RESOLUTION NO. 2025-2

A Resolution of the Pierce County Flood Control Zone District Board of Supervisors Adopting an Update to the District Comprehensive Plan of Development.

Whereas, pursuant to RCW 86.15.110, the Pierce County Flood Control Zone District (District) is required to adopt a Comprehensive Plan of Development (CPOD); and

Whereas, pursuant to Resolution No. 2013-3s, Resolution No. 2015-2, and Resolution No. 2019-2, the District has historically adopted the applicable portions of the Pierce County Comprehensive Flood Hazard Management Plans; and

Whereas, the Pierce County Council adopted a new Comprehensive Flood Hazard Management Plan (County Plan) pursuant to Ordinance No. 2023-41 on October 17, 2023; and

Whereas, to adopt the new County Plan, the County Council undertook extensive environmental review and analysis of the new County Plan, including undergoing a full environmental impact statement (EIS); and

Whereas, the District staff and consultants have prepared a draft CPOD, which is based on the applicable sections of the County's Plan; and

Whereas, the District Advisory Committee has reviewed the draft CPOD at meetings held on February 28, 2025; and

Whereas, the District Executive Committee reviewed and considered the draft CPOD at meetings held on February 19 and March 19, 2025; and

Whereas, pursuant to RCW 43.21C.034 and WAC 197-11-600, the District staff and consultants reviewed the County Plan EIS and determined that the environmental analysis conducted in the EIS sufficiently and adequately reviews and addresses the potential environmental impacts that might arise from the District's adoption of the CPOD; and

Whereas, the supplemental project information in the CPOD is consistent with the nature and magnitude of potential impacts resulting from projects specified in the County's Plan; and

Whereas, the District Board of Supervisors held a public hearing on the adoption of the CPOD on April 23, 2025; and

Whereas, after thorough review and analysis, the District Board of Supervisors desires to adopt the applicable and relevant sections of the County's Plan as set forth in Exhibit A, as the District's CPOD; **Now Therefore,**

BE IT RESOLVED by the Board of Supervisors of the Pierce County Flood Control Zone District:

Section 1. Pursuant to RCW 86.15.110, the Board of Supervisors of the District adopts the document titled Pierce County Flood Control District Comprehensive Plan of Development, which is attached as Exhibit A.

Section 2. The District Executive Director, with the assistance of the District Administrator, is authorized and directed to submit the amended District Comprehensive Plan of Development to the Department of ecology, as required by RCW 86.15.110.

ADOPTED this 23rd **day of** April **, 2025.**

ATTEST:

Audrey Persons
Clerk of the Board

PIERCE COUNTY FLOOD CONTROL ZONE DISTRICT
Pierce County, Washington

Dave Morell
Flood Control Zone District Chair

DRAFT Comprehensive Plan of Development

April 2025

PIERCE COUNTY
FLOOD CONTROL ZONE DISTRICT

Pierce County Flood Control Zone District

Board of Supervisors
Dave Morell* – Chair
Paul Herrera* – Vice Chair
Rosie Ayala
Amy Cruver
Robyn Denson
Jani Hitchen
Bryan Yambe*

* Executive Committee

District Staff	
Kjristine Lund	Executive Director
Brandon Smith	District Administrator
Allyson Kilcoyne	District Planner

Consultant Staff	
Jenny Bailey	Parametrix
Clara Olson, PE	Parametrix

Contents

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Overview

This 2025 Comprehensive Plan of Development for the Pierce County Flood Control Zone District adopts applicable portions of the 2023 Pierce County Comprehensive Flood Hazard Management Plan. The County's Plan is provided as an attachment.

1. District Authority, Background, and Funding

Pierce County formed the Pierce County Flood Control Zone District (District) in April 2012, responding to both the increasing cost of damages to public and private property in Pierce County and the increasing cost of river management programs that were the result from riverine flooding and channel migration.

Pierce County Ordinance 2011-95s created the District for the purpose of undertaking, operating, and maintaining flood risk reduction and stormwater control projects, among other purposes defined in Chapter 86.15 of the Revised Code of Washington (RCW). Funding for the District comes from a countywide property levy. In 2013, the District levied its first property tax to fund flood risk reduction projects allowed under Chapter 86.15 RCW. In 2025, the countywide property levy is approximately $0.09 per $1,000 assessed value.

Pierce County Ordinance 2011-95s also directed an opportunity fund be established for the purpose of funding projects that are consistent with Chapter 86.15 RCW. In 2013, the Board of Supervisors approved Resolution 2013-2 that established the Opportunity Fund. The Opportunity Fund sets aside 10 percent of the District's annual regular property tax levy revenues, prorated for each jurisdiction based on the jurisdiction's assessed value, available to local jurisdictions for eligible projects. In 2023, the District increased the Opportunity Fund allocation to provide a minimum of $50,000 to each jurisdiction.

The District's budget covers funding for capital projects, maintenance of levees and other existing flood-related infrastructure, the Opportunity Fund for local projects, as well as the District's administrative costs. Since the establishment of the District, project funding for capital projects and levee maintenance has focused on impacts from riverine flooding.

The District is a special-purpose junior taxing district governed by a Board of Supervisors made up of the County Council members and an Executive Committee. They receive input and recommendations from a volunteer Advisory Committee. The Pierce County's Department of Planning & Public Works administers the District's approved projects and programs. Approved projects are executed by the individual jurisdictions or project sponsors.

1.1 District Plan Purpose and Relationship to County Plan

The Comprehensive Plan of Development (District Plan) was developed to meet the requirements of Chapter 86.15 RCW, Flood Control Zone Districts). The District Plan sets the District's goals and objectives and identifies regional policies, programs, and projects the District could fund that will reduce risks to public health and safety; reduce public infrastructure and private property damage; improve habitat conditions; and reduce maintenance costs while protecting and maintaining the regional economy.

Pierce County flood plans must follow the requirements set forth in WAC 173-145. There is an overlap in purpose and content between the requirements for the District and the requirements for the County. This allows the District to use the County Plan as a base or adopt the County Plan by reference.

In 2013, the District developed a District Plan that outlined how the District would finance programs and projects to address and manage regional flooding and channel migration hazards on the major rivers, large tributaries and associated floodplains within Pierce County. The 2013 District Plan used the 2013 Pierce County Rivers Flood Hazard Management Plan as a base and focused on identifying and recommending specific actions that the District could take to address riverine flooding and channel migration risks.

In 2019, the District adopted the 2018 Pierce County Flood Hazard Management Plan Update as an amendment to the 2013 District Plan per District resolution 2019-2.

This 2025 District Plan incorporates by reference those portions of the 2023 Pierce County Comprehensive Flood Hazard Management Plan (County Plan) that are applicable to the District. The 2023 County Plan was developed using the best available technical information, an inclusive stakeholder and public-involvement

process, and a multidisciplinary team of Pierce County staff and supporting consultants. The County Plan and processes used are summarized in Section 4.

The 2023 County Plan replaced the 2013 Rivers Flood Hazard Management Plan and its 2018 Flood Plan update, and expanded its scope to include urban flooding, groundwater flooding, and coastal flooding. This District Plan also includes all four flood hazard types in the District Plan, recommending specific actions to address riverine flooding, coastal flooding, urban flooding, and groundwater flooding.

Since 1994, Pierce County has experienced an estimated 30 major flooding events that were either classified as riverine flooding, urban flooding, coastal flooding, or groundwater flooding. The knowledge and understanding of the various flood hazards that impact the community continue to expand, thus

The geographic scope of the 2023 County Plan and the 2025 District Plan encompasses all of Pierce County.

2. District Vision and District Plan Goals and Objectives

This District Plan includes a vision statement to guide the overall goals of the District Plan. The framework for the vision statement was grounded by the ordinance that authorized the establishment of the District and the goals in the 2023 County Plan.

> *Vision:*
>
> *The Pierce County Flood Control Zone District will take a proactive approach to funding actions that address riverine, urban, coastal, and groundwater flooding, ensuring that Pierce County residents can enjoy the multiple benefits of a secure and thriving Pierce County. The District is committed to assisting its partners by contributing funds to the building and maintaining of flood risk reduction measures that not only protect private and public property today but also improve habitat conditions and ensure the safety and economic vitality of Pierce County for the benefit of generations to come.*

The District Plan sets the District's goals and objectives. Projects must be consistent with these goals and objectives to be eligible for District funding. The goals of the District Plan are as follows:

- Provide a framework for prioritizing District investments and leveraging other funding sources; and
- Identify and implement flood hazard management investments in a balanced, cost-effective, and environmentally sensitive manner; and
- Identify investments that reduce risks to life and property from river/channel migration and coastal, groundwater, and urban flooding for all areas of Pierce County (unincorporated and incorporated).

The objectives of the District Plan are as follows:

- Examine and prioritize investments to reduce risk to life and property from flood hazards while reducing economic and environmental impacts;
- Identify and prioritize project investments with multiple benefits (e.g., salmon recovery, aquatic and riparian habitat, water quality, open space, public access, and agricultural resources);
- Prioritize investments in projects and programs based on the level of risk, benefit, cost-effectiveness and effects on habitat;
- Where feasible, invest in projects that support the removal or modification of existing flood risk reduction facilities to protect, restore, or enhance critical riparian or in-stream habitat that benefits threatened or endangered species; protect and enhance natural systems that reduce flood risk;
- Increase understanding and incorporate best available science into flood hazard management decision-making, including consideration of climate change;
- Encourage the incorporation of best practices for design and management of existing and new flood risk reduction facilities;
- Support investments that identify and address repetitive-loss properties and properties needed for future flood risk reduction facilities;
- Identify local projects to enable their eligibility for District funding through Opportunity Funds and potential grant funding programs;

- Support adaptive management, including project monitoring and evaluation, to learn from successes, develop long-term cost-effective approaches, and reduce the need for costly solutions;
- Identify regionally significant risks that are not otherwise being addressed and incentivize partnerships to address; and
- Identify data gaps where flood risk is not being adequately addressed.

The County Plan includes guiding principles that guided the development of their recommendations and projects. These principles served as a frame of reference for evaluating flood risks, identifying the range of management alternatives, and developing recommendations. **The District acknowledges these guiding principles.**

3. District Plan Comparison to County Plan

3.1 Overview

This District Plan is based on the 2023 County Plan, which was developed using the best available technical information, an inclusive stakeholder and public-involvement process, and a multidisciplinary team of Pierce County staff and supporting consultants. **The District values the public engagement process that was used for and shaped the County Plan, and adopts applicable portions of the 2023 County Plan for the District Plan.**

The District is a special purpose junior taxing district, whose budget covers funding for capital projects, maintenance of levees and other existing flood related infrastructure, local projects (through use of the Opportunity Fund), and District administrative costs. Because of this focus, there are elements of the 2023 County Plan that are not within the District authority. This includes development regulations, emergency response, community outreach, identification of other funding sources, and implementation or management of the funded projects.

Some specific examples of elements included in the County Plan that are not within District authority include but are not limited to: supporting municipalities in their floodplain management practices, regulating development in flood-prone and channel migration hazard areas, providing emergency response services,

identifying supplemental funding sources for flood hazard management activities, and maintaining stream flow weather gauges.

The sections below summarize the 2023 County Plan and its compatibility with the District Plan.

3.2 Regulatory Authority

The County Plan outlines how Pierce County will address and manage flooding and channel migration hazards throughout the unincorporated county over the next ten (10) years. The County Plan replaces the 2013 Rivers Flood Hazard Management Plan and its 2018 Flood Plan update and expands its scope to include urban flooding, groundwater flooding, and coastal flooding. Like its predecessor, the 2023 County Plan was developed to meet the requirements of Chapter 173-145 Washington Administrative Code (WAC) related to Comprehensive Flood Control Management Plans, Chapter 86.12 RCW (Flood Control by Counties), and the Federal Emergency Management Agency's (FEMA) Community Rating System guidance for floodplain management planning under the National Flood Insurance Program. **While similar in content and requirements, the District Plan must meet requirements set forth in Chapter 86.15 RCW (Flood Control Zone Districts), not Chapter 173-145 WAC.**

3.3 Engagement Process

The development of the County Plan was led by the Pierce County Planning and Public Works, Surface Water Management (SWM) Division. Other Pierce County departments were involved in the development of the County Plan, and are listed in Section 1.6 of the County Plan. Various planning teams, including an advisory committee, disappearing task groups, steering committee, and executive management team assisted in development of the County Plan, The County also conducted public outreach and community engagement during plan development. Public engagement efforts included: meetings with the Nisqually Tribe, Squaxin Tribe, Puyallup Tribe and Muckleshoot Tribe, mailers with survey links, in-person open houses, and virtual open houses. **The District values the public engagement efforts that were completed as part of the County Plan. While the District is governed by a board of supervisors and executive committee, they also receive input and recommendations from a volunteer advisory**

committee. The advisory committee provided feedback on the District's recommendation to expand its scope beyond riverine flooding to also include urban flooding, groundwater flooding, and coastal flooding.

3.4 Goals and Objectives

The County Plan describes its goals, objectives and guiding principles, planning process, relationship to other Pierce County plans, major studies that support their plan development, and the State Environmental Policy Act (SEPA). **The District Plan, while similar to the County Plan, holds its own goals and objectives, which are described in Section 3.2.**

3.5 Scope

The County Plan looks at riverine flooding and flood hazards within Pierce County for each river basin: the Puyallup River basin, White River basin, Carbon River basin, and Nisqually River basin. The County Plan also looks at stream flooding throughout the county. The County Plan considers the history and potential impact of urban flooding, coastal flooding, and groundwater flooding within Pierce County. **The District Plan adopts by reference the County Plan's considerations for riverine flooding, urban flooding, coastal flooding, and groundwater flooding.**

3.6 Regulatory Commitments, Agreements, Drivers

Regulatory commitments, agreements, drivers, and other considerations such as floodplain land use strategies, water quality, and salmon recovery are described for their relationship to the County Plan. Project considerations from the County Plan included: climate change, adaptive management, pathways, integrated work and coordination, floodplains for the future, coordination with cities, towns, counties, state and federal government, and tribal coordination. The 2023 County Plan was developed to meet a variety of requirements, which includes Chapter 86.15 RCW, Flood Control Zone Districts. **The District Plan must meet requirements set forth in Chapter 86.15 RCW but are not mandated to meet the same regulatory requirements as the County Plan.** For example, the District does not have the authority to include other considerations such as floodplain land use strategies in the District Plan.

