



FLOODPLAIN RESILIENCE PLAN

Planning and Sustainability Commission
Work Session

October 25, 2022

Jeff Caudill

Environmental Planner, BPS

Sallie Edmunds

Central City, River and Environmental
Planning Manager, BPS

Kaitlin Lovell

Manager II, Regulatory Strategy &
Remediation, BES



THE BUREAU OF
**PLANNING &
SUSTAINABILITY**

Agenda

- I. FEMA BiOp – Additional Background
- II. Potential Effects of Plan Proposals
- III. Public Testimony Summary
- IV. Columbia Corridor Non-Industrial Lands
- V. Building Code Updates
- VI. Mitigation Banks
- VII. Staff Recommended Amendments

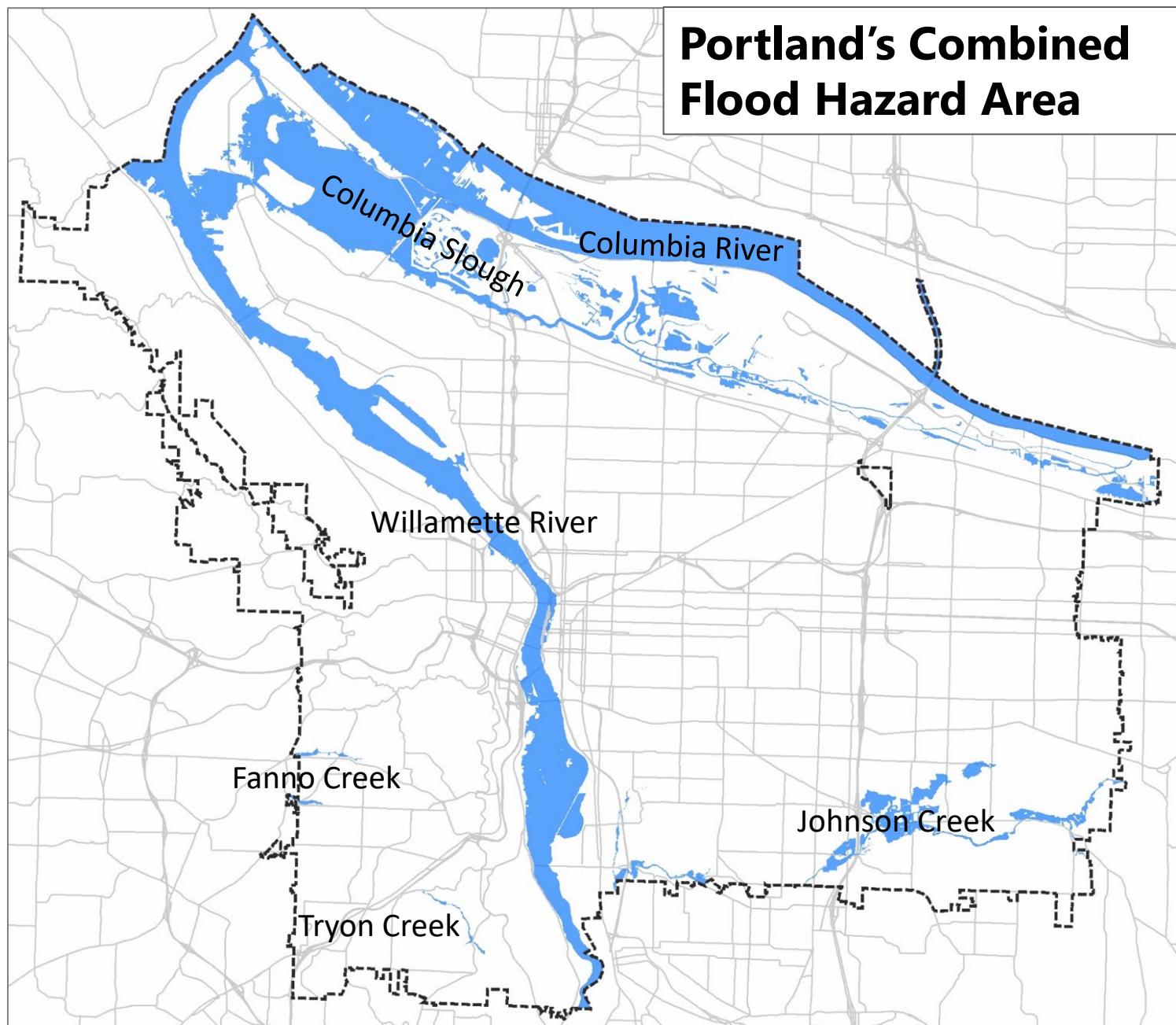


Photo: The Oregonian

FEMA BiOp – Additional Background



Portland's Combined Flood Hazard Area



Plan Purpose/Goals

- Maintain access to floodplain insurance and disaster relief funds
- Reduce future flood risk
- Expand habitat for Portland's threatened and endangered species
- Continue implementation of City's *Floodplain Management Update Work Plan*



FEMA Biological Opinion

Reasonable and Prudent Alternative Elements

ELEMENT #	DESCRIPTION	DIRECTIVE	ACTION REQUIRED	
			FEMA	CITY OF PORTLAND
1	Notice, Education, and Outreach	Notify NFIP communities and develop an education and outreach strategy for RPA implementation	X	
2	Interim Measures	Implement immediate actions to reduce loss of floodplain habitat and functions until Elements 3-6 are implemented	X	X
3	Mapping Flood and Flood-Related Hazards	Implement FEMA program standards to better identify and map flood and flood-related erosion hazard areas	X	
4	Floodplain Management Criteria	Revise FEMA's regulatory floodplain management criteria to avoid, minimize, and mitigate the adverse effects of floodplain development on habitat functions and processes	X	X
5	Data Collection and Reporting	Collect and report floodplain development information for all NFIP participating communities	X	X
6	Compliance and Enforcement	Ensure that participating communities comply with revised floodplain management criteria	X	

FEMA Biological Opinion

Reasonable and Prudent Alternative Elements

Element #	DESCRIPTION	DIRECTIVE	CITY OF PORTLAND ACTIONS
2	Interim Measures	Implement immediate actions to reduce loss of floodplain habitat and functions	<ul style="list-style-type: none"> • Element #2 included specific actions FEMA should take to reduce impacts in the short-term, including: <ul style="list-style-type: none"> ○ Min vegetation requirements ○ Riparian buffer area ○ Mitigation of new impervious surface ○ Increased flood storage mitigation <p><u>City Response</u></p> <ul style="list-style-type: none"> • Floodplain Resilience Plan incorporate min vegetation requirements and riparian buffer area. • City Stormwater Management Manual effectively addresses mitigation of impervious surfaces (BES). • Title 24 updates will address flood storage mitigation (BDS).

FEMA Biological Opinion

Reasonable and Prudent Alternative Elements

Element #	DESCRIPTION	DIRECTIVE	HOW FLOODPLAIN RESILIENCE PLAN RESPONDS
3	Mapping Flood and Flood-Related Hazards	Implement FEMA program standards to better identify and map flood and flood-related erosion hazard areas	<p>Although this element is directed to FEMA, it recognizes the significant limitations of existing FEMA 100-year floodplain maps.</p> <p><u>City Response</u></p> <ul style="list-style-type: none"> Incorporation of the new Modeled Willamette River 1996 Flood Extent addresses the limitations of the FEMA 100-year floodplain maps.

