Clean Water Plan

Making the Right Investments at the Right Time

Regional Water Quality Committee

September 1, 2021

Presenters:
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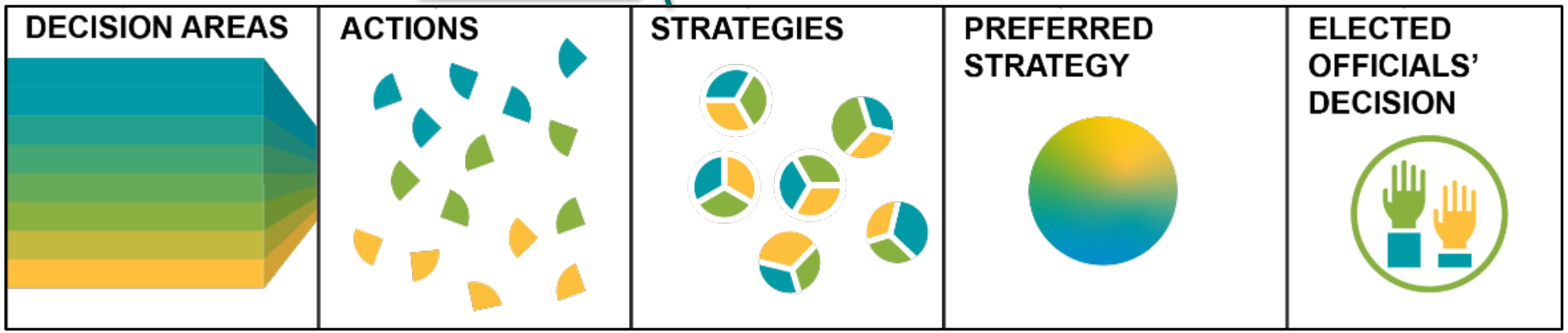
Clean Water Plan Planning Process Overview

We are here



Specific programs or sets of projects that address one of the Decision Areas the Plan needs to consider. Policy considerations are identified.

Distinct alternative investment Strategies to see big-picture financial, water quality, and social outcomes informing policy discussion and choices.

Executive Preferred Strategy is a complete water quality and wastewater system investment approach for the next 40 years. It may draw primarily from one Strategy, or it may blend elements from multiple Strategies. Expected to include new, updated, affirmed supporting policies.

Deliberation of Executive Preferred Strategy and policies.

Policy Considerations – Existing Policies

Metropolitan Functions - King County Code 28.86

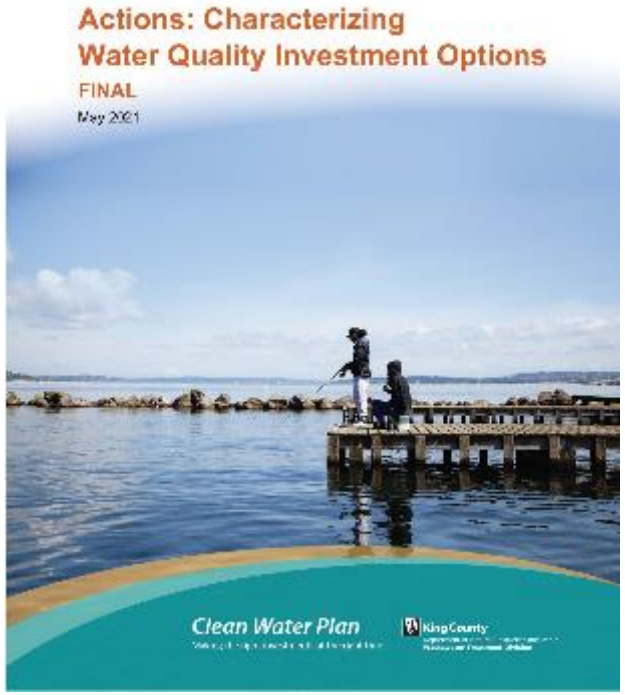
- **Wastewater Treatment**
  - Treatment plant policies (TPP).
  - Conveyance policies (CP).
  - I/I policies (I/IP).
  - Combined sewer overflow control policies (CSOCP).
  - Biosolids policies (BP).
  - Water reuse policies (WRP).
  - Wastewater services policies (WWSP).
  - Water quality protection policies (WQPP).
  - Wastewater planning policies (WWPP).
  - Environmental mitigation policies (EMP).
  - Public involvement policies (PIP).
  - Financial policies (FP).
  - Reporting policies.

