

Scott Boettcher

From: Scott Boettcher
Sent: Tuesday, July 3, 2018 3:26 PM
To: Jordan Rash
Cc: Kris Koski (kkoski@aberdeenwa.gov); Brian Shay; 'mark.steepy@kpff.com'; Steve Schmitz; 'klombardi@maulfoster.com'; colronjanaverill@comcast.net
Subject: RE: Fry Creek Pump Station application

Thank you Jordan. Your proposal has been rec'd on time.
Scott

Scott Boettcher, Staff
Chehalis River Basin Flood Authority
360/480-6600
scottb@sbgh-partners.com

From: Jordan Rash <jrash@forterra.org>
Sent: Tuesday, July 3, 2018 3:20 PM
To: Scott Boettcher <scottb@sbgh-partners.com>
Cc: Kris Koski (kkoski@aberdeenwa.gov) <kkoski@aberdeenwa.gov>; Brian Shay <BShay@cityofhoquiam.com>; 'mark.steepy@kpff.com' <mark.steepy@kpff.com>; Steve Schmitz <Steve.Schmitz@kpff.com>; 'klombardi@maulfoster.com' <klombardi@maulfoster.com>
Subject: Fry Creek Pump Station application

Scott:

On behalf of the City of Aberdeen, attached is the completed Flood Authority application for the Fry Creek Pump Station proposal. If there is anything else you need from the City with respect to this grant application, please contact me directly at the information provided below.

Lastly, thank you again for answering last-minute questions over the past week. Your input definitely helped us bring this proposal together.

Best,

Jordan M. Rash
Senior Conservation Director | Forterra
For the people. For the land. Forever.

1119 Pacific Avenue, Suite 1300
Tacoma, WA 98402
T 253-274-5673 | M 253-254-8798 | W forterra.org

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**2019-21 Local Projects Recruitment Form
Chehalis Basin Local Flood Relief**

A. What are local flood relief projects? -- In general, local projects provide predominantly localized, 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, Port, etc. Local projects are additionally envisioned as helping with local flood relief (reducing flood damage and impacts), not adverse to fish, wildlife, or habitat, and (where possible) providers of multiple, quantifiable benefits (per Part IV below).

B. What kinds of local flood relief projects are likely to be logical funding candidates for 2019-21?

- 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, 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, public engagement and community planning, and proactive vetting with agencies and tribes.
- Projects that demonstrate informed decision-making through hydraulic analysis/understanding.
- Projects that demonstrate early planning involvement, information exchange with regulatory agencies.
- 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, significant uncertainty regarding potential environmental impacts, or significant concerns about obtaining regulatory approval.
- Projects not sponsored by a public entity.
- Projects not located in the Chehalis Basin.
- Projects that do not show quantifiable benefit.

Instructions:

- a. Please submit project requests (via this form) to scottb@sbgh-partners.com no later than 5:00 p.m., 7/03/2018.
- b. Please submit one request form for each project proposed, even past projects previously or partially funded.
- c. Note: Parts III and IV [marked by "(**)"] will be scored for review/evaluation. Parts I, II, and V will not be scored.
- d. See Appendix A for overview of 2019-21 Local Projects Recruitment Process (and schedule), or https://www.ezview.wa.gov/site/alias_1492/37282/2019-21-Local-Projects-Recruitment-Process.aspx.

Part I General	
1. Date:	July 3, 2018
2. Project Name:	Fry Creek Restoration & Flood Reduction Phase IIb: New Pump Station
3. Project Location -- Please identify location of the project as precisely as possible, including providing decimal degree latitude/longitude coordinates.	The pump station will be located at the intersection of the North Shore Levee and Fry Creek within the City of Aberdeen (approx. 46.971488, -123.850480). The project area directly benefiting from the pump station includes the lower creek system and urban lowlands of West Aberdeen and East Hoquiam that are in the historic (pre-development) floodplain of Fry Creek and have stormwater drainage systems that are hydraulically connected to the creek. The pump is critical to future phases of Fry Creek restoration and is also a key part of the North Shore Levee which will protect property in Aberdeen and Hoquiam between the Wishkah R and Hoquiam R. See attached map for locations of pump placement.
4. Project Contact -- Please identify who will be responsible for overseeing and managing the project (i.e., name, email, telephone number, etc.).	Kris Koski, City Engineer City of Aberdeen Public Works 200 East Market Street Aberdeen, WA 98520-5207 (360) 537-3218 kkoski@aberdeenwa.gov
5. Sponsor -- Please identify the sponsor, lead organization, primary entity, etc. responsible for this project. Please identify key partners responsible for assisting in delivery or implementation of project.	The City of Aberdeen will administer the project. The project will occur within the City of Aberdeen, and provide benefits to both the cities of Aberdeen and Hoquiam.

Part II Description, Timing, and Cost	
6. Project Description -- Please describe the project, what is intended to be accomplished, the benefits to be accrued (flood hazard reduction and otherwise) and to whom. Please also identify what phase/stage of the project funding is being sought for (e.g., planning, preliminary engineering, final design and permitting, construction, etc.).	<p>This proposal is for the construction of the new pump station on Fry Creek that is integral to future phases of Fry Creek restoration and is also integral to the North Shore Levee project. Construction of the pump station prior to construction of the Levee will 1) immediately and significantly reduce the risk of flooding in West Aberdeen and East Hoquiam; 2) allow for future phases of the restoration of Fry Creek to proceed prior to completion of the Levee, including daylighting of Fry Creek between Simpson Avenue and Sumner Avenue; and 3) reduce the overall cost of the North Shore Levee project by breaking out a significant part of it and beginning work on it first.</p> <p>Construction of the pump station will build off past investments made by the Flood Authority such as the Fry Creek Restoration & Flood Reduction and North Shore</p>

	<p>Levee projects, adding to and multiplying the benefits that those projects have provided (and will provide).</p> <p>Fry Creek passes through developed urban areas of Aberdeen and Hoquiam before discharging to Grays Harbor. (See attached Vicinity Map.) The creek channel has been filled in and constricted over time as the cities have developed, and today it is generally a narrow channel passing through many culverts and under roadway crossings. (See attached photos for current conditions.) During high rainfall events, the flow exceeds the capacity of the channel and the creek floods adjacent urban residential and commercial areas, affecting homes, businesses, roadways, and vital operations such as the Grays Harbor PUD and Pacific Care and Rehabilitation Center. In addition to direct flooding, city storm sewers that are hydraulically connected to the creek surcharge when it floods, contributing to significant flooding in low-lying areas not immediately adjacent to the creek such as Cherry Street farther east in the City of Aberdeen.</p> <p>In 2016, the Cities of Aberdeen and Hoquiam completed a comprehensive flood risk master plan – the “Timberworks Master Plan” – which identified restoration and flood reduction measures for Fry Creek. The purpose of this effort was to address chronic flooding impacting the community while also improving fish and wildlife habitat and provide public open space. The conceptual restoration alternatives identified by this plan and supported by the community include the construction of the North Shore Levee, the restoration of Fry Creek, and the upgrade of its outfall pump station.</p>
<p>7. Project Timeline -- Please describe the timeline and phases for completion of the overall project and describe the timeline for completion of the phase to be funded by 19-21 funding.</p>	<p>The installation of the pumps and rehabilitation of the work site will begin in the summer of 2020, and be completed by April, 2021. The final report and billing will be submitted in June, 2021.</p>
<p>8. Project Cost and Funding -- What is the cost of the overall project (or anticipated cost)? What is the cost of the phase to be funded by 19-21 funding? 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>This application requests \$3 million of the \$5 million total needed for construction of the pump station. The City of Aberdeen will take on the ongoing maintenance and operation of the pump and pump site out of its surface water utility and/or other sources.</p>
<p>9. Other Funding -- Please explain the extent to which other funding sources, funding partners are available for this phase and any other phase of the project.</p>	<p>This application augments \$2 million requested through the Washington Coast Restoration and Resiliency Initiative program for a total of \$5 million in project</p>

