

Scott Boettcher

From: Kathleen Berger <Kberger@thurstoncd.com>
Sent: Tuesday, September 27, 2016 1:24 PM
To: Scott Boettcher
Subject: Farm Structure proposal-- FINAL
Attachments: Farm Structure proposal.docx

Hi Scott,

Here is the updated and final version for the farm structure proposal (there is an additional landowner letter of support.)

Thanks!
Kathleen Berger
Thurston Conservation District



2017-19 Local Projects Recruitment Form

Chehalis Basin Flood Relief

A. What are local flood relief projects? -- In general, local projects are those projects that provide predominantly localized and quantifiable 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 a public entity like a City, County, Conservation District, Agency, etc. Furthermore, local projects are envisioned as helping with flooding, not adverse to fish or habitat and (where possible) providers of multiple, quantifiable benefits.

B. What kinds of local flood relief projects are likely to be logical funding candidates for 2017-19?

- Projects that complete an effort previously funded/started.
- Projects that advance improved emergency response.
- Projects that advance improved public infrastructure protection.
- Projects that advance improvements in local or community flood hazard reduction, including local flood proofing projects (e.g., elevations, buy-outs, foundation venting/opening, etc.).
- Projects that advance Conservation District initiated flood hazard reduction (e.g., farm pads, evacuation routes, bank erosion/bank stabilization, etc.)
- Projects that demonstrate innovation (e.g., thinking beyond traditional bank stabilization techniques in favor of natural system designs), partnerships, cost-sharing/leveraging resources, multiple benefits, and proactive vetting with agencies and tribes.
- Projects typically not in excess of \$3M for the stage/phase being funded.

C. Are there projects that would not be good candidates?

- Projects that seek to utilize State Capitol Budget dollars for uses not typically allowed (e.g., maintenance and repair work, cost-sharing under select circumstances, etc.).
- Projects likely to increase potential for flood damage upstream or downstream.
- Projects with unmitigable adverse environmental impacts or significant uncertainty regarding potential environmental impacts.
- Projects not sponsored by a public entity.

Instructions:

- Please submit local flood relief project requests (via this form) to Scott Boettcher (scottb@sbgh-partners.com) no later than 5:00 p.m., Friday, August 12, 2016.
- Please submit one request form for each project proposed, even those past projects previously or partially funded.
- Note: Parts III and IV below [marked by "(**)"] will be scored as part of the Flood Authority Projects Committee's review and evaluation. Part I and II will not be scored.



Part I General	
1. Date:	9/22/2016
2. Project Name:	Flow through Farm Pads
3. Project Location -- Please identify the location of the project as precisely as possible, including providing decimal degree latitude/longitude coordinates.	The flow through farm pads will be located within the Chehalis River Basin on properties that have no on-site access to higher ground for the storage of their machinery and livestock. The work will start within Thurston County where there is an unmet need for farm pad structure, but the technology will be available for all counties within the Chehalis River Basin.
4. Project Contact -- Please identify who will be responsible for overseeing and managing the project (i.e., name, email, telephone number, etc.).	Thurston Conservation District, Kathleen Berger. kberger@thurstoncd.com ; 360-754-3588 ext 118.
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.	Thurston Conservation District is the lead with Thurston County Emergency Management as a key partner. These two organizations will work together, with producers in the community, to design a flow through farm pad and implement a demo project.

Part II Description, Timing and Cost	
6. Project Description -- Please describe the project, what is intended to be accomplished, the benefits to be accrued, and to whom.	<p>Farm pads, as designed, involve the moving of fill to create a raised area for equipment and animals to escape flood waters. Raising machinery and livestock above flood levels protects the economic investment of the farming community while also preserving water quality.</p> <p>There is an unmet need in Thurston County to protect farm livelihoods as permitting regulations prevent the construction of traditional farm pads within the floodplain. The addition of fill in the floodplain contributes to increased downstream flooding. This project seeks to create and implement an innovative design that will protect machinery, equipment and animals without impeding the flow of flood waters.</p> <p>The benefit of this project is primarily to the agricultural</p>