FEMA Biological Opinion

Reasonable and Prudent Alternative Elements

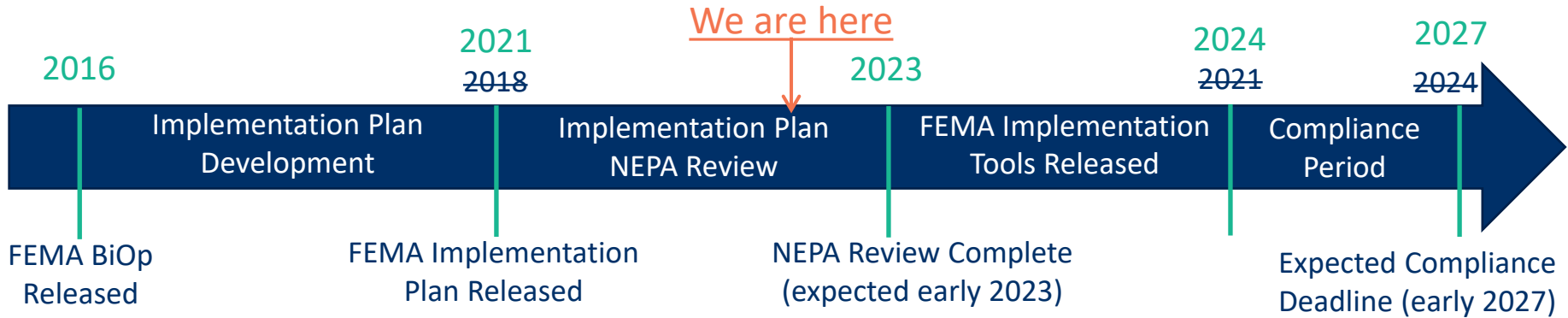
Element #	DESCRIPTION	DIRECTIVE	HOW FLOODPLAIN RESILIENCE PLAN RESPONDS
4	Floodplain Management Criteria	Revise FEMA’s regulatory floodplain management criteria to avoid, minimize, and mitigate the adverse effects of floodplain development on habitat functions and processes	<p>FEMA’s approach to meeting the directives of this element - i.e., long-term compliance with the ESA - is described in FEMA’s October 2021 Implementation Plan.</p> <p><u>City Response</u></p> <ul style="list-style-type: none"> • Floodplain Resilience Plan proposed regulatory updates aim to meet expected FEMA floodplain management criteria • Floodplain Resilience Plan proposals are consistent with guidance FEMA’s October 2021 draft Implementation Plan and the FEMA BiOp.

FEMA Biological Opinion

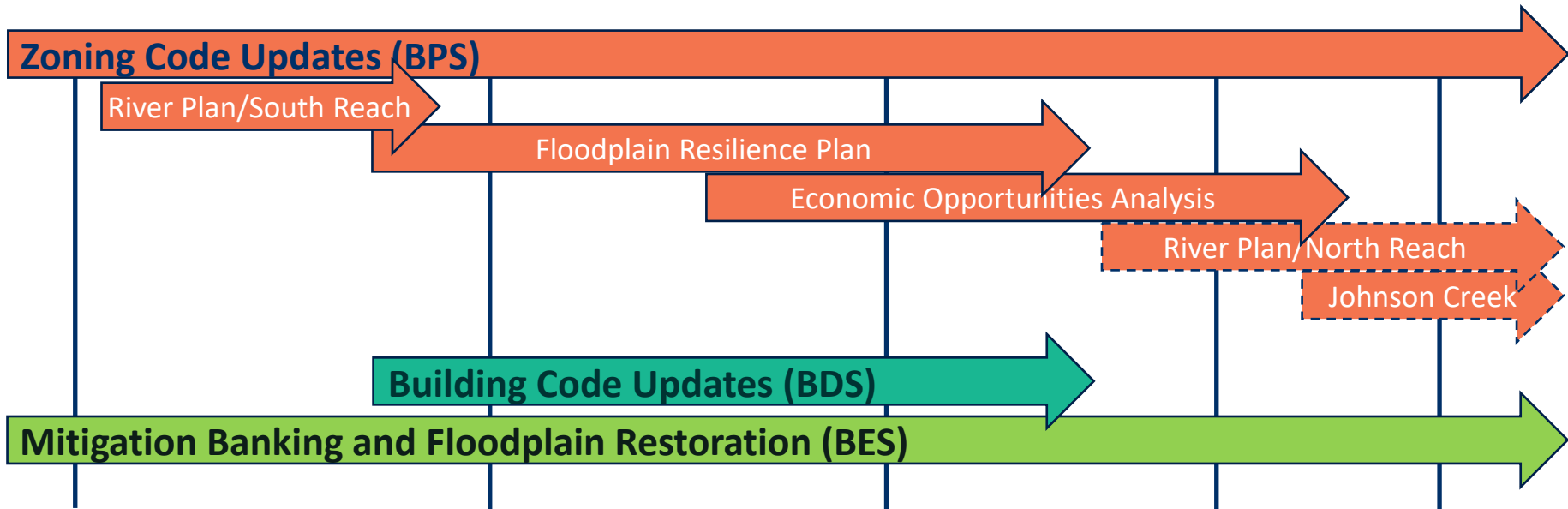
Reasonable and Prudent Alternative Elements

Element #	DESCRIPTION	DIRECTIVE	HOW FLOODPLAIN RESILIENCE PLAN RESPONDS
5	Data Collection and Reporting	Collect and report floodplain development information for all NFIP participating communities	<p>In response to this element, FEMA will need to ensure ongoing data collection for floodplain development within NFIP communities.</p> <p><u>City Response</u></p> <ul style="list-style-type: none"> • BDS will be required to provide additional data on floodplain development annually (at minimum) to FEMA.