3.7 Programmatic and Capital Project Recommendations

The County Plan included programmatic recommendations, management strategies, and capital project recommendations. The programmatic recommendations are non-structural actions that aim to increase understanding of flood risks in Pierce County, encourage partnerships with other agencies, and improve the services offered by Pierce County to further reduce the associated risks of flooding and channel migration. The recommendations provide guidance for how floodplain management is implemented over the next 10 years. The County Plan included 133 programmatic recommendations over 37 categories. The recommended capital projects were included to address flood and channel migration risks over the next 10 years. The County analyzed ongoing flood problems from previous plans and worked with stakeholders during the development of the County Plan. The County also identified flooding and channel migration problems for each flood hazard sub-planning area. The total estimated cost of these projects over the 10-year period of the County Plan is $154.8 million.

The District Plan adopts by reference the County Plan's recommended programmatic actions and capital projects.

The recommendations in the 2023 County Plan focus on multiple public benefits, including reduction in the impacts of riverine, coastal, urban, and groundwater flooding; protection of roads and other critical facilities that support regional mobility, public safety, and economic viability; enhancement of aquatic habitat; and protection of open space within floodplains. Pierce County, in its historical role of providing facilities and services to reduce flooding and channel migration risks, is leading the 2023 County Plan implementation. They are building on the County's partnerships with other local governments, Tribes, state and federal agencies, and the public to reduce flood risks. The County Plan will be updated every five years, as required by the Community Rating System of the National Flood Insurance Program. **The District Plan adopts by reference the County Plan's focus on multiple public benefits. The District Plan will follow its own timeline for implementation and plan updates.**

3.8 State Environmental Policy Act

The County undertook extensive environmental review and analysis of the County Plan, including the preparation of an environmental impact statement (EIS). The environmental analysis presented in the EIS sufficiently and adequately addresses the potential environmental impacts that may result from the District's adoption of its own plan. **No additional environmental review is required.**

4. Project Eligibility and Supplemental Project Information

Because the County Plan was developed in 2023, the District offered the County and the cities and towns within the County an opportunity to identify additional projects that are eligible for District funding. As the understanding of flood hazard types has expanded to include coastal, groundwater, and urban flooding, the types of projects the District can fund is also expanding to meet this scope. Jurisdictions were given the opportunity to provide supplemental project information in these categories. Additional projects have been received from the following cities and towns: Bonney Lake, Pacific, and Puyallup. The additional projects, as well as the projects identified in the County Plan, are included in Appendix A.

This District Plan incorporates by reference the 2023 County Plan, which includes the County Plan's identified recommended programmatic actions and capital projects and supplemental information obtained by the District during the fall of 2024.

5. District Plan Implementation

This District Plan and its proposed projects and programs are based on the premise that flooding in Pierce County has regional impacts as well as localized impacts. Long-term solutions require regional collaboration, partnerships, and funding. A regionally focused approach to implementation offers the best opportunity for success in addressing flooding and channel migration risks. The projects listed in the District Plan have met eligibility criteria for funding, but the award of funding is subject to additional processes in conjunction with the District's 6-year CIP. The 6-year CIP may prioritize the projects listed in the District Plan based on different ranking criteria than used to confirm project eligibility. The criteria for a project to

be identified for funding in the six (6)-year CIP may be different depending on the project phase and flood risk hazard. For example, the criteria for a coastal flooding study to be eligible may be different than a project focused on riverine flooding.

District Plan and six (6)-year CIP implementation will result in multiple public benefits, including reduction in flooding and channel migration risks, the protection of roads and other critical infrastructure that support regional safety and economic viability, enhancement of aquatic habitat, and open space protection within floodplains. The District's role is limited to funding projects and does not cover overall project implementation including, but not limited to, research and analysis, design, and construction.

6. Updating the District's Plan

The District Plan is updated at least every ten (10) years, and the update is subject to Board approval. The planning and public outreach process for these scheduled updates will typically begin around the seventh (7th) year of each ten (10)-year period to ensure that an updated CPOD is adopted prior to the beginning of the next ten (10)-year phase.

Given the similar subject matter between the District's Plan and the County's Plan, the timing for future updates to the District Plan may be synchronized to the County's update. The County's next scheduled update is in 2033.

7. Adjusting and Amending the District's Plan

Given the breadth of the projects planned over the long term within the District's Plan and the implementation time frame necessary to complete the projects, some flexibility will be necessary, though limited for implementation purposes. The two sections below describe the procedures for adjusting and amending the District's Plan.

7.1 Adjusting the District's Plan

An adjustment is a change to a project within the District's Plan that can occur at any time and can be approved by the District Administrator. Adjustments are allowed if:

- The adjustment does not increase the impact beyond what was approved in the District's Plan and its accompanying environmental documents.
- The adjustment increases/decreases the size of a proposed project by ten (10) percent or less.
- The adjustment does not change the location or description of the project from what was identified within the District's Plan.
- Corrects typographical errors.

Adjustments to the District's Plan can be approved administratively by the District Administrator. A change in the method of construction would not require administrative approval. As an example, if the District's Plan identified a floodwall, how the floodwall is constructed is up to the jurisdiction. Adjustments will be noted and tracked by District staff and will be considered to be included within the next available amendment cycle.

To request an adjustment a project sponsor may contact the District Administrator at any time.

7.2 Amending the District's Plan

An amendment is a change to the District's Plan of Development that could occur at any time and would require Board approval. Amendments to the District's Plan and its environmental documents are limited in size and scope and are intended to:

- Correct oversights.
- Update project description and costs.
- Remove a project.
- Update or supplement existing environmental documents.
- Adjust proposed solutions or implement new solutions to flood problems identified in the District's Plan.

- Adjust the size of a proposed project more than ten (10) percent.
- Adjust the description or location of the project from what was identified within the District Plan.

First Steps. Request for an amendment to the District's Plan will be submitted to the District Board for their review and consideration. To begin the process, a project sponsor will need to submit a request and provide evidence of legislative action by sponsor community to initiate the amendment process.

Timeline. Requests for amendments to the District Plan should be submitted to the District Administrator in writing.

The District administrator will submit requests to the Board for amendments to the District Plan within thirty (30) days of receipt. The community and the Board must be in agreement for the process to proceed.

Once the Board approves moving forward with the amendment, the project sponsor will work with the District Administrator to identify the information necessary to include in the amendment. Information will be provided to District staff who will prepare the amendment.

The District Administrator will prepare a recommendation for each amendment request, which shall include facts and findings and will present proposed amendment language to the Advisory Committee for their review and recommendation. Recommendations on the proposal will be presented to the Executive Committee for their review and recommendation. The recommended amendments will be forwarded to the Board for their approval at the next Board Meeting.

Cost. In most cases the cost of amending the District Plan and its environmental documents will be borne by the project sponsor.

Appendix A

Supplemental Projects

City of Bonney Lake

Jurisdiction Name: City of Bonney Lake

Problem Statement: *The City of Bonney Lake is an urban city experiencing urban flooding issues due to past land decisions.*

Floodplain Regulations Link: Chapter 16.26 BLMC https://www.codepublishing.com/WA/BonneyLake/#!/BonneyLake16/BonneyLake1626.html

Sub Planning Area: Middle Puyallup and White River Basin

Instructions: The following project prioritization criteria are intended to be combined with the four problem prioritization criteria to prioritize projects for implementation. The criteria focus on project effectiveness, project phasing and sequencing, multiple project benefits, partnerships and opportunities, Best Management Practices and Diversity, Equity, and Inclusion. Use the Attached Final Project Ranking Criteria sheet to accurately fill in each section.

Flood Projects														
					1	2	3	4	5	6	7	8	9	
Project Description	Location	Type of Flooding	Potential Solution	Esimated Cost	Existing land use of affected area	Severity of potential flood or channel migration	Area of impact	Frequency of flood or channel migration occurance impact	Project effectiveness	Phasing and sequencing of project	Multiple project benefits	Partnerships and opportunity	Best management practices	Total
Significant flooding caused by natural occurring pothole with no outfall - occurred twice in last 20 years.	188th Ave E/62 St E (East Hill Pothole)	Urban	Propose installing a pressure main and pump to convey high water events to an outfall on Lake Tapps. System would include a pump at the eastern most pond area and conveyance of approximately 1,500 LF of 8" PVC pipe beneath 64th Street East. Proposed work solves flooding at Project 1-2 site as well.	$3,514,980	4	4	4	6	12	1	2	4	3	40
Reports state that culvert crossing at Kelly Lake Road is undersized in capacity and unable to meet stormwater requirements, resulting in overtopping of Kelly Lake Road.	Church Lake/Kelly Lake	Urban	There are several possible solutions dependent upon further technical analysis. One option is to replace a culvert (70 LF) with revised inverts and excavation at the inlet to increase head pressure at culvert inlet. An analysis of capacity of culverts at 2 driveways (25 LF each) downstream (located in Pierce County jurisdiction) will be required. Alternative solutions include replacement of Kelley Lake Road culvert only, a direct closed connection between Kelley Lake Road culvert and upstream culvert with structures and pipe, or a more robustly excavated sump area at culvert inlet.	$167,200	6	4	4	8	7	3	0	3	3	38

Jurisdiction Name: City of Bonney Lake

Problem Statement: *The City of Bonney Lake is an urban city experiencing urban flooding issues due to past land decisions.*

Floodplain Regulations Link: Chapter 16.26 BLMC https://www.codepublishing.com/WA/BonneyLake/#!/BonneyLake16/BonneyLake1626.html

Sub Planning Area: Middle Puyallup and White River Basin

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Flood Projects														
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Project Description	Location	Type of Flooding	Potential Solution	Esimated Cost	Existing land use of affected area	Severity of potential flood or channel migration	Area of impact	Frequency of flood or channel migration occurance impact	Project effectiveness	Phasing and sequencing of project	Multiple project benefits	Partnerships and opportunity	Best management practices	Total
Reports indicate that the Walmart parking basin to an existing storm system draining to a pond located immediately south of the Walmart building.	192nd Ave E/SR410 - Walmart Parking Lot	Urban	Propose the addition of a catch basin to an existing storm system draining to a pond located immediately south of the Walmart building.	$19,880	4	2	2	5	9	5	0	3	3	33
Stormwater conveyance system is surcharging near outfalls to Lake Tapps in two locations.	Cascade Dr E/North Island Drive E.	Urban	Propose to plug a lateral stormwater pipe beneath N Island Drive at 4942 N Island Dr and construct approximately 455 LF of 12" stormwater pipe and 6 new catch basins beginning at 4942 N Island Dr and discharge to a proposed ditch. Extruded asphalt curb (with driveway cutouts) will direct stormwater into the proposed catch basins along N Island Drive E. The proposed ditch is 235 LF and runs along the north side of Cascade Dr E to Lake Tapps. Finally, 55LF of 12" stormwater pipe will connect stormwater from the southeast quadrant of Cascade Dr E and N Island Dr E to the proposed system discharging to the proposed ditch along Cascade DR.	$254,745	5	3	2	4	9	5	0	3	3	34

Jurisdiction Name: City of Bonney Lake

Problem Statement: *The City of Bonney Lake is an urban city experiencing urban flooding issues due to past land decisions.*

Floodplain Regulations Link: Chapter 16.26 BLMC https://www.codepublishing.com/WA/BonneyLake/#!/BonneyLake16/BonneyLake1626.html

Sub Planning Area: Middle Puyallup and White River Basin

Instructions: The following project prioritization criteria are intended to be combined with the four problem prioritization criteria to prioritize projects for implementation. The criteria focus on project effectiveness, project phasing and sequencing, multiple project benefits, partnerships and opportunities, Best Management Practices and Diversity, Equity, and Inclusion. Use the Attached Final Project Ranking Criteria sheet to accurately fill in each section.

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Pothole located at the northeast corner of Locust Avenue and 82nd Street E fills with water during sustained storm events and floods 82nd Street.	Locust Avenue and 82nd Street	Urban	The city should purchase parcel 5640000200, modify the existing pond, and raise the roadway surface of 82nd Street E to increase the available storage capacity. Finally, cost of pump system and stormwater pipe required to convey excess pond water east along 82nd Street E to a stream connected to Lake Bonney outflow. Downstream analysis will be necessary to determine the impacts of this diversion.	$3,735,480	7	6	5	6	9	3	2	4	3	45

Jurisdiction Name: City of Bonney Lake

Problem Statement: *The City of Bonney Lake is an urban city experiencing urban flooding issues due to past land decisions.*

Floodplain Regulations Link: Chapter 16.26 BLMC https://www.codepublishing.com/WA/BonneyLake/#!/BonneyLake16/BonneyLake1626.html

Sub Planning Area: Middle Puyallup and White River Basin

Instructions: The following project prioritization criteria are intended to be combined with the four problem prioritization criteria to prioritize projects for implementation. The criteria focus on project effectiveness, project phasing and sequencing, multiple project benefits, partnerships and opportunities, Best Management Practices and Diversity, Equity, and Inclusion. Use the Attached Final Project Ranking Criteria sheet to accurately fill in each section.