	<p>businesses in the Chehalis Basin as it protects the foundation of their businesses—the equipment and livestock. Landowners report loss of machinery and livestock in past floods, as well as a loss of crops in winter storage that cannot be sold due to contamination. A raised sanctuary for livestock and equipment protects current investments, and the removal of these investments from flood waters also works to lessen contaminants and preserve future revenue. It would also work to mitigate the impacts that flooded farm operations have on salmon and water quality.</p> <p>The Chehalis River Basin continues to flourish in economic amenities and livability. With the projected increase in flooding paired with population growth in the future, developing and implementing flow-through designs is a more natural way to manage structures within the floodplain. They will work to minimize the human impact of flooding while still enhancing flood protection methods and preserving the future viability of farmland.</p> <p>Further, there is indication that the flood community in other regions are searching for alternative solutions for farm pads. Thurston County discussions with FEMA regarding Flow Through Farm Pads indicated interest and support. Research done by the Snoqualmie Flood-Farm Task Force in the Snoqualmie River Basin in 2008 recommends the exploration of alternatives to traditional fill-farm pads, including elevated structures and floating farm pads (King County, 2008). There is a high need for designs that allow for the conveyance and storage of flood waters without erosion and the impediment of flow, and the innovative design from this project would be available and applicable for the Chehalis Basin as a whole, and beyond to other riverine agricultural communities.</p> <p>King County Department of Natural Resources. January 2008. Snoqualmie Flood-Farm Task Force Report. http://your.kingcounty.gov/dnrp/library/archive-documents/wlr/lands/agriculture/pdf/flood-farm-task-force-report/report.pdf.</p>
<p>7. Project Timeline -- Please describe the overall</p>	<p>Fall 2016-Winter 2017: <i>Perform a needs assessment with</i></p>



timeline for completion of the project as well any interim stages or phases.

existing funding. The outreach efforts completed by Thurston Conservation District through the summer of 2016 indicated high interest in farm pads in Thurston County along the Chehalis River. Specifically, out of 46 participants in the outreach meetings, 12 people requested more information about farm pads. These 12 were all located in the Chehalis Mainstem region of the basin in Thurston County.

During the Fall of 2016 and the Winter of 2017, Thurston Conservation District will conduct further outreach work with the agricultural community to identify the capacity and use needs for farm pads, and also identify farms that do not have adequate access to high ground. This ensures that the project is targeting landowners with high needs for protecting machinery and livestock. Thurston Conservation District expects to find that the number of farms that need a farm pad is not large, but the need on these farms for a place to store machinery and livestock is exceedingly high as there are no reasonable alternatives in the case of a large flood event.

Winter to Spring 2017: *Begin design work working with Thurston County Emergency Management Team and incorporating the results of the Needs Assessment Research.* The goal is a conceptual design that will fulfill the needs of the agricultural community, be permissible within Thurston County regulations, and also be of reasonable cost for future implementation.

Spring to Summer 2017: *Final Design Work.* Select a demonstration project site based on the results of the Needs Assessment and complete a final site-specific design with permitting.

Summer 2017-Fall 2018: *Implementation.* The implementation of at least one demonstration project will be complete by the fall of 2018. If there is funding remaining, subsequent demonstration projects will start the design and implementation process through the end of the funding cycle in 2019. Demonstration projects will be placed in high-priority areas as described above throughout the community in locations that will promote



	<p>flow-through farm pads for use within the floodplain.</p>
<p>8. Project Cost and Funding -- What is the cost of this project? What are the on-going maintenance and operation requirements and costs? Is it clear who will be responsible for covering on-going maintenance and operation costs?</p>	<p>The Thurston Conservation District currently has funds to complete the needs assessment and initiate the engineering of the conceptual design. The final cost of implementation of the project will be based on the design, however, the ultimate goal is to keep the project as affordable as possible to increase future implementation of flow-through structure.</p> <p>Conceptual and Final Design Estimate <i>per Thurston County:</i> \$15,000*</p> <p>Estimated cost of Materials and Implementation <i>based on 120 x 120 square foot structure, per Thurston County:</i> \$400,000</p> <p>Estimated time cost for project management: \$50,000</p> <p>* Current funding will cover design cost until June, 30 2017</p> <p>Once implemented, basic maintenance and care of the structure will fall into the typical maintenance costs that are incurred on a working farm. This will be outlined in a maintenance agreement. The landowner may ask the District for assistance in seeking funding for future repair if necessary.</p>
<p>9. Other Funding -- Please explain the extent to which other funding sources or funding partners are available.</p>	<p>Potential future sources for funding for the planning and implementation of flow through farm pads include:</p> <p>Federal funding: Pre-Disaster Mitigation, Flood Mitigation Assistance, Hazard Mitigation Grant Program, NRCS Equip and other program funding.</p> <p>State funding: Flood Control Assistance Account Program</p>