FEMA TIMELINE



CITY WORK PLAN COMPONENTS & SCHEDULE



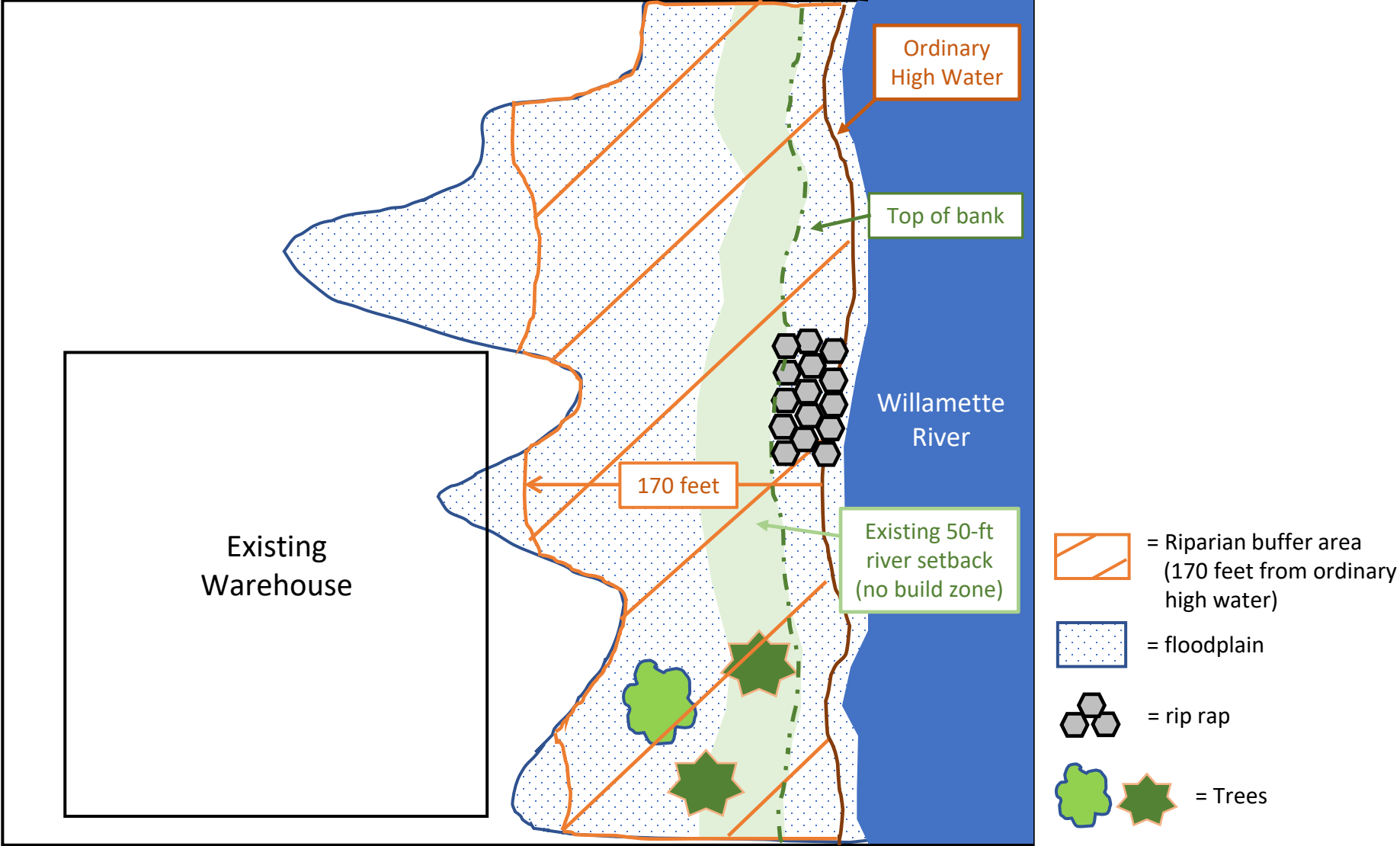
Potential Effects of Plan Proposals

Parcels Effected, by Zoning Designation

Zoning Category	# Tax Lots	%	Acres	%
Single Dwelling Residential	570	38.4%	866.9	14.1%
Multi-Dwelling Residential	139	9.4%	221.8	3.6%
Commercial/Mixed Use	207	13.9%	469.0	7.6%
Employment/Industrial	53	3.6%	100.8	1.6%
Campus Institutional	4	0.3%	113.2	1.8%
Open Space	509	34.3%	4,281.5	69.6%
Multnomah County	3	0.2%	100.3	1.6%
TOTAL	1,485	100%	6,153.4	100%

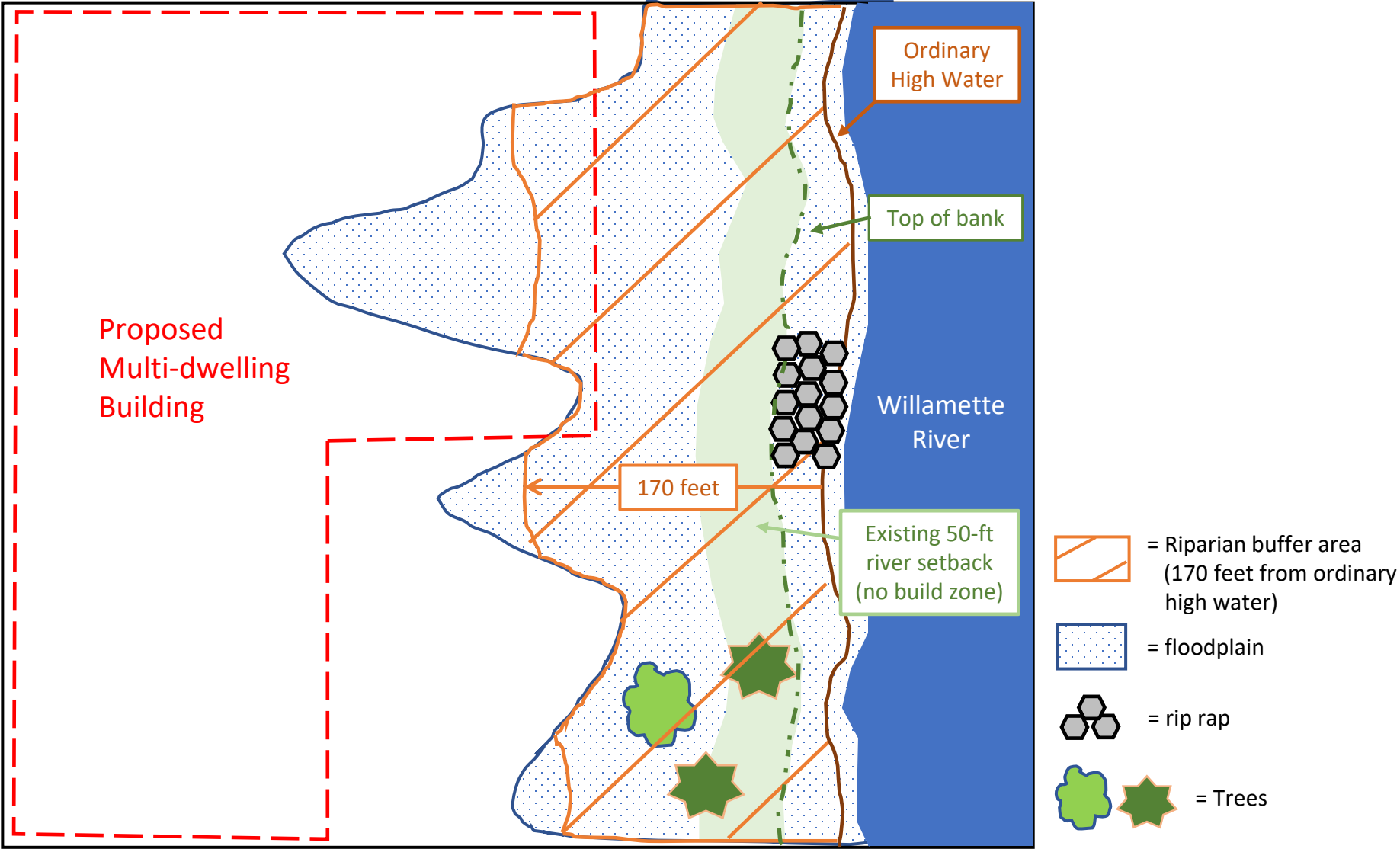
Willamette River Central Reach Proposals

River Environmental Overlay Zone & Riparian Buffer Area



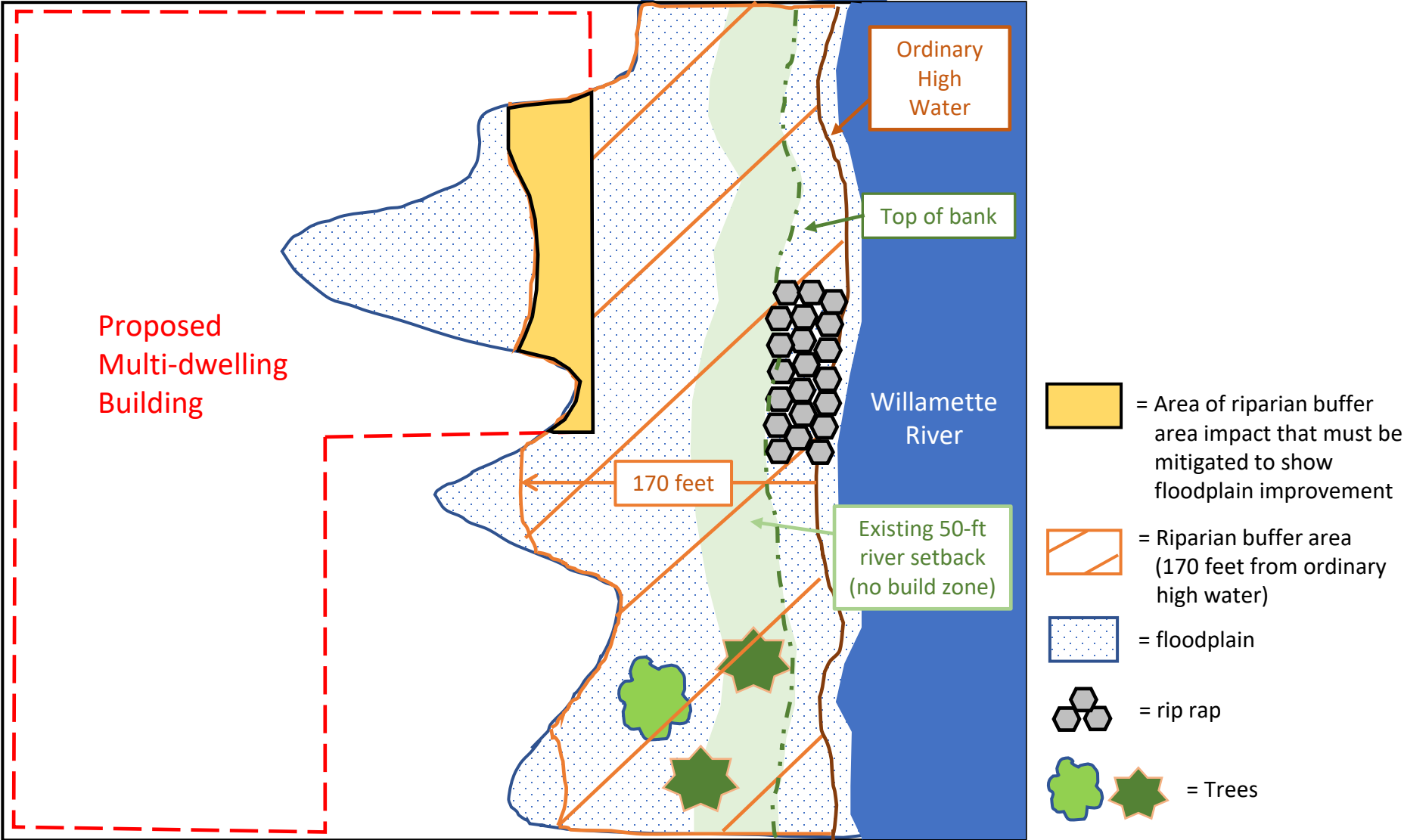
Willamette River Central Reach Proposals

