



## Advisory Group Meeting #5 Briefing Document

### Introduction

This briefing document provides Advisory Group members with the background information needed to engage in discussions at the March 24<sup>th</sup>, 2020 Clean Water Plan Advisory Group Meeting. The objectives for the meeting are to:

- Present and discuss the range of water quality outcomes and performance King County intends to explore through the Clean Water Plan
- Provide Advisory Group members with an overview of current WTD financial considerations within the Clean Water Plan context

### Clean Water Plan & January 15<sup>th</sup> Seattle Times Opinion Piece

On January 15, 2020, the Seattle Times published an Op-Ed piece, "[We have the know-how and no time to waste to save Puget Sound](#)," by County Executive Dow Constantine. The Op-Ed focused on the Executive's vision for enhancing our Region's approach to protecting clean water and habitat – taking the form of the "[Clean Water, Healthy Habitat](#)" initiative. The Op-Ed, and the Clean Water, Healthy Habitat initiative, highlights the need to address the estimated 118 billion gallons of polluted stormwater that washes directly into our waterways each year.

Executive Constantine has directed King County staff to determine if there are better, faster ways to achieve measurable results, such as healthier streams for fish, more salmon for orcas, and less polluted runoff in communities and waterways.

The Clean Water Plan is one part of this effort. The Wastewater Treatment Division anticipates that billions will be spent on wastewater treatment services and water quality improvements. There is a desire to explore and capture better environmental benefits as part of this process.

The County recognizes that choices and trade-offs are an inherent part of investing for the future and have committed to enhancing water quality and making effective use of the public resources entrusted to it. The Clean Water Plan effort aims to consider a range of potential water quality outcomes by exploring a range of actions that allow for an effective and informed comparison across investments.

The following sections provide additional details on the approach the Clean Water Plan effort is taking to explore the options we have for obtaining better water quality outcomes faster.

### Clean Water Plan Milestones & Activity to Date

As highlighted in the Seattle Times Op-Ed by Executive Constantine, King County is facing critical decisions that will shape the scope and focus of water quality investments in the coming decades. The

Clean Water Plan planning process has been moving systematically through a series of steps to lay the foundation for a thoughtful and transparent evaluation to inform these decisions. The planning process will explore 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.

To date these planning process activities have included:

- Documenting existing and characterizing future regional water quality and wastewater treatment services.
- Engaging interested and impacted parties to understand Clean Water Plan community priorities.
- Integrating these, along with subject matter expert input, to derive the core decision areas where WTD will need to make investment choices.
- Identifying alternative actions for each decision area to support the exploration of a range of performance levels and the different methods associated with each.
- Establishing Evaluation Categories based on input from community engagement, review of DNRP and WTD published vision, mission, values, and goals, and alignment with King County initiatives, including Clean Water Healthy Habitat, Strategic Climate Action Plan, and Equity and Social Justice Strategic Plan.

Appendix A includes a visual representation of future planning milestones and anticipated future topics for Advisory Group Meetings.

## Key Decision Areas

As a reminder, the eight decision areas and key questions identified in the planning process are:

- **Treatment Plants:** What treatment plant investments should be made?
- **Pollutant Source Control / Product Stewardship:** Are there more efficient or effective methods than wastewater treatment to address pollutants of concern?
- **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?
- **Asset Management, Resiliency, and Redundancy:** What investments should be made to address risk of failure in 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:** What level of wastewater resource recovery should King County undertake?
- **Finance:** How will regional water quality investments be financed?

## Potential Outcomes Evaluated

Evaluation categories represent the important factors to provide information to make decisions towards answering the core planning question of determining the right actions for the best water quality outcomes while considering the full outcomes, co-benefits, and impacts of actions and strategies.

The categories included are based on previous input from King County leadership and regional engagement, including inputs from the Advisory Group, as well as a review of DNRP and WTD published vision, mission, values, and goals and alignment with King County initiatives, including Clean Water Healthy Habitat, Strategic Climate Action Plan, and Equity and Social Justice Strategic Plan. Example criteria/metrics for each category are provided to illustrate the type of outputs the County may use to evaluate the actions for each decision areas. The Clean Water Plan planning team is in the process of further refining and exploring appropriate criteria/metrics for the Clean Water Plan process.

### **Water Quality and Environmental Health**

- Outcomes to orca, salmon, edible fish/shellfish, and contact recreation
  - Outcomes related to other endpoints (e.g., other aquatic species, sediment, fish population)
  - Increase or decrease in pollutant loads by pollutant and receiving water
  - Area of habitat restored or damaged
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### **Public Health**

- Increase or decrease in risk of public exposure to health hazards
  - Increase or decrease in risk of human protection
  - Increase or decrease risk to public safety
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### **Climate Mitigation and Sustainability**

- Increase or decrease in greenhouse gas (GHG) emissions
  - Increase or decrease in net energy consumption
  - Increase or decrease in consumption of non-renewable resources
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### **Equity and Social Justice (ESJ)**