Expecting policy conversations across all aspects of existing Wastewater Treatment policies in King County Code 28.86

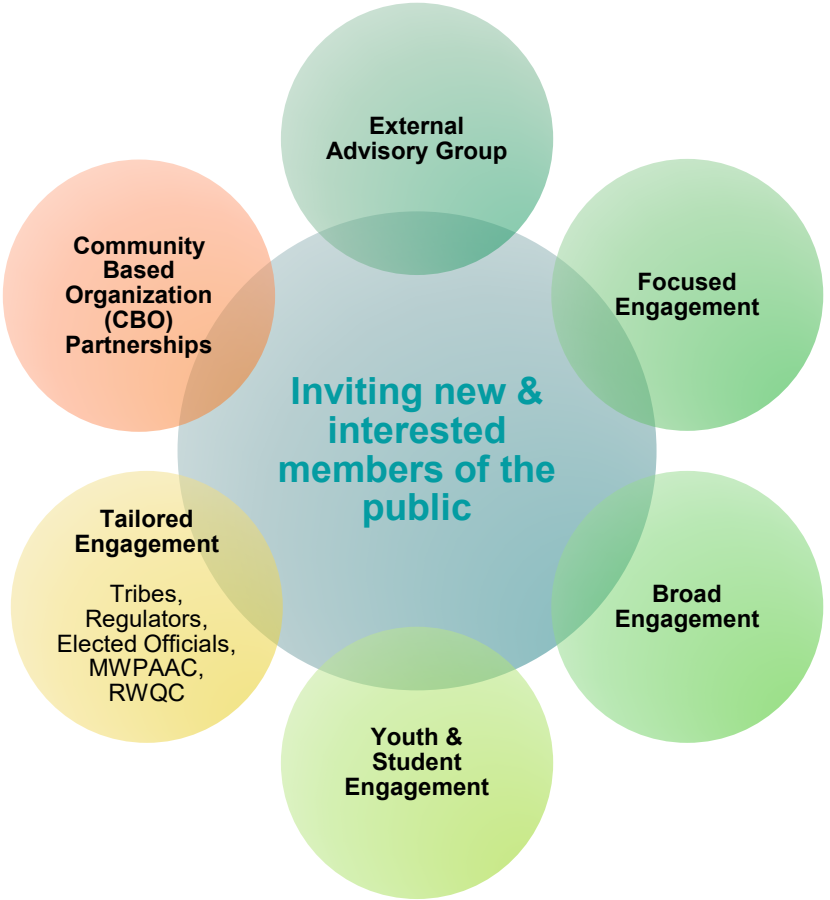
Planning Process Status and Check-in

Summary of Accomplishments

- Defined Decision Areas
- Developed Actions
- Extensive engagement



Regional Engagement Swim Lanes



Overview of Regional Feedback on the Planning Process

Process

- Schedule
- Complexity and magnitude of investments

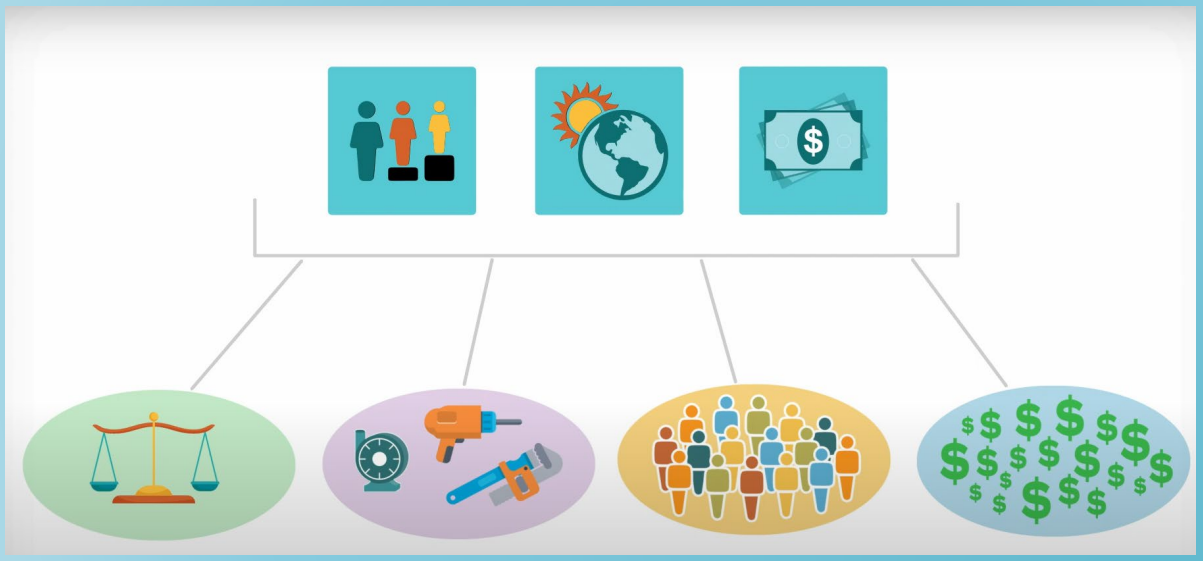
Scope

- Breadth of scope
- Clarity on goals

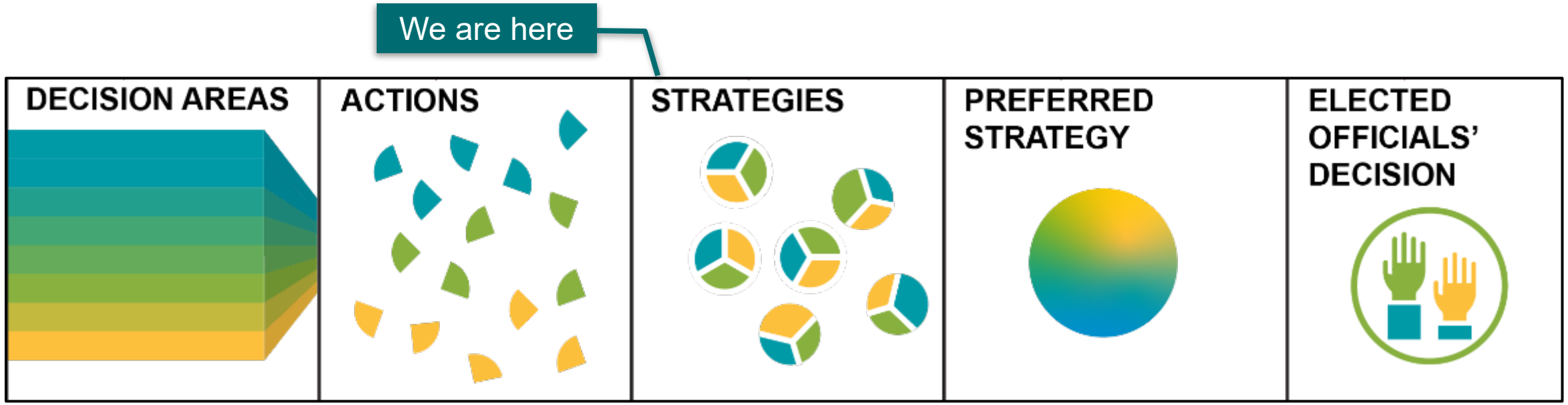
Technical Work

- Conceptual and requires assumptions

The Clean Water Plan is responding to existing and emerging issues to explore new and different approaches along with traditional ones.



Planning Process Status – Questions and Discussion



Highlights on Strategies Regional Engagement

- Community Based Organizations
- External Advisory Group
- MWPAAC
- Elected Official Workshops
- Tribal Governments
- Focused Engagement

Community Based Organizations – Strategies Development Engagement

Purpose:
Engage organizations as trusted advocates and leaders representing communities who haven't been included in strategic planning processes historically.

- **Work-in-Progress Strategies were presented in the July and August monthly meetings**

  Themes from input gathered include:

  - **Identify equity considerations – both community benefits and impacts**
  - **Understand costs and affordability of the Plan**
  - **Connect, repair, and build relationships with communities**

- **Additional sessions in the next two months**

External Advisory Group – Strategies Development Engagement

Purpose:
The Clean Water Plan External Advisory Group was convened to advise on aspects of the process.

Advisory Group Members Affiliated Organizations
King County Labor Council/Building Trades
Boeing
Puget Sound Regional Council
Master Builders Association of King and Snohomish Counties
Urban Indian Health Institute
The Nature Conservancy
Puget Sound Partnership
Seattle Public Utilities (MWPAAC)
Alderwood Water and Wastewater (MWPAAC)
Department of Ecology
University of Washington
Na'ah Illahee Fund
Washington Environmental Council
Oceanography, University of Washington
League of Women Voters
Duwamish Tribe

- **Initial discussion of Work-in-Progress Strategies in June.**

  Themes from input gathered include:

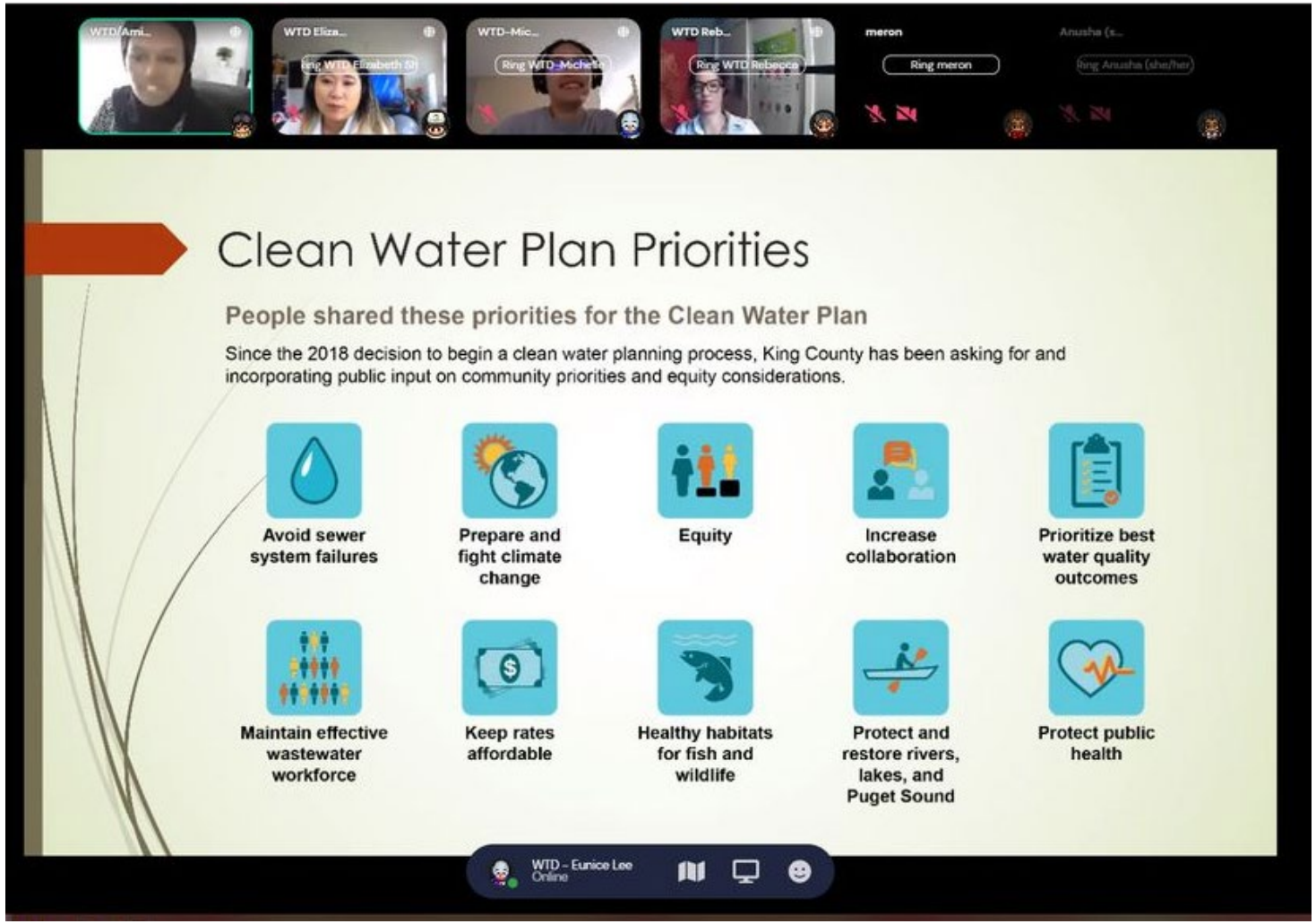
  - **Diversity of Strategies**
  - **Regulatory compliance requirements**
  - **Improving communication**

