

# Clean Water Plan

*Making the Right Investments at the Right Time*

MWPAAC Monthly Update

June 24, 2020



**Clean Water Plan**

Making the right investments at the right time



**King County**

Department of Natural Resources and Parks  
Wastewater Treatment Division

## Clean Water Plan Activities

Over the next few decades our region will collectively spend billions of dollars on protecting water quality. King County needs to update its wastewater plan so that we make the right investments at the right time for the best water quality outcomes.

### Briefing topics:

- [Action Development](#)
- [Evaluation Overview](#)
- [SEPA EIS Scoping](#)
- [MWPAAC Technical Taskforce Activities](#)  
[Activities](#)

# Decision Areas and Key Questions

## Treatment Plants

*What treatment plant and wet weather facility investments should be made?*

## Pollution Source Control / Product Stewardship

*Are there more efficient or effective methods to address pollutants of concern than wastewater treatment?*

## Stormwater and Combined Sewer Overflows

*What approach should be taken to address stormwater and combined sewer overflows in King County's system?*

## Wastewater Conveyance System

*What are the best investments in collections systems to ensure sufficient capacity and improve system condition?*

## Asset Management, Resiliency, and Redundancy

*What investments should be made to care for an aging regional wastewater system and protect the investments that have been made?*

## Legacy Pollution

*What are the opportunities to address legacy pollution?*

## Resource Recovery

*How should King County recover resources in wastewater?*

## Finance

*How will regional water quality investments be financed?*

# Action Development

- Approximately 35 different actions in the decision areas
- Each action is a concept for future water quality investment. For example wastewater treatment includes secondary, nutrient removal, advanced, and decentralized approaches to treatment
- Each action documented in an action description sheet identifying what the action is and the outcomes

PART 1: ACTION DESCRIPTION AND OVERVIEW	
<b>Overview/Summary</b>	<p><b>Example Text</b>            Implement a program to require (and potentially incentivize) new construction buildings above XXX,000 square feet to include on-site building-scale wastewater treatment. Implementation would be through negotiation of building code revisions with building authorities to include this requirement. Building-scale on-site wastewater technology selection would be at the discretion of the developer and could include MBR package facility, localized ecological treatment (i.e., Living Machine), less toilet technologies coupled with an on-site graywater reuse system, and maintenance of the on-site treatment system would be the owner's responsibility.</p> <p>This program would aim to alleviate capacity constraints on the treatment conveyance systems, by diverting wastewater from the municipal sewer buildings above the size threshold, particularly in areas that are projected to include densification and growth in the coming decades as well as needed expansions on the associated sewer and treatment systems.</p>
<b>Potential Challenges and Risks</b>	<ul style="list-style-type: none"> <li>• Resistance from building authorities to revising building codes</li> <li>• Resistance by private developers/owners to additional requirements</li> <li>• Resistance by water providers to expansion of recycled water</li> <li>• Stranded assets or poorly maintained systems creating a localized public health hazard</li> </ul>
<b>Equity and Social Justice Opportunities</b>	XXX equity and social justice opportunities to be integrated into the program.
<b>Duration and Timeline</b>	<p>A gradual implementation plan, which would allow the County to gather data to inform the implementation of a mandatory program, could consist of the following:</p> <ol style="list-style-type: none"> <li>1) 20XX: Include requirement in preliminary engineering report for new commercial construction (over XX,000 sf) to develop a water budget calculation, investigating potential reuse source waters and demands within the proposed building</li> <li>2) 20XX: Incentivize implementation of on-site treatment with sewer service connection rebates</li> <li>3) 20XX: Implement mandatory on-site reuse program</li> </ol>
<b>Triggers</b>	<p>Action to be implemented when XXX occurs.</p> <p>Action to be delayed when XXX occurs.</p> <p>Action to be cancelled when XXX occurs.</p>
<b>Key Components</b>	<p>XX new funding source within WTD.</p> <p>X FTEs/year for program development, X FTEs/year for program management</p> <p>XX new on-site treatment systems each year (XXX by 2060)</p> <p>XXX,XXX gallons of recycled water generated each year on average</p> <p>XX impact to solids treatment requirements at centralized facilities</p>
<b>Regulatory Considerations</b>	<p>XXX legislative changes to Washington Administrative Codes.</p> <p>XXX legislative changes to King County Code.</p> <p>XXX collaboration with Washington State Department of Health and Washington State Department of Ecology.</p>
<b>Partnerships</b>	Local building authorities in high growth areas. Cities of Seattle, Bellevue, Redmond, Auburn, and Issaquah would be expected partners. Coordinate with King County Public Health.
<b>Potential Benefits and Co-Benefits</b>	<p>XXX flows and loads diverted from centralized wastewater treatment systems</p> <p>XXX deferral of treatment plant capacity upgrades.</p>
<b>REFERENCES</b>	
<p><i>Insert name and short description of source material and case studies.</i></p> <ol style="list-style-type: none"> <li>1. King County, "West Point Treatment Plant Peak Flow and Wasteload Projections, 2010 – 2060", 2018</li> <li>2. King County, "South Plant Treatment Plant Peak Flow and Wasteload Projections, 2010 – 2060", 2018</li> <li>3. King County, "Treatment Plant Flow and Loadings Study Summary Report", 2019.</li> <li>4. Puget Sound Regional Council Land Use Vision (version 2) Dataset</li> <li>5. San Francisco Public Utilities Commission (SFPUC) Onsite Water Reuse for Commercial, Multi-Family, and Mixed-Use Development Ordinance</li> </ol>	