	<p>funding.</p> <p>As noted above, the City of Aberdeen will provide the funding for ongoing maintenance and operations of the pump and pump site on Fry Creek.</p>
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Part III (**) Completion, Doability, Alternatives, and Impacts	
<p>10. Project Completion -- Does the funding requested complete, substantially complete, or continue a project already started? If so, please explain.</p>	<p>This funding will complete the construction of the Fry Creek Pump Station. Funding for the pump station preliminary design was included in the scope of work for the North Shore Levee project (preliminary design phase) completed in 2017. In addition, funding for pump station final design was awarded by the Flood Authority and WCRRRI in 2016.</p>
<p>11. Project Doable -- Can this project or the stage/phase for which funding is sought be completed by June 30, 2021? 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>Yes, this project will be completed by 2021.</p> <p>The project provides funds to install a larger and fish-friendly pump on Fry Creek at the North Shore Levee alignment. This work has already been vetted with regulatory agencies, with permits for the construction pending (funding for those permits provided by the Flood Authority). Support for the project as a whole also secured during the Timberworks community, stakeholder, and affected governments outreach.</p>
<p>12. Project Alternatives -- Please describe alternatives to the project that were considered (including doing nothing), and the rationale for selecting the project described, proposed here.</p>	<p>The project engineer that completed the final design for this project, KPFF, considered multiple alignments and construction methods. This design was selected as it provided the greatest benefit to the community while also being cognizant of cost constraints as well as impacts to property and the environment.</p>
<p>13. Project Impacts Avoided, Mitigated -- Please identify how project impacts will be avoided and mitigated, and if that mitigation will be accomplished by June 30, 2021?</p>	<p>The City of Aberdeen takes a proactive approach with regulatory agencies and has already met with Ecology, WDFW, and the Army Corps with regard to scope and permitting approach. The City and its consultants will continue to coordinate closely with agencies, governments, and the public to anticipate, avoid, and when needed, mitigate potential impacts to the project and to adjacent properties. Public outreach and stakeholder outreach are ongoing and will continue.</p>

Part IV (**) Benefits Stated and Quantified	
<p>14. Emergency Response Benefits -- Please describe (and quantify) how this project enhances emergency response in a flood emergency (e.g., does it keep</p>	<p>After the project has been constructed, it will reduce the risk of flooding in the vicinity of Fry Creek, particularly following rain events. This area includes vital</p>

<p>critical access roads and transportation facilities open/functional, does it enable easy movement of cattle, equipment and farm chemicals out of harm's way, is it part of a larger hazard mitigation plan, etc.).</p>	<p>infrastructure that is impacted by flooding, particularly Port Industrial Rd and nearby residences. Reducing or eliminating flooding in this area will greatly improve access to these vital facilities and improve the services that they provide.</p>
<p>15. 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>Fry Creek flows past a power substation, Grays Harbor PUD, Pacific Care and Rehabilitation retirement center, commercial properties, dozens of homes, US 101, and through the Port of Grays Harbor. Repeated flooding from Fry Creek has caused significant damage to these properties, several of which are critical to the community (e.g. power substation), as well to broader nearby areas where floodwaters spread (Cherry Street in Aberdeen). Improving the ability to convey floodwater to Grays Harbor as well as reducing the surcharge into the city storm sewers will protect this infrastructure.</p>
<p>16. Public Health, Safety and Welfare Benefits -- Please describe (and quantify) how this project protects public health, safety, and welfare.</p>	<p>Chronic flooding has resulted in depressed property values and rising flood insurance rates. In a community suffering from long-term economic depression, reducing flood insurance costs and increasing property values will greatly benefit the community's welfare. In addition, because flooding contributes to water quality problems, reducing the flooding of homes and businesses will decrease the likelihood of contaminants from these properties from entering Fry Creek and Grays Harbor. Improving conveyance and capacity of the creek will also increase the amount of public open space that can be accessed outside of flood events. Research has shown that creating publicly-accessible open space has measureable public health benefits. Finally, reducing flood risk decreases the risk to public safety and essential infrastructure (e.g. power substation, Grays Harbor PUD, Pacific Care and Rehabilitation) that provide critical public health, safety, and welfare.</p>
<p>17. Residential, Commercial and/or Agricultural Protection Benefits -- Please describe (and quantify) how this project protects residential communities, commercial, and/or agricultural interests and benefits of acting (or consequences of not acting) this funding cycle. Consider factors like number of structures and people at risk, historic frequency of flood damage, magnitude of benefit for the cost, etc.</p>	<p>As noted above, this project will protect both commercial as well as residential property by restoring Fry Creek, improving storage and conveyance of flood waters associated from rainfall events. The creek floods multiple times every winter causing repeated damages to these properties estimated to be in the tens of thousands of dollars with each instance. Completing this project will protect over 100 commercial and residential structures, as well as Grays Harbor PUD, Pacific Care and Rehabilitation, and a power substation.</p>
<p>18. Habitat Benefits – Please describe (and quantify) how this project benefits or improves existing or future habitat conditions.</p>	<p>The removal of an undersized and antiquated flood pump on Fry Creek, and replacement with a new one that is more efficient and includes fish exclusion technology will greatly benefit salmonids accessing Fry Creek, particularly juveniles that use the creek for refugia. When these salmonid juveniles enter into the creek, they can</p>

