



2015-17 Small Projects Recruitment Form

"Additional Local Flood relief Projects" (for 2015-17 biennium)

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.

What are additional local flood relief projects? -- Additional local flood relief projects are small projects seeking to utilize surplus 2015-17 small project monies as a result of other small projects coming in under budget, being re-scoped or otherwise resulting in surplus resources. Additional local flood relief projects, like small projects are to be completed within the funding cycle, supported by the jurisdiction within which the project is proposed, and vetted and advanced through the Chehalis River Basin Flood Authority's Chehalis Basin Projects Committee.

Instructions:

- a. Please submit additional local flood relief project requests (via this form) to Scott Boettcher (scottb@sbgh-partners.com) no later than 5:00 p.m. April 1, 2016.
- b. Please submit individual project request forms for each project in your jurisdiction, even those projects previously or partially funded in the past.
- c. Note: Parts III and IV below [marked by "(**)"] will be scored as part of the Chehalis Basin Projects Committee's review and evaluation. Part I and II will not be scored.

Part I General	
1. Date:	March 25, 2016
2. Project Name:	Chehalis-Centralia Airport Levee Rehabilitation
3. Project Location -- Please identify the location of the project as precisely as possible, preferable with latitude/longitude coordinates.	Chehalis Airport 46°41'8.63"N 122°58'55.55"W
4. Project Contact -- Please identify who will be	David Fleckenstein; dfleckenstein@ci.chehalis.wa.us ;



responsible for overseeing and managing the project (i.e., name, email, telephone number, etc.).	(360)748-1230
5. Lead Organization -- Please identify the lead organization, agency, entity, etc. responsible for this project. Please identify key partners responsible for assisting in the delivery or implementation of the project.	<p>Lead: Chehalis-Centralia Airport on behalf of the City of Chehalis.</p> <p>Key Partner: US Army Corps of Engineers (USACE) Seattle District and associated contracted construction firm. POC: Catherine DesJardin, USACE Seattle District, Emergency Management Branch, (206)764-3452</p>
<p align="center">Part II Description, Timing and Cost</p>	
6. Project Description -- Please describe the project, what it is intended to accomplish, and the benefits that will accrue and to whom.	Project: Repair seepage in levee wall discovered in the fall of 2015. USACE Seattle District and contracted construction firm will repair an area collocated with a 36" storm water discharge pipe and flapper gate. A site survey has been conducted by a Corps Engineering team. The project requires earth work to remove the existing pipe from the levee, repair or replace it, and reseal it to ensure no further seepage occurs. Maintaining the integrity of the levee directly benefits the airport, the City of Chehalis, associated retail area and adjacent portions of I-5. Any closures due to flooding result in a loss of revenue and the possible loss of jobs and businesses depending on the damage.
7. Project Timeline -- Please describe the overall timeline for completion of the project as well any interim stages or phases.	USACE has contracted a company to assist in making the requested repairs during the summer of 2016. The city made temporary repairs in the fall of 2016 with USACE guidance.
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?	<p>The airport is responsible for paying 20% of the total construction costs = \$60,000 (Estimated cost to airport).</p> <p>-The storm drain and flapper gate are operated and maintained by airport staff. Staff periodically checks the integrity of the storm drain and flapper gate throughout the year. The seepage was discovered during a periodic check. Airport staff will continue to conduct on-going maintenance and minor operations costs.</p>
9. Other Funding -- Please explain the extent to which other funding sources or funding partners are available.	-USACE will pay for 80% of the construction costs. The airport is not budgeted to absorb \$60,000 in repair costs to the levee. Any additional funding would require a loan for the airport's costs.
<p align="center">Part III (**) Completion and Doability by June 30, 2017</p>	
10. Project Completion -- Does the funding requested	Yes, the funding requested completes the project in



