

**CLACKAMAS RIVER WATER BOARD OF COMMISSIONERS
SPECIAL BOARD MEETING & WORK SESSION
May 24, 2021**

COMMISSIONERS PRESENT- By Phone

Sherry French President
Naomi Angier, Secretary
Tessah Danel, Treasurer
Rusty Garrison

STAFF PRESENT:

Todd Heidgerken, General Manager
Karin Holzgang; Exec. Assistant to the Board

CRW Employees: IT Manager, Kham; Chief Financial Officer, Carol Bryck; Chief Engineer, Adam Bjornstedt; Engineering Manager, Joe Eskew; Emergency Manager, Donn Bunyard; Water Resources Manager, Rob Cummings; Engineering Associate, Anthony Steele

COMMISSIONERS ABSENT:

VISITORS: Bob Steringer, Ali Leads (Carollo Engineers), Austin Peters (Carollo Engineers), Kevin Williams (OLWS), Bob Rubitschun (Budget Comm. Member)

Call Special Meeting to Order

Commissioner French called the meeting to order at 6:00pm.

Roll Call was taken- all present

MOTION: Commissioner Angier move to approve the agenda as presented. Commissioner Danel seconded the motion.

MOTION CARRIED 4-0

Ayes: Angier, Danel, French, Garrison
Nays: None
Abstentions: None

Commissioner French shared that CRW's Water Distribution Supervisor, Jason Labrie passed away. She shared that the thoughts and prayers go out to his family and the CRW staff.

Public Comment- Bob Rubitschun- asked about the reason for the amount of pipe length chosen for this project. Gar Kerr sent in a letter that will be included in the Board packet addressing Work Session items 1 & 2.

Agenda Item 1.0 Consider Approval of 82nd Dr. Waterline-Phase 1; Project Scope Increase

Mr. Eskew provided a summary for the reason for the addition to the original project and that the increase in scope would exceed 15% of the original bid and therefore requires the Board to approve the increase. There was additional CIP dollars available in the budget and added the extra waterline to the current project will be more economical than doing it as a separate project.

Comm. Garrison asked about the age of the pipe which is 1920's cast iron pipe and has lead joints (this is not an issue for the water quality). When this pipe fails it fails in a big way.

MOTION: Commissioner Angier move to approve the funds necessary to increase the amount of water constructed under the 82nd Dr. Waterline – Phase 1 project. Commissioner Danel seconded the motion.

MOTION CARRIED 4-0

Ayes: Angier, Danel, French, Garrison
Nays: None
Abstentions: None

Adjourn the Special Meeting at 6:17pm

Open the Work Session at _____

1. **Water Treatment Plant Facility Plan Update** (see attached presentation) - Ali Leads & Austin Peters with Carollo Engineers
 - Key Planning Activities
 - ✓ Assessment of raw water quality
 - ✓ Risk of change to raw water quality
 - ✓ Potential for regulatory changes
 - ✓ Determine capacity and level of service goals.
 - Key Findings- deficiencies
 - ✓ Capacity
 - ✓ Water quality
 - ✓ Age
 - ✓ Hazards
 - Resulting project
 - ✓ Look at everything from repairing the existing plant focus to building a new plant focus and combinations in between.
 - ✓ Incrementally replace infrastructure (Alternative 2b)
 - Water quality improvements
 - Capacity improvements
 - Aging infrastructure/resilience
 - ✓ Project timing
 - Additional studies
 - Detailed project definition
 - Critical repairs and improvements
 - Ongoing operations and maintenance- filter valve rebuild, filter aid polymer system replacement, low lifts evaluation.
 - ✓ Project prioritized to maximize value.

- Benefits include.
 - Reduced risk
 - Addressing the most drivers
 - Meeting short term needs with existing funding reserves while planning for larger long-term projects
 - WTP is only one part of the “puzzle” for the District overall CIP strategy.
 - Project listing (see slides)

Commissioner Angier asked about the option 2b as the chosen option vs. option 2a. One big reason for not choosing 2a is the footprint needed to accommodate the 2a options. Commissioner Danel asked about the cost breakdown costs (in today’s dollars). Commissioner Garrison asked about the issue of the age of infrastructure, is this the actual age or functional life. Also asked about the studies (see slide 12), also asked about the reason for the filter upgrades (for a capacity standpoint)

2. South Service Area Distribution Enhancements- See attached map

- Summary of the phase 1 of the “backbone” projects that began back in 2015 and finished up in 2020. The primary goal was to serve more CRW customers with CRW water (south side customers)
- Outdated infrastructure was replaced with the projects.
- Originally a phase 2 was identified to continue to support the original goal.
- With the completion of phase 1 staff has had the opportunity to review the original phase 2 projects to see if those as originally identified would still provide the best opportunities for the district for the best cost. Out of this came a six-year plan for capital projects,
- From the planning efforts there was a look at how to best accomplish the original goal and look at other needs in the district (WTP and other infrastructure upgrades/improvements).

Comm. Angier asked about the amount budgeted for projects for the WTP and the initial short term proposed project with the proposed rate increase percentage (yes). Is staff watching growth in the District to determine if the system can support it or not, yes staff does. Comm. Garrison asked the approximate age of the infrastructure in question for upgrade (50-60 years); what the overall impact to customers with the upgrades is (there has been a reduction in the amount of the water purchased from SFWB) and how or if there are savings to the district from not purchasing water from SFWB and providing CRW water.