	<p>get pulled into pumps and killed without installation of fish-screening technology. The new pump will greatly reduce – if not completely eliminate – this mortality, benefitting salmonid populations in the Grays Harbor estuary.</p>
<p>19. Costs and Benefits – Project funders (and the public they represent) value cost-effective, sound funding decisions. To that end, please describe (and quantify) in general terms benefits gained for funds requested and frequency, time-scale benefits will be realized. Please also describe (and quantify):</p> <ol style="list-style-type: none"> Funds requested. Costs avoided if funded (and on what frequency, time-scale). Costs incurred if funded (and on what frequency, time-scale). Benefits gained if funded (and on what frequency, time-scale). Impacts incurred if funded (and on what frequency, time-scale). Impacts and implications of not funding (and on what frequency, time-scale). <p>Guidance Note (1): For this question, it will be helpful to think in terms of what will be the dollar value of assets protected, dollar value of impacts avoided, dollar value of monies retained or recouped, etc. for the amount of public monies invested.</p> <p>Guidance Note (2): Part V is intended to help project reviewers concisely summarize, compare funding requests. Answers here (and in related questions on this form) should be consistent with Part V.</p>	<p>The North Shore Levee received a Conditional Letter of Map Revision (CLOMR), confirming the that areas of Aberdeen and Hoquiam will be removed from the flood hazard area once the Levee is accredited, eliminating mandatory flood insurance through the National Flood Insurance Program for mortgages in the benefitting area. That benefit will not be achieved until the Levee and associated infrastructure (e.g., the Fry Creek Pump Station) are completed. And until those infrastructure improvements are made, property owners will pay approximately \$2 million in flood insurance premiums annually in the affected area.</p> <p>Once completed, the levee will protect more than 3,100 parcels – more than 700 of which are included in the Fry Creek sub-basin – including municipal infrastructure, schools, retirement and medical centers, and hundreds of homes. In addition, the levee will protect commercial centers in downtown Aberdeen and East Hoquiam with an annual GDP valued in the hundreds of millions of dollars.</p> <ol style="list-style-type: none"> \$3 million for this phase of the Fry Creek Pump Station project, which will allow the City of Aberdeen to construct the pump station itself. Residents of Aberdeen and Hoquiam pay over \$2 million annually in mandatory flood insurance, yet receive only a fraction of the benefits in claims. The City of Aberdeen will operate and maintain the property and infrastructure at its own expense. The annual cost for this is estimated to be \$20,000. This project will provide a more-efficient, fish-friendly pump station on Fry Creek, providing flood relief to hundreds of property owners in the affected area in the Fry Creek sub-basin. These benefits will be provided immediately upon completion of the pump station, and will provide annual benefits to protected properties every rainy season. As part of the project, the development of the pump station – including replacement of culvert beneath Port Industrial Rd – will impact the ground adjacent to the creek, traffic on the

	<p>adjacent road, and will temporary impact water quality adjacent to the pump site. Once construction is complete however, there will not be lingering negative impacts to water quality, traffic, or fish and wildlife habitat associated with this project as the site will be repaired following ground-disturbing activities, and there will not be any fish passage barriers created through this project. There will however be positive impacts, primarily through the decreased mortality of salmonids as juveniles will be screened from entering this new pump.</p> <p>f) If not funded, the existing pump will provide less-than-complete flood relief to the community in the Fry Creek sub-basin, and will continue to result in needlessly-high salmonid mortality relative to a modern, fish-friendly pump.</p>
<p>20. Other Project Benefits -- Please describe (and quantify) any other project benefits not already discussed. This could include how this project compliments, leverages, or implements another project or planning process already underway.</p>	<p>Through the Timberworks Master Plan, the community has called for reducing flood risk in Fry Creek in such a way that it would not only reduce flood insurance rates in this area but also benefit fish and wildlife (e.g. salmonid) species that inhabit the creek. This project aims to achieve those goals. Also, the City is currently in the process of completing the design for the North Shore Levee project, which will intersect with Fry Creek. Investing in new, fish-friendly pumps at the intersection of the Levee and Fry Creek is the first step in construction within the Fry Creek corridor. This provides effective coordination between the two projects running in tandem.</p>
<p>21. Anything Else -- Please offer any additional information (e.g., photos, maps, video, drawings, drone, etc.) that would help to better understand the scope, timing, and benefits of this project.</p>	<p>The following are attached for reference: watershed map, vicinity map, photos, and concept figures.</p>

Part V Summary of Benefits, Impacts, Costs			
	<p>22. Benefits – Please summarize, tally project economic and non-economic benefits as described.</p>	<p>23. Impacts -- Please summarize, tally project economic and non-economic impacts as described.</p>	<p>24. Costs -- Please summarize, tally project economic and non-economic costs as described.</p>
<p>Quantify</p>	<ul style="list-style-type: none"> • More than 700 parcels protected from flooding in Fry Creek sub-basin • Hundreds of thousands of dollars in mandatory flood insurance costs 	<ul style="list-style-type: none"> • Short-term negative impacts will include traffic restrictions on Port Industrial Rd as well as water quality impacts to Fry Creek (i.e., 	<ul style="list-style-type: none"> • This proposal funds \$3 million of the \$5 million construction phase of the Fry Creek Pump Station project, which is a significant and necessary

	<p>eliminated in sub-basin</p> <ul style="list-style-type: none"> • Protection of commercial property generating hundreds of millions in annual economic impact • Significant reduction in juvenile salmonid mortality. 	<p>increased sediment load).</p>	<p>component to the North Shore Levee project.</p> <ul style="list-style-type: none"> • Ongoing maintenance and operations are estimated to cost \$x, and will be paid for by the City of Aberdeen.
Describe	<p>This investment will increase property values in West Aberdeen/East Hoquiam making it feasible to invest in property in this area. Additionally, landowners will see reduced flood insurance rates, saving policyholders hundreds of dollars annually that can be reinvested in the community. Additionally, this project will reduce salmonid mortality in Fry Creek.</p>	<p>The investment will reduce flood risk in West Aberdeen/East Hoquiam, benefitting property values and reducing flood damage not typically covered by flood insurance policies. Additionally, the project will reduce salmonid mortality, providing greater opportunities for viewing wildlife in the area, providing outdoor education opportunities, and increasing recreation and commercial fishing opportunities in Grays Harbor.</p>	<p>The estimated project budget for this proposal is \$5 million, which will result in the installation of a new, fish-friendly pump on Fry Creek. The City of Aberdeen will maintain and operate the pump and pump site using its own funds.</p>

Appendix A

Process/Schedule Overview (current as of 6-12-2018)	
June 12, 2018	<ul style="list-style-type: none"> • Post and distribute local projects recruitment request. • Allow three weeks for project proposals/submittals (i.e., due no later than 5:00 p.m., Tuesday, July 3, 2018). • Due to Scott Boettcher, scottb@sbgh-partners.com.
July 3, 2018	<ul style="list-style-type: none"> • Receive proposals/submittals.
July 5, 2018 (or July 12, 2018)	<ul style="list-style-type: none"> • Update Chehalis Basin Board on numbers received, types of projects received, distribution, dollar value, etc.
July 19, 2018 (or August 16, 2018)	<ul style="list-style-type: none"> • Update Flood Authority on numbers received, types of projects received, distribution, dollar value, etc.
September 20, 2018	<ul style="list-style-type: none"> • Update Flood Authority on status of Projects Committee's effort to review, rank, discuss with Tribes, discuss with agencies, sort and rank, etc. • Review/discuss PRELIMINARY DRAFT ranked and prioritized list.
October 4, 2018	<ul style="list-style-type: none"> • Update Chehalis Basin Board on status of Projects Committee's effort to review, rank, discuss with Tribes, discuss with agencies, sort, and rank, etc. • Review/discuss DRAFT ranked and prioritized list.
October 18, 2018 (SPECIAL MEETING)	<ul style="list-style-type: none"> • Seek Flood Authority approval of FINAL ranked and prioritized list.
November 8, 2018	<ul style="list-style-type: none"> • Seek Chehalis Basin Board approval of FINAL ranked and prioritized list.
June 2018 through November 2018	<ul style="list-style-type: none"> • Work with agency, OCB, and CBB technical staff on refining and finalizing recruitment instrument, scoring criteria, scoring instrument, categorization, and ranking, developing draft and final lists, etc.