complete (or substantially complete) a project that has already been started? If so, please explain.	progress with an estimated completion date in summer 2016.
11. Project Doable -- Can this project or the stage/phase for which funding is sought be completed by June 30, 2017? Does the project face problem areas that could impact its doability and timeline, e.g., permitting or regulatory unknowns.	Project can be completed by June 30, 2107. There are no known problem areas that would prevent the completion of the project according to the deadline above. USACE Seattle District is currently compiling and completing the Federal paperwork required for their portion of the funding.
12. Project Impacts -- Please identify how any project impacts will be mitigated and if that mitigation will be accomplished by June 30, 2017?	The airport will work directly with the US Army Corps of Engineers to mitigate any impacts to the project. There are no known impacts at this point.
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. open and functional.)	The integrity of the levee is essential to the airport providing continuous services to emergency responders operating out of the airport during a flood emergency.
14. Essential Infrastructure Protection -- Please explain how this project protects essential infrastructure (as well the risks or consequences of not acting this funding cycle).	Repairing the levee helps insure the integrity of the levee. The levee protects ~380 acres located behind the levee which consists of the airport, associated roads, 70 acres of the retail area and land directly adjacent to I-5. By not acting this funding cycle, the integrity of levee would be in question should another flooding event occur before repairs are made. A temporary repair at the recommendation of USACE was made during the fall of 2015.
15. Public Health, Safety and Welfare -- Please explain how this project protects public health, safety and welfare.	The levee protects the Chehalis Centralia Airport that acts as a location for emergency operations [evacuation collection point, aerial medical evacuation (MEDEVAC) transfers, and emergency services aircraft refueling]. It aids in preventing flooding to roads and numerous businesses within the levee, flooding to underground fuel tanks, and flooding to septic systems.
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	The levee projects approximately 70 acres of retail businesses and restaurants within the levee as well as land adjacent to I-5. During the fall of 2015, the airport levee held water back over a three day period to prevent flood waters from rising within the airport property and surrounding retail area. The Chehalis River Basin can count on 1-2 flood events per season where the airport



of flood damage, magnitude of benefit to be gained for the cost, etc.).	provides essential protection to businesses and the people that work there. Flooding behind the airport levee could quickly equate to \$millions in losses given the businesses, aircraft, and equipment located there.
17. Other Project Impacts -- Please explain how this project impacts or is potentially impacted by another project.	It currently does not.
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.	Chehalis-Centralia Airport maintains a certificate of eligibility for the levee which allows for assistance from the Corps of Engineers when required. The airport is responsible for 20% of construction costs during a rehabilitation project. Without Federal assistance, these projects would be much more expensive to the local community. USACE will act as the primary contractor. USACE has contracted with a construction firm to assist with completing the projects summer 2016.



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

CENWS-EN-DB-SS

24 November 2015

MEMORANDUM for Record

PROJECT: CHEHALIS AIRPORT LEVEE

SUBJECT: NORTH LEVEE OUTLET PIPE EROSION CONTROL

Keith Rudie and Kimball Ohsiek visited the site on 18 November, 2015 and met with David Fleckenstein, Chehalis Airport Manager, and Ken Cardinale, Chehalis Fire Chief, at the request of the City of Chehalis during a flood event. The group inspected seepage and erosion that was observed by City personnel (Larry) to be occurring below the reinforced concrete pipe (RCP) that penetrates the levee on the north side of the airport property.

The RCP is located approximately 200 feet east of the airport runway centerline. The RCP diameter is 36 inches, and has a flap gate and concrete headwall on the river side. The RCP end with the flap gate is the outlet and the open end is the inlet. A segmental block retaining wall approximately 3 feet high is 6 feet past and 3 feet below the RCP inlet. The RCP is in 8-foot sections with bell and spigot connections. The RCP is buried under 6 feet of embankment at the levee crest.

Clear water was observed to be discharging from the RCP inlet at approximately 1 gallon per minute (gpm) and turbid water was flowing at approximately 2 gpm from a void below the inlet. The level of the flood waters against the flap gate at the outlet was at the mid-height of the RCP barrel. The levee toe between the pipe inlet and the top of the retaining wall was eroded. The void beneath the RCP inlet was approximately 10 inches deep and 18 inches wide and extended back at least 15 feet from the end of the pipe. The exposed soil was silty fine sand. Cracking, slumping, or other signs of levee embankment and slope instability were not observed.

The immediate concern was further erosion of soil by seepage (piping) leading to potential breaching of the levee and further undermining of the RCP. As an emergency measure to control further erosion, a sandbag ring was constructed around the RCP inlet and backfilled with gravel. The purpose of the ring and gravel was to slow the seepage velocity sufficiently to stop erosion of the soils beneath the RCP. After construction of this temporary measure, the seepage turned clear indicating that the objective was achieved. The additional load imposed by the sandbags and gravel do not appear to be adversely impacting the segmental retaining wall below the RCP inlet.

Until permanent repairs can be made (likely in summer 2016), interim measures are recommended to reduce and control seepage and to support the partially undermined RCP:

- Place portland cement grout, controlled density fill (CDF), or neat cement beneath the RCP to provide structural support. This measure should be completed while the river is below flood stage so that the void beneath the RCP is not under water. If the void is flooded, the grout or CDF should be tremied to displace the water and preserve the grout/CDF integrity. If the RCP has settled, it should be partially excavated and supported by an excavator or crane until the grout/CDF achieves sufficient strength to support the RCP.
- If water is actively seeping through the void, do not attempt to place grout or CDF. Install timber cribbing as necessary to support the RCP. Lifting the RCP inlet slightly with an excavator or crane may be necessary in order to insert cribbing.
- Strip sod to a depth of 8 inches on the outlet side of the levee from the toe to the crest and to a distance of 25 feet on each side of the RCP. Backfill with a layer of clay soil, compacting with a minimum of 6 passes of a tamping foot roller. Compaction may be performed with a self-propelled compactor, a remote-controlled compactor, or a compactor wheel on the end of an excavator arm. Thorough compaction around the outlet headwall is particularly important.
- If the sandbag ring and gravel backfill has been disturbed during construction of the interim measures, they should be reconstructed to control potential future seepage until a permanent repair can be completed.