- **Planning for focused sessions in the next two months**

Upcoming Strategies Development Engagement

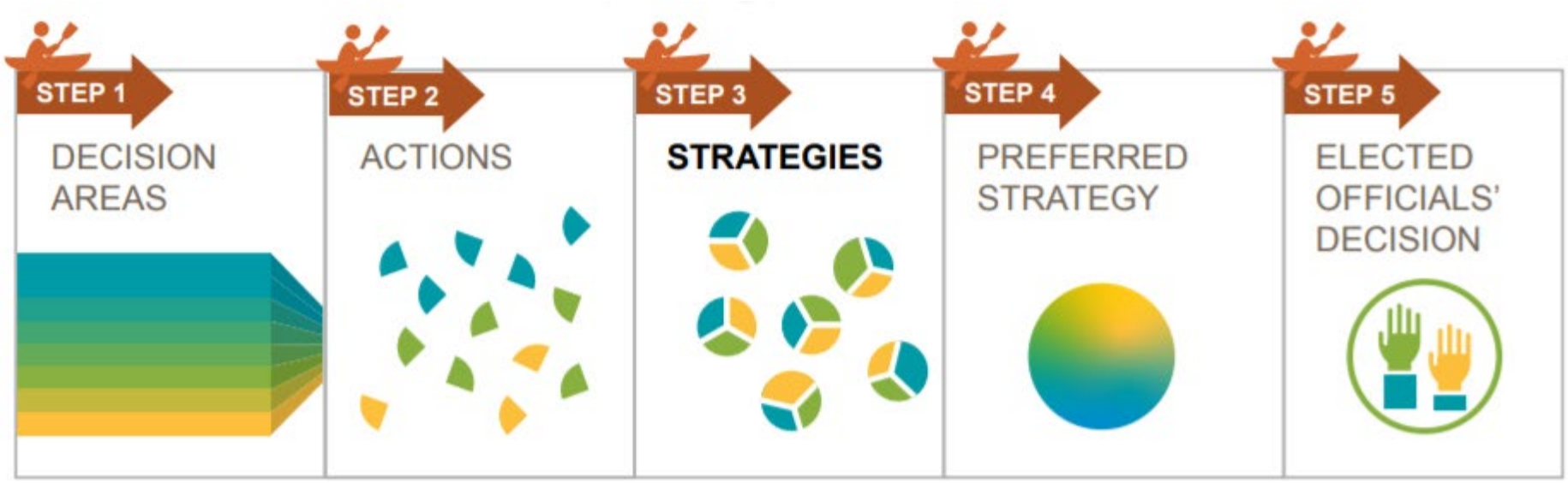
- MWPAAC
  - Monthly briefings
  - Workshops
- Elected Officials Workshops
  - Workshop 4 – September
  - Workshop 5 – October
- Tribal Governments
  - Briefing – Fall 2021
- Focused Engagement
  - Fall 2021

Regional Engagement – Questions and Discussion



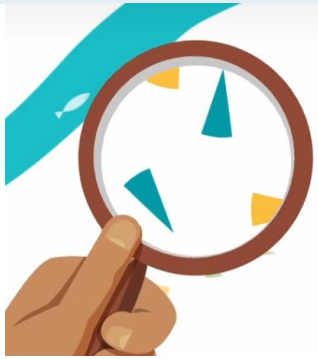
Screenshot from Community Based Organization Partnership Event
Young Women Empowered 2021 Virtual STEM Day

Status of Strategies Development

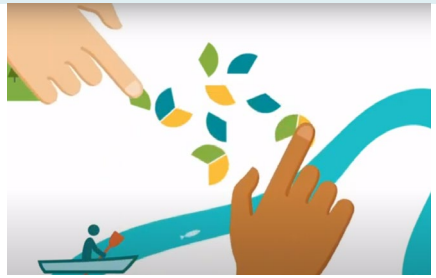


Development of the Work-in-Progress Strategies

Results of the Actions characterization



Grouping of Actions to highlight distinct choices and opportunities for regional discussion



Regional engagement and community input since 2019

WORK-IN-PROGRESS STRATEGIES

Introduction to Work-in-Progress Strategies

- **All Strategies include wastewater treatment capacity to serve population growth and investing in asset management to maintain the system**

- **Building five work-in-progress Strategies**

  Together, the five work-in-progress Strategies incorporate (often conflicting) priorities we've heard

  - Two Strategies focus on conventional approaches (Strategies A and B)
  - Two Strategies explore new and innovative approaches that have proven successful elsewhere (Strategies C and D)
  - One Strategy emphasizes increased resilience and reliability of the existing system (Strategy E)

Note: Committee provided with supplemental briefing material that includes further depiction of work-in-progress Strategies that continue to be developed.

Developing Strategies to Address Core Planning Question

What is the most appropriate path to ensure we direct the right public investments to the right actions at the right time for the best water quality outcomes?

We are here

	Strategy Development		Strategy Evaluation		
	Investment to the Right Actions	**Right Timing**			
Strategy A	• Focus on conventional approaches	• Current timelines	Water Quality Outcomes	Cost Outcomes	Social Outcomes
Strategy B		• Extended timelines			
Strategy C	• Explore new and innovative approaches	• Prioritized schedule over 40-year planning horizon			
Strategy D					
Strategy E	• Emphasis on reliability and resiliency				