Legend:

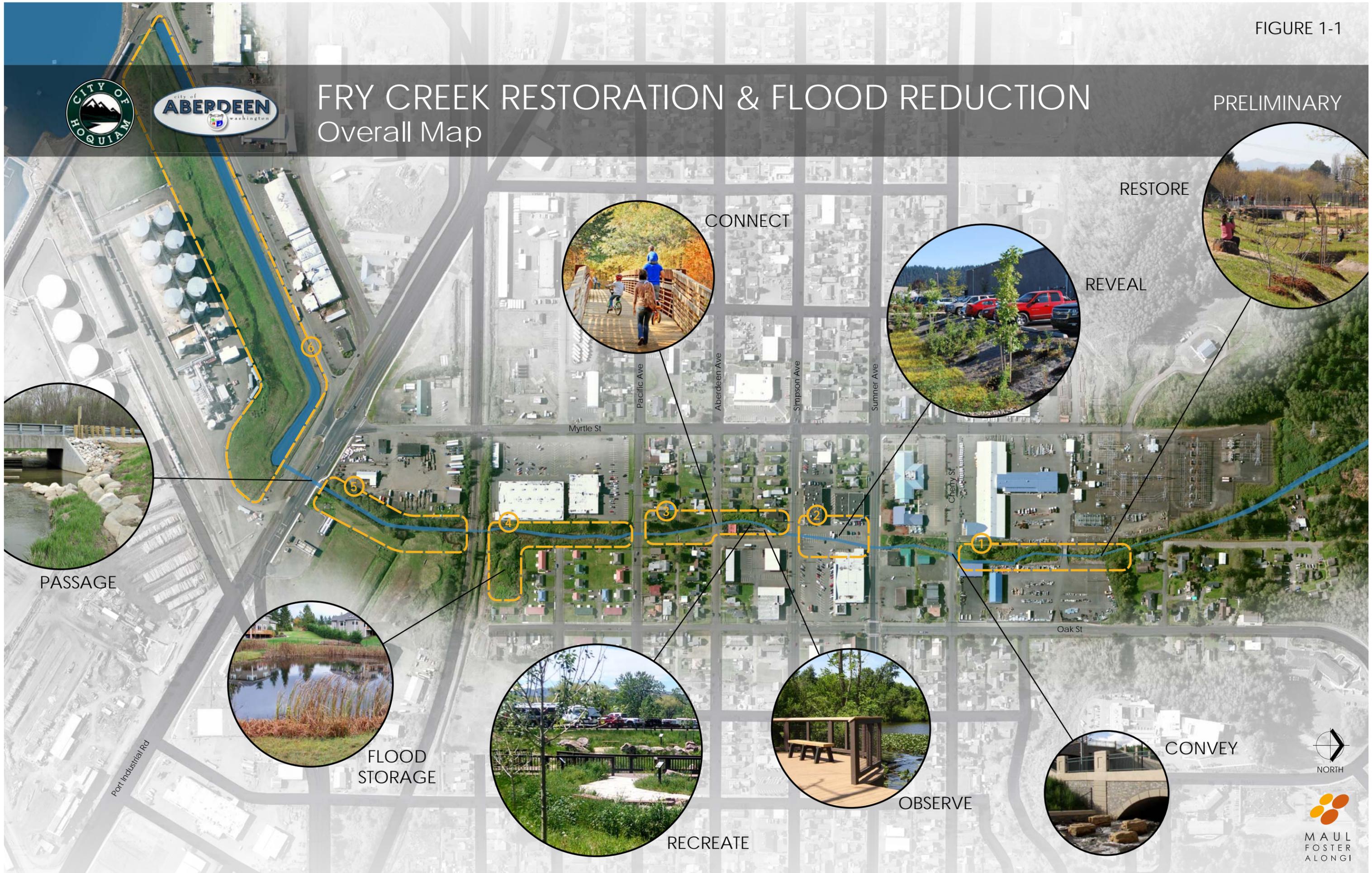
Chehalis Basin Board	Flood Authority
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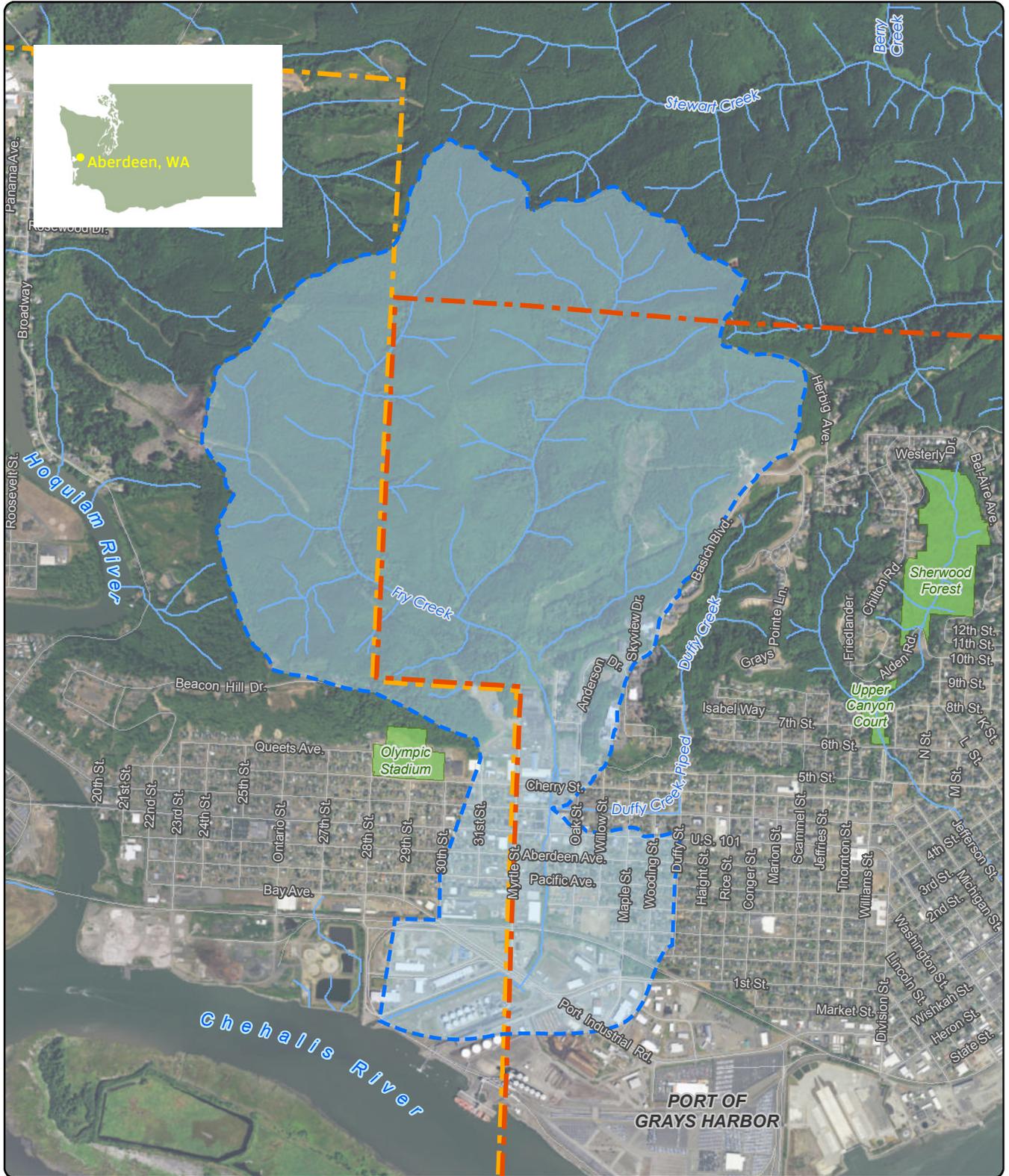