After flood season, a permanent repair should be constructed, consisting of:

- Removing the RCP by trenching through the levee in order to inspect the extent of the void.
- Recompressing the RCP trench bottom.
- Constructing concrete saddles for the RCP in order to create a longer flow path for seepage and compacting backfill to the bottom of the RCP.
- Installing the RCP
- Placing CDF to the RCP springline.
- Backfilling above the RCP springline to the top of the levee.
- Reseeding and restoring the sod cover and levee crest road surfacing.

KEITH RUDIE
Geotechnical Engineer

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KIMBALL OHSIEK, P.E.
Geotechnical Engineer

Digitally signed by OHSIEK.KIMBALL.LEE.1512527856
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Date: 2015.11.24 10:31 -08'00'



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-2255

Corps of Engineers, Seattle District
Emergency Management Branch
Attn: Catherine DesJardin, P.E.
4735 East Marginal Way South
Seattle, WA 98134

DEC - 4 2015

*Per discussion with Catherine DesJardin
Rehabilitation Assistance
Package received by USA COE office As of 7 Dec*

APPLICATION PERIOD EXPIRES 5 January 2016

REHABILITATION ASSISTANCE FOR FLOOD-DAMAGED FLOOD CONTROL PROJECTS

Public Sponsors of flood control projects that sustained damages due to flooding during the recent flood event have until 05 January 2016 to apply for Public Law 84-99 Rehabilitation Assistance from the US Army Corps of Engineers, Seattle District.

The Corps of Engineers has authority under Public Law 84-99 to supplement local efforts in the repair of both Federal (Corps-constructed, locally operated and maintained) and non-Federal (constructed by non-Federal interests or by the Work Projects Administration (WPA)) flood control projects damaged by flood.

a. Non-Federal flood control projects are eligible for Rehabilitation Assistance if they have been inspected, evaluated, and accepted into the Corps Rehabilitation and Inspection Program (i.e., granted Eligible status) *prior* to the onset of the flood, and still be Eligible (based on the latest Continuing Eligibility Inspection) at the time of the flood.

b. For a Federal flood control project to be eligible for Rehabilitation Assistance, it must be in Eligible status by having passed its last Inspection of Completed Works inspection.

c. Rehabilitation Assistance will be provided by the Corps only when the work is economically justifiable, the damage was sustained during the recent flood event, and the cost of repairs is more than \$15,000.

d. Rehabilitation Assistance for a non-Federal project is cost shared between the Public Sponsor and the Corps of Engineers. The Public Sponsor must provide 20 percent of the cost of the Rehabilitation Assistance.

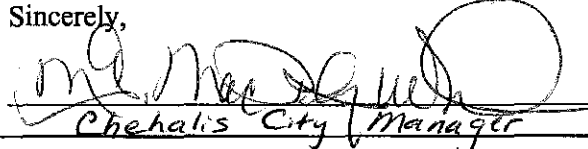
If the Public Sponsor believes that its project may qualify for Rehabilitation Assistance, a written request needs to be submitted to the Corps of Engineers at the address above. Please include the following:

- Name and telephone number of the Public Sponsor's point of contact;
- Name of the flood control project;
- Location of the flood control project;
- Location(s) of the damaged section(s), and description of the damage at each location;

Upon receipt of the Public Sponsor's request, the Corps of Engineers will schedule an inspection with the Public Sponsor. If you have any questions, contact Catherine DesJardin at (206) 764-3406 or catherine.a.desjardin@usace.army.mil.