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Stormwater runoff in the Days Addition residential neighborhood flows through private property along the natural contours in the stormwater basin with no formal stormwater management system and floods 67th Street and 67th St Ct and private property at 19405 67th Street and 19403, 19405, and 19406 67th Street Ct E.	67th Street and 67th Street Ct E.	Urban	Propose a new stormwater conveyance system with catch basins and stormwater pipe from 19405 67th Street to 19405 68th Street. Project includes a new easement on 19405 67th Street and approximately 860 feet of stormwater drainage pipe and 10 catch basins. The project also includes approximately 650 feet of stormwater drainage swales to manage and treat the stormwater runoff from 67th St. and 67th St Ct. with an overflow to the new conveyance system to eliminate flooding. Project scope would also include adjustment of 9 driveway approaches.	$660,000	5	3	2	4	10	5	2	3	3	37

Jurisdiction Name: City of Bonney Lake

Problem Statement: *The City of Bonney Lake is an urban city experiencing urban flooding issues due to past land decisions.*

Floodplain Regulations Link: Chapter 16.26 BLMC https://www.codepublishing.com/WA/BonneyLake/#!/BonneyLake16/BonneyLake1626.html

Sub Planning Area: Middle Puyallup and White River Basin

Instructions: The following project prioritization criteria are intended to be combined with the four problem prioritization criteria to prioritize projects for implementation. The criteria focus on project effectiveness, project phasing and sequencing, multiple project benefits, partnerships and opportunities, Best Management Practices and Diversity, Equity, and Inclusion. Use the Attached Final Project Ranking Criteria sheet to accurately fill in each section.

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Stormwater runoff in the Days Addition residential neighborhood flows through private property along the natural contours in the stormwater basin with no formal stormwater management system and floods 68th Street and private property at 19405 and 19406 68th Street.	68th Street E.	Urban	Propose a new stormwater conveyance system with catch basins and stormwater pipe from 19405 68th St. through a stormwater easement along 19406 68th St. The project also includes approximately 400 feet of stormwater drainage swales to manage and treat the stormwater runoff from 68th St. with an overflow to the new conveyance system to eliminate flooding. Project scope would also include adjustment of 10 driveway approaches.	$400,000	5	3	2	3	10	5	2	3	3	36
The stormwater conveyance system at the south end of Inlet Island discharges through private property along the natural contours to Lake Tapps and causes flooding at 6364 South Island Dr.	South Island Dr. at 6364	Urban	Propose the addition of catch basins and stormwater pipe to intercept and re-direct stormwater flows through a new conveyance system inside a stormwater easement along the west property line at 6364 S Island Dr. The new conveyance system will connect to the existing outfall to Lake Tapps and eliminate the stormwater flooding and current flowpath issue.	$200,000	5	3	2	3	10	5	0	4	3	35

City of Pacific

Jurisdiction Name: CITY OF PACIFIC

Problem Statement: The City of Pacific is a urban city experiencing urban riverine flooding issues due to increased run-off, reduced channel carrying capacity and reduced maintenance of the Milwaukee Ditch.

Floodplain Regulations Link: The Milwaukee Ditch is technically not within a regulated flood plain per Dept of ECY.

Sub Planning Area: White River Basin of WRIA 10

Instructions: The following project prioritization criteria are intended to be combined with the four problem prioritization criteria to prioritize projects for implementation. The criteria focus on project effectiveness, project phasing and sequencing, multiple project benefits, partnerships and opportunities, Best Management Practices and Diversity, Equity, and Inclusion. Use the Attached Final Project Ranking Criteria sheet to accurately fill in each section.

Flood Projects														
					1	2	3	4	5	6	7	8	9	
Project Description	Location	Type of Flooding	Potential Solution	Esimated Cost	Existing land use of affected area	Severity of potential flood or channel migration	Area of impact	Frequency of flood or channel migration occurance impact	Project effectiveness	Phasing and sequencing of project	Multiple project benefits	Partnerships and opportunity	Best management practices	Total
Flooding along Milwaukee Ditch where the ditch banks are flat. Primary affected properties are adjacent structures and land parcels. The ditch portion in Pierce County is approximately 6500' LF.	South Boundary of Approx 18th Street East to North Boundary of Countyline Rd.	Riverine	1). Remove 3' of excessive sediment buildup and Reed Canary Grasses in the ditch channel through a heavy maintenance cleaning. 2). Armor one side minimum of the ditch channel with 3 courses of ecology blocks to approximate height of OHWL.	$2,275,000	9	9	9	9	9	9	9	3	3	69
														0
														0
														0
														0
														0

Flood Problems		
Problem Description	Location	Type of Flooding
White River sediment buildup	Between BNSF tracks and Stewart Road bridge	Riverine
Milwaukee (Soatin) Ditch/Creek flooding	North of Stewart Road (adjacent to SR 167)	Riverine
Government Canal	Next to Union Pacific railroad tracks/ south of County line	Riverine

City of Puyallup

Jurisdiction Name: City of Puyallup

Problem Statement: The city of Puyallup experiences urban flooding on roadways located on the valley floor that are in low areas which drain to Puyallup River, Deer Creek, and Clarks Creek. The primary cause is back water from river or creek flooding or urban drainage not being able to exit freely because of high water in the receiving river or creeks. Floodplain regulations link: https://www.codepublishing.com/WA/Puyallup/#!/Puyallup21/Puyallup2107.html#21.07

DTG #1					DTG #2		DTG #3		DTG #4									
Reference No.	Problem	Location	Type of Flooding	Notes	How would you solve the problem?	Notes2	Timeline for the project (Near Term; Mid-Term; Long-Term)	Estimated Cost	#1 Existing Land use of affected area score	#2 Severity of potential flood or channel migration impact score	#3 Area of impact score	#4 Frequency of flood or channel migration occurrence impact score	#5 Project effectiveness score	#6 Phasing and Sequencing of Projects score	#7 Multiple Project Benefits score	#8 Partnerships and opportunity score	#9 Best management Practices score	Total
3	Flooding of old landfill and erosion on the left bank of the Puyallup River - Linden Golf Course Oxbow Setback Levee (LB RM 9.6 -RM 10.5)(Project)	Left Bank - River Mile 9.1 to 10.5	Riverine	There is a new outfall at River Mile 10.75 and just upstream of outfall the left bank is eroding. Not sure if the erosion is of the face of the levee or a silt bench in front of the levee.	Preliminary design for Levee setback, trail realignment, habitat restoration, erosion protection, landfill removal and floodplain modifications.	Good location for a setback levee, as identified in the setback feasibility study. If low bank land can be donated as part of Knutson warehouse development. By giving more room it will allow shear forces of the river to be reduced along the river banks Creating a overflow channel while protecting the old landfill from erosion	Long-Term	$ 61,759,833.79	8	7	8	7	10	1	18	4	2	65
6	4th St NW Storm Upgrades for Downtown Revitalization - N-2, N-3, N-4 and N-5; 4th St (Skate Park) PS. (Project)	N-3: 4th Ave SW/SE between 5th St SW and 2nd St SE. N-4: 4th Ave SE between 3rd St SE and 7th St SE and a portion of 3rd St SE north of 4th Ave SE. N-5: West Stewart Ave between 7th St NW and 2nd St NW. 4th St (Skate Park) Pump Station: 4th St NW and Puyallup River	Urban	Flooding occurs in numerous locations throughout tributaries during moderate and large storm events. Eight locations with roadway flooding in this area are documented.	N-2 -The stormwater mainline will consist of a 36-inch diameter pipe. N-3 - This phase consists of 631 LF of 36-inch diameter pipe and 1,093 LF of 30-inch diameter pipe N-4 - The 4th Ave stormwater line replacement will consist of a 24-inch diameter pipe and the 3rd St SE replacement will be a 12-inch diameter pipe. N-5 - This phase consists of installing an 18-inch diameter pipe. PS - Replace PS that is currently undersized to handle large storm events that occur when the Puyallup River is high.	The downtown core of the City of Puyallup experiences frequent flooding during moderate to large storm events. The flooding occurs due to inadequate capacity of the 4th Ave SW mainline.	Near-Term to Long-Term	$ 14,909,500.00	6	6	6	8	9	2	10	9	2	58
11	Flooding at properties along 25th St SE adjacent to Deer Creek - Deer Creek Realignment (Project)	Deer Creek from 12th Ave SE to E Pioneer	Riverine	Flooding affects mostly single family properties, roadway, and vacant land. Heavy development pressure along the corridor.	Replace 4 culverts and reroute Deer Creek through city owned properties while increasing flood storage and habit along the stream corridor.		Mid-Term	$ 4,340,000.00	7	4	4	7	9	3	15	5	2	56
2	Flooding of commercial/industrial properties on Deer Creek (Project) East Main Deer Creek Culvert Crossing	Upstream of confluence with Puyallup River at East Main and Deer Creek	Riverine	Flooding at significant areas of Shope Manufacturing yards. Extents of the flooding matches the 2017 FEMA flood map inundation area. Rite Aid Flooding (LB 9.3-9.5) and Deer Cr Backwater Flooding (LB 9.4) (old Safeway building)	Severity of flooding needs to be better understood and detail the cost of flood damage. Work with property owners to come up with individual solutions which could include flood proofing or evacuation plans. Replace existing undersized culvert under East Main.	Cost Estimate in 2022 dollars. 70% Plans and Specs	Mid-Term	$ 15,340,000.00	7	4	5	8	7	3	12	4	2	52

Jurisdiction Name: City of Puyallup

Problem Statement: The city of Puyallup experiences urban flooding on roadways located on the valley floor that are in low areas which drain to Puyallup River, Deer Creek, and Clarks Creek. The primary cause is back water from river or creek flooding or urban drainage not being able to exit freely because of high water in the receiving river or creeks. Floodplain regulations link: https://www.codepublishing.com/WA/Puyallup/#!/Puyallup21/Puyallup2107.html#21.07

DTG #1					DTG #2		DTG #3		DTG #4									
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12	21st St Deer Creek RR Crossing (Project)	Deer Creek Railroad Crossing near 21st ST SE	Riverine	The existing culvert underneath the railroad tracks has insufficient capacity for typical storm flows in Deer Creek. This culvert is also a barrier to fish passage due to a large, sudden drop in elevation.	The existing culvert underneath the Burlington Northern railway will be replaced with an appropriately sized fish passable culvert.		Mid-Term	$ 15,340,000.00	8	3	1	4	9	3	14	4	2	48
7	Wapato Creek Diversion Repair (Project)	Diversion Extends from just north of Valley Ave S to the Puyallup River crossing under N Meridian	Riverine	No flooding currently. Diversion needs repair/retrofit prior to WSDOT's SR-167 extension	RFP out for advertisement for a condition assessment and retrofit/replacement options for the diversion.	If the diversion were to fail flooding would occur in Puyallup, Unincorporated Pierce County and Edgewood.	Long-Term	$ 9,715,000.00	8	7	5	1	9	1	7	6	2	46
9	Sam Peach Park Flooding - Drainage Improvements on 10th-7th Ave NW (Project)	16th St NW and 10th Ave NW :18th St NW and 10th Ave NW	Urban	Two flooding locations in close proximity solved could be solved with one project.	Replace or install drainage system at 10th Ave NW from 18th St NW to 11th St NW - 9th, 8th, and 7th Ave NW from 15th St NW to 11th St NW	Minimal to no stormwater conveyance system exists in the two locations.	Mid-Term	$ 2,495,000.00	6	2	2	6	9	3	10	5	2	45
10	12th Ave SW Stormwater Improvements (Project)	12th Ave NW from 15th ST NW to 11th ST NW	Urban	Stormwater Capacity Issue	Replace existing 8 to 12 inch storm sewer with 18 to 24 inch storm sewer.	Currently undersized drainage system.	Long-Term	$ 948,000.00	5	2	2	5	9	1	10	5	2	41
1	Potential Overtopping or Breaching of N. Levee Road (Problem)	West of SR 161/167 river crossing. Right Bank - Puyallup River Mile 8.15 to Western City Limits	Riverine	Although this might be an infrequent occurrence it has a high consequence.	Setting back levee and north levee road is the best solution to provide the river more capacity. This is a regional problem so region will need to coordinate solution and do the preliminary design work (30%)		Long-Term											
4	Tiffany's Skate Inn/Riverwalk Floodwall (RB RM 8.1 - RM 8.6) (problem)	Puyallup River Left Bank - River Mile 8.1 to 8.6	Riverine	PATHWAYS	Construct flood wall along the left bank.	During larger flood events the Tiffany revetment overtops and results in flooding of the River Walk Trail, Riverwalk Apartments, and N Levee Underpass.	Long-Term	$ 7,691,000.00										
5	Flood ing of Commercial Properties and Parking Lot - Puyallup Executive Park (LB RM 9.1 - RM 9.25) (Flash cube building)(Problem)	North of East Main Ave and east of SR 512 crossing. Left Bank - River Mile 9.1 to 9.25.	Riverine	Flooding affects RV/mobile home park and lower floor of 1011 E MAIN	Construct flood wall and establish evacuation plan	There is a low point in the revetment which allows floodwaters to overtop causing the flooding of a commercial office building and mobile home park.	Long-Term	$ 273,000.00										

Jurisdiction Name: City of Puyallup

Problem Statement: The city of Puyallup experiences urban flooding on roadways located on the valley floor that are in low areas which drain to Puyallup River, Deer Creek, and Clarks Creek. The primary cause is back water from river or creek flooding or urban drainage not being able to exit freely because of high water in the receiving river or creeks. Floodplain regulations link: https://www.codepublishing.com/WA/Puyallup/#!/Puyallup21/Puyallup2107.html#21.07

DTG #1					DTG #2		DTG #3		DTG #4									
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8	Flooding on E Pioneer (Problem)	25th St SE to Shaw Rd E and E Pioneer S Curves on eastern city limits	Urban	High Groundwater compounds this issue during large storm events	Capacity and stormwater routing analysis. Replacement of existing system and increasing the overall capacity.	Two flooding locations can be resolved with similar improvements. Current system is likely undersized for the amount of flow and high groundwater table.	Long-Term											