FRY CREEK RESTORATION & FLOOD REDUCTION

Overall Map

PRELIMINARY





Source: Aerial photograph obtained from Esri ArcGIS Online

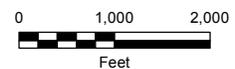


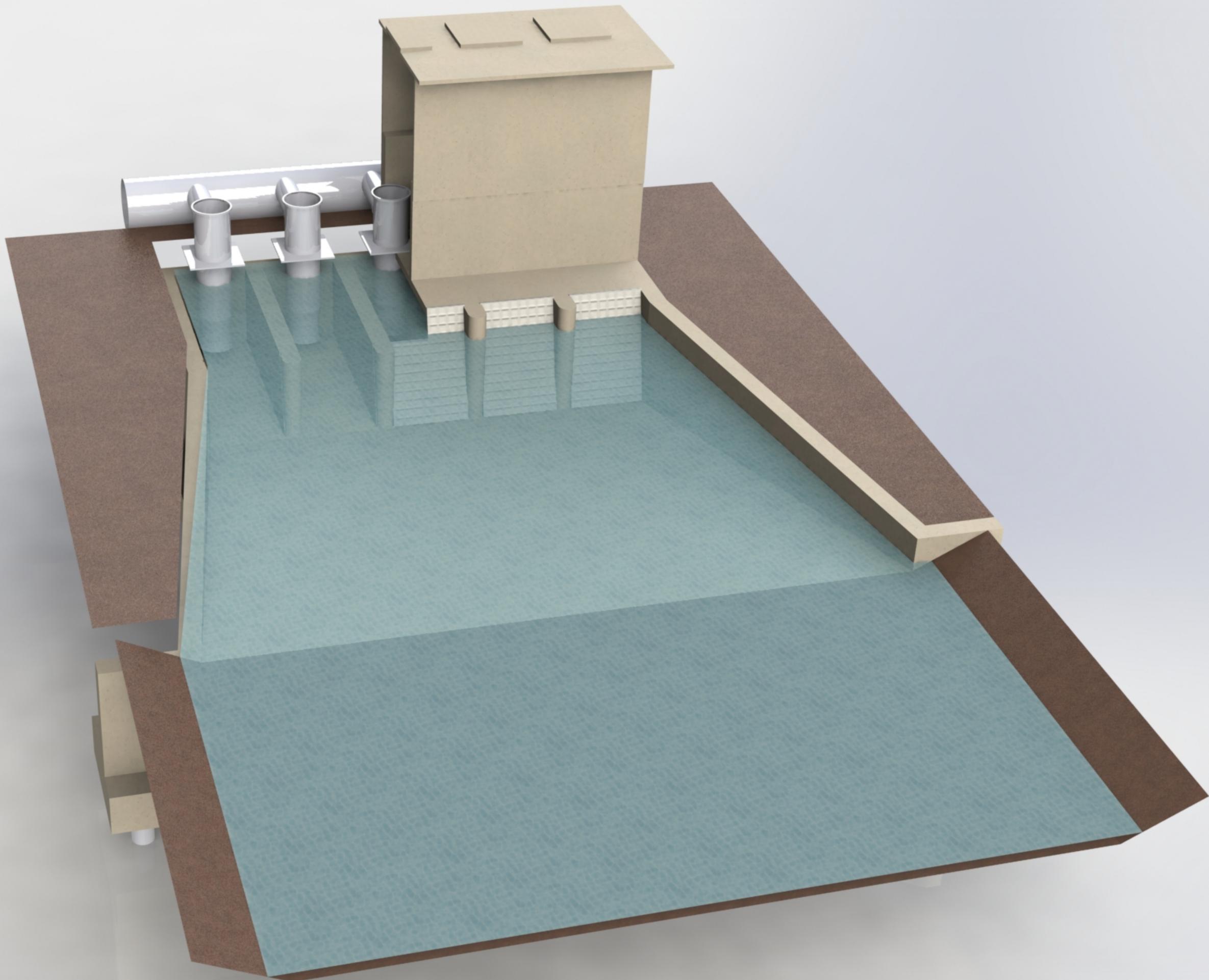
This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