# Evaluation Framework: Overview

- Seeks to lay the foundation for thoughtful and transparent evaluation.
- Explores alternative investments the County can make in support of wastewater treatment services and regional water quality improvements, seeking to inform decisions on the best investments for regional water quality.
- Evaluation conducted as a two-step process:
  - ▶ Step 1 evaluates individual actions
  - ▶ Step 2 groups actions into strategies and evaluates the alternative strategies

# Step 1: Action Evaluation

- During action evaluation, the Planning Team will:
  - ▶ Develop understanding of performance of each action relative to potential water quality outcomes and other impacts
  - ▶ Compare actions against each other, both within and across decision areas
  - ▶ Use analysis to inform the grouping of actions into water quality investment strategies
    - Wastewater Treatment
    - Wet Weather Management
    - Pollution Source Control/ Product Stewardship
    - Asset Management, Resiliency, and Redundancy
    - Resource Recovery
    - Wastewater Conveyance
    - Legacy Pollution
- **Actions** are the potential specific programs and associated projects within each decision area.

# Step 1: Action Evaluation – Analytical Approach Overview

Each action will be explored using specific criteria related to five evaluation categories:

- ▶ **Water Quality:** addresses action performance relative to a specified set of pollutant parameters (e.g., bacteria, nitrogen, PCBs) in regional waterbodies (e.g., Puget Sound, Lake Washington) and will seek to associate an action's pollutant reduction performance to ecological endpoints (e.g., Orca) and public health endpoints (e.g., contact recreation).
- ▶ **Cost:** addresses action performance relative to operations, maintenance, capital, and other costs on a full life-cycle cost basis.
- ▶ **Management and Operations:** addresses action performance relative to reliability and resilience, legal and regulatory obligations, and public confidence.
- ▶ **Community:** addresses action performance relative to construction impacts in neighborhoods, land use and economic development, and community livability.
- ▶ **Sustainability:** addresses action performance relative to energy use, carbon footprint, resource recovery, and ecosystem services.

# Conceptual Flow of Equity Action Evaluation

## Review Equity Determinants

## Apply Determinants to Evaluation Categories Equity Influences

## Examples of Action Outcomes Expected to be Explored through the Criteria

Strong, Vibrant Neighborhoods

Safe, Affordable, High Quality and Healthy Housing

Economic Development

Parks and Natural Resources

Equity in County Practices

Healthy Built and Natural Environments

Geographic Distribution of Services

Geographic Impact of Services

Indirect Impact of Services

Gaps in Services

Magnification of Impacts/Choices

- Influences on land use and zoning and associated results on residents and/or business or gentrification

- Cost of utility bills and relationship to housing affordability

- Influence on maximizing the community and economic benefits

- Amount and distribution of new outdoor spaces created
- Changes in access to outdoor spaces

- Investment of public dollars and distribution of the resulting services

- Changes in water quality including distribution of benefits
- Changes in aquatic habitat including distribution of benefits
- Siting and construction impacts of water pollution control facilities
- Availability and safety of natural resources for cultural or subsistence harvest



## Step 2: Strategy Exploration

- During strategy exploration, the Planning Team will:
  - ▶ Explore water quality outcomes and other impacts of comprehensive water quality investment approaches (strategies)
  - ▶ Conduct a comparison and examine tradeoffs between water quality investment strategies
  - ▶ Use analysis to inform framing and selection of a preferred strategy
- **Strategy** is the grouping of multiple actions that incorporates timing, sequencing, and inter-relationships, and reflects a complete water quality investment approach the County could take.
- Strategy evaluation process will be similar to the action evaluation process, but not identical – evaluation of strategies will allow for a more comprehensive understanding of systemwide outcomes.