Jurisdiction Name: City of Puyallup

Problem Statement: The city of Puyallup experiences urban flooding on roadways located on the valley floor that are in low areas which drain to Puyallup River, Deer Creek, and Clarks Creek. The primary cause is back water from river or creek flooding or urban drainage not being able to exit freely because of high water is the receiving river or creeks.
Floodplain regulations link: https://www.codepublishing.com/WA/Puyallup/#!/Puyallup21/Puyallup2107.html#21.07

Projects
LP6 Tiffany's Skate Inn/Riverwalk
Flood Wall

Jurisdiction Name: City of Puyallup

Problem Statement: The city of Puyallup experiences urban flooding on roadways located on the valley floor that are in low areas which drain to Puyallup River, Deer Creek, and Clarks Creek. The primary cause is back water from river or creek flooding or urban drainage not being able to exit freely because of high water in the receiving river or creeks.
Floodplain regulations link: https://www.codepublishing.com/WA/Puyallup/#!/Puyallup21/Puyallup2107.html#21.07

Near Term (Completed in the next 2 years) **; Mid-Term** (Completed within the 2-6 year time frame)**;** and **Long Term** (Completed within a 10 year time frame)	**Programmatic Recommendation or Action**	**Lead Department**	**Partners**
Mid- Term	Develop a regional work group to address the Overtopping or Breaching of N. Levee Road	TBD	Pierce County, City Fife, Port of Tacoma, City of Puyallup, WSDOT

Pierce County 2023 Comprehensive Flood Hazard Management Plan Projects

Jurisdiction Name: City of Bonney Lake

Problem Statement: *The City of Bonney Lake is an urban city experiencing urban flooding issues due to past land decisions.*

Floodplain Regulations Link: Chapter 16.26 BLMC https://www.codepublishing.com/WA/BonneyLake/#!/BonneyLake16/BonneyLake1626.html#16.26

Sub Planning Area: Middle Puyallup and White River Basin

Flood Projects

Project Description	Location	Type of Flooding	Potential Solution	Estimated Cost	1. Existing land use of affected area	2. Severity of potential flood or channel migration	3. Area of impact	4. Frequency of flood or channel migration occurrence impact	5. Project Effectiveness	6. Phasing and Sequencing of Projects	7. Multiple Projects benefits	8. Partnerships and Opportunity	9. Best Management Practices	Total
Significant flooding caused by natural occurring pothole with no outfall - occurred twice in last 20 years.	188th Ave E/62 St E (East Hill Pothole)	Urban	Propose installing a pressure main and pump to convey high water events to an outfall on Lake Tapps. System would include a pump at the eastern most pond area and conveyance of approximately 1,500 LF of 8" PVC pipe beneath 64th Street East. Proposed work solves flooding at Project 1-2 site as well.	$3,514,980	4	4	4	6	12	1	2	4	3	40
Reports state that culvert crossing at Kelly Lake Road is undersized in capacity and unable to meet stormwater requirements, resulting in overtopping of Kelly Lake Road.	Church Lake/Kelly Lake	Urban	There are several possible solutions are appropriate dependent upon further technical analysis. One option is to replace a culvert (70 LF) with revised inverts and excavation at inlet to increase head pressure at culvert inlet. An analysis of capacity of culverts at 2 driveways (25 LF each) downstream (located in Pierce County jurisdiction) will be required. Alternative solutions include replacement of Kelley Lake Road culvert only, a direct closed connection between Kelley Lake Road culvert and upstream culvert with structures and pipe, or a more robustly excavated sump area at culvert inlet	$67,200	6	4	4	8	7	3	0	3	3	38
Reports indicate that the Walmart parking basin to an existing storm system draining to a pond located immediately south of the Walmart building.	192nd Ave E/SR410 - Walmart Parking Lot	Urban	Propose the addition of a catch basin to an existing storm system draining to a pond located immediately south of the Walmart building.	$19,880	4	2	2	5	9	5	0	3	3	33

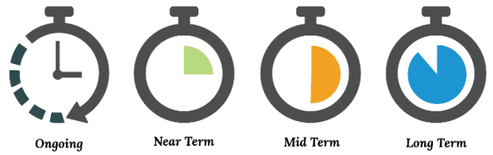
Stormwater conveyance system is surcharging near outfalls to Lake Tapps in two locations.	Cascade Dr E/North Island Drive E.	Urban	Propose to plug a lateral stormwater pipe beneath Island Drive at 4942 N Island Dr E and construct approximately 455 LF of 12" stormwater pipe and 6 new catch basins beginning at 4942 N Island Dr E and discharging to a proposed ditch. Extruded asphalt curb (with driveway cutouts) will direct stormwater into the proposed catch basins along Island Drive E. The proposed ditch is 235 LF and runs along the north side of Cascade Dr E to Lake Tapps. Finally, 55LF of 12" stormwater pipe will connect stormwater from the southeast quadrant of Cascade Dr E and N Island Dr E to the proposed system discharging to the proposed ditch along.	$254,475	5	3	2	4	9	5	0	3	3	34
Pothole located at the northeast corner of Locust Avenue and 82nd Street E fills with water during sustained storm events and floods 82nd Street.	Locust Avenue and 82nd Street	Urban	The city should purchase parcel 5640000200, modify the existing pond, and raise the roadway surface of 82nd Street E to increase the available storage capacity. Finally, cost of pump system and stormwater pipe required to convey excess pond water east along 82nd Street E to a stream connected to Lake Bonney outflow. Downstream analysis will be necessary to determine the impacts of this diversion.	$3,735,480	7	6	5	6	9	3	2	4	3	45

Flood Problems

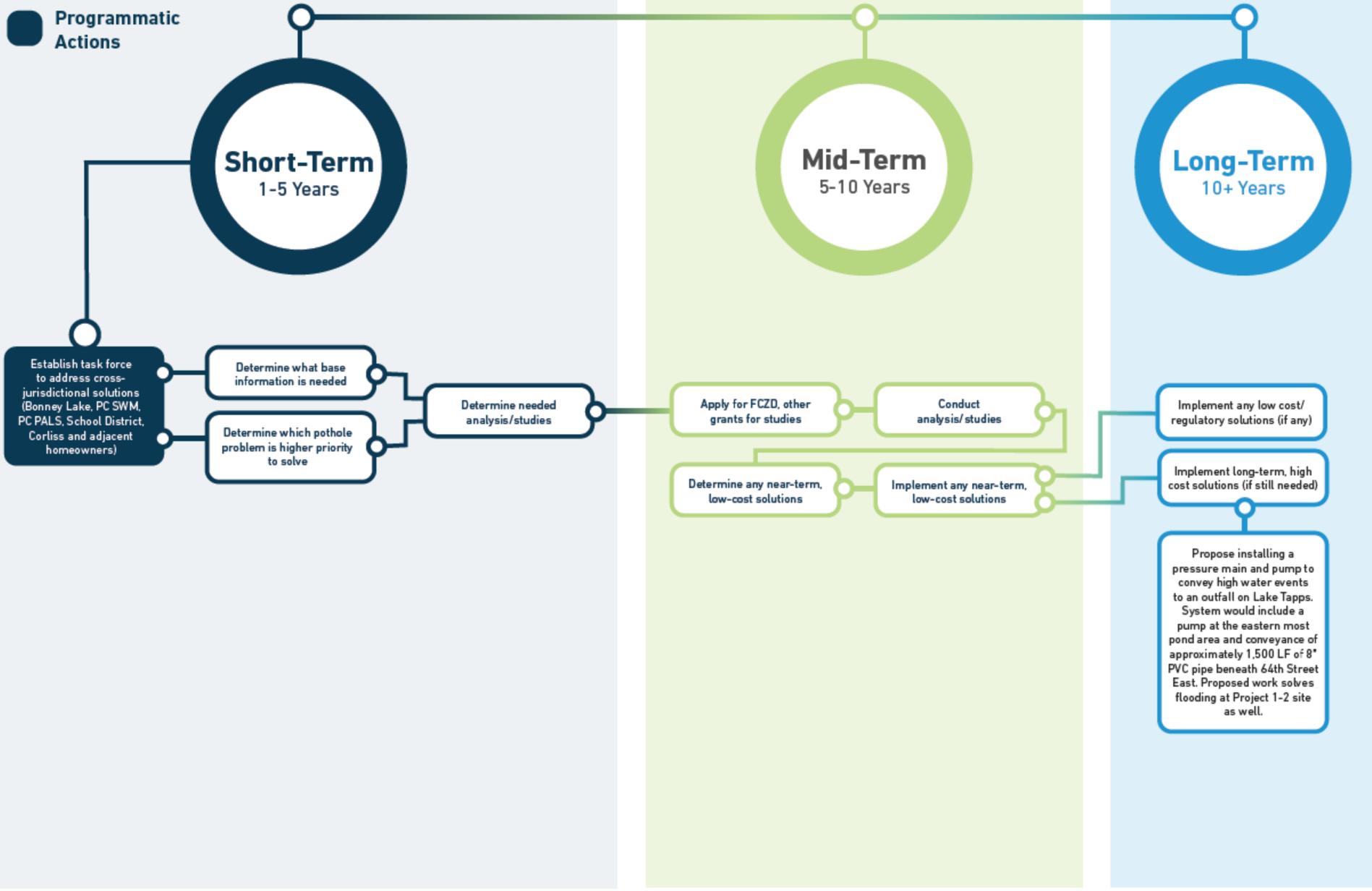
Problem Description	Location	Type of Flooding
Interflow issue that was revealed after the Legacy plat developed probably 10-15 years ago. Homeowner installed a French drain system. There are outwash soils that appear to accept stormwater readily but then it hits a hardpan situation that flows in the direction of the property down gradient. In the Legacy Park situation all the water in the plat was directed to the storm pond so a lot more water was funneled to an area that more than likely increased the interflow but that was not backed up by a study.	Bonney Lake Blvd & 181st Ave East	Groundwater

City Programmatic Recommendations

Timeline	Action	Lead Department	Partners	Progress
	Create a workgroup to discuss the pothole issue that is cross jurisdictional	Bonney Lake	Pierce County Stormwater and PALS, Private landowners, school district, whoever bought the Corliss property	



Bonney Lake Pot Hole
Urban Flood Hazards Pathway



Jurisdiction Name: City of Dupont

Problem Statement: The City of Dupont experiences urban flooding that restricts and delays access to residential areas and emergency services.

Floodplain Regulations Link: https://www.codepublishing.com/WA/DuPont/#!/html/DuPont23/DuPont2305.html

Sub Planning Area: Nisqually Basin

Flood Projects													
Project Description	**Location**	**Type of Flooding**	**Potential Solution**	**Estimated Cost**	**1. Existing land use of affected area**	**2. Severity of potential flood or channel migration**	**3. Area of impact**	**4. Frequency of flood or channel migration occurrence impact**	**5. Project Effectiveness**	**6. Phasing and Sequencing of Projects**	**7. Multiple Projects benefits**	**8. Partnerships and Opportunity**	**9. Best Management Practices**	**Total**
Forcite/Louviers Street flooding	Forcite/Louviers Street	Urban	Install infiltration trench and put in a drywell	$10,000	6	3	2	10	4	5	3	6	0	39
Haskell Street and Louviers Flooding	Haskell / Louviers	Urban	Catch Basin, basic treatment, infiltration trench	$77,400	6	2	2	4	9	3	8	3	0	37
Baskdale and Haskell Flooding	Barksdale / Haskell	Urban	Catch Basin, bioretention cell	$87,000	6	2	2	4	9	3	8	3	0	37
Barskdale and Penniman Street Flooding	Barksdale / Penniman	Urban	Catch Basin, basic treatment, infiltration trench	$133,100	6	2	2	4	9	5	8	3	0	39
Barksdale and Hopewell Flooding	Barksdale / Hopewell	Urban	Catch Basin, basic treatment, infiltration trench	$77,400	6	2	2	4	9	5	8	3	0	39
Louviers and Hercules Flooding	Louviers / Hercules	Urban	Catch Basin, basic treatment, infiltration trench	$84,400	6	2	2	4	9	5	8	3	0	39
Barksdale and Hercules Flooding	Barksdale / Hercules	Urban	Catch Basin, basic treatment, infiltration trench	$71,800	6	2	2	4	9	5	8	3	0	39
Louviers and Repauno Flooding	Louviers / Repauno	Urban	Catch Basin, basic treatment, infiltration trench	$87,000	6	2	2	4	9	3	8	3	0	37

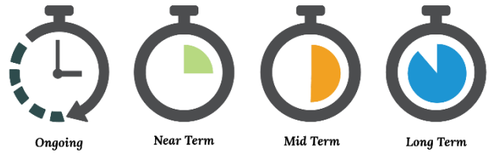
Repauno Flooding	Repauno	Urban	Catch Basin, basic treatment, infiltration trench	$110,000	6	2	2	4	9	3	8	3	0	37
Repauno and Barksdale Flooding	Repauno / Barksdale	Urban	Catch Basin, basic treatment, infiltration trench	$110,000	6	2	2	4	9	3	8	3	0	37
Santa Cruz and Brandywine Flooding	Santa Cruz / Brandywine	Urban	Catch Basin, basic treatment, infiltration trench	$110,000	6	2	2	4	9	3	8	3	0	37

Flood Problems

Problem Description	Location	Type of Flooding
Martin Street Flooding	Martin Street	Urban
McNeil by Center Drive flooding	McNeil by Center Drive	Urban
Flooding on Kittson Street	Kittson Street	Urban
Lake Sellars trail flooding	Between State farm and the Historic Village	Groundwater
Coastal and stream flooding	At mouth of Sequalitchew Creek	Coastal

City Programmatic Recommendations

Timeline	Action	Lead Department	Partners	Progress
	Work with other municipalities (in the County) and Pierce County to gather additional information on grant opportunities	Pierce County	Cities in Pierce County	


