



Updated 2015-17 Small Projects Recruitment Form

Chehalis River Basin Flood Relief

What are small projects? -- In general, small projects are those projects that provide predominantly localized benefit, are capable of being completed within the funding cycle, are supported by the jurisdiction within which the project is proposed, and are vetted and advanced through the Chehalis River Basin Flood Authority's Chehalis Basin Projects Committee.

Instructions:

- a. Please submit updated project requests (via this form) to Scott Boettcher (scottb@sbgh-partners.com) no later than 5:00 p.m. June 11, 2015.
- b. In particular, we are interested in updates to Project Timeline (#7), Project Cost and Funding (#8), and Completion and Doability (Part III); however notable updates to other sections of the form are welcome too.
- c. Projects being asked for scope and budget updates can be found here -- [https://www.ezview.wa.gov/Portals/_1492/images/2015-17%20Small%20Projects%20--%2010152014\(2\)\(1\).pdf](https://www.ezview.wa.gov/Portals/_1492/images/2015-17%20Small%20Projects%20--%2010152014(2)(1).pdf).

Part I General	
1. Date:	June 9, 2015
2. Project Name:	Airport Storm Water Pump Station
3. Project Location -- Please identify the location of the project as precisely as possible, preferable with latitude/longitude coordinates.	Chehalis Airport & Levee
4. Project Contact -- Please identify who will be responsible for overseeing and managing the project (i.e., name, email, telephone number, etc.).	Dennis Osborn dosborn@ci.chehalis.wa.us 360-345-2227
5. Lead Organization -- Please identify the lead organization, agency, entity, etc. responsible for this project.	City of Chehalis



Part II	
Description, Timing and Cost	
6. Project Description -- Please describe the project, what it is intended to accomplish, and the benefits that will accrue and to whom.	Replace Airport Storm Water Pump Station
7. Project Timeline -- Please describe the overall timeline for completion of the project as well any interim stages or phases.	Design & Permitting 2015/2016 and construction 2017
8. Project Cost and Funding -- What is the cost of this project? What are the on-going maintenance and operation requirements? Is it clear who will be responsible for on-going maintenance and operations costs?	\$716,000.00. The City of Chehalis Airport Division will be responsible for the maintenance of the pump. Operation cost would be utility expenses and maintenance cost. This is currently built into the city budget as we have an existing pump that needs replaced. The funding source is the Flood Authority for capitol.
9. Other Funding -- Please explain the extent to which other funding sources or funding partners are available.	City of Chehalis for operation and maintenance.
Part III	
Completion and Doability by June 30, 2017	
10. Project Completion -- Does the funding requested complete (or substantially complete) a project that has already been started? If so, please explain.	Yes, it replaces a pump that is aged. The new design has a redundancy pump in case the primary pump fail sin an event.
11. Project Doable -- Can this project or the stage/phase for which funding is sought be completed by June 30, 2017?	Yes
12. Project Impacts -- Please identify how any project impacts will be mitigated and if that mitigation will be accomplished by June 30, 2017?	Mitigation will be identified through the permitting stages. The project itself mitigated the impact of a flood event.
Part IV	
Benefits Stated and Quantified	
13. Emergency Response -- Please explain how this project enhances our ability to respond in a flood emergency (e.g., does it keep critical access roads, transportation facilities, etc.	The pump helps push flood waters out of the impacted commercial area behind the levee at the airport.



open and functional.)	
14. Essential Infrastructure Protection -- Please explain how this project protects essential infrastructure (as well the risks or consequences of not acting this funding cycle).	The pump will help protect the airport and commercial facilities and its associated infrastructure behind the airport levee. The infrastructure includes roads, utilities, and the airport itself.
15. Public Health, Safety and Welfare -- Please explain how this project protects public health, safety and welfare.	The pump replacement will help reduce impacts of flooding for the Airport and business property owners in the City of Chehalis.
16. Residential, Commercial and/or Agricultural Protection -- Please explain how this project protects residential, commercial and/or agricultural interests and communities and the benefits of acting (or consequences of not acting) this funding cycle. Consider factors like number of structures at risk, number of people at risk, historic frequency of flood damage, magnitude of benefit to be gained for the cost, etc.).	In particular the impacts for the airport are not only a local economic issue but, impacts operations of connecting airports as well as critical commercial operations to the region.
17. Other Project Impacts -- Please explain how this project impacts or is potentially impacted by another project.	This project is tied to phase II of the levee around the airport.
18. Anything Else -- Please feel free to offer any additional information (e.g., photos, maps, drawings, etc.) that would be helpful to better understand the scope, timeline and benefits of this project.	This project along with the phase II of the levee project continues to protect the Airport and the business located behind the levee.