River Environmental Overlay Zone & Riparian Buffer Area



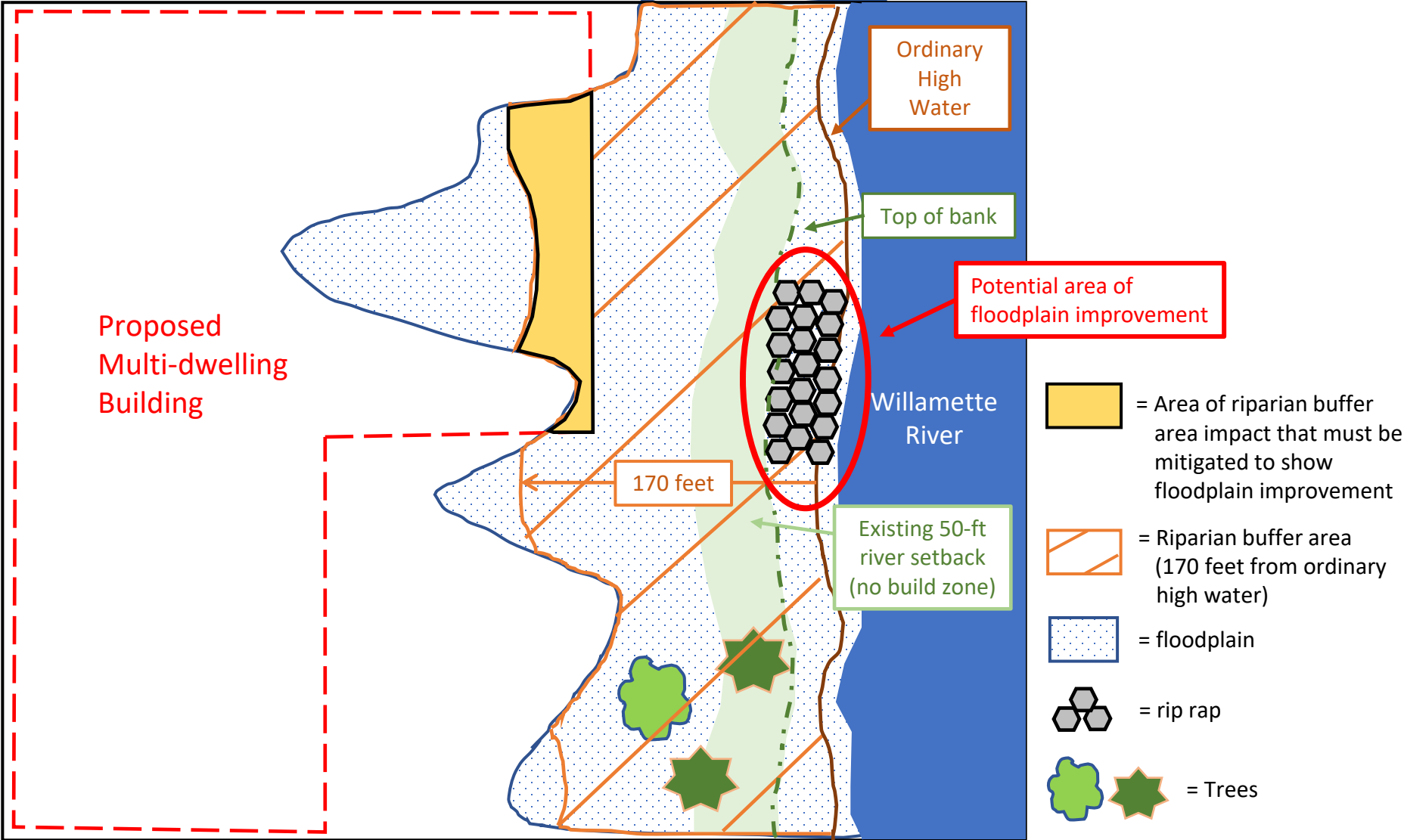
Willamette River Central Reach Proposals





River Environmental Overlay Zone & Riparian Buffer Area



Willamette River Central Reach Proposals

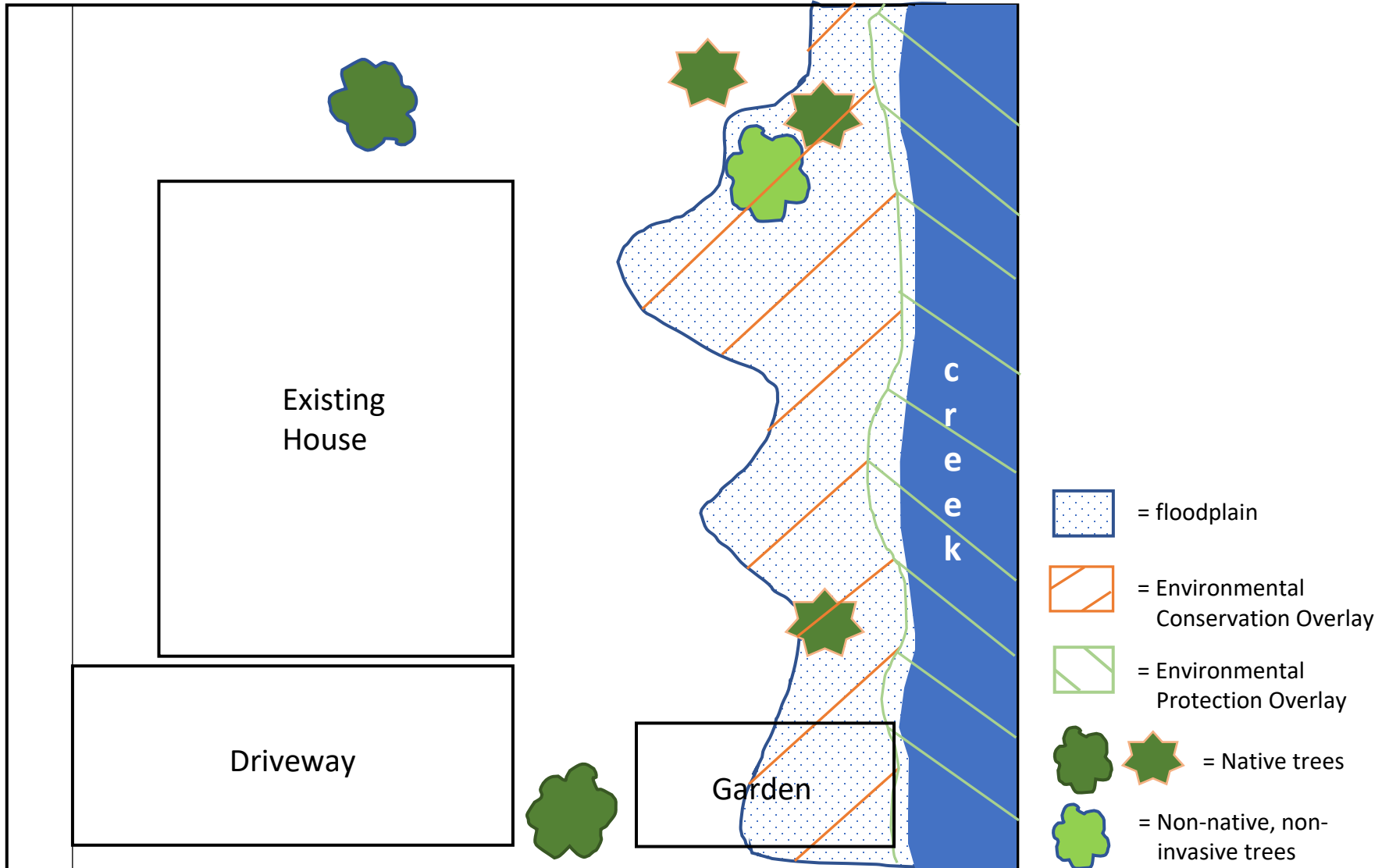
River Environmental Overlay Zone & Riparian Buffer Area