3. Natural Hazard Mitigation Plan (NHMP) update- (see power point)

- One of the established goals from the strategic plan is to invest in infrastructure and emergency preparedness which is a key to the NHMP.
- Purpose- evaluate risk and establish actions to mitigate impact.
- Development contributions- currently multiple plans this will consolidate into one.
- Mitigation action items- hazards, assets, actions
- Plan review
- Approval -FEMA contingent upon the CRW Board’s approval
- Adoption- Board will approve the plan (Aug. 2021) and then FEMA has final approval.
- Value of the NHMP- consolidates strategies, opportunities for grants (having a NHMP is required to qualify).
- Next Steps- Research the detail

4. Commissioner Communications- None

5. General Manager Update

- There is an Exec. Session to follow the work session

Public Comment- Bob Rubitschun- ask about cyber attacks that may affect the distribution of water to customers. There has been a Risk and Resilience Study completed and the Board has approved a project to mitigate risks from a cyber-attack. Also asked if the District has insurance against a cyber attack.

Adjourn the work session at 7:35pm and convene the Exec. Session to:

1. Discuss information or records that are exempt by law from public inspection pursuant to ORS 192.660 (2) (f) and 192.355 (9)

WATER TREATMENT PLANT FACILITIES PLAN



WTP Facility Plan Board Work Session

May 24, 2021

WATER
OUR FOCUS
OUR BUSINESS
OUR PASSION

carollo
Engineers...Working Wonders With Water®

Purpose of the Plan

- Evaluate WTP treatment capacity (current and future demands)
- Identify potential deficiencies
- Recommend improvements
- Prioritize improvements



We have methodically stepped through key planning activities...

Assessment of raw water quality, risk of change to raw water quality, potential for regulatory changes
Determine capacity and level of service goals for the WTP

High level assessment of existing condition and
process performance infrastructure

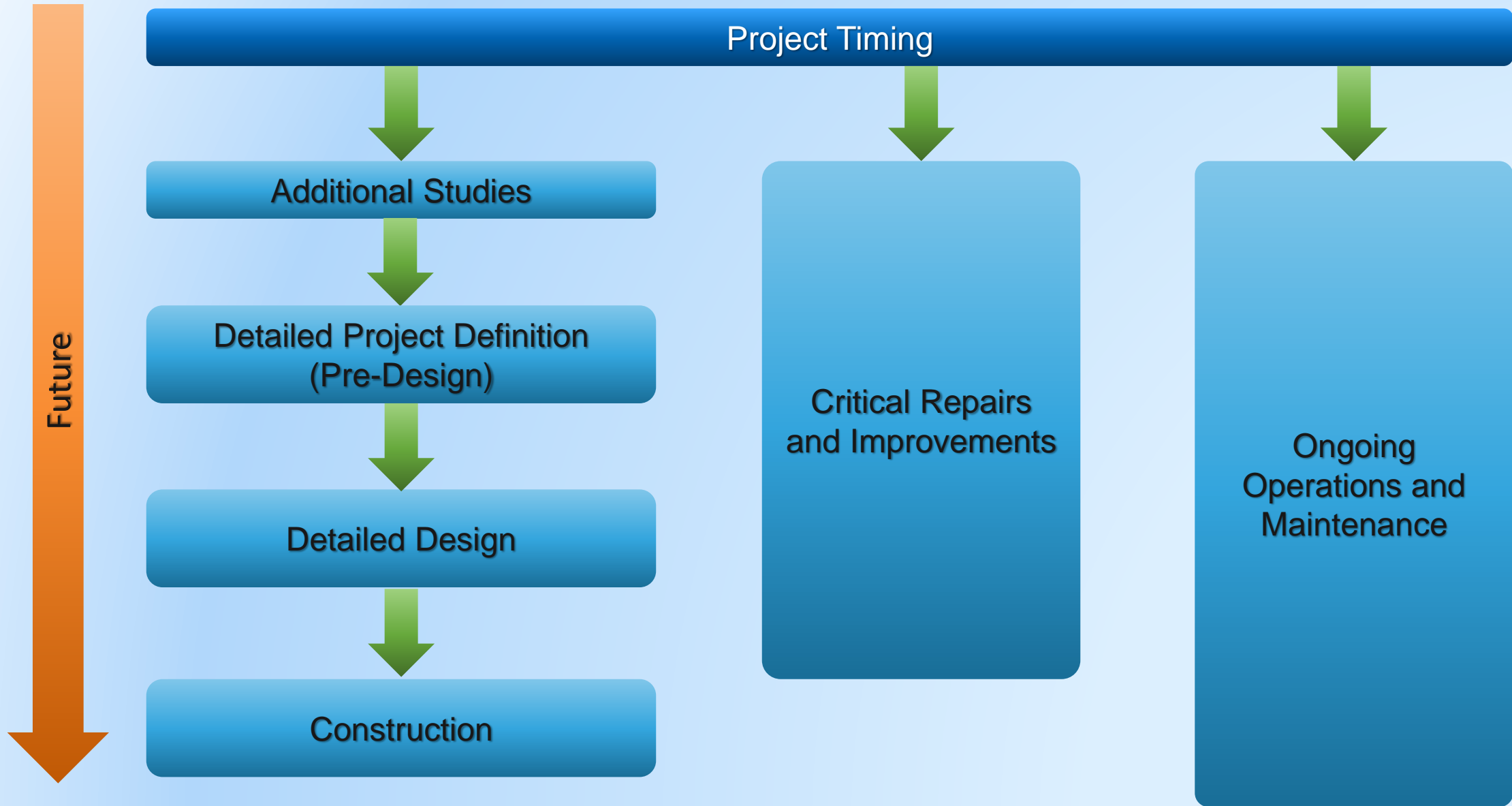
What are the current needs?

What is needed in the future and
how do we best meet these needs?