# Connection of Community Priorities and Evaluation Categories

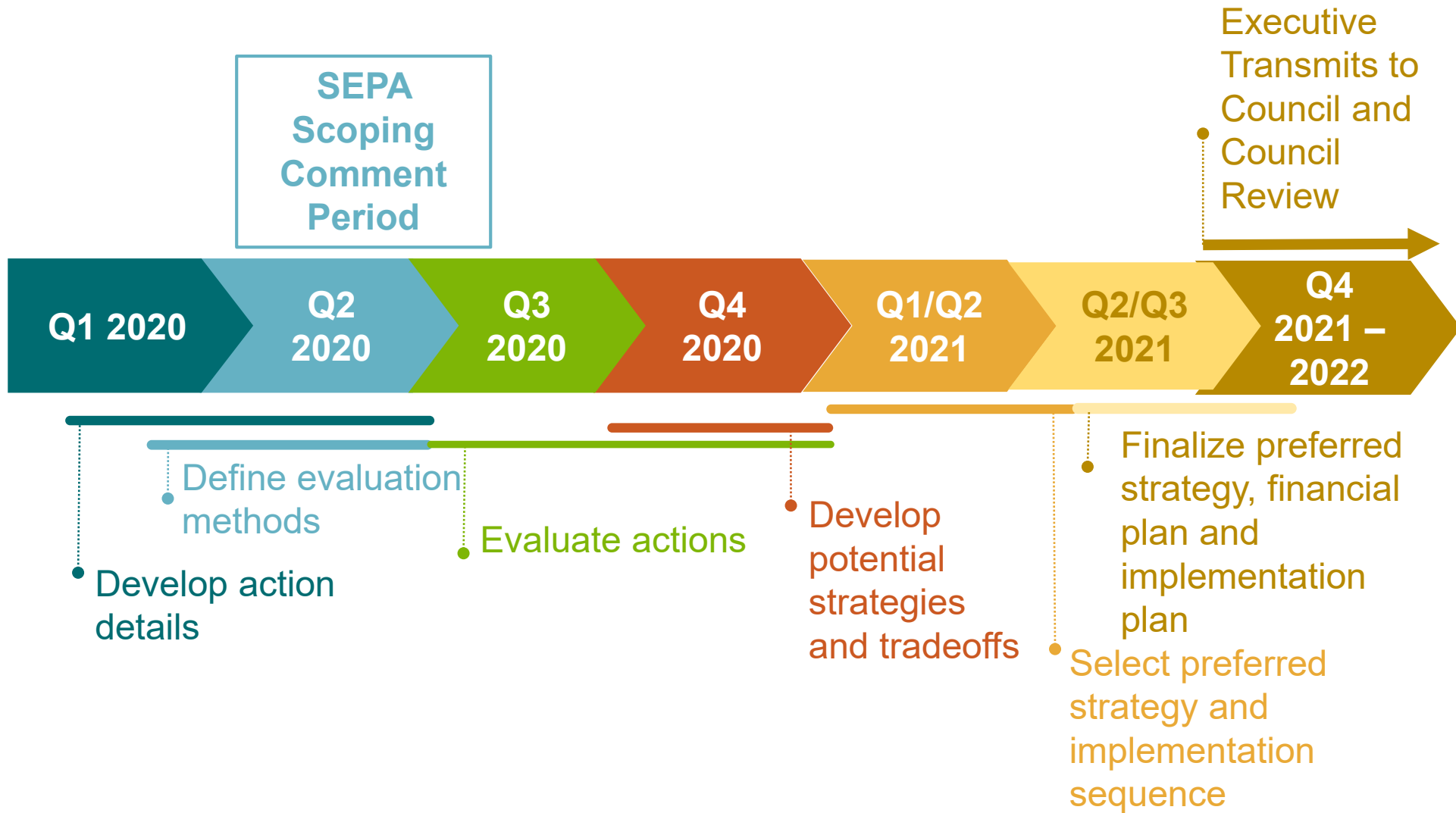
Key Priorities	Evaluation Categories				
	Water Quality	Cost	Management & Operations	Community	Sustainability
– Avoid sewer system failures			●		
– Ensure benefits and impacts are experienced equitably	●	●	●	●	●
– Increase collaboration between agencies	●			●	
– Keep rates affordable within the context of a growing region		●			
– Prepare for and fight climate change	●		●		●
– Protect and restore our rivers, lakes, and Puget Sound	●				●
– Protect public health	●		●		
– Support healthy habitats for fish and wildlife	●				●
– Communicate with the public about the plan	●	●	●	●	●
– Prioritize the best water quality investments	●	●	●	●	●
– Maintain an effective wastewater treatment workforce	●	●	●	●	●

# Clean Water Plan SEPA Review

- Environmental review of Clean Water Plan under SEPA is anticipated to be a non-project, or Programmatic, Environmental Impact Statement (EIS) on the Plan.
- SEPA Scoping Underway
  - ▶ Comments accepted between **May 20 and 5:00 PM on July 19, 2020.**
  - ▶ Regional Engagement Activities include:
    - Online open house to provide details about the Clean Water Plan and the issues and actions being explored.
    - Mail/email distribution of informational content



# Timeline to Develop the Clean Water Plan



# MWPAAC Clean Water Plan Technical Advisory Taskforce

- **Membership:** Jack Broyles, Mike Johnson, Josh Pantzke, Gary Schimek, Leslie Webster, Kyle Wong
- **First Meeting – April 23:**
  - ▶ Overview of the Decision Areas
  - ▶ Future Taskforce Meeting Planning
- **Second meeting – May 21:**
  - ▶ SEPA Scoping
  - ▶ Asset Management Actions
  - ▶ Treatment Plant Actions
- **Third meeting – June 5:**
  - ▶ CSO/Stormwater Actions
  - ▶ Wastewater Conveyance Actions
  - ▶ Action Evaluation Methods
- **Fourth meeting – To be scheduled**

# Discussion and Questions

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