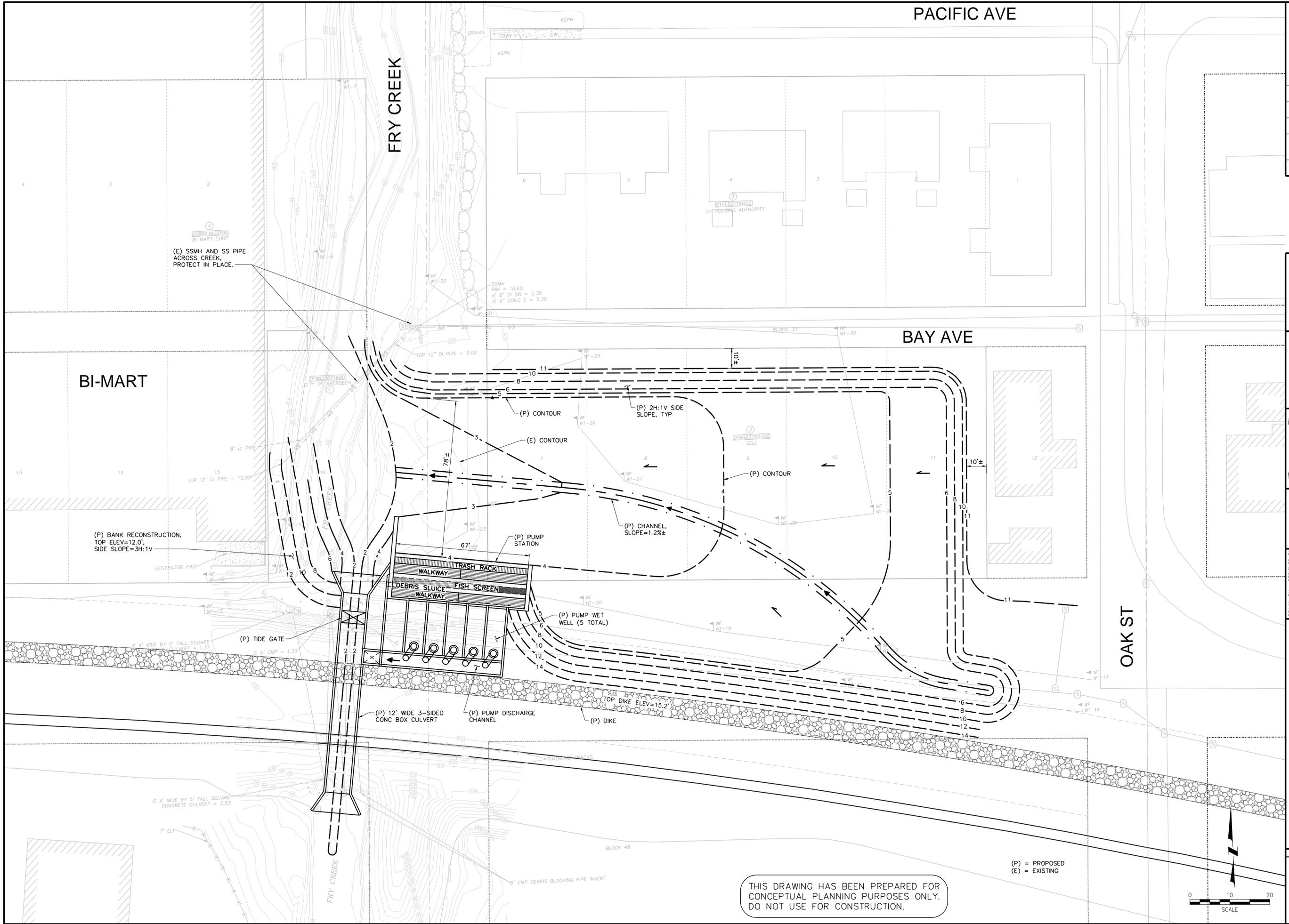
- Legend**
- Fry Creek Watershed
 - Streams
 - Parks
 - Aberdeen Boundary
 - Hoquiam Boundary

**Figure 1-2
Fry Creek Watershed**

Fry Creek Restoration and Flood Reduction Project
Aberdeen, Washington







PACIFIC AVE

FRY CREEK

BAY AVE

BI-MART

OAK ST

(E) SSMH AND SS PIPE
ACROSS CREEK,
PROTECT IN PLACE.

(P) BANK RECONSTRUCTION,
TOP ELEV=12.0',
SIDE SLOPE=3H:1V

(P) 12' WIDE 3-SIDED
CONC BOX CULVERT

(P) PUMP DISCHARGE
CHANNEL

(P) DIKE
TOP DIKE ELEV=15.2

(P) PUMP STATION
WALKWAY
TRASH RACK
DEBRIS SLUICE
FISH SCREEN
WALKWAY

(P) PUMP WET
WELL (5 TOTAL)

(P) CHANNEL,
SLOPE=1.2%±

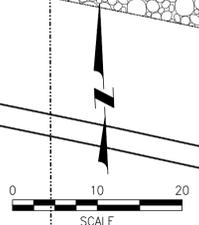
(P) 2H:1V SIDE
SLOPE, TYP

(P) CONTOUR

(E) CONTOUR

THIS DRAWING HAS BEEN PREPARED FOR
CONCEPTUAL PLANNING PURPOSES ONLY.
DO NOT USE FOR CONSTRUCTION.

(P) = PROPOSED
(E) = EXISTING



NO	DATE	BY	CHKD	APPR	REVISION

kpff
612 Woodland Square Loop,
Suite 100
Lacey, WA 98503
360.292.2730
www.kpff.com



CALL
UNDERGROUND
LOCATE TWO (2)
WORKING DAYS
BEFORE YOU
DIG
811

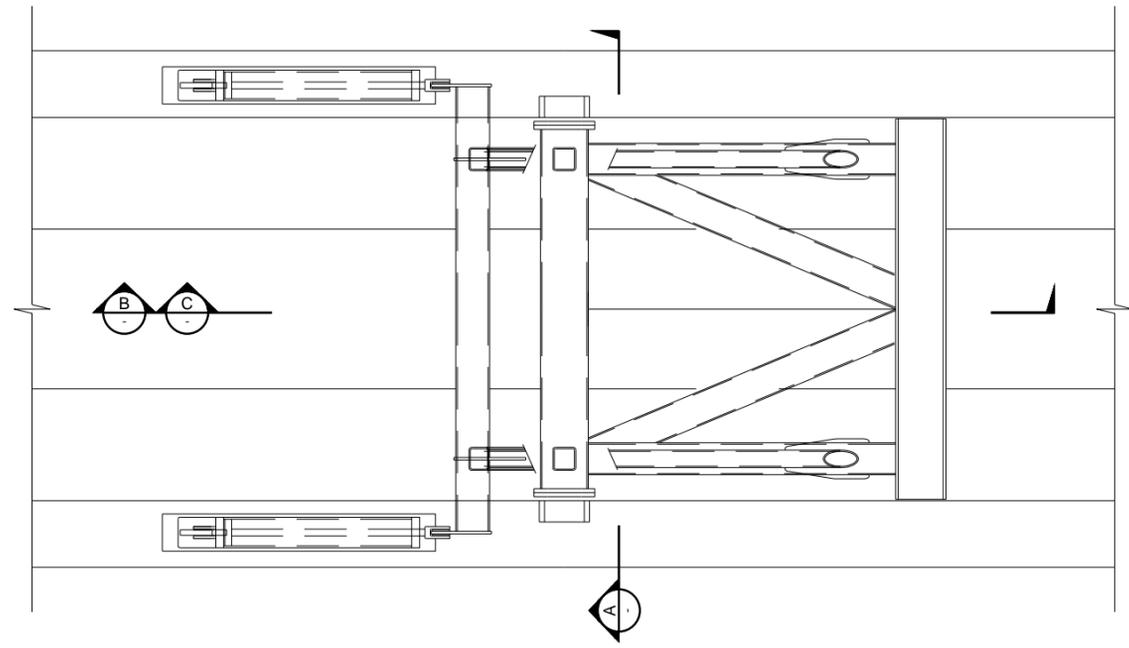
DESIGNED BY
DRAWN BY
CHECKED BY
APPROVED BY
DATE
XX-XX-2018
JOB NO: 18170087

NORTH SHORE LEVEE
ABERDEEN & HOQUIAM, WASHINGTON
**PUMP STATION
FRY CREEK OPTION 1**

DRAWING

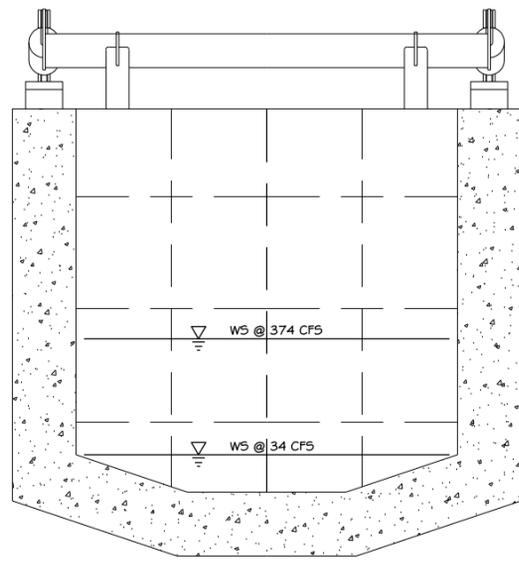
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SHEET XX