Project recommendations and prioritization

Project timing

...And set a course for future activities



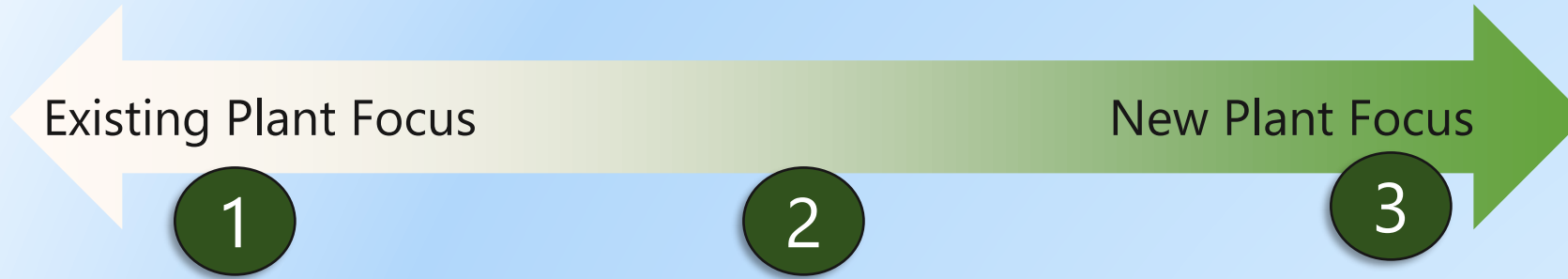
Key Findings



Plant Element	Deficiencies			
	Capacity	WQ	Age	Hazards
Raw Water Intake and Pipeline			X	
Low-Lift Pump Station and Raw Water Pipe	X		X	X
Flash Mix			X	X
Pre-Treatment (Exiting Contactors)		X	X	X
Filters	X		X	X
Clearwell	X		X	X
High-Lift Pump Station	X		X	X
Residuals Handling (lagoons)	X		X	X
Control Building			X	X
Chemical Storage			X	X
Plant Electrical			X	X
ANTICIPATED TIMEFRAME	2028	2031-2040*	2034-2074	By 2063