Part III ()**
Completion and Doability by June 30, 2019



<p>10. Project Completion -- Does the funding requested complete (or substantially complete) a project that has already been started? If so, please explain.</p>	<p>The first stage in the project is the Needs Assessment and early design work that will be completed with existing funds. The second phase will cover the final stages of design and implementation by the end of 2017-2019 funding cycle.</p>
<p>11. Project Doable -- Can this project or the stage/phase for which funding is sought be completed by June 30, 2019? Please describe any circumstances with potential to impact the project's doability or timeline (e.g., permitting or regulatory unknowns, lack of availability of other cost-share funding resources, etc.). Please describe any advance coordination or vetting with agencies, tribes, other entities, etc. and the outcomes of that effort.</p>	<p>The funding requested for design completion and the demonstration project(s) on the Chehalis River is foreseen to be completed in the 2017-2019 biennium. The intention behind the project is to design and implement a project that is straight forward and highly beneficial, which means on the ground and functioning as soon as possible. Advance coordination with the agricultural community in the Chehalis Basin and Thurston County has laid a solid foundation to begin this project. Producers indicate need and support, while Thurston County indicates they are receptive to the issue and are interested in working together to find a permissible solution (See attached landowner letter of support).</p>
<p>12. Project Impacts -- Please identify how any project impacts will be mitigated, funded and if that mitigation will be accomplished by June 30, 2019?</p>	<p>Project design will take place with the consultation of Thurston County Emergency Management and Permitting team, and will fit within the current regulations. Mitigation is unnecessary for this project.</p>

<p align="center">Part IV (**) Benefits Stated and Quantified</p>	
<p>13. Emergency Response Benefits -- Please describe (and quantify) how this project enhances emergency response in a flood emergency (e.g., does it keep critical access roads and transportation facilities open and functional, does it enable easy movement of cattle, equipment and farm chemicals out of harm's way, etc.).</p>	<p>In Thurston County the placement of raised areas within the floodplain is not allowed due to current regulations. However, landowners in the area have indicated a need for infrastructure that gives them a place to store farm machinery and livestock in a flood. Machinery and livestock are the foundation of agricultural operations and are highly threatened in a flood without high ground.</p> <p>Providing landowners in Thurston County with flow-through farm pads protects their economic investments and livelihoods by giving them an easily accessed area to raise machinery and farm animals out of the flood waters. Furthermore, the design of flow-through farm structures provides an alternative to fill in the floodplain. This innovative approach is applicable to floodplains everywhere and will help reduce the implementation of</p>



	structures that do not have flow through.
<p>14. Essential Infrastructure Protection Benefits -- Please describe (and quantify) how this project protects essential infrastructure and the risks or consequences of not acting this funding cycle.</p>	<p>Elevated farm pads for machinery and livestock are a simple solution to preserve vital agricultural amenities. With funding from the 2017-2019 funding cycle in addition to current funding, we will be able to design and implement farm pads in Thurston County that meet regulations and help landowners reduce flood hazard potential.</p> <p>Without funding, there will be no assistance for agricultural landowners in the Thurston County Chehalis River Basin to take the steps needed to implement a raised structure to store the foundation of their businesses.</p> <p>Currently, there are no other entities pursuing this vital infrastructure need in Thurston County. This is a unique opportunity, with significant preliminary support.</p>
<p>15. Public Health, Safety and Welfare Benefits -- Please describe (and quantify) how this project protects public health, safety and welfare.</p>	<p>In the near term, machinery and livestock in floodwaters contribute to pollution. Pollution is a public health and welfare concern, as well as an economic issue with the contamination of agricultural products. In the long term, farm pads as currently designed increase the fill in a floodplain. Over time, the continued addition of fill will increase flooding and threaten public safety. A flow-through design will prevent the increase of fill in the floodplain and the potential for increased flooding and risk to public safety.</p>
<p>16. Residential, Commercial and/or Agricultural Protection Benefits -- Please describe (and quantify) 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.).</p>	<p>This project provides a great benefit to agricultural protection. There are many farms within the Chehalis Basin currently without options for onsite protection of their products and equipment from flood waters. Not acting within this funding cycle could potentially pass up an opportunity where multiple stakeholders are receptive to innovation and collaboration. In addition, extreme flood events are unpredictable, funding this project in the current biennium could prevent major agricultural economic loss in future years, should there be significant flooding in the Chehalis Basin.</p>
<p>17. Other Project Impacts -- Please explain how this project impacts or is potentially impacted by another project.</p>	<p>Creating a flow-through farm pad is an opportunity to create a design that will have value and recognition beyond the local reach. This work is applicable to</p>