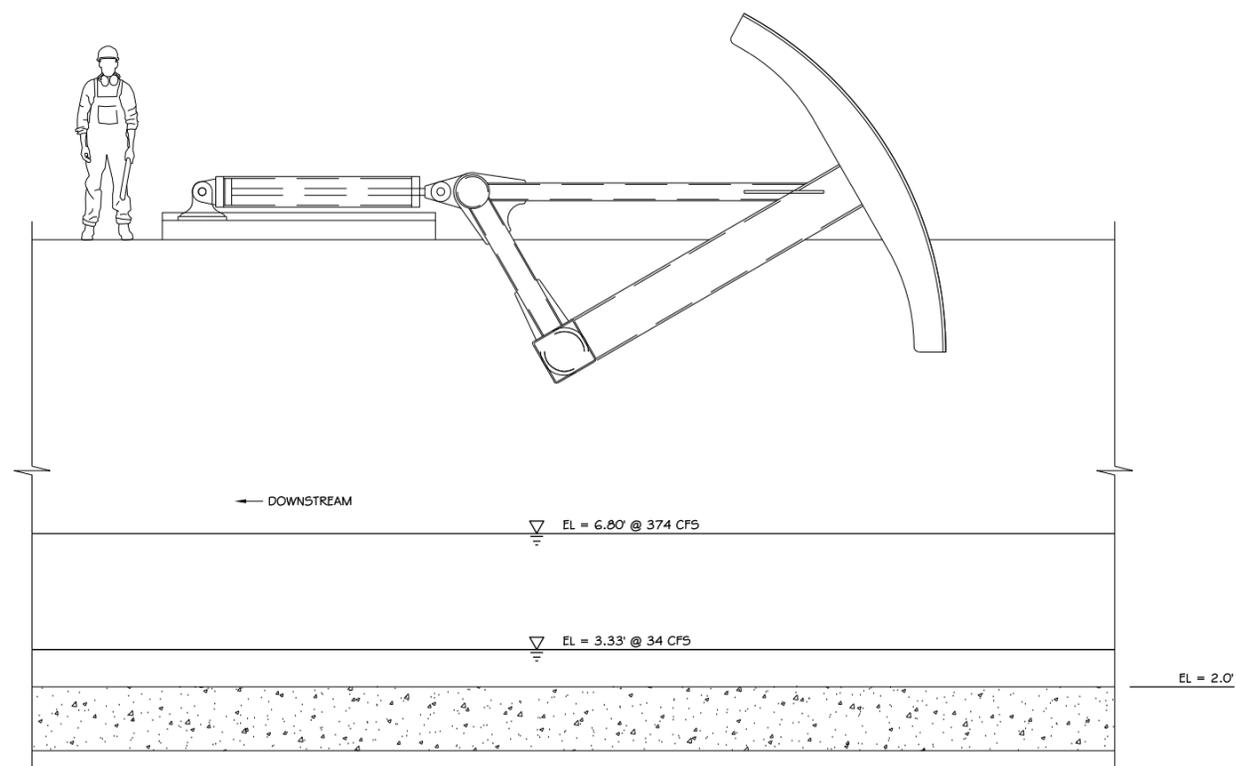
1 PLAN VIEW
SCALE: 3/8" = 1'-0"

PLAN VIEW

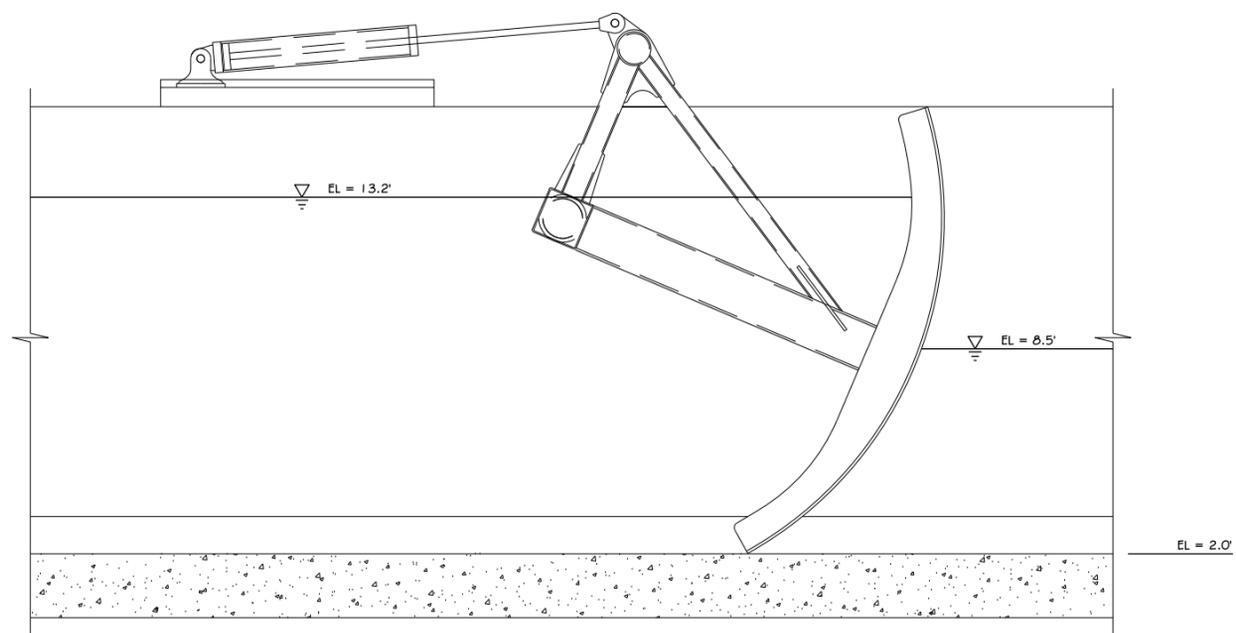


A SECTION
LOOKING DOWNSTREAM TOWARD GATE
SCALE: 3/8" = 1'-0"

SECTION - LOOKING DOWNSTREAM TOWARD GATE



B SECTION
GATE CLOSED
SCALE: 3/8" = 1'-0"



C SECTION
GATE OPEN
SCALE: 3/8" = 1'-0"

NO	DATE	BY	CHK	APPR	REVISION

kpff
617 Woodland Square Loop,
Suite 100
Lacey, WA 98503
360.292.7230
www.kpff.com