* May be sooner depending on funding

Resulting Projects

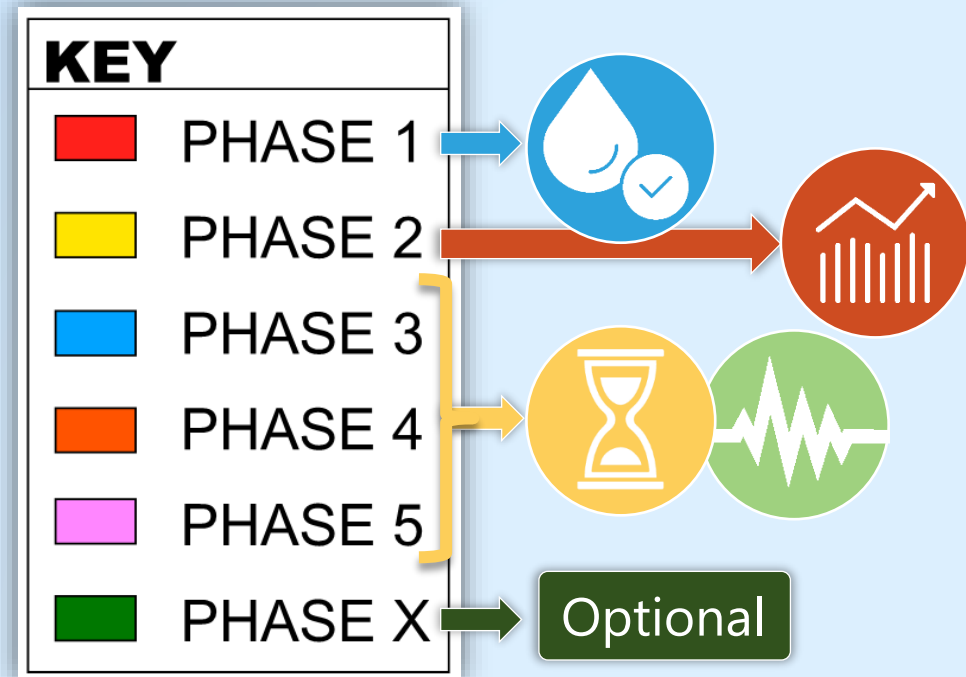


1 Retrofit and rehab as much as possible

2 Incremental construction of new infrastructure
a. Floc/Sed with Plates + PAC
OR
b. Ozone and Ballasted Floc







3 Build all new treatment plant
a. Floc/Sed with Plates + PAC
OR
b. Ozone and Ballasted Floc

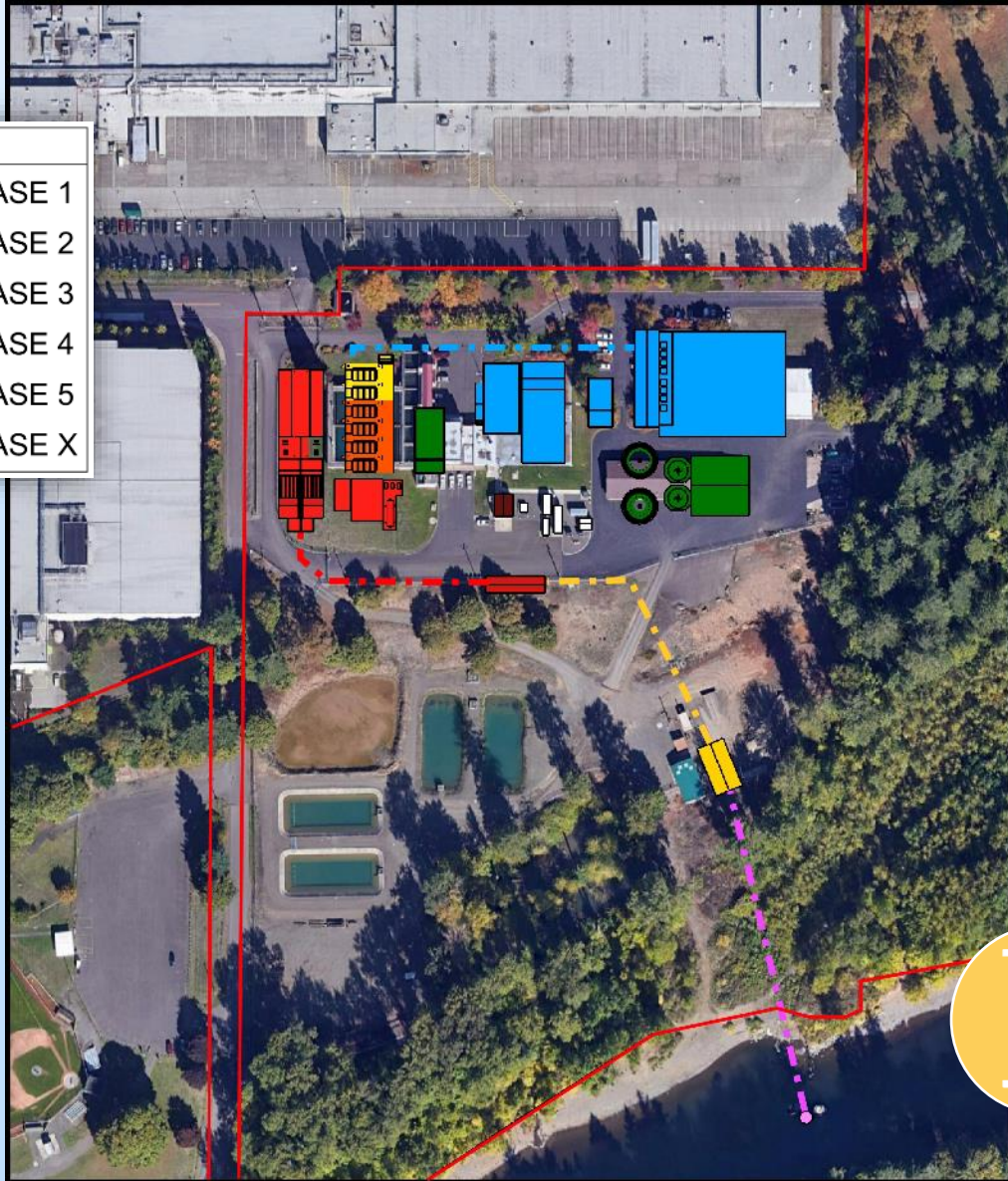
Phases within alternatives:



Selected Alternative

(Alternative 2b)

