano Rd., WWTP, Mary's River Lumber																						
21	Montesano -- West McBryde Culvert Replacement																						
22	Montesano -- WWTP Protection																						
23	Pe Ell -- WWTP Flood Prevention Dike																						
24	Thurston County -- Home Elevations Pilot																						
25	Thurston County -- Weather and Stream Monitoring Telemetry																						
26	WCC -- Farm Pads & Evacuation Routes																						
27	Centralia -- (Phase II) China Creek Floodwater Storage & Habitat																						
28	Port of Chehalis -- Berwick Creek Restoration																						
29	Aberdeen -- North Shore Levee (Burger King Trail/Dike)																						
30	Aberdeen -- North Shore Levee (Dike Bank of Wishkah North of Highway)																						
31	Aberdeen -- North Shore Levee (Market Street Dike)																						
32	Aberdeen -- Southside Dike/Levee Certification																						
33	Bucoda -- Main Street Regrade (BNSF ROW Evacuation Route)																						
34	Bucoda -- Wellhead Protection Levee																						
35	Chehalis -- Dillenaugh Creek Culvert Assessment																						
36	Cosmopolis -- Mill Creek Dam																						
37	Grays Harbor Conservation District -- Flood Hazard Reduction Action Planning																						
38	Grays Harbor County -- Elma-Porter Flood Mitigation																						
39	Grays Harbor County -- Lower Satsop Priority Planning, Visioning																						
40	Grays Harbor County -- Lower Satsop River Floodplain Restoration																						
41	Grays Harbor County -- Wishkah Road Comprehensive Flood Study																						
42	Lewis County (Flood Warning System) -- Gages Inventory																						
43	Lewis County -- Public Information Program (CRS 330, 370)																						
44	Montesano -- Protect Montesano Rd., WWTP, Mary's River Lumber																						
45	Montesano -- WWTP Protection																						
46	Napavine -- Kirkland Road Study																						
47	Oakville -- Flood Relief Study																						
48	Port of Chehalis -- Berwick Creek Restoration																						
49	Thurston CD -- Innovative Farm Pads																						
50	Thurston County -- Independence Road Flood Study																						
51	WCSSF -- Habitat Work Schedule Pilot																						
52	WDFW -- K1460 Lower Satsop River Design/Construction																						
53	Aberdeen -- Fry Creek Restoration and Flood Reduction Design																						
54	Aberdeen -- Southside Dike/Levee Certification																						
55	Chehalis -- Flood Storage and Habitat Enhancement Master Plan																						
56	CRBFCZD -- Comprehensive Flood Hazard Management Plan																						
57	Grays Harbor County -- Phase II, Lower Satsop Restoration & Protection																						
58	Hoquiam -- North Shore Levee West Segment																						
59	Aberdeen -- Farragut Street Pump Station Rebuild																						
60	Aberdeen -- Phase IIIa, Fry Creek Restoration & Flood Reduction																						
61	Cosmopolis -- Phase II, Mill Creek Multi -Objective Implementation Plan																						
62	Hoquiam -- 10th Street Pump Station																						
63	Hoquiam -- Queen Ave Pump Station																						
64	Lewis County -- Boistfort Road Infrastructure Vulnerability Assessment																						
65	POGH -- Satsop Business Park Chehalis River Bank Stabilization Study																						
66	Aberdeen -- Farragut Street Pump Station Rebuild																						
67	Grays Harbor County -- Phase II, Lower Satsop Restoration & Protection																						
68	Hoquiam -- 10th Street Pump Station																						
69	Hoquiam -- Queen Ave Pump Station																						
70	LCFCD#1 -- Chehalis Industrial Park Flood Conveyance, Evacuation Project																						

GREEN = Construction complete. [\$31,983,274; 63%]
 ORANGE = Construction in-progress. [\$2,759,479; 5%]
 YELLOW = Construction proposed (2021-23). [\$8,327,609; 16%]
 BLUE = Plan/study/design complete. [\$4,114,263; 8%]
 RED = Plan/study/design in-progress. [\$2,171,940; 4%]
 GRAY = Plan/study/design proposed (2021-23). [\$1,485,000; 3%]



Attachment C

Local Project Success Stories

A periodic series on flood hazard reduction success throughout the Chehalis river basin.

NEWS RELEASE

Date: April 28, 2021
Contact: Scott Boettcher, Staff
Phone: 360-480-6600

Chehalis-Centralia Airport Pump Project

Chehalis basin benefits from the Chehalis River Basin Flood Authority funded airport pump project.

Since 2012 the Chehalis River Basin Flood Authority has sponsored a "local projects" funding program to help local basin communities reduce flood hazards posed by Chehalis river flooding.