CALL
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LOCATE TWO (2)
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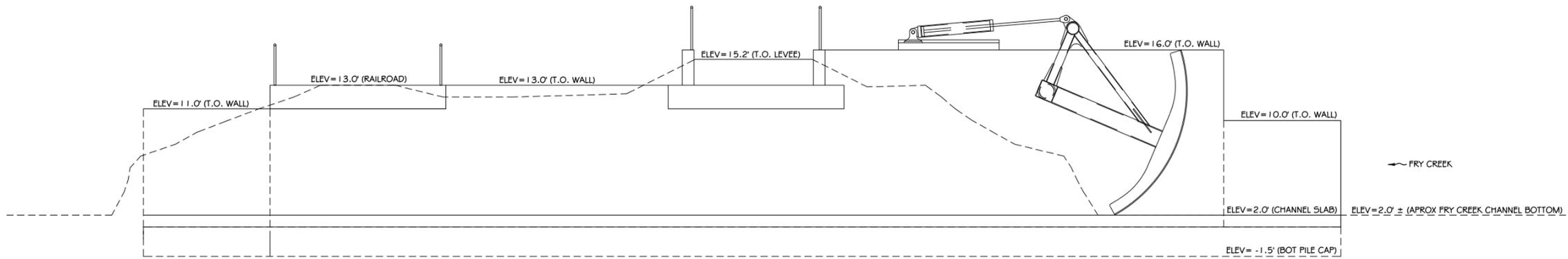
DRAWN BY XXX	DESIGNED BY XXX
CHECKED BY XXX	APPROVED BY XXX
DATE XX-XX-2018	JOB NO.: 18170087

NORTH SHORE LEVEE
ABERDEEN & HOQUIAM, WASHINGTON
FRY CREEK TIDE GATE

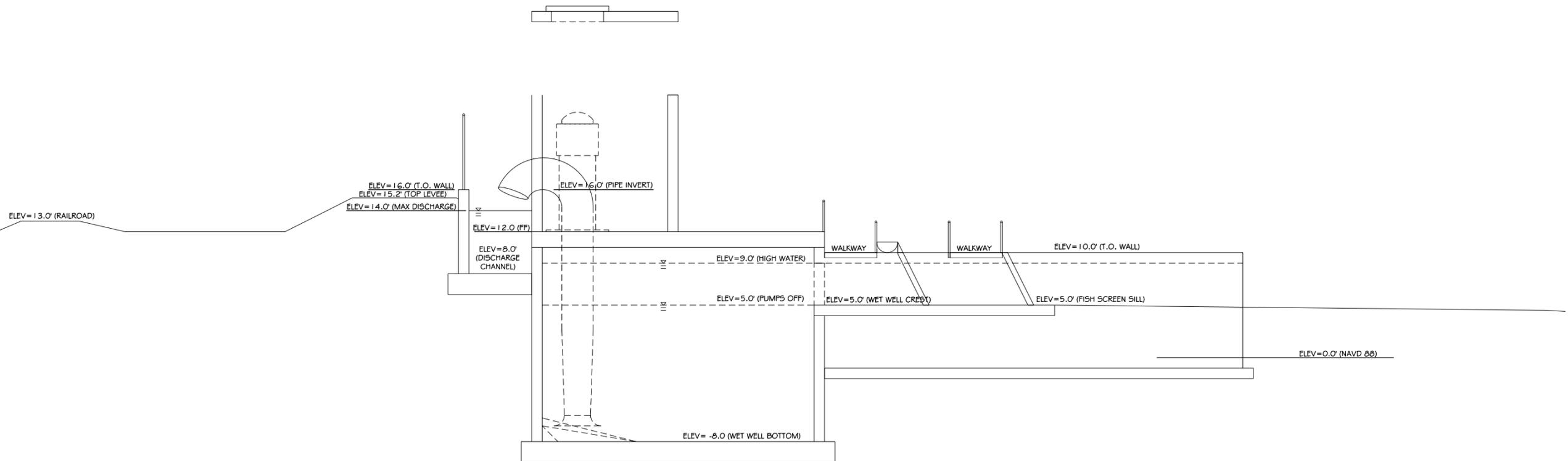
DRAWING

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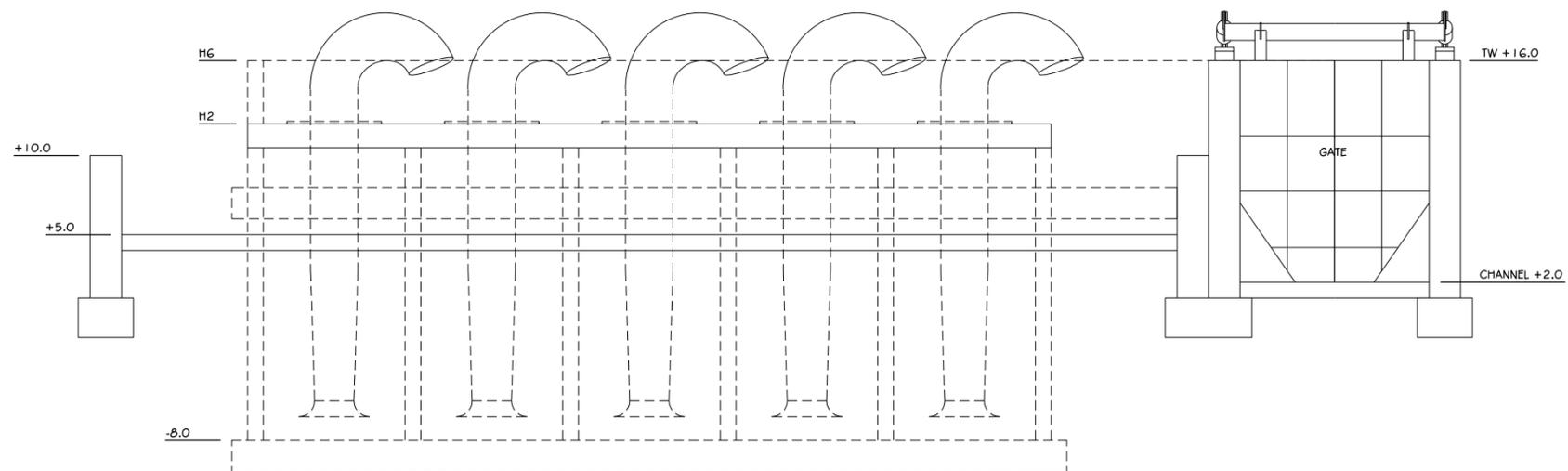
SHEET XX OF XX



(A) SECTION THRU CHANNEL
SCALE: 1" = 5'



(B) SECTION THRU STATION
SCALE: 1" = 5'



(C) SECTION LOOKING DOWNSTREAM
SCALE: 1" = 5'

NO	DATE	BY	CTD APPR	REVISION



CALL
UNDERGROUND
LOCATE TWO (2)
WORKING DAYS
BEFORE YOU
DIG
811

DRAWN BY	DESIGNED BY
XXX	XXX
CHECKED BY	APPROVED BY
XXX	XXX
	DATE
	XX-XX-2018
	JOB NO: 18170087

NORTH SHORE LEVEE
ABERDEEN & HOQUIAM, WASHINGTON
FRY CREEK STATION

DRAWING

XX

SHEET XX OF XX