-  = Area of riparian buffer area impact that must be mitigated to show floodplain improvement
-  = Riparian buffer area (170 feet from ordinary high water)
-  = floodplain
-  = rip rap
-  = Trees

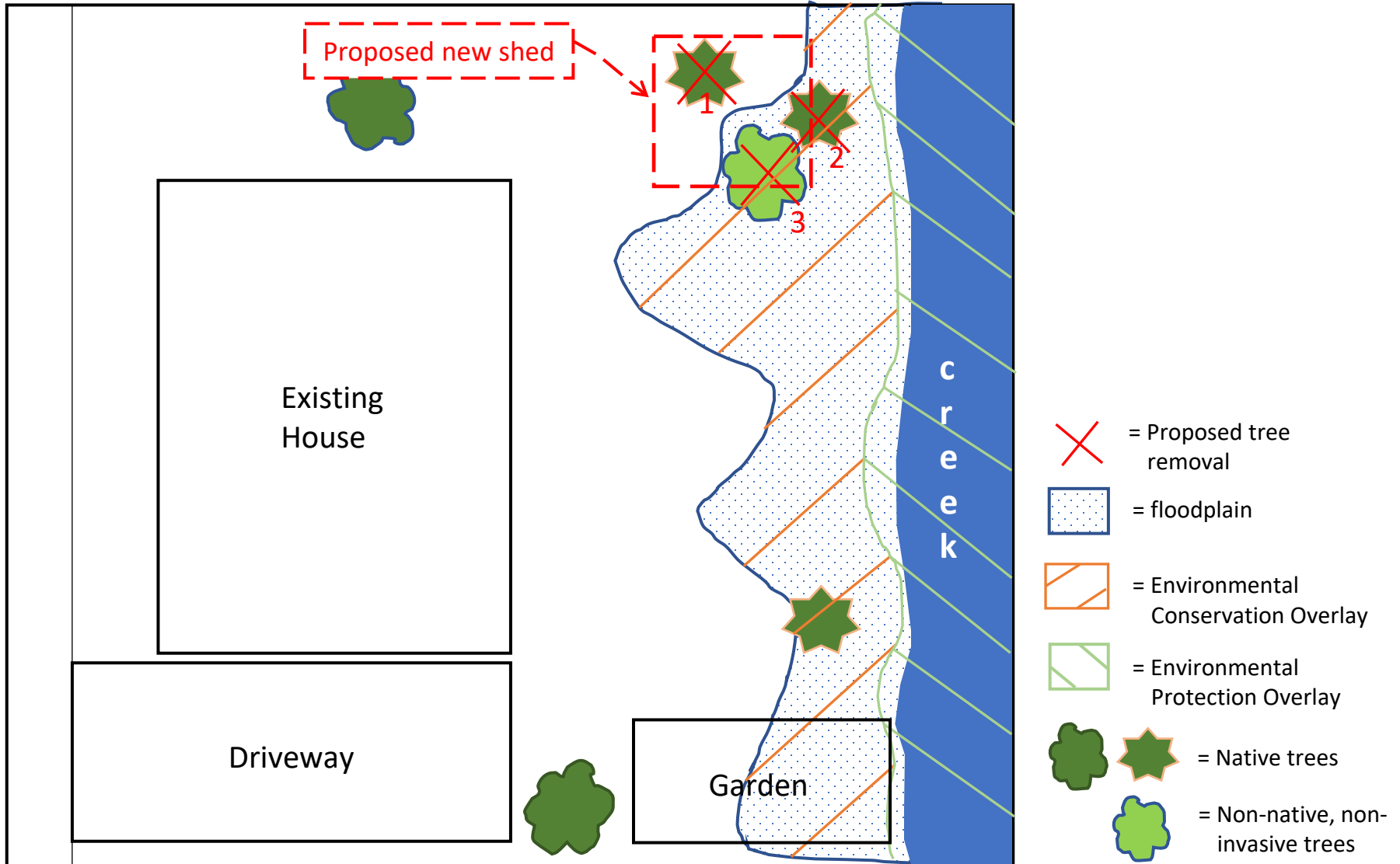
Waterways Other than Willamette River

Environmental Overlay Zones



Waterways Other than Willamette River

Environmental Overlay Zones



Public Testimony Summary



Testimony Summary

Testimony (53 total)

- 46 submitted written testimony
- 5 submitted oral testimony
- 2 submitted both oral and written

Comments

- Climate change response is critical
- Include all Discussion Draft components
- Expedite work in industrial areas/
Complete EOA work faster
- Slow project until more from FEMA

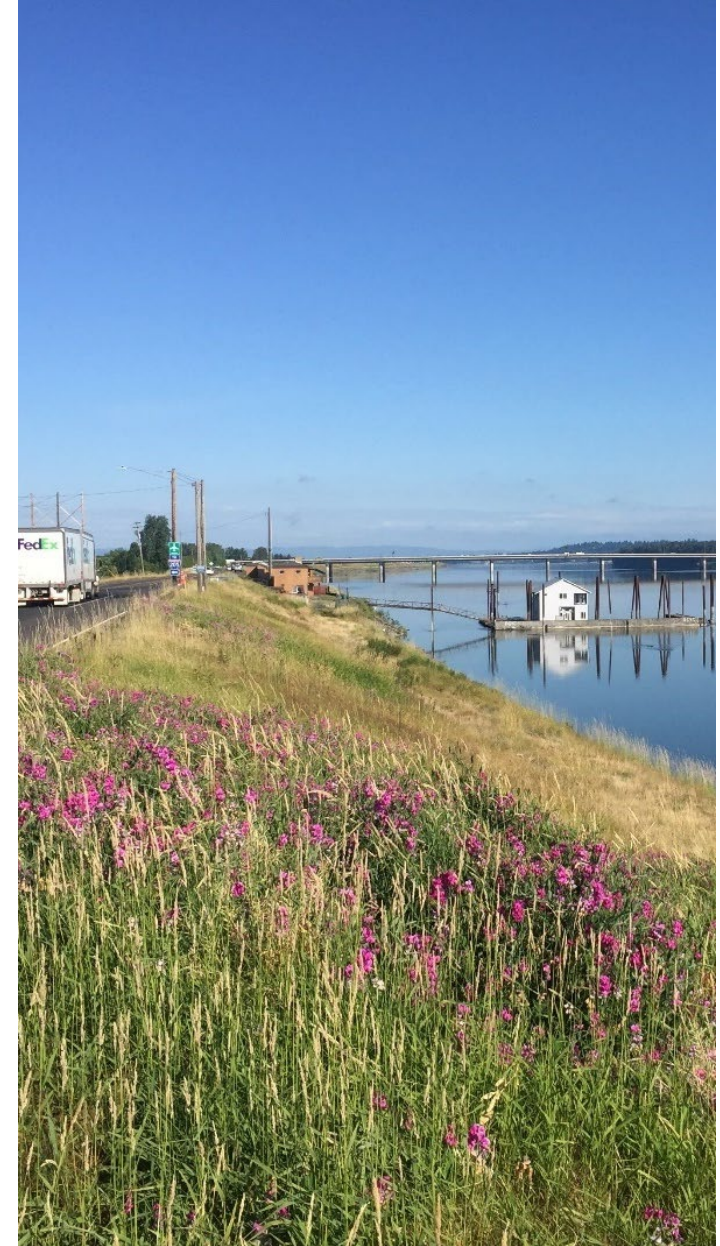


Columbia Corridor Non-Industrial Lands



Columbia Corridor Non-Industrial Lands

- Discussion Draft proposed Environmental Conservation overlay expansion (~77 acres)
- Columbia Corridor Industrial Lands (CCIL) Ezone Project started
- CCIL Ezone Project evaluating new/modified e zones
 - Approx. 68% being considered for Environmental Protection overlay (~53 acres)