The Chehalis-Centralia Airport was one of many casualties as a result of the December 2007 flood. Failure of the 1940's WWII era pump necessitated a breaching of the airport levee and further added to the catastrophic impact and delayed recovery from the 2007 event.

Today the situation is much better. Thanks to a "local projects" grant from the Flood Authority, the airport, like many other communities across the Basin helped by Flood Authority grants, is much more flood-ready and flood resilient. When the airport is protected the whole basin benefits.

The purpose of the Airport Pump Project was to replace an aged WWII-era levee pump station located inside the levee at the northeast corner of the airport with a new modernized and flood-proofed redundant pump station with back-up generator and substantially greater pumping power. The new pump station has two new electric pumps capable of pumping 10,000 to 12,000 gallons per minute, a new generator capable of supplying electricity to the pump station in the event the local electrical grid should fail, and auxiliary back-up pump capacity.

The new pump station protects the airport, commercial facilities, businesses, bike and jogging trail, and associated airport infrastructure, including roads, utilities, runway, etc. The new pump station is essential to maintaining the operational capability of the airport, especially during times of flood and other natural disaster emergencies.

According to a recent economic impact study conducted by the Washington State Department of Transportation, the Chehalis-Centralia Airport contributes 1,658 jobs, \$68,050,000 in labor income, and \$186,473,000 in business revenue annually to the state and local economy. This translates to \$1,267,630 in local tax revenue, \$7,839,860 in state tax revenue, and \$9,107,490 in total tax revenue. Read more [here](#).

Said airport manager Brandon Rakes, "With funds from the Flood Authority, the airport has been able to maintain itself as a central community asset in the basin." Rakes further adds, "The bang-for-the-buck generated by the state's investment in the airport pump project is incredible. For the \$1.14M spent by the state, nearly \$45M in asset are protected which in turn generate \$9M in tax revenue annually. This is an incredible investment for state taxpayers."

For more information email scottb@sbgh-partners.com.

Cost	\$1,146,000
Start	10/01/2015
End	1/03/2018
Days to Complete	825 (2 years, 3 months)
Value Protected / ROI	\$44,856,300 / 39 to 1
Future Damage Avoided (Per Event) / ROI	\$1,000,000 / 1 to 1

Before:



After:



Airport:



Location:





Local Project Success Stories

A periodic series on flood hazard reduction success throughout the Chehalis river basin.

NEWS RELEASE

Date: May 27, 2021
Contact: Scott Boettcher, Staff
Phone: 360-480-6600

Ramer Street Pump

West Hoquiam economic revitalization moves forward thanks to Chehalis River Basin Flood Authority

The Chehalis River Basin Flood Authority funded the Ramer Street Pump Station project in 2016. The project was completed in 2018. The project is a significant step along the way to economic revitalization for West Hoquiam. Said Hoquiam City Administrator Brian Shay, "without the generous support of the Chehalis River Basin Flood Authority West Hoquiam wouldn't be where we are today . . . flood ready, flood protected." Shay further adds, "flood ready and flood secure communities are also economically viable and economically secure communities, the two-go hand-in-hand."

The new Ramer Street pump station was constructed to discharge flood waters to a new outfall into the Hoquiam River and was required to be completed as part of the larger West Segment of the Northshore Levee. The project provides flood protection to approximately 200 homes, Lincoln Elementary School, a commercial yacht builder and 8 acres of prime development property along the river.

The investment in a new pump station was not only a solution to chronic flooding, but also part of larger community and economic revitalization strategy for the City of Hoquiam. "Removing the barriers from flood impacts and flood insurance requirements significantly levels the environmental justice challenges facing our community compared to other parts of our state," said Shay.

The Flood Authority's investment in the Ramer Street pump station was not its only investment in pump stations. In 2018 the City of Chehalis completed a new pump station to replace the aged (and no longer properly functioning) Chehalis-Centralia Airport pump station. That project was funded by the Flood Authority. For the 2021-23 state funding cycle, the Flood Authority has recommended funding for three new pump stations in the basin; one in Aberdeen and two more in Hoquiam. Said Flood Authority staff Scott Boettcher, "pump stations provide an important solution for communities with few options to evacuate flood waters. Boettcher goes on to add "pump stations, while significant infrastructure investments, have terrific return on investment, provide meaningful flood reduction for decades to come, and offer communities with little hope what they need most . . . hope."

For more information email scottb@sbgh-partners.com.

Cost	\$1,300,000
Start	10/26/2016
End	4/24/2018
Days to Complete	544 (1 year, 6 months)
Value Protected / ROI	\$14,119,806 / 11 to 1
Future Damage Avoided (Per Event) / ROI	\$2,642,691 / 2 to 1

Ramer Street Pump Station (pic 1):



Ramer Street Pump Station (pic 2):



Ramer Street Pump Station (pic 3):



Ramer Street Pump Station (location):