[Signature]
Douglas T. Weber, P.E.
Chief, Emergency Management Branch

APPENDIX E: REHABILITATION REQUEST FORM

U.S. Army Corps of Engineers, <u>Seattle</u> District	Date of <u>1 DEC 2015</u>
Request: ATTN: Emergency Management Branch Street Address City, State ZIP+4	
Dear Sir:	
<p>The purpose of this letter is to request Rehabilitation Assistance from the Corps of Engineers under Public Law 84-99 for the repair of the <u>Chehalis-Columbia River</u> Levee (or other type of flood control project) that was damaged by (flood)(high waters) during <u>18 NOV 2015</u>. The project is Active in the Rehabilitation and Inspection Program, and was last inspected by the Corps of Engineers on <u>12 NOV 2014</u>. The location of the levee and a brief description of the damage are as follows:</p>	
Project Identification Number _____	River or Stream <u>Chehalis River</u>
Bank (circle): Left, <u>Right</u> , Both	
Description of Damage <u>Seepage and loss of material under a 36" culvert @ station 31+00 along the levee</u>	
City <u>Wenatchee</u>	County <u>Lewis</u> State <u>WA</u>
Section <u>19</u>	Township <u>14N</u> Range <u>02W PT 52</u>
Public Sponsor Point of Contact:	
Name <u>David Fleckenstein</u>	
Address <u>P.O. Box 13414</u> City <u>Chehalis</u> State <u>WA</u>	
Telephone (W) <u>(360) 748-1230</u> (H) <u>(360) 219-5283</u>	
<p>If this project is eligible for PL 84-99 Rehabilitation Assistance, I further request that the Corps of Engineers take all necessary steps to accomplish the appropriate repairs. It is agreed that the required items of local cooperation will be provided should the levee be eligible for Rehabilitation Assistance under PL 84-99 and the repair work is accomplished by the Corps of Engineers.</p>	
<p>I hereby certify that the right-of-way which is required for any authorized repair work is presently available, and this letter constitutes permission for the Government and its agents to enter and use said right-of-way in undertaking authorized repair work.</p>	
Sincerely,  Chehalis City Manager	





From: [David Fleckenstein](#)
To: [Scott Boettcher](#)
Cc: [Dennis Osborn](#)
Subject: Fw: Corps Road Trip Schedule for PIR development
Date: Tuesday, April 12, 2016 8:47:30 AM

Scott,

FYI. Reference to our grant request, we did receive confirmation back from the Corps of Engineers Seattle District that our share of the Levee repair this summer will equate to \$60,000.

Thanks,
David

David Fleckenstein
Chehalis-Centralia Airport Manager
(O) 360-748-1230
(C) 360-219-5283

From: Desjardin, Catherine A NWS <Catherine.A.Desjardin@usace.army.mil>
Sent: Tuesday, April 12, 2016 7:32 AM
To: David Fleckenstein; Weber, Douglas T NWS; Ohsiek, Kimball L NWS
Cc: Larry Dobyns
Subject: RE: Corps Road Trip Schedule for PIR development

Hi David, we worked out the cost estimate yesterday for the levee repair.

Your 20% portion will be approximately \$60,000 for the repair this summer.

Please let me know if you have any questions.

Cathie

-----Original Message-----

From: David Fleckenstein [<mailto:dfleckenstein@ci.chehalis.wa.us>]
Sent: Monday, March 21, 2016 4:47 PM
To: Desjardin, Catherine A NWS <Catherine.A.Desjardin@usace.army.mil>; Weber, Douglas T NWS <Douglas.T.Weber@usace.army.mil>; Ohsiek, Kimball L NWS <Kimball.L.Ohsiek@usace.army.mil>
Cc: Larry Dobyns <ldobyns@ci.chehalis.wa.us>
Subject: [EXTERNAL] Re: Corps Road Trip Schedule for PIR development

Hi All,

We getting ready to compete for some local grant money that has come available and I wanted to know if you came up with any cost estimates for the levee rehabilitation project for this summer. Our deadline for the grant submission is 1 APR.

Thanks,
David

David Fleckenstein
Chehalis-Centralia Airport Manager
(O) 360-748-1230
(C) 360-219-5283

From: Desjardin, Catherine A NWS <Catherine.A.Desjardin@usace.army.mil>
Sent: Thursday, March 3, 2016 2:08 PM
To: Weber, Douglas T NWS
Cc: Ifft, Charles H NWS; Ohsiek, Kimball L NWS
Subject: Corps Road Trip Schedule for PIR development

All, we just awarded our contract yesterday for the A-E contractor to gather info and develop the PIRs for levee repairs this summer. We need to start next week so we can get the reports done. We are on an extremely tight schedule.

Doug Weber will be working with the South Loop team and I will be working with the North Loop team.

I am attaching a schedule of days and times that we have planned. Please take a look at the date and the time that corresponds to your levee(s).

Hopefully you can meet with us, but if you personally aren't able to meet with us, can you please have someone available to meet with us?

There may be some flexibility in our schedule (a little earlier or later) on the schedule depending on how well we are doing. We will call to let you know of any time changes.

If you have any questions, please let us know.

Thank you,

Cathie

Catherine DesJardin, P.E.
FCCE Program Manager
Emergency Management Branch
Seattle District, USACE
(206) 764-3452 (O)
(206) 909-7937 (C)