September 5, 2014

Allyn Roe
Centralia-Chehalis Airport
PO Box 1344
Chehalis, WA 98532

Re: Airport Storm Water Pump Station – Project Permitting and Cost Estimate
RBE No. 14014

Dear Allyn:

Below is a summary of the permits required and an estimated design and construction costs to replace the aging storm pump station. I noticed an article in the Chronicle that the Flood Authority is looking for projects for the 2015 – 2017 budget cycles. I believe this project would be a candidate for that funding.

Permitting

The following permitting is needed to receive approval to replace the existing storm water pump station and is processed through the JARPA application. The permitting review process would take approximately 6 to 8 months to complete. Ecological Land Services has already completed a biological analysis as part of the levee project for the area. Below are the anticipated environmental permits needed for this project.

SEPA Environmental Checklist

Ecology 401 Certification

Corp Section 10

WDFW HPA for work below the Ordinary High Water Mark.

The following permits will be required from the City of Chehalis.

Building Permit

Grading Permit

Concrete Wet Well Structure and Pump Support – Square or Round Structure

The existing pump station was likely built on piles for ease of elevating the pumps and pump house above the design water elevation. Based on my knowledge of the soils in this area I don't expect that piles will be needed for the foundation slab for the recommended concrete box wet well or concrete circular wet well design. Some over excavation for the foundation support will be needed and backfilled with structural rock. The new wet well structure will need to extend upwards of 30 feet above the existing grade to elevate the pumps above the flood of record. Challenges with elevating the pump motors are that the discharge flange also gets elevated. We would need to plumb the new 24 inch discharge pipe using 45 degree bends down to the existing elevation piping. Concrete foundation support structures will be needed for this pipe work to handle the large thrust loads on the joints during pump operation. The wet well structure foundation will also be large due to height and associated overturning design requirements, so the footprint of the structure will be larger. I spoke with David Flack at Triangle Pump regarding a submersible style pump motor and he did not have an option for this condition. The top of the concrete wet well structure would be a concrete slab with perimeter railing along with the control panels and power disconnect service. The floor elevation of this structure

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14014 summary ltr

L a n d P l a n n i n g - C i v i l D e s i g n - C o n s t r u c t i o n M a n a g e m e n t

will be a minimum of 13 feet higher than the current pump house building floor to get the motors above the flood of record flood elevation.

Control Panel and Generator

The cost estimate below includes an estimate from Triangle Pump for a dual pump soft start control panel to run the 50 HP pumps. The second pump would be for redundancy only. A second discharge pipe through the dike would be needed to run both pumps simultaneously. To make serving the generator easier, we should look at locating that on the existing dike with an elevated stand to get it above the record flood elevation. This will allow easier access for maintenance and re-fueling.

Estimated Pump Station Construction Costs - \$624,000

Attached is a preliminary construction estimate to replace the existing storm water pumping station that includes new concrete foundation, concrete wet well, two new storm water pumps, elevated controls and emergency generator and telemetry for remote monitoring. This estimate is preliminary in nature and once a conceptual design and permitting requirements were completed we would be able to fine tune the estimate.

Estimated Consultant Design Costs - \$92,000

The project will include the following disciplines to complete the design and permitting for replacing the pump station with a new facility. Challenges for design include the environmental permitting and accessing the site for the geotechnical work. I anticipate a tracked drill rig will be needed along with a temporary access road constructed to the area along with coffer dams and de-watering. There is currently standing water around the pump station at this time even with the dry summer we are experiencing. The preliminary estimates below include design and construction services throughout the project and are based on my discussion of the conceptual design outlined in this letter with my sub-consultants.