KEY	
	PHASE 1
	PHASE 2
	PHASE 3
	PHASE 4
	PHASE 5
	PHASE X



Existing Plant Focus

New Plant Focus

2b

Incrementally Replace Infrastructure

❖ Water Quality Improvements

- Ozone system
- Ballasted flocculation basins
- Upgrade existing filters



❖ Capacity Improvements

- Additional filters (as needed)
- Additional solids handling basins

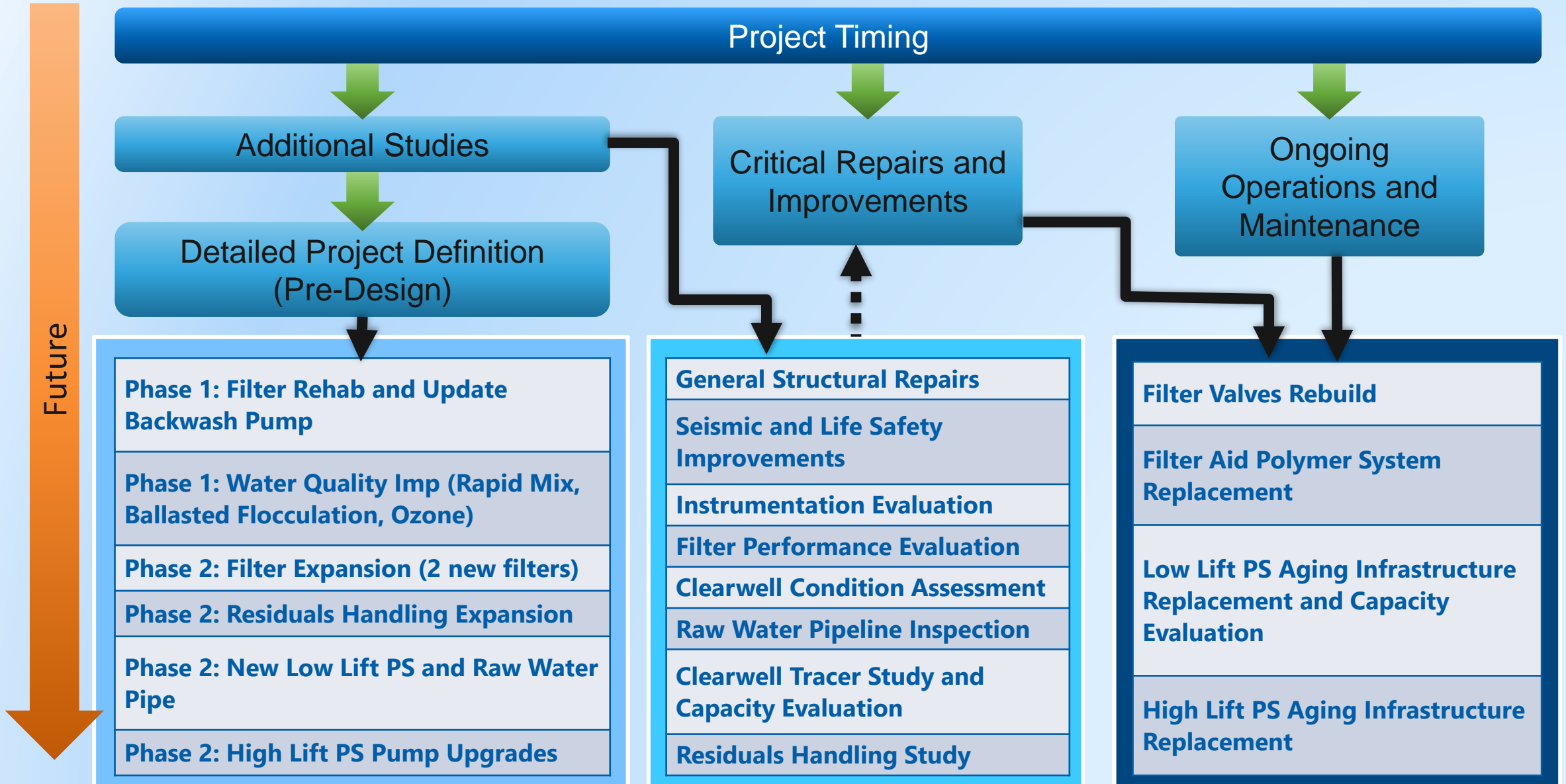


❖ Aging Infrastructure / Resilience

- Achieved as facilities are replaced



Recommended improvements included all types of projects



Projects within the WTP were prioritized to maximize value



Benefits Include:

- Reduced Risk
- Addressing the Most Drivers
- Meeting short term needs with existing funding reserves while planning for larger long-term projects

- Power
- Footprint
- Process

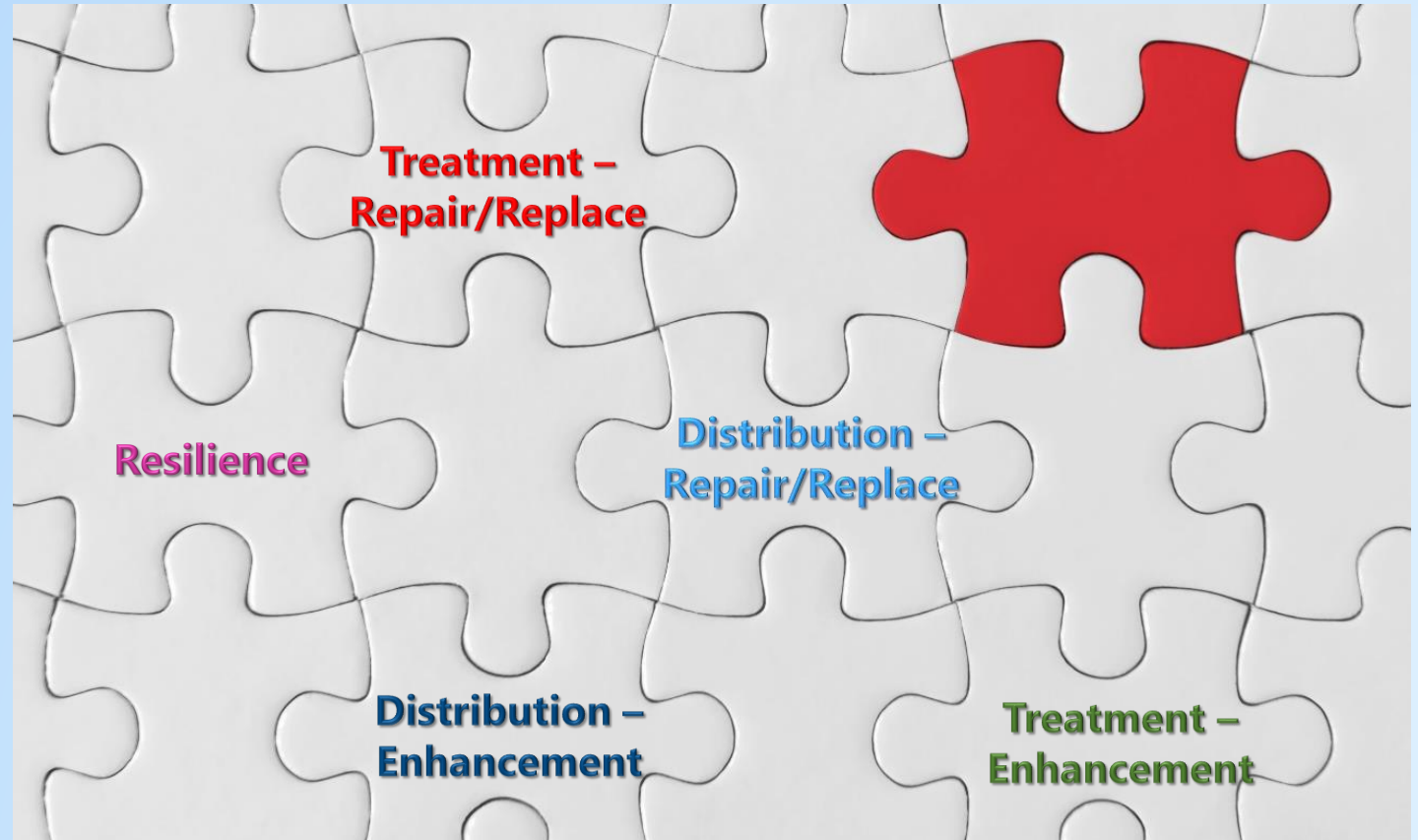
- Planning with other projects

- Maximizing benefits

But... CRW's infrastructure extends beyond the WTP

The WTP is only one part of the “puzzle” of the District’s overall CIP strategy:

- Repair/Replacement needs of the system
- Enhancement needs of the system
- Resilience of the system

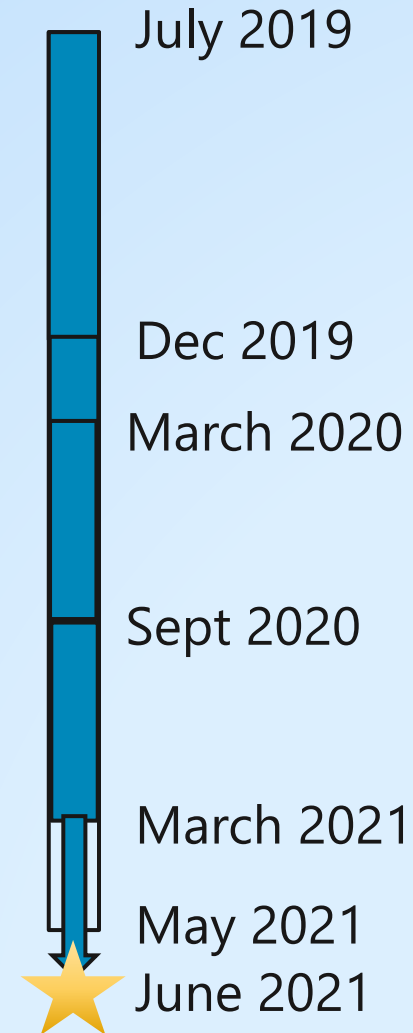


Timing prioritizes repairs/replacements, gathering needed information, and funding considerations for future projects

Replace/repair	FY 21-23	Study Suite	General Structural Repairs
			Seismic and Life Safety Improvements
			Instrumentation Evaluation
			Filter Performance Evaluation
			Clearwell Condition Assessment
	FY 23-25	Project Suite	Filter Valves Rebuild
			Filter Aid Polymer System Replacement
			Raw Water Pipeline Inspection
	FY 25-27	Project Suite	Clearwell Tracer Study and Capacity Evaluation
			Residuals Handling Study
Enhancement	Long Term (2031-2040)* <i>*May be sooner depending on funding</i>		Low Lift PS Aging Infrastructure Replacement and Capacity Evaluation
			High Lift PS Aging Infrastructure Replacement
			Phase 1: Filter Rehab and Update Backwash Pump
			Phase 1: Water Quality Improvements (Rapid Mix, Ballasted Flocculation, Ozone)
			Phase 2: Filter Expansion (2 new filters)
			Phase 2: Residuals Handling Expansion
			Phase 2: New Low Lift PS and Raw Water Pipe
Phase 2: High Lift PS Pump Upgrades			

WTP Facility Plan Wrap Up – Almost There!

- Data Gathering
- Existing WTP Assessment
- Project Recommendations
- Final List, Strategy, & Planning Docs
- Final Document Revisions
- Issue



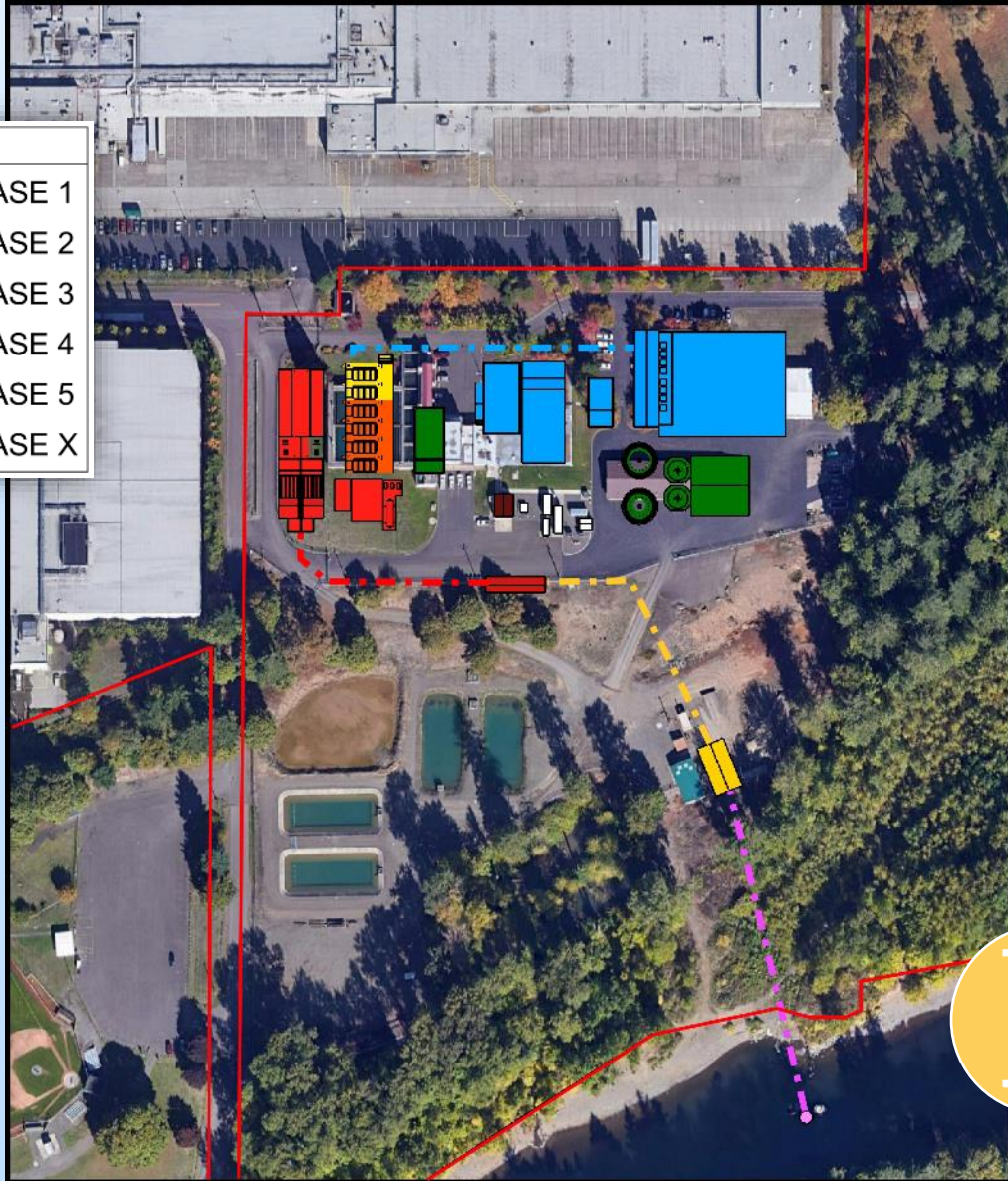
Questions?