		Strategy A – Traditional approaches on current regulatory timelines	Strategy B – Traditional approaches over time to moderate rate increases	Strategy C – Traditional combined with alternative approaches	Strategy D – Multi-benefit and resource recovery approaches	Strategy E – Enhanced wastewater system resiliency
Wastewater Treatment	Regional Plant Treatment	N reduction to same level at each plant; New 4th plant	N reduction to different level at each plant	N reduction to different level at each plant	Advanced treatment at South Plant to potable recycled water quality	Secondary treatment
	Regional Plant Capacity	Increased capacity for population growth	Increased capacity for population growth	Increased capacity for population growth	Increased capacity for population growth	Increased capacity for population growth
	Decentralized	n/a	n/a	n/a	Decentralized for new and re-development	n/a
	Water Quality Trading	n/a	n/a	N WQ trading for point & non-point source	n/a	n/a
Wet Weather Management	CSO	Control by 2030	Control by 2060	Extended timeline and/or alt. investments	Extended timeline and/or alt. investments	Control by 2060
	Stormwater	Existing approach	Existing approach	Regional stormwater facilities & GSI retrofit with WQ focus	Regional stormwater facilities & GSI with multi-benefit focus	Existing approach
Wastewater Conveyance	Peak flow standard	5-year peak flow design standard	5-year peak flow design standard	5-year peak flow design standard	5-year peak flow design standard	20-year peak flow design standard
	Infiltration & Inflow	Private side sewer inspections	Private side sewer inspections & peak flow limitations	Private side sewer inspections	Private side sewer inspections & peak flow limitations	Private side sewer inspections
Resource Recovery		Existing program	Existing program	Existing program	Expanded biosolids & energy programs	Expanded focus on energy reliability
Legacy Pollution		Existing program	Modified to match CSO approach	Expanded cleanup	Expanded cleanup	Modified to match CSO approach
Pollution Source Control		Existing program	Existing program	Increased control & product stewardship	Existing program	Existing program
Asset Management		Proactive asset renewal	Proactive asset renewal	Proactive asset renewal	Proactive asset renewal	Enhanced resilience

Strategies Development – Questions and Discussion

The results of the Strategies evaluation will inform decisions on investments in the regional wastewater system and water quality.

Potential discussion questions:

- Any comments or feedback on the work-in-progress Strategies that are being developed for evaluation?
- Any policy areas of specific importance to RWQC that should be the focus of future briefings and discussions?
- Are there other areas related to the Clean Water Plan that would be helpful to spend more time on, whether for staff Team to hear committee input or for the committee to hear more information about (or both)?

Continued Development of the Work-in-Progress Strategies

In the coming months, the Clean Water Plan team will continue to revise and develop the specific details of these Strategies, including:

- Considering input from the region
- Further molding and shaping the Actions to account for interrelationships, timing, and sequencing
- Evaluating the Strategies to understand water quality, financial, and other performance outcomes

Thank you!

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Reference Slides

Work-in-progress Strategy A – Objectives

To understand potential outcomes:

- From using conventional approaches to addressing water quality and wastewater system needs
- On current and anticipated regulatory timelines

Objective:

- Meet regional wastewater system needs on **current and anticipated regulatory timelines** through continuation of operational, project, and organizational **approaches consistent with historical practices**

Work-in-progress Strategy A – Areas of Emphasis

Emphasizes:

- Conventional gray infrastructure approaches
- Conventional compliance approaches

Some examples of conventional approaches:

- Nitrogen reduction at each regional treatment plant
- Wet weather treatment stations and storage (gray infrastructure) for CSO control
- Continue existing approaches or programs

		Strategy A – Traditional approaches on current regulatory timelines
Wastewater Treatment	Regional Plant Treatment	N reduction to same level at each plant; New 4th plant
	Regional Plant Capacity	Increased capacity for population growth
	Decentralized	n/a
	Water Quality Trading	n/a
Wet Weather Management	CSO	Control by 2030
	Stormwater	Existing approach
Wastewater Conveyance	Peak flow standard	5-year peak flow design standard
	Infiltration & Inflow	Private side sewer inspections
Resource Recovery		Existing program
Legacy Pollution		Existing program
Pollution Source Control		Existing program
Asset Management		Proactive asset renewal

Table Key:

Green shading = **increased implementation emphasis**. May include new programs, expanded programs, additional projects, and/or faster implementation timeline.

Yellow shading = **decreased implementation emphasis**. May include lower design standard, modified program, and/or extended implementation timeline.