Civil Engineering – Project Management, Grading, Construction Plan Preparation and Permitting
Environmental Biologist Consultant – Environmental Permitting
Electrical Engineering Design - Pump Controls and Panel Design
Structural Design Engineering – New Concrete Wet Well and Equipment Support Structure Design
Geotechnical Engineering – Geotechnical Report for new foundation design

Recommendation

If the Airport has available funding, I would recommend that a conceptual design phase begin along with the environmental permitting process. Once we get a conceptual design on paper and permit requirements resolved we can shore up the construction and design cost estimate and have necessary documents for use in future funding opportunities.

Please contact me at (360) 740-8919 or robertb@RBEngineers.com if you have any questions.

Sincerely,



Robert W. Balmelli PE
President

Enclosures: Preliminary Construction Estimate
Rough Sketch of Pump System Profile

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14014 summary ltr

Airport Stormwater Pump Station Engineers Preliminary Construction Estimate.

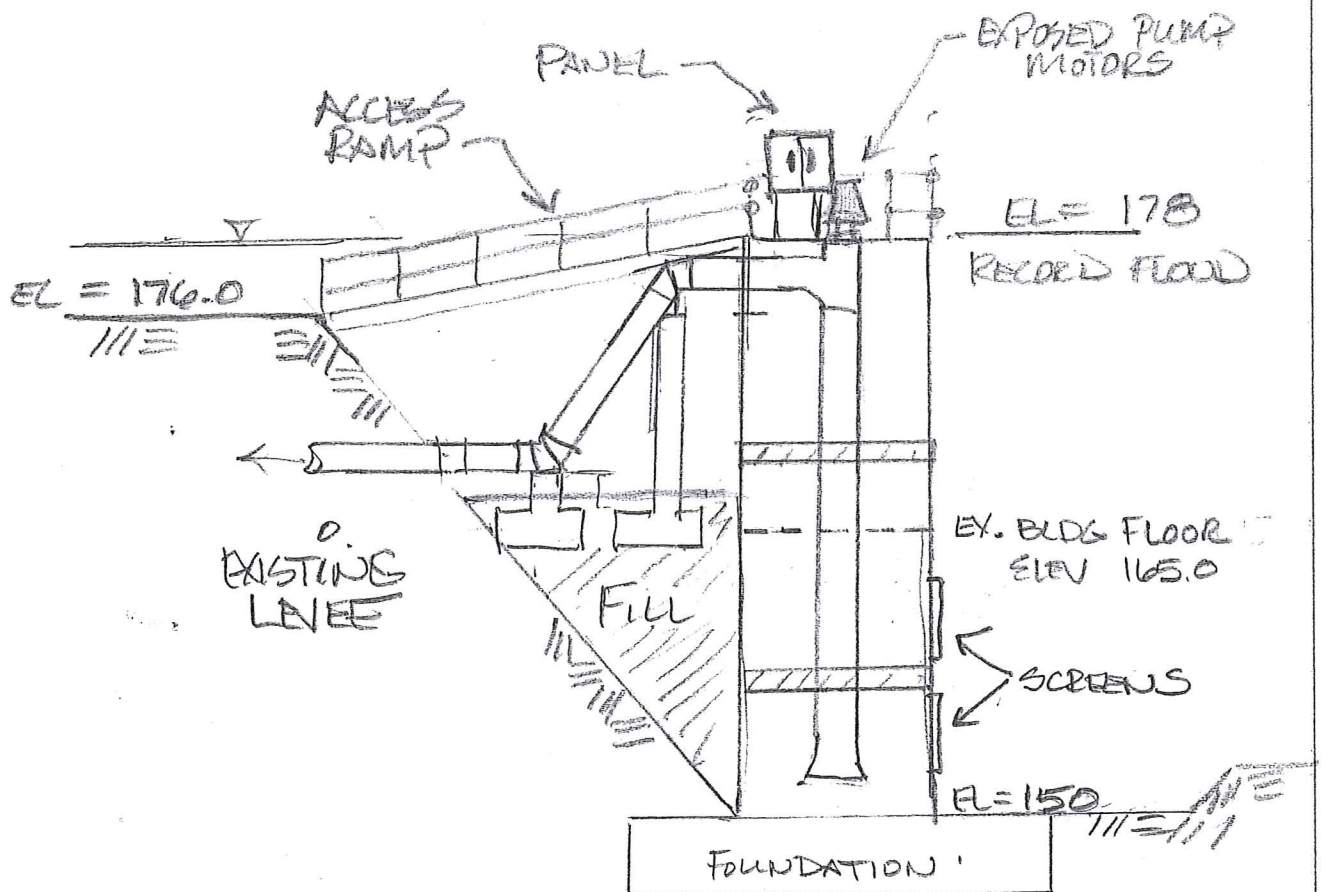
Item #	Item	Unit	Qty.	Unit Price	Total Cost
	MOBILIZATION/EROSION CONTROL				
	Mobilization	LS	1	\$10,000.00	\$10,000.00
	Construction Entrance	EA	1	\$2,500.00	\$2,500.00
	Silt Fence	LF	1000	\$6.50	\$6,500.00
	Straw Waddles	LS	1	\$200.00	\$200.00
	<i>Sub-Total Mobilization/Erosion Control:</i>				\$19,200.00
	TRAFFIC CONTROL				
	Traffic Control Labor	HR	40	\$30.00	\$1,200.00
	Traffic Control Signs	LS	1	\$2,000.00	\$2,000.00
	<i>Sub-Total Traffic Control:</i>				\$3,200.00
	PREPARATION/REMOVAL				
	Install Access Road for Construction access.	LS	1	\$18,000.00	\$18,000.00
	Dewatering System	LS	1	\$12,000.00	\$12,000.00
	Demo Existing Structure, cut off piling	LS	1	\$9,000.00	\$9,000.00