	<p>floodplains wherever there are agricultural communities, and there is an ever expanding need to create designs that do not impede the flow of flood waters. This project also fosters a relationship between Thurston Conservation District, Thurston County and the agricultural community with the intention of continuing support to landowners located within the Chehalis River Basin.</p>
<p>18. Anything Else -- Please feel free to offer any additional information (e.g., photos, maps, video, drawings, etc.) that would help to better understand the scope, timing and benefits of this project.</p>	<p>A raised area for livestock can save an operation:</p>  <p>Photo from Lewis Conservation District</p> <p>See attachment for Appendix F, Flood and Farm Task Force 'Floating Structures for Agriculture'.</p> <p>Landowner letters of support attached below:</p>



To the Chehalis Basin Flood Plain Authority,

I am a resident in the Chehalis Basin floodplain in Thurston County. I have lived here for 26 years and grow 50 acres of organic vegetables. Living and farming in the floodplain has many benefits, both for agricultural production and because there is a strong agricultural community. Finding places to store equipment and protect livestock during high water is vital to the continued success of the agricultural businesses in our community. After losing thousands of dollars of equipment and packaging in a flood, we now move all of our equipment and farm supplies to high ground every year. This is a laborious and expensive job. We would also like to have some livestock, but are unable to due to the risk of flooding. Currently, in Thurston County, we are unable to construct traditional farm pads.

The addition of Farm Pads in Thurston County would be a benefit to our agricultural community and would greatly mitigate some of the risks of farming and living in a flood plain. We have 6 tractors, many implements, lots of boxes and equipment which we have to move. Currently we are renting storage space off of the flood plain, which costs at least \$5000 per year and is 5 miles away. Moving everything is a huge and expensive chore, having convenient storage and barn space would really help us.

Our community has previously shown willingness to raise our houses to protect our homes and improve flow through. I believe that residents in the Chehalis Basin will also partake in Farm Pads if there is a design that Thurston County will permit. I support the Flow-through Farm Pad project that Thurston Conservation District is proposing. Flow-through Farm Pads will help our community protect our investment. My neighbors, who live in Gray's Harbor County already have one, and it is of great benefit to them.

Thank you for your support!

Anna Salafsky
Helsing Junction Farms
Rochester



09/20/2016

To the Chehalis Basin Flood Plain Authority,

I am a resident in the Chehalis Basin floodplain in Thurston County. I have lived here for 14 years and currently have a dairy, run beef cows and a crop farm. Living and farming in the floodplain has many benefits, both for agricultural production and because ag lands support natural wildlife and floodplain function. Finding places to store equipment and protect livestock during high water is vital to the continued success of the agricultural businesses in our community. When there are record floods, we lose cattle and equipment because we cannot construct high areas to store them out of the water.

The addition of Farm Pads in Thurston County would be a benefit to our agricultural community. Farm pads would help protect equipment and cattle from rising waters. Our community has previously shown willingness to raise our houses to protect our homes and improve flow through. I believe that residents in the Chehalis Basin will also partake in Farm Pads if there is a design that Thurston County will permit. I support the Flow-through Farm Pad project that Thurston Conservation District is proposing. Flow-through Farm Pads will help our community protect our investments.

Thank you for your support,

Eric Johnson
Johnson Jersey Dairy
Rochester, WA



Appendix A

Process/Schedule (current as of 7-22-2017)	
July 21, 2016 (FA In-Person Mtg.)	<ul style="list-style-type: none"> • Post and distribute local projects recruitment request on 7/22/2016 following Flood Authority review/discussion at their 7/21/2016 meeting. • Allow three weeks for project proposals/submittals (i.e., due no later than 5:00 p.m., Friday, August 12, 2016).
August 18, 2016 (FA Conf. Call Mtg.)	<ul style="list-style-type: none"> • Receive proposals/submittals. • Update Flood Authority at their 8/18/2016 meeting on number received, type of projects received, distribution, etc.
September 15, 2016 (FA In-Person Mtg.)	<ul style="list-style-type: none"> • Update Flood Authority at their 9/15/2016 meeting on status of Projects Committee's effort to review, rank, discuss with Tribes, discuss with agencies, preliminarily sort and rank, etc.
October 20, 2016 (FA In-Person Mtg.)	<ul style="list-style-type: none"> • Review/discuss DRAFT ranked and prioritized list with Flood Authority at their 10/20/2016 meeting.
November 17, 2016 (FA Conf. Call Mtg.)	<ul style="list-style-type: none"> • Seek Flood Authority approval of FINAL ranked and prioritized list at their 11/17/2016 Flood Authority meeting.