Selected Alternative

(Alternative 2b)

KEY	
■	PHASE 1
■	PHASE 2
■	PHASE 3
■	PHASE 4
■	PHASE 5
■	PHASE X



Existing Plant Focus

New Plant Focus

2b

Incrementally Replace Infrastructure

❖ Water Quality Improvements

- Ozone system
- Ballasted flocculation basins
- Upgrade existing filters



❖ Capacity Improvements

- Additional filters (as needed)
- Additional solids handling basins



❖ Aging Infrastructure / Resilience

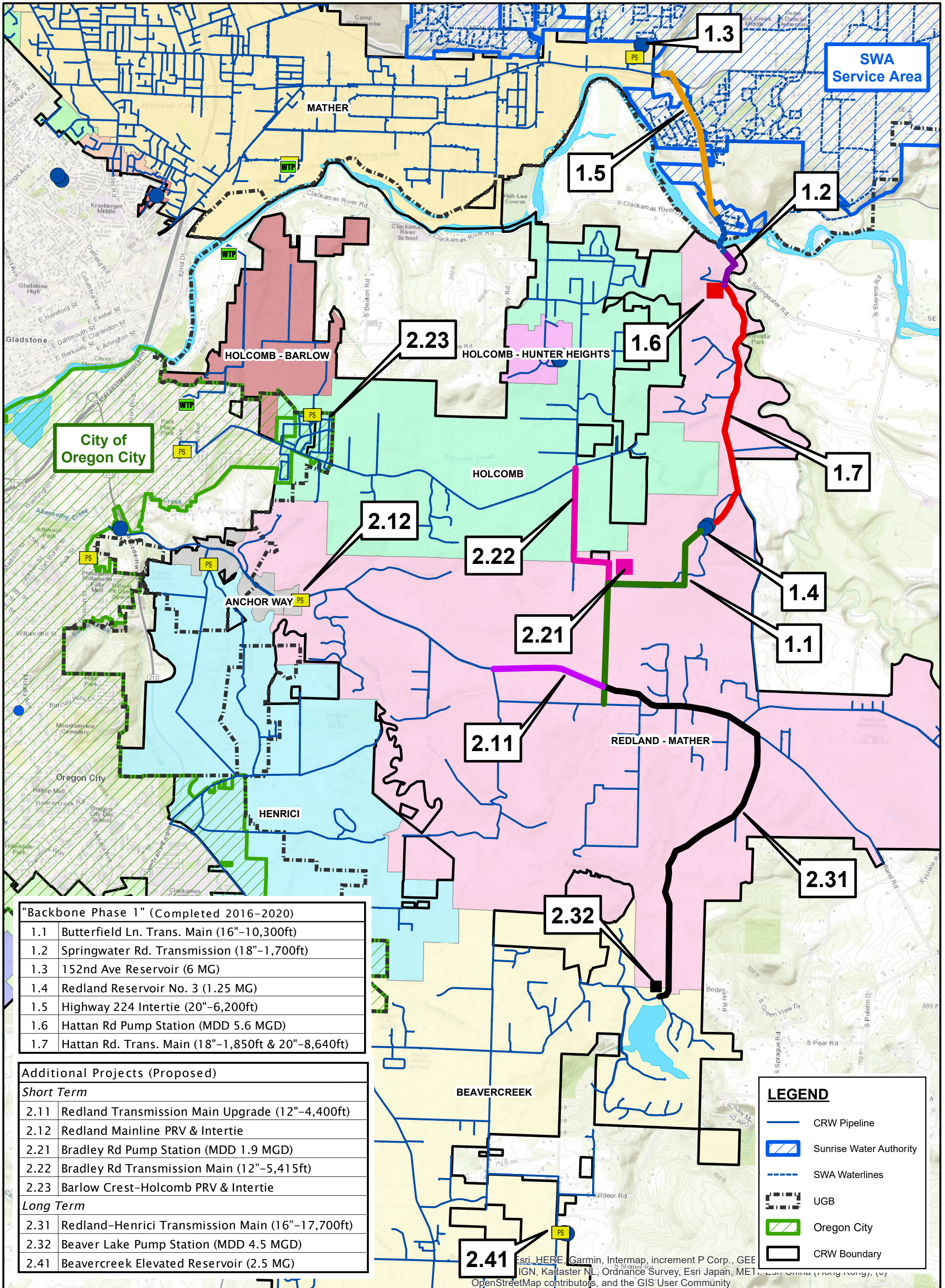
- Achieved as facilities are replaced



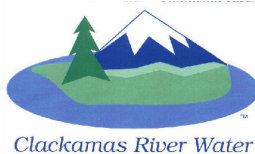
Timing prioritizes repairs/replacements, gathering needed information, and funding considerations for future projects