	<i>Sub-Total Preparation/Removal:</i>				\$39,000.00
	WATER				
	50 HP Cascade Storm Pumps and Motors	EA	2	\$52,000.00	\$104,000.00
	Ductile Iron Pipe, CL 50 for Water Main 24 in. Diam.	LF	20	\$250.00	\$5,000.00
	24" Check Valves and Installation	EA	2	\$5,000.00	\$10,000.00
	Misc. 24" Fittings	EA	3	\$1,500.00	\$4,500.00
	<i>Sub-Total Water:</i>				\$123,500.00
	CONCRETE FOUNDATION/STEEL STRUCTURE				
	Concrete Foundations Slab and Rock Backfill	LS	1	\$40,000.00	\$40,000.00
	Piping Foundation and Wet Well Vault	LS	1	\$90,000.00	\$90,000.00
	Structural Steel support Platforms	LS	2	\$22,000.00	\$44,000.00
	<i>Sub-Total Paving/Concrete:</i>				\$174,000.00
	ELECTRICAL				
	3 Phase 480V Service Disconnect and Labor	LS	1	\$26,000.00	\$26,000.00
	Pump Controllers - 50 HP Soft Start	LS	1	\$24,000.00	\$24,000.00
	Generator and Controls and Stand	LS	1	\$45,000.00	\$45,000.00
	<i>Sub-Total Electrical Improvements:</i>				\$95,000.00
	PLATFORM IMPROVEMENTS				
	Platform Railing and Stairs Access Ramp	LS	1	\$24,000.00	\$24,000.00
	Signing, lighting and Security	LS	1	\$8,000.00	\$8,000.00
	<i>Sub-Total Landscape/Irrigation:</i>				\$32,000.00
	MISC.				
	Project Administration	LS	1	\$15,000.00	\$15,000.00
	Insurance and Bonding	LS	1	\$10,000.00	\$10,000.00
	<i>Sub-Total Misc.:</i>				\$25,000.00
	ENGINEERING/SURVEYING				
	Design Engineering - Civil/Structural/M&E/Geotechnical	LS	1	\$58,000.00	\$58,000.00
	Survey Topo	LS	1	\$5,000.00	\$5,000.00
	Construction Engineering (Bid Tender, inspection, as-bui management etc.)	LS	1	\$29,000.00	\$29,000.00
	<i>Sub-Total Engineering:</i>				\$92,000.00
	<i>Subtotal Project:</i>				\$602,900.00
	<i>Contengency Allowance 10%</i>				\$60,290.00
	<i>Sales Tax (8%):</i>				\$53,055.20
	TOTAL PROJECT COST:				\$716,245.20

RBE 14014

9-5-14

AIRPORT STORMWATER PUMP STATION CONCEPT

NTS



ELEVATIONS: NGVD 29