Gray shading = existing program or approach would be maintained

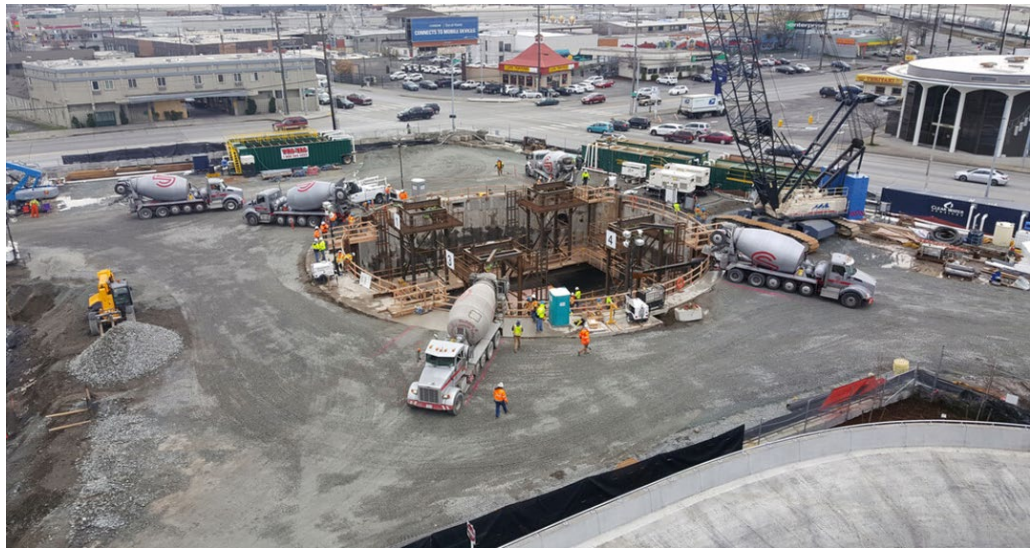
Work-in-progress Strategy B – Objectives

To understand potential outcomes:

- From sequencing and pacing projects and programs over extended timeline
- Using conventional approaches to addressing water quality and wastewater system needs

Objective:

- Meet current and anticipated regional wastewater system needs over an **extended timeline to moderate rate increases**
- Sequence and pace investments over 40-year planning horizon to **avoid cost spikes and short-term revenue pressure**



Work-in-progress Strategy B – Areas of Emphasis

Emphasizes:

- Incremental and predictable rate increases
- Conventional gray infrastructure approaches

Some examples of conventional approaches:

- Nitrogen reduction at each regional treatment plant, with each plant treating to a different level
- Wet weather treatment stations and storage (gray infrastructure) for CSO control
- Continue existing approaches or programs

		Strategy B – Traditional approaches over time to moderate rate increases
Wastewater Treatment	Regional Plant Treatment	N reduction to different level at each plant
	Regional Plant Capacity	Increased capacity for population growth
	Decentralized	n/a
	Water Quality Trading	n/a
Wet Weather Management	CSO	Control by 2060
	Stormwater	Existing approach
Wastewater Conveyance	Peak flow standard	5-year peak flow design standard
	Infiltration & Inflow	Private side sewer inspections & peak flow limitations
Resource Recovery		Existing program
Legacy Pollution		Modified to match CSO approach
Pollution Source Control		Existing program
Asset Management		Proactive asset renewal

Work-in-progress Strategy C – Objectives

To understand potential outcomes:

- From alternative approaches that have worked in other settings and/or show potential to meet regional wastewater system and water quality needs
- Using an integrated approach in geographic areas that are more impacted or are likely to see improved water quality

Objective:

- Explore potential to produce greater water quality benefits by **drawing on alternative programs, projects, operational, and regulatory approaches that are proven effective in other settings** and/or **demonstrate potential** to meet regional wastewater system and water quality needs

Work-in-progress Strategy C – Areas of Emphasis

Emphasizes:

- combining gray infrastructure with expanded approaches to:
  - stormwater management
  - preventing clean rainwater from entering sewer system
  - addressing historical pollution
  - pollution source control
- geographically focused on areas most impacted and/or likely to experience improved water quality outcomes

Some examples of alternative approaches:

- Nitrogen reduction in areas of Puget Sound that have potential for greater water quality benefit combined with nitrogen reduction at treatment plants
- Integrated approach using some conventional CSO control + increased stormwater treatment + nonpoint programs (such as pipe cleaning and creosote structure removal) + pollution source control activities in areas connected to CSO receiving waters

		Strategy C – Traditional combined with alternative approaches
Wastewater Treatment	Regional Plant Treatment	N reduction to different level at each plant
	Regional Plant Capacity	Increased capacity for population growth
	Decentralized	n/a
	Water Quality Trading	N WQ trading for point & non-point source
Wet Weather Management	CSO	Extended timeline and/or alt. investments
	Stormwater	Regional stormwater facilities & GSI retrofit with WQ focus
Wastewater Conveyance	Peak flow standard	5-year peak flow design standard
	Infiltration & Inflow	Private side sewer inspections
Resource Recovery		Existing program
Legacy Pollution		Expanded cleanup
Pollution Source Control		Increased control & product stewardship
Asset Management		Proactive asset renewal