Building Code Updates



Building Code Updates

Existing Title 24 Chapter 24.50
Requirements

- Apply to Metro Title 3 map
- “Balance cut/fill”, or a 1:1 ratio for excavation to fill placement
- 1:1 ratio applies to all of the floodplain



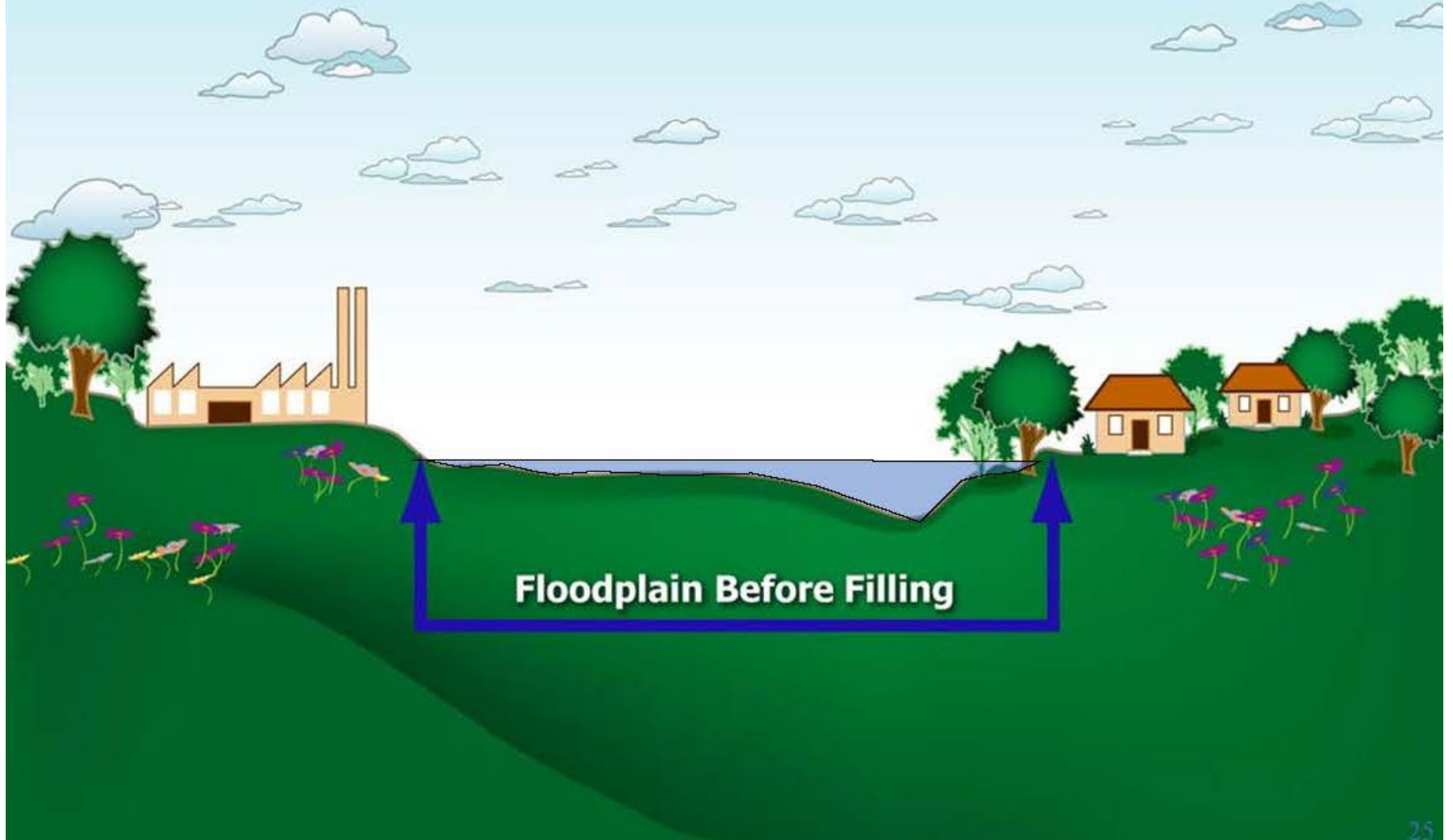
Building Code Updates

FEMA BiOp Directives

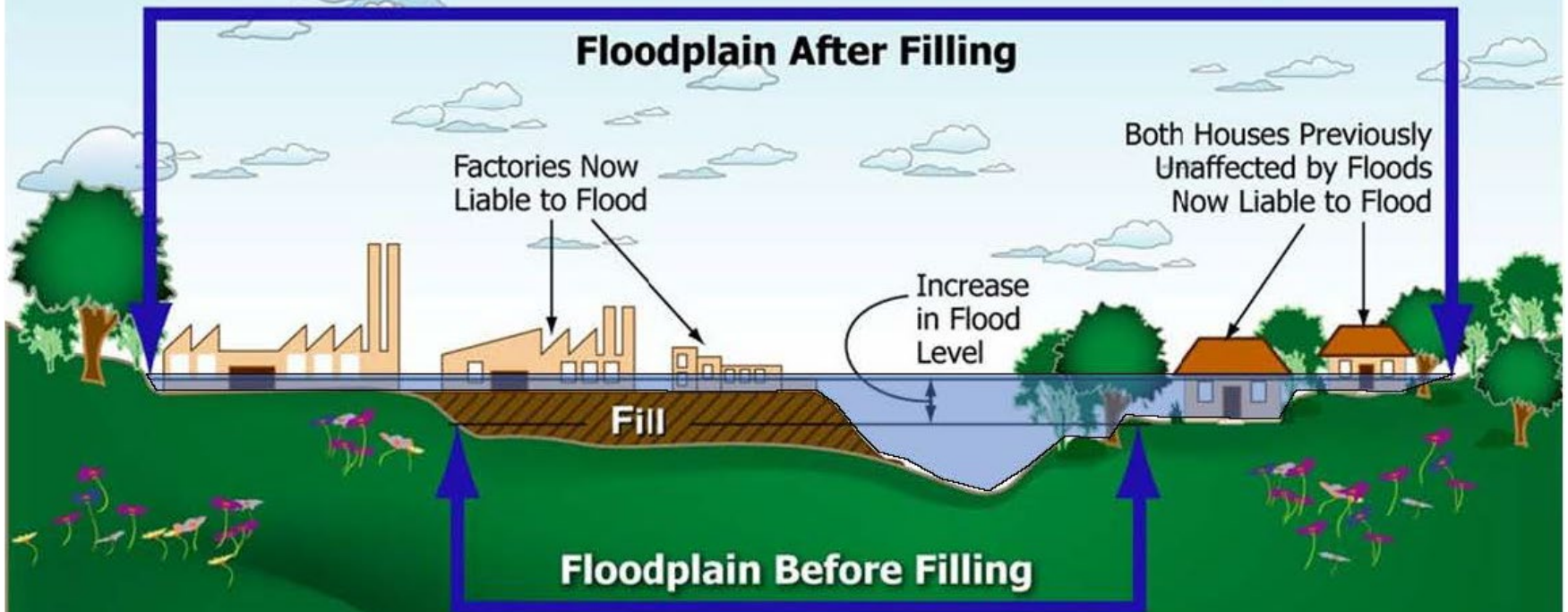
- Require excavation for fill *and* structures
- Increase excavation to offset development along the river
 - High hazard area (2:1)
 - Riparian buffer area & undeveloped floodplain (1.5:1)
- Excavation required in remainder of the floodplain (1:1)



Today's Floodplain



Today's Floodplain Is Not Necessarily Tomorrow's Floodplain



When large areas of the floodplain are filled, floodwater storage capacity is decreased and properties upstream or downstream could be at greater risk of flooding.