Ongoing
Near Term
Mid Term
Long Term

Jurisdiction Name: City of Edgewood

Problem Statement: *For being a community situated on a hill, the City of Edgewood has large areas of isolated drainage that result in regular flooding. There are few natural drainage courses that leave the city, limiting our ability to address these flooding areas without interagency coordination.*

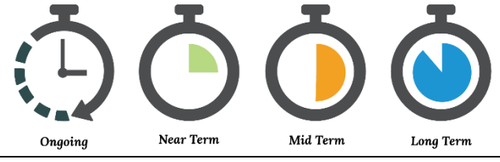
Floodplain Regulations Link: https://www.codepublishing.com/WA/Edgewood/#!/Edgewood14/Edgewood1480.html#14.80

Sub Planning Area: White River and the Hylebos Basin

Flood Projects														
Project Description	**Location**	**Type of Flooding**	**Potential Solution**	**Estimated Cost**	**1. Existing land use of affected area**	**2. Severity of potential flood or channel migration**	**3. Area of impact**	**4. Frequency of flood or channel migration occurrence impact**	**5. Project Effectiveness**	**6. Phasing and Sequencing of Projects**	**7. Multiple Projects benefits**	**8. Partnerships and Opportunity**	**9. Best Management Practices**	**Total**
Ponding water with reverse slope ditch across private property Severity - Overtops roadway	9100 block 34th St E	Urban	Install new piped conveyance in ROW	$150,000	5	3	1	10	11	3	4	3	5	45
Shallow ditch Severity - Overtops roadway at intersection	127th Ave E @ 48th St. E	Urban	Install new piped conveyance in ROW	$150,000	7	3	2	10	12	5	6	3	5	53
Ponding water with no outlet	112th Ave E @ 24th St. E	Urban	Install new piped conveyance in ROW	$150,000	7	4	3	10	12	5	6	5	5	57
Failing drywell system with no outlet	13100 block 56th E	Urban	Install new piped conveyance in ROW, improve downstream system into Sumner	$500,000	6	6	2	10	12	5	6	8	5	60

Flood Problems		
Problem Description	**Location**	**Type of Flooding**
Pothole Drainage Basins	Edgewood potholes	Urban
Valley Floor High Groundwater during wet season	Wapato/Simons Creek	Groundwater/Urban

City Programmatic Recommendations				
Timeline	**Action**	**Lead Department**	**Partners**	**Progress**
	Study and develop flood reductions plans for each of the city's pothole basins.	City of Edgewood	N/A	
	Begin to Coordinate efforts for surface water management conveyance, as needed following flood reduction plan development. Develop a workgroup	City of Edgewood	Sumner, Fife, Puyallup, Pierce County, Milton	
	Develop a workgroup to discuss Countyline Road flooding issue from Unincorporated King County	City of Edgewood	King County	



Jurisdiction Name: City of Fife

Problem Statement: *Almost all of Fife's 3,730 acres lies below 20 feet mean sea level except for a small portion east of Hylebos Creek. Thus, Fife acts as a basin to which many of the surrounding communities discharge stormwater. As such, the city experiences urban and riverine flooding on a regular basis. Commercial, residential, and industrial districts all experience the impact of this flooding.*

Floodplain Regulations Link: https://www.codepublishing.com/WA/Fife/#!/Fife15/Fife1540.html#15.40

Sub Planning Area: Hylebos and Mid Puyallup Basin

Flood Projects

Project Description	Location	Type of Flooding	Potential Solution	Estimated Cost	1. Existing land use of affected area	2. Severity of potential flood or channel migration	3. Area of impact	4. Frequency of flood or channel migration occurrence impact	5. Project Effectiveness	6. Phasing and Sequencing of Projects	7. Multiple Projects benefits	8. Partnerships and Opportunity	9. Best Management Practices	Total
Residential yard flooding along Wapato Creek	Circle Drive E. David Ct. E.	Riverine	Analysis, design and construction of Additional inlets pipes, and other drainage features to increase drainage, as called out in 2021-2026 - CIP project 2.	$400,000	6	4	6	9	7	3	4	1	4	44
City Center Flooding	Fife Ditch @ 15th St	Urban	Upsizing Culverts	$250,000	5	5	3	8	10	5	2	3	4	45
City Center Flooding	Fife Ditch @ 12th St	Urban	Upsizing Culverts	$300,000	5	4	3	8	10	5	2	3	4	44

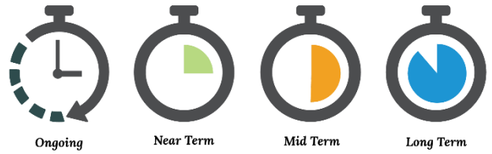
Flood Problems

Problem Description	Location	Type of Flooding
A lack of clarity in floodplain elevations and mapping. The 2017 regulated flood plain placed most of Fife in a "seclusion area" noting the uncertainty in flood elevations based on the certification status of the Puyallup River levees.	Lower Puyallup River	Riverine
Flood levels nearly resulted in levee overtopping downstream of Freeman Road in 1996 (within 2-3 inches) and 2009 (within 2 feet); there has been sloughing of soil and vegetation below the road.	Puyallup River, Downstream from Freeman Rd E	Riverine
Flood levels nearly resulted in levee overtopping near 54th Ave E. in 2006 and 2009 (within 2 feet of overtopping)	Puyallup River, At intersection with 54th Ave E.	Riverine

High river levels, and/or beaver activity do not allow for the oxbow to drain to the river, this is threatening a sewer lift station.	5500 blk of Levee Red E. Puyallup River	Riverine
Flooding of commercial properties along Fife Ditch. Starting at Sportco going downstream, under interstate 5, to fallout into Hylebos.	20th St E/Alexander, North to the outfall to Hylebos Creek.	Riverine
Humbs and bumps in N Levee Road.	Entire length of Levee Rd in Fife.	Riverine
Entire system of Fife Ditch is controlled at Hylebos. (3 pumps 2 tide gates) In need of maintenance and retrofitting/upgrades.		Urban
Culvert undersized and causes back up	Crossing at 4th St E	Urban
Ditch back up due to routine build up in storm pipes.	55th Ave / 2nd St & 57th Ave E	Urban
Flooding out of ditch an on to ROW.	8th St E, west of 54th.	Urban
Yard and ROW flooding. No constructed storm system in Willow neighborhood.	Willows Neighborhood.	Urban
Localized flooding due to development that blocked storm systems from entering the Erdahl Ditch system.	1301 26th Ave E	Urban
Homeless activity in the Erdahl ditch area may impact flows.	From Pacific Highway out to Puget Sound.	Urban
Oxbow Flooding /Sewer Lift Station Protection (RB RM 5.0 and backwater area)	5620 Radiance Blvd	Urban
Flooding along northside of UPRR railroad, in Dacca dog park, homes off 27th St E and business park off frank albert.	Erdahl Ditch parallel to Railroad tracks.	Urban
Flooding across Frank Albert Parkway ROW. First time in 2022.	Frank Albert, south of railroad tracks.	Urban
Major Parking lot flooding	4700 - 4800 block 20th St E	Urban
St Martins of Tours Church yard and parking lot flooding.	2301 Valley	Urban
Flooding across Freeman Rd E.	4600 Freeman Rd E	Urban

City Programmatic Recommendations

Timeline	Action	Lead Department	Partners	Progress
	Coordinate with Drainage District 23 to address deficiencies and develop a pathways approach moving forward.	City Fife PW	Pierce County Surface Water Management	
	Address "seclusion area" in the lower Puyallup watershed.	Pierce County Surface Water Management	City of Puyallup ~~and~~ City of Fife, and Pierce County.	
	Create working group to discuss North Levee Rd setback	Pierce County Surface Water Management	City of Puyallup and City of Fife.	
	Coordinate with Tacoma regrading Fife Ditch @ 4th st E.	City of Fife PW	City of Tacoma	


Ongoing
Near Term
Mid Term
Long Term

Jurisdiction Name: City of Fircrest

Problem Statement: *Urban flooding affects the City of Fircrest city wide causing widespread roadway flooding.*

Floodplain Regulations Link: https://www.codepublishing.com/WA/Fircrest/#!/Fircrest22/Fircrest2299.html#22.99

Sub Planning Area: Chambers/ Clover Basin

Flood Problems		
Problem Description	**Location**	**Type of Flooding**
Increased sediment and organic debris in MS4	City Wide	Urban
Heavy rainfall in relation to amount of impervious surface impacting the headwaters of Leach Creek	City Wide	Urban
Urban flooding	1200,1300, and 1400 blocks Drake St/Head waters of Leach Creek	Urban

Jurisdiction Name: City of Gig Harbor

Problem Statement: *Gig Harbor is fortunate to have a lot of topographic relief and miles of marine waterfront that generally allow for great drainage. However, the city currently experiences minor urban flooding due to stormwater runoff and coastal flooding during periods of king tides.*

Floodplain Regulations Link: https://www.codepublishing.com/WA/GigHarbor/#!/GigHarbor18/GigHarbor1810.html#18.10

Sub Planning Area: Gig Harbor Basin

Flood Projects

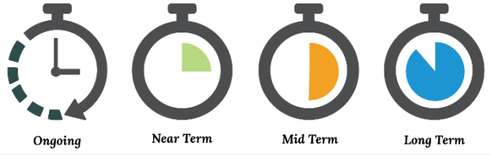
Project Description	Location	Type of Flooding	Potential Solution	Estimated Cost	1. Existing land use of affected area	2. Severity of potential flood or channel migration	3. Area of impact	4. Frequency of flood or channel migration occurrence impact	5. Project Effectiveness	6. Phasing and Sequencing of Projects	7. Multiple Projects benefits	8. Partnerships and Opportunity	9. Best Management Practices	Total
Burnham Dr at 96th Ave	Burnham Dr & 96th Ave	Urban		$2,290,000	7	5	4	10	12	5	10	9	2	64
Sewer Lift Station #5	2823 Harborview Drive	Coastal		$2,900,000	8	7	8	5	11	3	8	5	2	57

Flood Problems

Problem Description	Location	Type of Flooding
38th Ave flooding	4300 block of 38th Ave	Urban
Lighthouse coastal flooding	Mouth of Gig Harbor Bay	Coastal
Skanskie park flooding	3207 Harborview Drive	Coastal
Austin Park	4009 Harborview Drive	Coastal

City Programmatic Recommendations

Timeline	Action	Lead Department	Partners	Progress
	Work with Pierce County to address the 38th Ave flooding issue.	Gig Harbor	Pierce County	



Jurisdiction Name: City of Lakewood

Problem Statement: Clover Creek overflows during large events

Floodplain Regulations Link: https://lakewood.municipal.codes/LMC/14

Sub Planning Area: Chambers/Clover Basin

Flood Projects

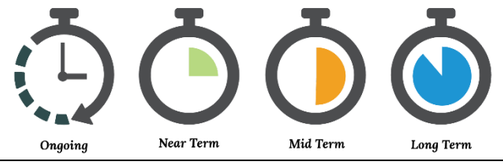
Project Description	Location	Type of Flooding	Potential Solution	Estimated Cost	1. Existing land use of affected area	2. Severity of potential flood or channel migration	3. Area of impact	4. Frequency of flood or channel migration occurrence impact	5. Project Effectiveness	6. Phasing and Sequencing of Projects	7. Multiple Projects benefits	8. Partnerships and Opportunity	9. Best Management Practices	Total
Clover Creek overflows during large events (Construction)	Clover Creek between JBLM and just west of Sound Transit RR.	Riverine	Construct setback levee along Clover Creek between City limits and Bridgeport Way SW and spot improvements downstream to Steilacoom Lake to prevent localized flooding outside of the main floodplain.	Final recommended solution will be in the millions	9	9	10	7	7	3	18	0	3	66

Flood Problems

Problem Description	Location	Type of Flooding
Clover Creek overflows during large events (Analysis)	Clover Creek between JBLM and just west of Sound Transit RR.	Riverine

City Programmatic Recommendations

Timeline	Action	Lead Department	Partners	Progress
	Clover Creek Flooding Engineering Alternatives Analysis workgroup	City of Lakewood	WSDOT, Dept of Ecology, Dept of Fish and Wildlife, Sound Transit, Pierce Transit, Nisqually Tribe of Indians, Puyallup Tribe of Indians, JBLM, Pierce County SWM, Pierce County FCZD	
	Construct setback levee along Clover Creek between City limits and Bridgeport Way SW and spot improvements downstream to Steilacoom Lake to prevent localized flooding outside of the main floodplain.	City of Lakewood	WSDOT, Dept of Ecology, Dept of Fish and Wildlife, Sound Transit, Pierce Transit, Nisqually Tribe of Indians, Puyallup Tribe of Indians, JBLM, Pierce County SWM, Pierce County FCZD	



Jurisdiction Name: City of Milton

Problem Statement: The City of Milton is experiencing severe climate change impacts on its aging infrastructure that is causing major urban flooding issues.