Replace/repair	FY 21-23	Study Suite	General Structural Repairs	\$125,000
			Seismic and Life Safety Improvements	
			Instrumentation Evaluation	
			Filter Performance Evaluation	
			Clearwell Condition Assessment	
	Project Suite	Filter Valves Rebuild	\$1.0M	
		Filter Aid Polymer System Replacement		
	FY 23-25	Study Suite	Raw Water Pipeline Inspection	\$78,000
			Clearwell Tracer Study and Capacity Evaluation	
			Residuals Handling Study	
Project Suite	Low Lift PS Aging Infrastructure Replacement and Capacity Evaluation	\$664,000		
FY 25-27	Project Suite	High Lift PS Aging Infrastructure Replacement	\$600,000	
Enhancement	Long Term (2031-2040)* <i>*May be sooner depending on funding</i>		Phase 1: Filter Rehab and Update Backwash Pump	\$4.4M
			Phase 1: Water Quality Improvements (Rapid Mix, Ballasted Flocculation, Ozone)	\$17.6M
			Phase 2: Filter Expansion (2 new filters)	\$10.2M
			Phase 2: Residuals Handling Expansion	\$5.1M
			Phase 2: New Low Lift PS and Raw Water Pipe	\$10.6M
			Phase 2: High Lift PS Pump Upgrades	\$3.6M

SOUTH SERVICE AREA DISTRIBUTION ENHANCEMENTS



Date: May 2021
 Drawing Name: SOUTH_SERVICE_ENHANCEMENTS_MAY2021.mxd
 Drawing Location: F:\GIS\ArcMap MXD Project Files
 Drawing By: M. Grose



Clackamas River Water

CLACKAMAS RIVER WATER
 GEOGRAPHIC INFORMATION SYSTEM
16770 SE 82nd Drive - Clackamas, Oregon
 503-722-9220 - www.crvwater.com



Emergency Preparedness

Natural Hazard Mitigation Plan Update

Board Work Session

Presented by Donn Bunyard

May 24.,2021



Natural Hazard Mitigation Plan-(NHMP)

➤ Vision, Mission, Values, & Goals

- ❖ Ensure a reliable water supply for the communities we serve by investing in infrastructure and emergency preparedness.
 - ✓ Hazard Mitigation is a part of that preparedness effort!

- ❖ Heighten public awareness of the District's role in enhancing public health, community vitality, and economic growth.
 - ✓ Public review is a step towards increased public awareness of our efforts to build a resilient water system on behalf of our ratepayers and the region.

Natural Hazard Mitigation Plan

➤ Purpose

- ❖ Evaluate Risk & Establish Actions to Mitigate Impact
 - ✓ County Plan, City - Special District Addendums
 - Ex. - Clackamas Fire & Clackamas River Water

➤ Development Contributions

- ❖ Multiple CRW Plans— Goal is to Capture, Consolidate, and Incorporate into an NHMP

➤ Mitigation Action Items

- ❖ Hazards - Assets - Actions
 - ✓ Seismic – Flood – Power – Wildfire – Loss of Supply
 - ✓ WTP - Processes - SCADA – Pipe – Reservoirs – PS
 - ✓ Seismic Analysis, SCADA Master Plan, Emergency Water Supply, Backbone, Power

Natural Hazard Mitigation Plan

➤ **Plan Review**

❖ Community Engagement

- ✓ Ratepayers & Stakeholders
- ✓ Clackamas County
- ✓ State – Oregon Emergency Management

➤ **Approval**

❖ FEMA – Checklist of Regulations

- ✓ Contingent Approval or Edits Required

➤ **Adoption & Timelines**

❖ CRW Board of Commissioners – August 2021

- ✓ Notify FEMA – Final FEMA Approval

Natural Hazard Mitigation Plan

➤ Value of a NHMP

❖ Consolidated Strategies

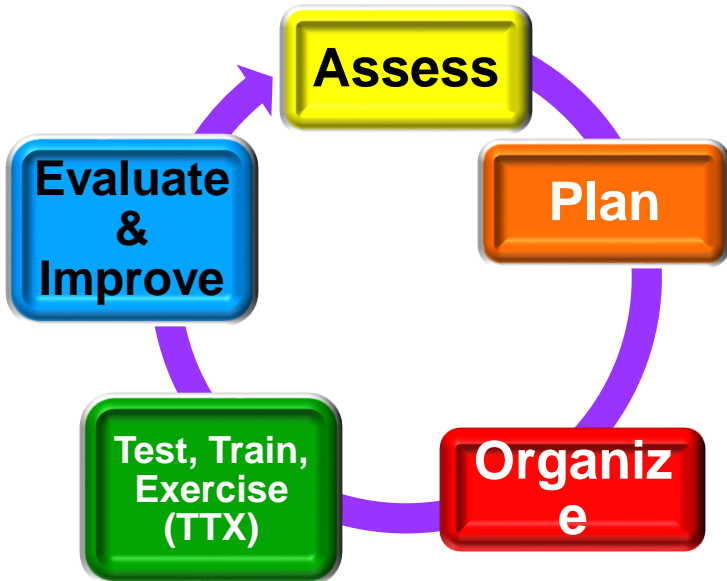
- ✓ Mitigation Action Items = Resilient Water Utility
 - Vision, Mission, Goals

❖ Hazard Mitigation Grant Programs

- ✓ Potential State and Federal Funds
 - NHMP Required to Qualify
 - 75/25 Split – **No Guarantees**

❖ Next Steps

- ✓ Research the Details
 - Short- & Long-Term Grant Funding Plan



Questions