Title 24 Chapter 24.50

Current Schedule

- Now through 2022 – Scoping
- Early 2023 – Engagement through stakeholder groups and other outreach
- Proposed code amendments will be available for public review prior to City Council hearing
- Spring 2023 (target) – City Council hearing(s) and adoption



Mitigation Banks



Mitigation Banking

Mitigation banks are projects that restore properties for the purpose of providing improved ecological function. The restoration and protection of these areas generate transferrable mitigation credits, that can be used to offset specific types of impacts (wetlands, streams, etc) resulting from development of other sites. Bank projects are approved and regulated by agencies at the federal, state, and sometimes local level; once approved, credits are generated as milestones are met, and released by regulatory staff.

These differ from In Lieu Fees because mitigation bank projects are built and approved prior to the development impact.

Mitigation Banking Operational and Management Models – Case Studies Report. 2019. Cascade Environmental for the City of Portland.



Mitigation Banking in Portland

- Extensive due diligence to date: There is demand, we have a site lined up, and the financial risk is moderate.
- Eastbank Crescent/OMSI site has progressed: concept design assessed, appraisal shows banking as highest best use, OMSI incorporated the concept into its master plan, extensive Tribal engagement.



Mitigation Banking Next Steps

1. How does the City finance the bank?
2. How do we structure the organization within the city?

Staff Recommended Amendments

Staff Recommended Amendments

Two categories of amendments (see Attachment B)

- Map amendments
- Zoning Code amendments

Staff-identified amendments for discussion

- A-1, Modification to the extent of River Environmental Overlay Zone in South Reach