Floodplain Regulations Link: https://www.codepublishing.com/WA/Milton/#!/Milton15/Milton1520.html#15.20.220

Sub Planning Area: Hylebos Basin

Flood Projects

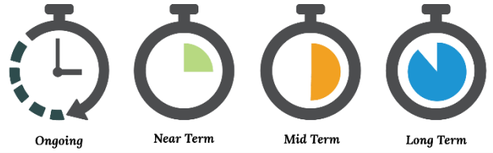
Project Description	Location	Type of Flooding	Potential Solution	Estimated Cost	1. Existing land use of affected area	2. Severity of potential flood or channel migration	3. Area of impact	4. Frequency of flood or channel migration occurrence impact	5. Project Effectiveness	6. Phasing and Sequencing of Projects	7. Multiple Projects benefits	8. Partnerships and Opportunity	9. Best Management Practices	Total
Culvert gets plugged creating water over the road which floods into people's driveways.	910 70th Ave	Urban	Put in a Type 2 Catch basin	$27,000	8	8	2	10	6	5	5	5	1	50
5th Ave Hylebos culvert	5th Ave	Urban	Install a large box culvert and one foot diameter pipe		10	8	7	10	9	5	10	9	1	69

Flood Problems

Problem Description	Location	Type of Flooding
Flooding in the backyards of property owners	10th Ave Taylor St/Porter Way	Urban
Pipes/ditches are not big enough; they can’t keep up with heavy rain.	11th Ave/Milton Way	Urban
Debris issues at the Pond which is causing the pipes to get plugged which is causing the pond to overflow.	82 26th Ave Ct	Urban
Catch basin flooding issue	Pacific Highway (Federal Way and Fife)	Urban

City Programmatic Recommendations

Timeline	Action	Lead Department	Partners	Progress
	Address the catch basin flooding issue on Pacific Highway	City of Milton	WSDOT, Federal Way, Fife, Pierce Transit, Sound Transit	



Jurisdiction Name: City of Orting

Problem Statement: Many of the City of Orting Problems with Riverine Flooding are under the control of other jurisdictions. Partnering is the City's goal in reaching solutions and a pathway to completing in the future.

Floodplain Regulations Link: https://codelibrary.amlegal.com/codes/ortingwa/latest/orting_wa/0-0-0-8730

Sub Planning Area: Mid Puyallup Basin

Flood Projects

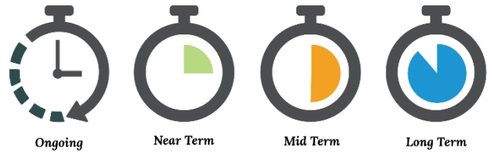
Project Description	Location	Type of Flooding	Potential Solution	Estimated Cost	1. Existing land use of affected area	2. Severity of potential flood or channel migration	3. Area of impact	4. Frequency of flood or channel migration occurrence impact	5. Project Effectiveness	6. Phasing and Sequencing of Projects	7. Multiple Projects benefits	8. Partnerships and Opportunity	9. Best Management Practices	Total
Backwater from the Carbon River during high flows causes Voight Creek and Coplar Creek to flow laterally along the riparian zone outside of the Carbon River left bank levee resulting in flooding down Corrin Ave. NW and SR162. This results in water over roads and flooding of some homes, including crawl spaces and some finished floors.	Carbon River DS 3.9 RMP UP 4.0 RMP Left Bank.	Riverine	Possible solutions include upsizing of a 36" concrete culvert carrying creek flows to the Carbon River at approx. RM 3.9 and construction of a cut-off berm to divert flows back into the Carbon River and prevent excess flows from flowing down Corrin Ave. NW	To be determined in 2023	8	8	5	7	12	3	21	0	0	64
City of Orting has identified 61 different gravel bars along the city boundary	Upper Puyallup River DS 19.4 RMP UP 22 RMP	Riverine	Gravel bar scalping would temporarily increase the flood carrying capacity of the river channel through this reach. Suggestions are letter the river re-take more room to naturally flow back to historic locations. RMP 21.3	To be determined in 2023	10	6	5	7	5	1	18	0	0	52
Calistoga Storm Water Project	Carbon River (well 1)	Urban	Upsizing the stormwater piping	$1.6 million	6	5	5	7	11	5	2	8	0	49
Water infiltration into sewer lines creating flooding issues inside the treatment plant	Old town Orting	Groundwater	Rehabilitation of Existing sewer lines	$5-10 million	8	9	7	8	9	1	4	7	0	53

Flood Problems

Problem Description	Location	Type of Flooding
Flooding in the City of Orting occurs when water from the State and the County fields flows into open ditches on 178th, Noble ~~L~~lane, and Orville Road. The flooding occurs because there is a cho~~ck~~kec~~k~~ point by well house #1 (178th and Hwy 162). Water flows from the County and State ditches into the city's pond behind the well house #1. Water exits from the pond and flows through a 12" diameter pipe for approximately 350 feet. After 350 feet the pipe increases in size to 24". This chock point backs up the water causing it to flow along state highway 162 into the senior mobile home park of Mountain View Estates. This water flows into the Mountain view estates pond which only has a 12" outfall pipe causing the water to backup into other areas of the City. Water on highway 162 becomes a safety problem as drivers can't identify the fog line nor when you can see the ditches.	Crossing at ~~hwy~~ Hwy 162 and 178th ~~ave~~ Ave east Orting WA 98360 is the first cho~~e~~ke point.	Urban
Address the sediment issues along the Carbon and Puyallup Rivers	Carbon and Puyallup Rivers	Riverine

City Programmatic Recommendations

Timeline	Action	Lead Department	Partners	Progress
~~Mid Term~~	Continue to work with Pierce County to develop and construct the Jones Levee	Pierce County	City Orting, USACE	
~~Mid Term~~	Form a workgroup to solve localized urban flooding in the community	City of Orting	Pierce County, WSDOT	
~~Mid Term~~	Develop a plan to upsize the river outfalls in Orting	City of Orting	Pierce County, USACE	
~~Mid Term~~	Form a sediment workgroup to address the sediment issues along the Carbon and Puyallup Rivers	City of Orting	Pierce County, City of Sumner, FEMA, USACE, Tribes	


Ongoing
Near Term
Mid Term
Long Term

Jurisdiction Name: City of Pacific

Problem Statement: ***The City of Pacific has major flooding issues due to the sediment issues in the White River***

Floodplain Regulations Link: ***https://www.codepublishing.com/WA/Pacific/#!/Pacific01/Pacific01.html***

Sub Planning Area: White River Basin

Flood Problems		
Problem Description	**Location**	**Type of Flooding**
White River sediment buildup	Between BNSF tracks and Stewart Road bridge	Riverine
Milwaukee (Soatin) Creek flooding	North of Stewart Road (adjacent to SR 167)	Riverine
Government Canal	Next to Union Pacific railroad tracks/ south of County line	Riverine

City Programmatic Recommendations				
Timeline	**Action**	**Lead Department**	**Partners**	**Progress**
	Develop a working group to discuss how to address the sediment buildup on the White River	King County	Pierce County and City of Pacific	
	Flood Analysis on Milwaukee Creek is needed to address the flooding and drainage issues in the area	City of Pacific	King County	

Ongoing Near Term Mid Term Long Term

Jurisdiction Name: City of Puyallup

Problem Statement: *The City of Puyallup experiences urban flooding on roadways located on the valley floor that are in low areas which drain to Puyallup River, Deer Creek, and Clarks Creek. The primary cause is backwater from river or creek flooding or urban drainage not being able to exit freely because of high water is the receiving river or creeks.*

Floodplain Regulations Link: https://www.codepublishing.com/WA/Puyallup/#!/Puyallup21/Puyallup2107.html#21.07

Sub Planning Area: Clear/Clarks, Middle Puyallup/ and Hylebos Basins

Flood Projects

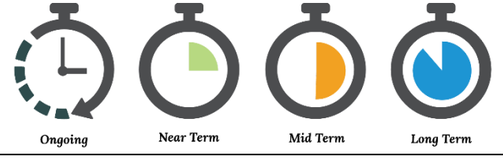
Project Description	Location	Type of Flooding	Potential Solution	Estimated Cost	1. Existing land use of affected area	2. Severity of potential flood or channel migration	3. Area of impact	4. Frequency of flood or channel migration occurrence impact	5. Project Effectiveness	6. Phasing and Sequencing of Projects	7. Multiple Projects benefits	8. Partnerships and Opportunity	9. Best Management Practices	Total
Flooding of commercial/industrial properties on Deer Creek (project) East Main Deer Creek Culvert Crossing	Upstream of confluence with Puyallup River to point of Deer Cr. Crossing under BNSF	Riverine	Severity of flooding needs to be better understood and detail the cost of flood damage. Work with property owners to come up with individual solutions which could include flood proofing or evacuation plans.	$3,053,341.03	7	4	5	8	7	3	12	4	2	52
Linden Golf Course Oxbow Setback Levee	Lower Puyallup River (LB RM 9.6 -RM 10.5)	Riverine	Preliminary design for Levee setback, trail realignment, habitat restoration, erosion protection, landfill removal and floodplain modifications.	$58,263,994.14	8	7	8	7	10	1	18	4	2	65
Deer Creek Emergency Culvert Replacement	27th Street SE and the intersection of 12th Ave SE and 25th Street SE	Riverine	By replacing 4 fish barriers and undersized culverts, realigning Deer Creek along 27th, reconnecting floodplain to stream channels and providing wetland mitigation	$8,610,573.00	6	9	3	10	8	3	14	6	2	61
4th Ave SW Storm Replacement (Phase N-1)	This phase begins at 5th St NW form 3rd Ave NW and continues north for approximately 3,134 LF and ends just north of River Rd.	Urban	A new mainline will be installed rerouting flows form the existing 4th Ave SW storm line north the Puyallup River.	$11,252,000	6	6	6	8	9	5	10	9	2	61

Flood Problems

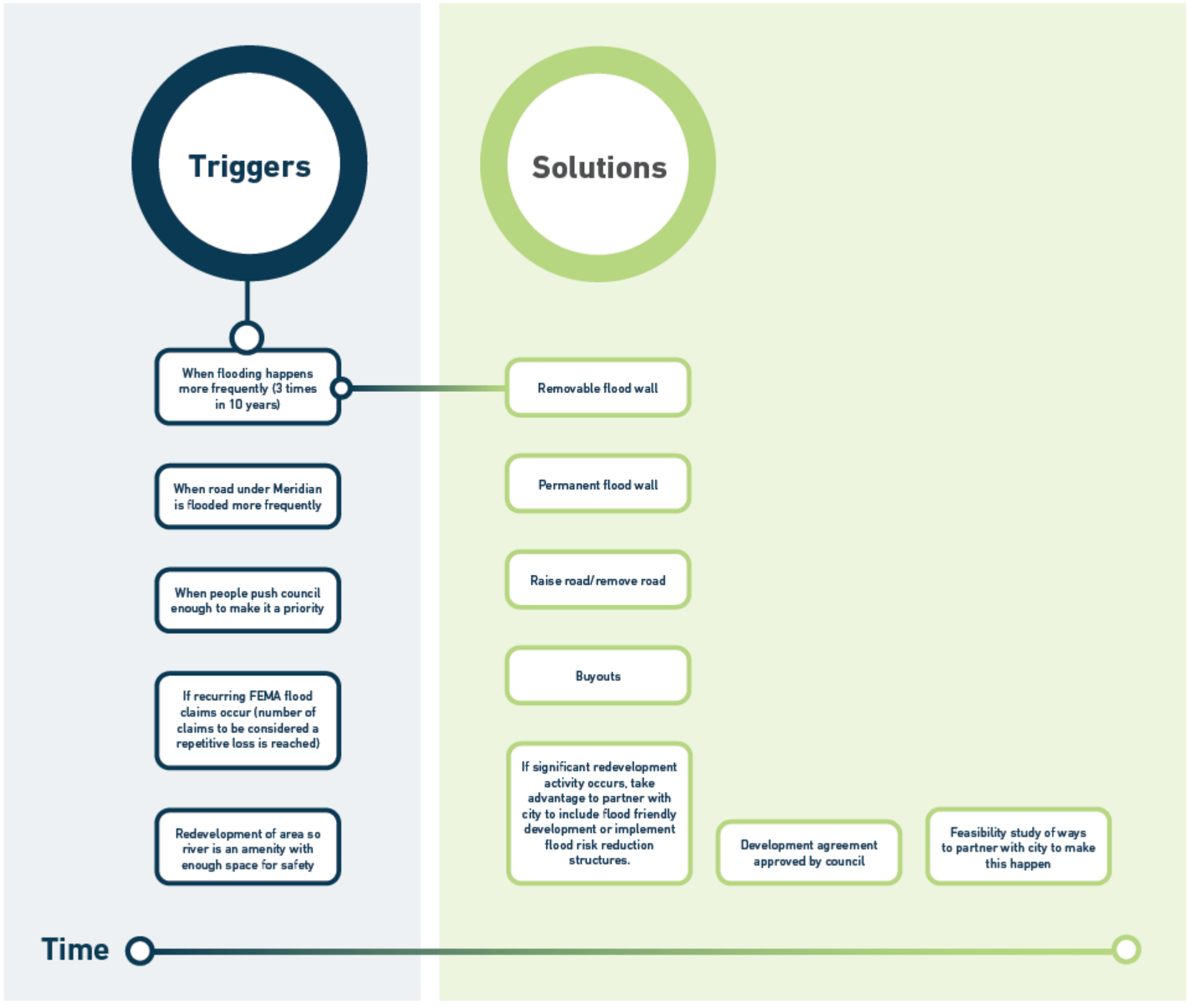
Problem Description	Location	Type of Flooding
Potential Overtopping or Breaching of N. Levee Road	West of SR 161/167 river crossing	Riverine
Flooding of commercial properties and parking lot	north of East Main Ave and east of SR 512 crossing	Riverine
Flooding of area of old landfill, left bank Puyallup	Just downstream of confluence with the White River	Riverine
Potential erosion of left bank of Puyallup river	Just upstream of BNSF/Traffic Ave crossing.	Riverine
Tiffany's Skate Inn/Riverwalk Floodwall	Lower Puyallup river (RB RM 8.1 - RM 8.6)	Riverine
Puyallup Executive Park “Flash Cube building”	Lower Puyallup River (LB RM 9.1 - RM 9.25)	Riverine
4th Ave SW Storm Replacement (Phase N-2)	This phase begins at the intersection of 4th Ave SW and 5th St SW and continues north for 1,403 LF along 5th St SW until 3rd Ave NW.	Urban
5th Ave SW Storm Replacement (Phase N-3)	This phase begins at the intersection of 4th Ave SW and 5th St SW and continues north 1,724 LF along 4th Ave SW until 2nd St SE.	Urban
6th Ave SW Storm Replacement (Phase N-4)	This phase begins at the intersection of 4th Ave SW and 2nd St SE and continues for 905 LF along 4th Ave SW until 5th St SE. A reach of pipe replacement included in this phase extends from 4th Ave SE to the north along 3rd St SE for 412 LF	Urban
7th Ave SW Storm Replacement (Phase N-5)	This phase begins at 6th St SW and continues along W Stewart Street for 1,484 LF until 2nd St NW.	Urban
Wapato Creek Diversion Repair	Diversion Extends from just north of Valley Ave S to the Puyallup River crossing under N Meridian	Riverine
Flooding on E Pioneer	25th St SE to Shaw Rd E and E Pioneer S Curves on eastern city limits	Urban
Sam Peach Park Flooding	16th St NW and 10th Ave NW: 18th St NW and 10th Ave NW	Urban
12th Ave SW Stormwater Improvements	W Main to 4th Ave SW	Urban
Riverwalk Levee (left bank), Linden Golf Course Side	Lower Puyallup River (LB RM 9.6 – RM 10.5)	Riverine