Work-in-progress Strategy D – Objectives

To understand potential outcomes:

- From alternative approaches that have worked in other settings and/or show potential to meet regional wastewater system and water quality needs
- Using approaches that focus on opportunities for recovery of resources, community benefits, climate mitigation and adaptation, and enhanced regional collaboration and partnerships

Objective:

- Explore potential to meet wastewater system and water quality needs through **expanded focus on multi-benefit, resource recovery, and enhanced regional collaboration and partnership approaches**

Work-in-progress Strategy D – Areas of Emphasis

Emphasizes:

- combining gray infrastructure with multi-benefit approaches that consider:
  - enhanced community benefit
  - decentralized and green stormwater management options
  - climate mitigation and adaptation
  - preventing clean rainwater from entering the sewer system
  - addressing historical pollution

Some examples of alternative approaches:

- Reduce treated wastewater discharge to Puget Sound
- Building decentralized wastewater treatment plants
- Expanded resource recovery of biosolids and energy
- Combining some conventional CSO control + increased stormwater treatment + nonpoint programs in areas connected to CSO receiving waters – while also creating expanded opportunities for potential community benefits (such as open green space, passive recreation, etc.) in addition to improved water quality

		Strategy D – Multi-benefit and resource recovery approaches
Wastewater Treatment	Regional Plant Treatment	Advanced treatment at South Plant to potable recycled water quality
	Regional Plant Capacity	Increased capacity for population growth
	Decentralized	Decentralized for new and re-development
	Water Quality Trading	n/a
Wet Weather Management	CSO	Extended timeline and/or alt. investments
	Stormwater	Regional stormwater facilities & GSI with multi-benefit focus
Wastewater Conveyance	Peak flow standard	5-year peak flow design standard
	Infiltration & Inflow	Private side sewer inspections & peak flow limitations
Resource Recovery		Expanded biosolids & energy programs
Legacy Pollution		Expanded cleanup
Pollution Source Control		Existing program
Asset Management		Proactive asset renewal

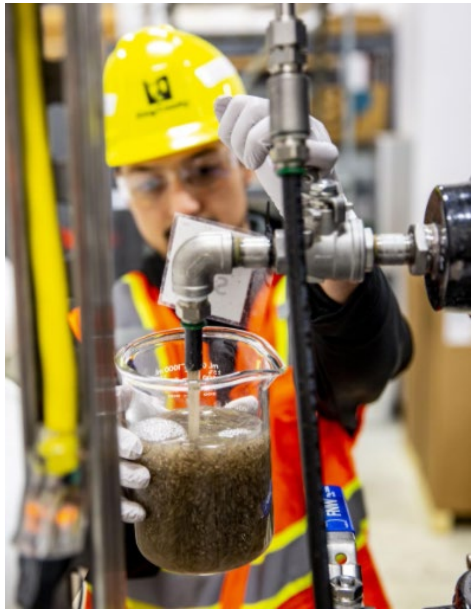
Work-in-progress Strategy E – Objectives

To understand potential outcomes:

- From focusing on reliability and resiliency of the regional wastewater system, while maintaining or extending timing of other investments

Objective:

- Enhance regional wastewater system **reliability and resiliency** by **focusing on investments on wastewater system health** while generally **maintaining** or extending timing of existing approach for **other wastewater and water quality investments**



Work-in-progress Strategy E – Areas of Emphasis

Some examples of reliability and resiliency approaches:

- increased asset management emphasis
- earthquake retrofits
- power systems reliability
- expanded energy programs
- addressing climate impacts
- preventing clean rainwater from entering the sewer system

Less emphasis in other areas, for example:

- Existing level of wastewater treatment
- CSO control using conventional approaches, on a longer timeline

		Strategy E – Enhanced wastewater system resiliency
Wastewater Treatment	Regional Plant Treatment	Secondary treatment
	Regional Plant Capacity	Increased capacity for population growth
	Decentralized	n/a
	Water Quality Trading	n/a
Wet Weather Management	CSO	Control by 2060
	Stormwater	Existing approach
Wastewater Conveyance	Peak flow standard	20-year peak flow design standard
	Infiltration & Inflow	Private side sewer inspections
Resource Recovery		Expanded focus on energy reliability
Legacy Pollution		Modified to match CSO approach
Pollution Source Control		Existing program
Asset Management		Enhanced resilience