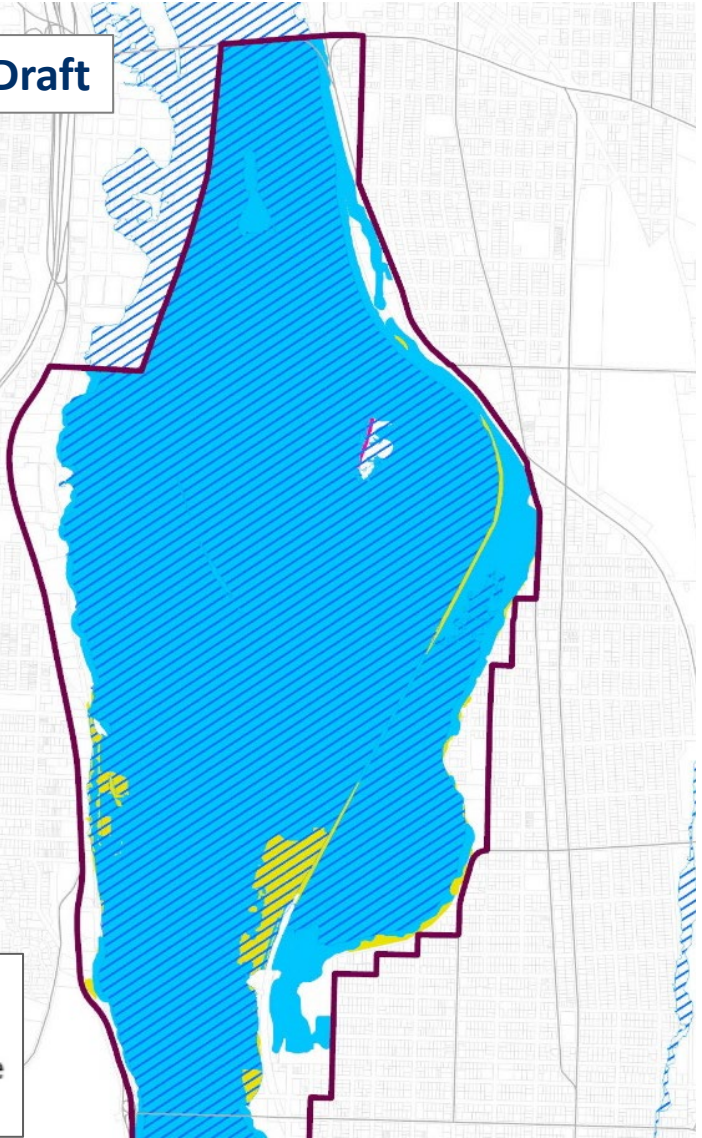


A-1, S Reach River Environmental Modification

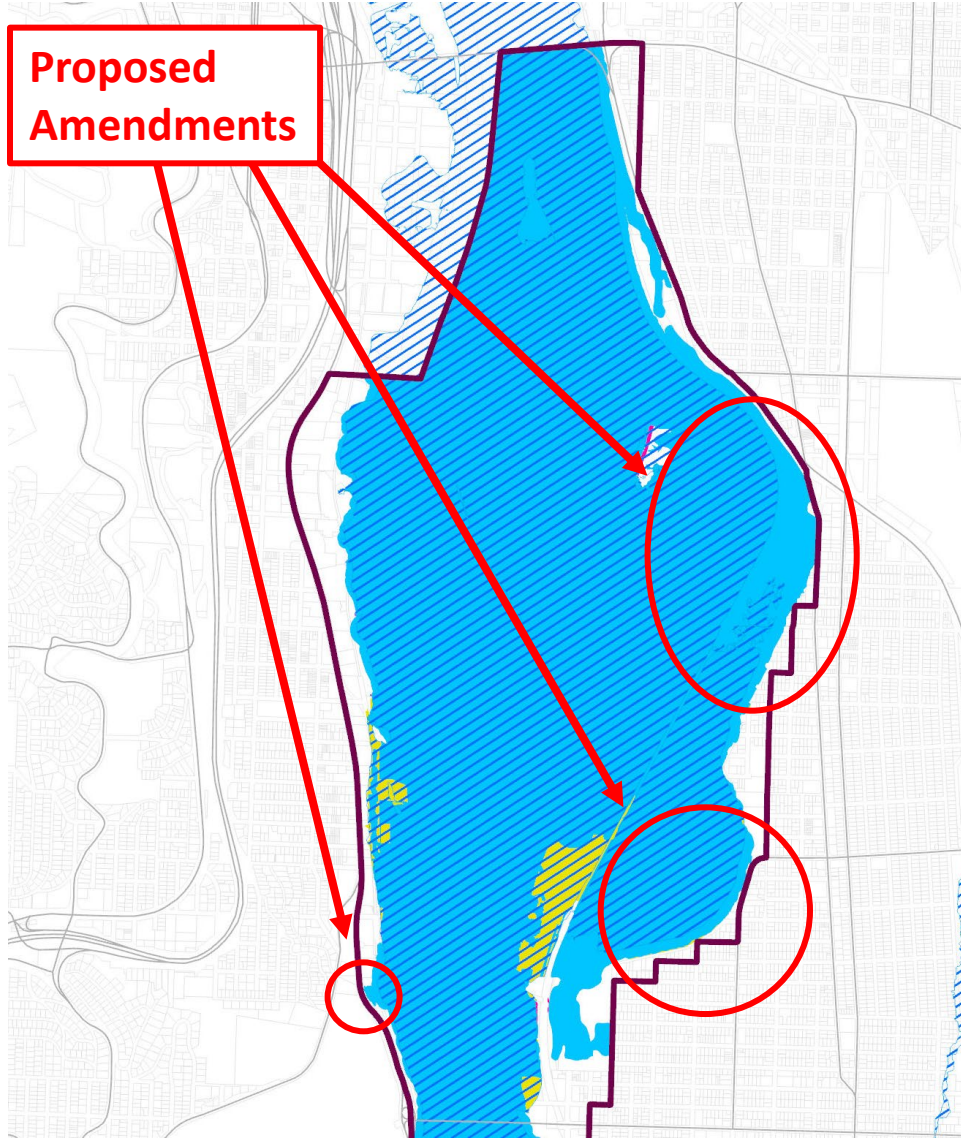
Proposed Draft

Change

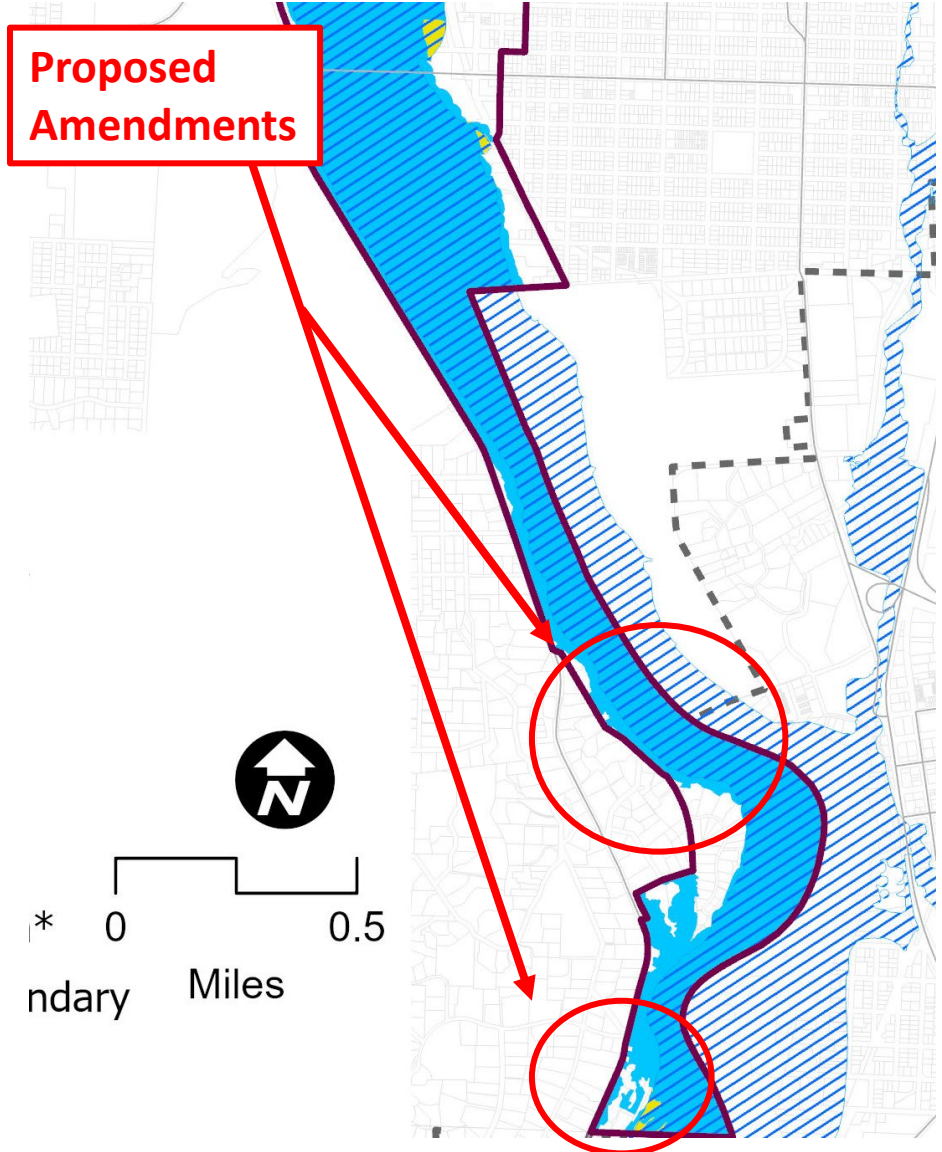
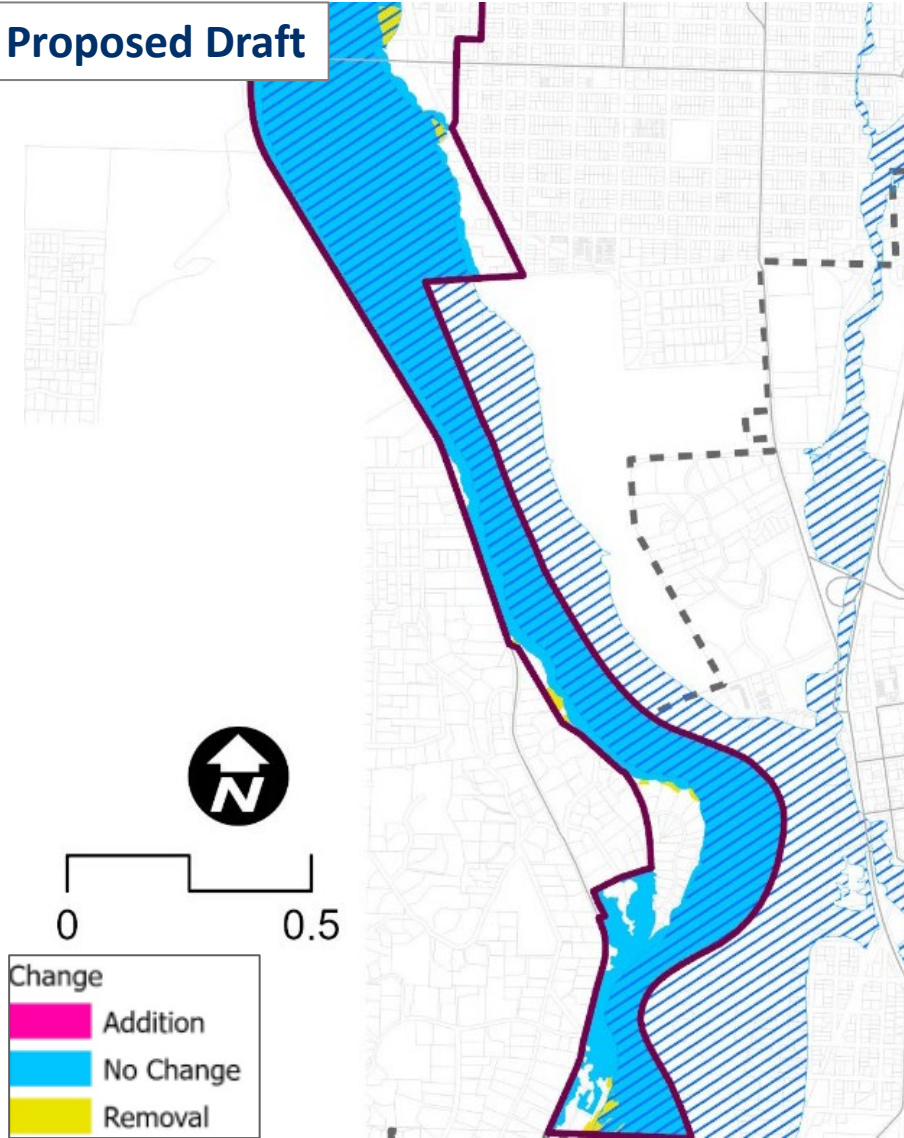
- Addition
- No Change
- Removal



Proposed Amendments



A-1, S Reach River Environmental Modification



Questions/Discussion

Public Engagement

Before Discussion Draft (Nov 2021)

- Community Involvement Committee (CIC)
- Outreach to tribal governments

Discussion Draft (Nov 2021 – July 2022)

- 3 virtual open houses
- Comments through Map App
- Presented to/met with neighborhood assocs and stakeholder groups
- 3 focus groups, incl. 2 with BIPOC community members

Proposed Draft

- Responded to 50 calls and 15 emails