City Programmatic Recommendations

Timeline	Action	Lead Department	Partners	Progress
	Develop a regional work group to address the overtopping or breaching of N. Levee Road	TBD	Pierce County, City Fife, Port of Tacoma, City of Puyallup, WSDOT	



City of Puyallup
Riverwalk Flooding Pathway



Jurisdiction Name: City of Sumner

Problem Statement: *Sumner is bordered by both the Puyallup and White River. Each river floods affecting land uses ranging from light industrial to residential.*

Floodplain Regulations Link: https://www.codepublishing.com/WA/Sumner/#!/html/Sumner15/Sumner1552.html

Sub Planning Area: White River and Mid Puyallup Basins

Flood Projects

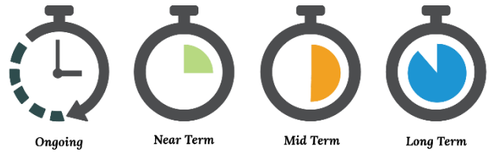
Project Description	Location	Type of Flooding	Potential Solution	Estimated Cost	1. Existing land use of affected area	2. Severity of potential flood or channel migration	3. Area of impact	4. Frequency of flood or channel migration occurrence impact	5. Project Effectiveness	6. Phasing and Sequencing of Projects	7. Multiple Projects benefits	8. Partnerships and Opportunity	9. Best Management Practices	Total
Lower White River Flood Protection -Left Bank 24th Setback	White River (RM 1.8-4.2)	Riverine	170+ Acre floodplain restoration creating in-stream salmon habitat and floodwater storage. Relocation of water, sewer, gas, and power utilities from within flood area.	$76,000,000	9	7	9	9	10	5	18	13	5	85
Lower White River Flood Protection-Sumner Pointbar	White River (RM 3.9-4.5)	Riverine	Floodplain property acquisition, 25+ Acres of Floodplain reconnection, installation of flood wall eliminating flow path from river to MIC	$59,000,000	9	8	9	9	10	3	18	13	5	84
Lower White River Flood Protection -Stewart Setback	White River (RM 4.4-4.9)	Riverine	Floodplain property acquisition, 10+ Acres of Floodplain reconnection, installation of flood wall eliminating flow path from river to MIC	.	9	8	9	9	10	3	18	13	5	84
Lower White River Flood Protection -Stewart Road Bridge	White River (RM 5.0)	Riverine	Widening of Stewart Road Bridge, reducing risk of large woody debris backup causing upstream flooding by reducing number of piers within river.	$29,000,000	10	9	7	9	10	5	16	13	5	84
Salmon Creek Undersized culverts	Salmon Creek	Urban	Salmon Creek Culvert Replacements	$3,259,000	5	4	5	9	8	3	14	7	5	60

Flood Problems

Problem Description	Location	Type of Flooding
Sumner Commercial Setback Levee (right bank side)	Lower White River (right bank)	Riverine
Sumner Wastewater Treatment Plant access road flooding	State St. Flood wall or Emergency Access (LB RM 0.2 - RM 0.3)	Riverine

City Programmatic Recommendations

Timeline	Action	Lead Department	Partners	Progress
	Collaborate with Pierce County to address the flooding in Rainier Manor	Pierce County	City of Sumner	



Jurisdiction Name: City of Tacoma

Problem Statement: *The City of Tacoma aims to minimize flooding to protect life and properties.*

Floodplain Regulations Link: https://www.cityoftacoma.org/UserFiles/Servers/Server_6/File/cms/cityclerk/Files/MunicipalCode/Title13-LandUseRegulatoryCode.pdf

Sub Planning area: Clear/Clarks, Hylebos, -and Chambers/Clover Basins

Flood Projects

Project Description	Location	Type of Flooding	Potential Solution	Estimated Cost	1. Existing land use of affected area	2. Severity of potential flood or channel migration	3. Area of impact	4. Frequency of flood or channel migration occurrence impact	5. Project Effectiveness	6. Phasing and Sequencing of Projects	7. Multiple Projects benefits	8. Partnerships and Opportunity	9. Best Management Practices	Total
Leach Creek Flooding	Leach Creek	Riverine	Channel reconfiguration within the Holding Basin to expand pump operation and to function better at removing peak flows that can cause Leach Creek Flooding	$4,500,000	8	7	4	8	6	5	5	6	1	50
South Tacoma Way flooding part 1	Pacific Ave and South Tacoma Way	Urban	Add new pipe and realignment of some stormwater flows to oldest pipes.	$31,000,000	10	10	7	10	11	5	2	6	1	62
South Tacoma Way flooding part 2	Pacific Ave and 21st to 15th street	Urban	Add new pipe and outfall. realignment of stormwater flows to new outfall.	$26,000,000	10	10	7	10	11	5	2	7	1	63
Commencement Bay Resilience & Restoration Master Plan (phase 1)	Commencement Bay	Coastal	Master Plan will address Commencement Bay Coastal flooding issues	$750,000	10	6	5	10	7	5	12	7	1	63
Stability slope issue on 5-mile Drive	5 miles Drive Tacoma	Coastal	Redesign of roadway & repaving	$2,000,000	7	6	3	7	6	3	7	9	1	49
Ruston Way shoreline condition assessment & preliminary design	North Tacoma slopes	Coastal	Conduct a condition assessment for shoreline protection against sea level rise	$1,000,000	10	8	7	9	8	1	15	10	1	69

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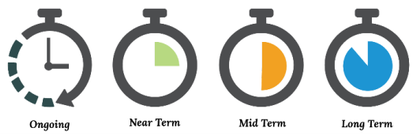
Flood Problems		
Problem Description	**Location**	**Type of Flooding**
Leach Creek Flooding	Leach Creek	Riverine
Flett Creek flooding (Stormwater Feasibility study)	Flett Creek	Riverine
Flett Creek flooding Construction	Flett Creek	Coastal
Treatment Plant flooding related to surrounding outfall	Tacoma Wastewater Treatment plant	Riverine
Bullfrog Junction flooding	Bay Street, North side of I-5 at Puyallup River, Rail interchange yard, RR and Tribal owned Properties, Tacoma ROW along Puyallup River down to Central Wastewater Treatment Plant	Riverine
Stormwater drainage issues throughout the city	Throughout the city of Tacoma	Urban
Stability Slope issue on 5-mile drive	5-mile drive	Coastal

City Programmatic Recommendations				
Timeline	**Action**	**Lead Department**	**Partners**	**Progress**
	Hire a consultant to address the Stormwater drainage issues throughout the city	City of Tacoma		



Jurisdiction Name: City of University Place

Problem Statement: *Since incorporation in 1995 the city has made vast improvements to the storm drainage system. Despite improvements and ongoing maintenance, a few areas remain where urban and coastal flooding occurs during infrequent events.*

Floodplain Regulations Link: *https://www.codepublishing.com/WA/UniversityPlace/#!/UniversityPlace14/UniversityPlace1415.html*

Sub Planning area: Chambers/Clover Basin

Flood Projects

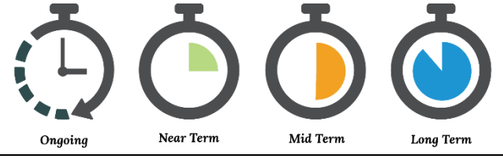
Project Description	Location	Type of Flooding	Potential Solution	Estimated Cost	1. Existing land use of affected area	2. Severity of potential flood or channel migration	3. Area of impact	4. Frequency of flood or channel migration occurrence impact	5. Project Effectiveness	6. Phasing and Sequencing of Projects	7. Multiple Projects benefits	8. Partnerships and Opportunity	9. Best Management Practices	Total
Olympic/Brookside urban flooding	Olympic and Brookside Road	Urban	Upsize conveyance pipping, provide additional detention, improve debris barriers to prevent blocking in the system.	$2,000,000	6	6	2	10	8	5	6	2	1	46

Flood Problems

Problem Description	Location	Type of Flooding
High Tide issue	Sunset Beach	Coastal
UP Shoreline Sewer Pump Station	Beach Rd	Urban
Shoreline Coastal flooding	South side of Day Island on Day Island Blvd W.	Coastal
Danbridge Development flooding	Olympic and Brookside Road	Urban
Minor street flooding	Lakewood Drive and 64th street	Urban

City Programmatic Recommendations

Timeline	Action	Lead Department	Partners	Progress
	Work with Pierce County to address the UP Shoreline Sewer Pump Station issue	Pierce County	City of University Place; FEMA	



Jurisdiction Name: Town of South Prairie

Problem Statement: *The South Prairie Creek floods several times a year cutting off South Prairie by closing SR 162 (WSDOT) and South Prairie Road (Pierce County) and flooding several neighborhoods plus the Fire station, the community rallying location. The Town's only sewer outfall is directly threatened by erosion caused by regular flooding with loss of bank happening at an escalating rate. If the Town loses the outfall, it will lose all sewage treatment capacity until the outfall can be rebuilt.*

Floodplain Regulations Link: https://southprairie.municipal.codes/SPMC/15.16

Sub Planning Area: Upper Puyallup Basin

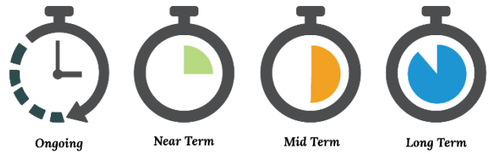
Flood Problems

Problem Description	Location	Type of Flooding
Flooding of South Prairie Creek	At Foothills Trail	Riverine
Flooding of South Prairie Creek	At Wastewater Treatment Outfall	Riverine
Flooding of South Prairie Creek	At Fire Station and SR 162	Riverine
Flooding of South Prairie Creek	At South Prairie Road	Riverine
Flooding of South Prairie Creek	Pioneer Neighborhood	Riverine
South Prairie Floodplain Acquisitions	South Prairie Creek RB RM1.6 - RM 3.5	Riverine
South Prairie Fire Station Flood Protection		Riverine

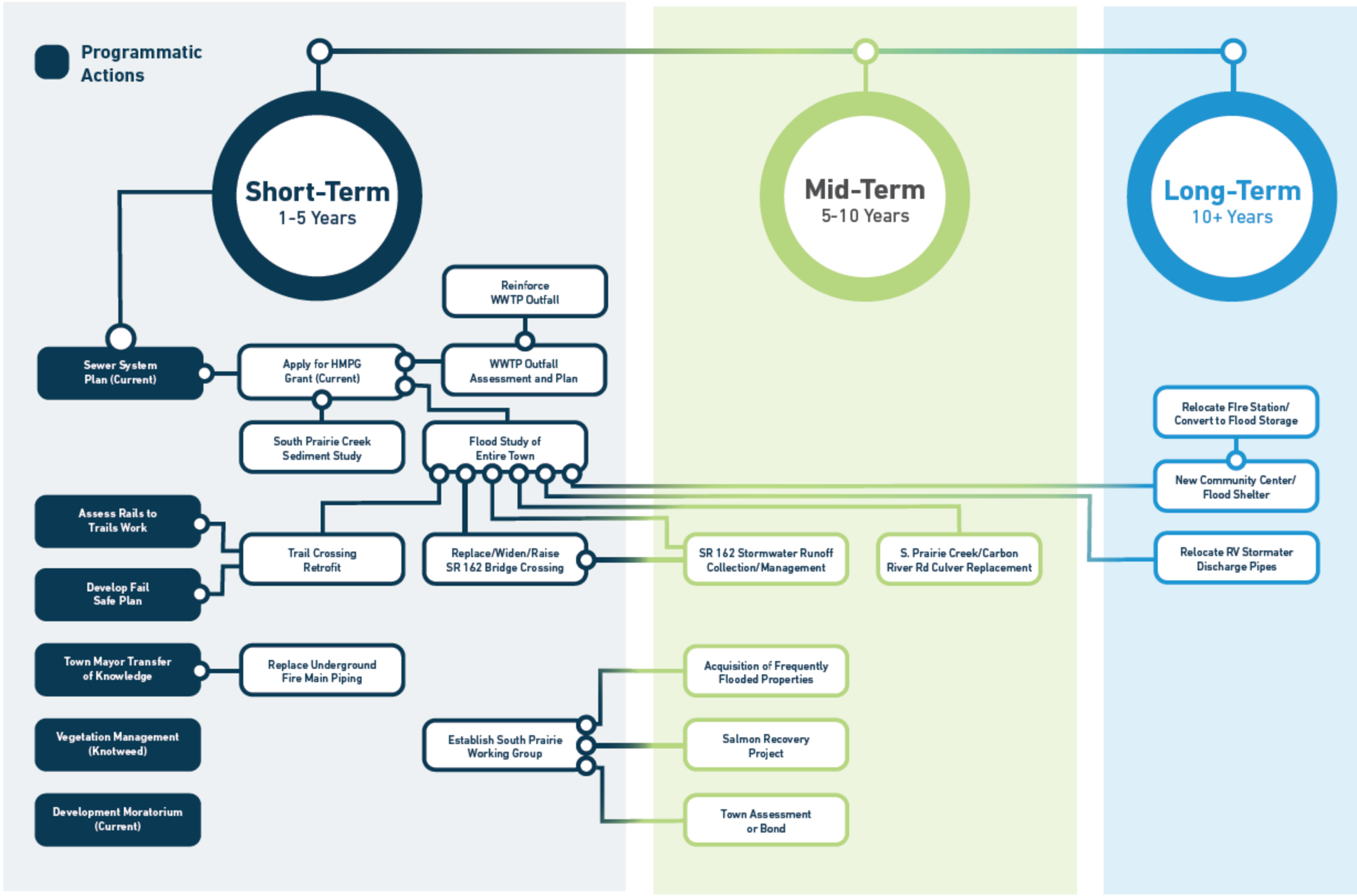
City Programmatic Recommendations

Timeline	Action	Lead Department	Partners	Progress
	Develop an invasive species management plan	Town of South Prairie	Pierce Conservation District	
	Conduct a Flood Study for the Town of South Prairie	Pierce County	Town of South Prairie; WSDOT	
	Conduct a Wastewater Treatment Outfall Assessment	Pierce County	Pierce County, Department of Ecology, and the Tribes	

	Establish a South Prairie Working Group to address flooding in the town	Town of South Prairie	Pierce County, Tribes, Washington State Department of Ecology, USACE	
	Conduct a sediment study for South Prairie Creek	Pierce County	Town of South Prairie	



South Prairie Pathway



Jurisdiction Name: Town of Steilacoom

Problem Statement: *The Town of Steilacoom is a coastal community impacted by rising ocean levels and urban flooding issues.*

Floodplain Regulations Link: https://townofsteilacoom.org/274/Municipal-Code

Sub Planning Area: Chambers/Clover Basin

Flood Projects

Project Description	Location	Type of Flooding	Potential Solution	Estimated Cost	1. Existing land use of affected area	2. Severity of potential flood or channel migration	3. Area of impact	4. Frequency of flood or channel migration occurrence impact	5. Project Effectiveness	6. Phasing and Sequencing of Projects	7. Multiple Projects benefits	8. Partnerships and Opportunity	9. Best Management Practices	Total
Damage to seawall caused by high tides and rising waters. Other park improvements threatened and hazardous condition created.	Sunnyside Beach	Coastal	Portions of the Sunnyside Beach seawall were severely damaged in 2021. This project will repair/replace the seawall in order to prevent further damage to the park and other improvements.	$300,000	2	2	2	9	10	5	6	3	3	42

Flood Problems

Problem Description	Location	Type of Flooding
Urban flooding along Union Avenue due to large amounts of discharge from Farrell's Marsh during storm events or unplanned release of water held behind a beaver dam in Farrell's Marsh.	5th Street Waterway Union Avenue Culverts	Urban
Deteriorating culverts could potentially collapse leading to flooding.	Puyallup and Balch Streets.	Urban
Flooding during storm events at Roe and Lexington Streets caused by capacity deficiency.	Roe Street, Marietta Street, Lafayette Street, Cedar Street, Steilacoom Boulevard, unopened rights-of-way, Sunnyside Beach outfall.	Urban
Capacity deficiency on private property leading to flooding during storm events.	Stevens Street.	Urban

Capacity deficiency leading to flooding during storm events.	Farrell Drive	Urban
Capacity deficiency leading to flooding during storm events.	Marietta Place and Steilacoom Boulevard	Urban
Capacity deficiency leading to flooding during storm events.	Maple Lane	Urban
Capacity deficiency leading to flooding during storm events.	Saltars Point Elementary	Urban
Capacity deficiency leading to flooding during storm events.	Beech Avenue	Urban
Capacity deficiency leading to flooding during storm events.	Lafayette Street	Urban
Capacity deficiency leading to flooding during storm events.	Jackson Street ROW	Urban
Capacity deficiency leading to flooding during storm events.	2nd Street Culverts at Montgomery and Gove	Urban
Capacity deficiency leading to flooding during storm events.	Nisqually Street	Urban
Capacity deficiency leading to flooding during storm events.	3rd Street	Urban
Capacity deficiency leading to flooding during storm events.	Martin Street	Urban
Capacity deficiency leading to flooding during storm events.	Galloway, Lexington, and Worthington Street	Urban
Capacity deficiency leading to flooding during storm events.	5th Street Waterway between 5th Street and Union Avenue.	Urban

Jurisdiction Name: Town of Wilkeson

Problem Statement: The Town of Wilkeson has several areas deeply impacted by high waters. The last several years have been highlighted issues with the creek and our utility lines being exposed due to bank erosion and shifts in the waters path.

Floodplain Regulations Link: https://www.codepublishing.com/WA/Wilkeson/#!/Wilkeson19/Wilkeson1909.html

Sub Planning area: Upper Puyallup Basin

Flood Projects

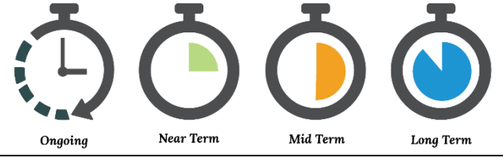
Project Description	Location	Type of Flooding	Potential Solution	Estimated Cost	1. Existing land use of affected area	2. Severity of potential flood or channel migration	3. Area of impact	4. Frequency of flood or channel migration occurrence impact	5. Project Effectiveness	6. Phasing and Sequencing of Projects	7. Multiple Projects benefits	8. Partnerships and Opportunity	9. Best Management Practices	Total
Wilkeson Creek and Bridge Stabilization	Watershed/ End of town on Wilkeson creek (47.101083, -122.046454)	Riverine	The creek rerouted in the January 2022 Storm exposing the water mainline. This line travels from the storage tanks, under the creek at the exit to the watershed, into the town for distribution.	$75,000	10	8	8	9	11	5	10	11	0	72
Business District Storm Water Collection Extension	East of the Historic Business District	Urban	Add additional storm water connections to convey the water away from the residences and into a collection system.	$50,000	7	4	4	8	10	5	6	9	0	53

Flood Problems

Problem Description	Location	Type of Flooding
Gall Property Retaining Wall Failure	Corner of Davis and Church St	Riverine
House on Fir	Southern Most Part of town	Riverine
School Yard Damage	Wilkeson Elementary	Riverine
Houses on Cothary- Continued Property loss	Cothary Street	Riverine
Railroad Ave House	Railroad Avenue	Riverine

City Programmatic Recommendations

Timeline	Action	Lead Department	Partners	Progress
	Complete an updated Channel Migration Zone Study for Wilkeson Creek	Pierce County	Town of Wilkeson	



Jurisdiction Name: Unincorporated Pierce County

Problem Statement: Pierce County operates and maintains a continuous flood risk reduction infrastructure. Flooding is when areas are inundated beyond their typical or seasonal levels. Pierce County believes that it is best to avoid or accommodate for flooding wherever possible.

Floodplain Regulations Link: https://pierce.county.codes/PCC/18E.70

Sub Planning Area: Middle Puyallup Basin, White River Basin, Clear/Clarks Creek Basin

Flood Projects

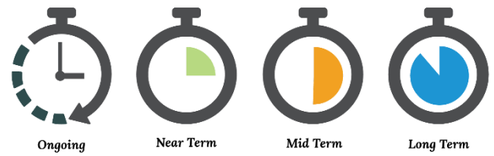
Project Description	Location	Type of Flooding	Potential Solution	Estimated Cost	1. Existing land use of affected area	2. Severity of potential flood or channel migration	3. Area of impact	4. Frequency of flood or channel migration occurrence impact	5. Project Effectiveness	6. Phasing and Sequencing of Projects	7. Multiple Projects benefits	8. Partnerships and Opportunity	9. Best Management Practices	Total
Jones Setback Levee	Upper Puyallup River RM 21.2-22.5 right bank upstream of Calistoga Bridge in Orting	Riverine	See Chapter 6 "recommended Capital projects"	$26.1 million	6	7	6	5	9	3	10	9	4	59
Rainier Manor/Riverwalk/Rivergrove and SR-410 Flood Wall and Levee	Middle Puyallup River RM 10.7 -12.0 right bank	Riverine	See Chapter 6 "recommended Capital projects"	$14.5 million	8	8	8	6	9	1	5	5	4	54
Alward Road Floodplain Acquisition and Setback Levee	Carbon River RM 6.4-8.4 left bank	Riverine	See Chapter 6 "recommended Capital projects"	$26.9 million	6	7	5	9	9	1	10	5	4	56
128th Street Corridor River Improvements	Middle Puyallup River RM 15.8 right bank and left bank and 17.4 right bank and left bank	Riverine	See Chapter 6 "recommended Capital projects"	$17.5 million	6	6	6	8	9	1	10	5	4	55
Orville Road Revetment at Kapowsin Creek	Upper Puyallup River RM 26.3-26.8 left bank	Riverine	See Chapter 6 "recommended Capital projects"	$8.4 million	7	6	5	7	7	4	7	8	3	54
Neadham Road Floodplain Reconnection	Upper Puyallup RM 25.3-27.0 right bank	Riverine	See Chapter 6 "recommended Capital projects"	$10.5 million	4	4	4	8	10	4	8	8	4	54
Carbon River Setback Levee LB Bridge Street to Upstream of Voights Creek	Carbon River RM 3.0-4.5 left bank	Riverine	See Chapter 6 "recommended Capital projects"	$19.6 million	7	6	6	5	7	1	9	5	3	49
Upper Carbon/Fairfax Rd Bank Stabilization	Carbon River RM 21.5-22.9 left bank	Riverine	See Chapter 6 "recommended Capital projects"	$5 million	6	5	1	7	7	2	8	5	3	44
Carbon River Floodplain Connection Right Bank	Carbon River RM 3.2-4.2 right bank	Riverine	See Chapter 6 "recommended Capital projects"	$4.1 million	4	2	2	3	4	3	6	7	3	34

White River Butte Pit Setback	Lower White River RM 4.8-5.5 right bank	Riverine	See Chapter 6 "recommended Capital projects"	$30.6 million	8	8	5	8	8	2	8	8	4	59
Puyallup River Ford Setback - Capital Maintenance	Upper Puyallup River RM 23.5-24.9 right bank	Riverine	See Chapter 6 "recommended Capital projects"	$2.3 million	7	6	6	8	8	4	4	7	3	53
Carbon River Setback Levee LB Upstream of Voights Creek to SR 162 Bridge	Carbon River RM 4.5-5.9 left bank	Riverine	See Chapter 6 "recommended Capital projects"	$25 million	6	5	4	4	5	2	6	3	3	38
White and Puyallup Rivers Confluence Property Acquisition	Lower Puyallup River RM 9.4 and 10.3 right bank, downstream of its confluence with White River	Riverine	See Chapter 6 "recommended Capital projects"	$3.0 million	5	2	1	1	7	4	7	4	4	35
Clear Creek Floodplain Reconnection project (RM 2.9, right bank, confluence of Clear Creek and Puyallup River)	Lower Puyallup River RM 2.9 right bank, confluence of Clear Creek and Puyallup river	Riverine	See Chapter 6 "recommended Capital projects"	$58.1 million	9	9	8	10	7	3	10	9	5	70

Flood Problems

Problem Description	Location	Type of Flooding
North Levee Road	Puyallup River right bank (RM 8.1-2.7)	Riverine
River Road Levee Floodwall	Puyallup River left bank (RM 3.0-7.2)	Riverine
Alward Rd Floodplain Acquisition from SR 162 bridge to fish ladder	Carbon River left bank (RM 5.9-6.4)	Riverine
Carbon Confluence Setback Levee	Carbon River left bank (RM 0 - RM 0.4)	Riverine
Bowman Hilton Mobile Home	Puyallup River left bank (RM 13.0-13.3)	Riverine
Riverside Dr. Setback Levee	Puyallup River right bank (RM 12.8-13.2)	Riverine
SR-507 Bridge Approach Protection/Bank Stabilization	Nisqually River left bank (RM 21.9)	Riverine
Kernahan Bridge Abutment Protection	Upper Nisqually river right bank (RM 61.7)	Riverine
Ashford/ Elbe Channel migration issue	Nisqually River	Riverine
Mid Nisqually flooding	Middle Nisqually river right bank (RM 25.6-30.3)	Riverine
McKenna Area Floodplain Acquisition	Nisqually river right bank (RM 21.6 - RM 22.0)	Riverine
Ski Park	Carbon river right bank (RM 5.9-7.0)	Riverine

Additional County Programmatic Recommendations				
Timeline	**Action**	**Lead Department**	**Partners**	**Progress**
	Develop a regional River Road working group (RM 3.0-8.1) to address long term improvements to the system	Pierce County Surface Water Management	City Fife, Port of Tacoma, City of Puyallup, Pierce County, WSDOT, Railroad, Puyallup Tribe of Indians, U. S Army Corps of Engineers	
	Develop a regional work group to address the overtopping or breaching of N. Levee Road	Pierce County Surface Water Management	City Fife, Port of Tacoma, City of Puyallup, Pierce County, WSDOT, Railroad, Puyallup Tribe of Indians, U. S Army Corps of Engineers	



Attachment 1

Pierce County 2023 Comprehensive Flood Hazard Management Plan

The Pierce County 2023 Comprehensive Flood Hazard Management Plan is available at the following website:

https://www.piercecountywa.gov/DocumentCenter/View/130196/2023-Comprehensive-Flood-Plan

Attachment 2

Environmental Impact Statement

The Pierce County 2023 Comprehensive Flood Hazard Management Plan Final Environmental Impact Statement is available at the following website:

https://www.piercecountywa.gov/DocumentCenter/View/130359/2023-FEIS-with-signed-notice-of-availability