- Increase or decrease in ESJ benefit or burden
  - Communities impacted by ESJ benefits or burdens
  - Relief of historical burden on low income communities
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### **System Reliability/Resilience/Risk**

- Increase or decrease in system reliability
  - Increase or decrease in seismic resilience
  - Increase or decrease in climate resilience
  - Increase or decrease in risk of system failures, overflows, outages, etc.
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### **Economic/Financial**

- Capital cost
  - Land acquisition cost
  - Operation and maintenance cost
  - Lifecycle cost
  - Rate impacts
  - Affordability
  - Cost-benefit ratio (e.g., \$/lb removal; \$/unit benefit)
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## Action Performance Ranges & Potential Actions

The planning process, by design, is exploring a wide range of potential actions to inform the choices and trade-offs we face in pursuit of wastewater treatment services and improved water quality. This approach contrasts deliberately with planning processes that establish specific goals and then evaluate alternatives for the most effective means to get there. The Clean Water Plan planning process reflects WTD's recognition of the very complex and highly interdependent decisions it needs to make and the challenge of mixing and matching investments to produce the best overall outcomes.

To provide a thoughtful and transparent exploration of water quality investments in the Clean Water Plan, WTD has sought to assemble a robust list of potential actions of where and how our region can produce the best mix of water quality improvements and wastewater treatment services for the investments we make.

The Clean Water Plan planning team has sought to be responsive to Advisory Group, and other community, input as it has assembled the action alternatives, including the levels of performance (e.g., nutrient reductions) each has the potential to deliver. The potential performance of these actions defines the range and magnitude of the outcomes WTD is exploring and is therefore critical to understanding WTD's embrace of input received to date.

Appendix B provides the key highlights of the performance ranges being explored as part of this process.

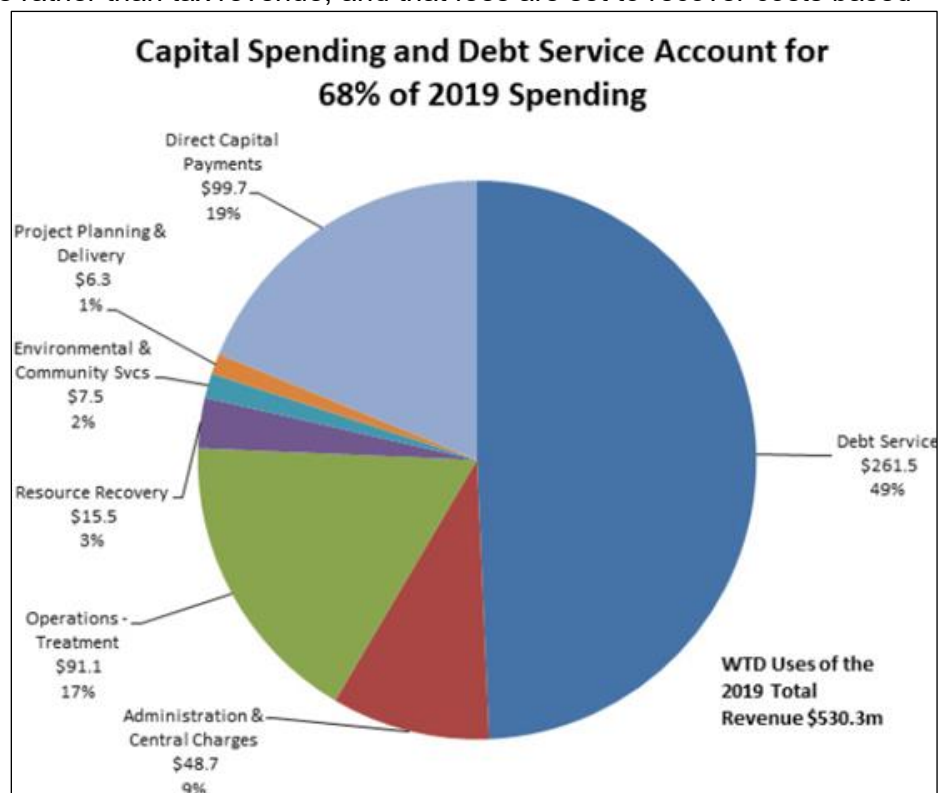
## WTD Financial Overview and Clean Water Plan Considerations

The Wastewater Treatment Division manages a utility enterprise fund, meaning the activities performed by WTD are funded by user fees rather than tax revenue, and that fees are set to recover costs based on the service provided.

WTD contracts with 17 cities and 17 sewer districts to provide wholesale wastewater treatment services to over 1.8 million residents within its service area in King County, southern Snohomish County, and a small portion of northern Pierce County. Approximately 78 percent of WTD total revenue is from contract wastewater treatment services.

### Revenues

King County's adopted wastewater budget for 2019 includes about \$415.3 million in revenue from the monthly



sewer rate and about \$88.5 million in revenue from the capacity charge. See household and community affordability discussion below for more on sewer rate and capacity charge. The 2019 budget also includes about \$9.2 million from investments and about \$17.2 million from other income, such as fees for industrial waste permits, septic waste processing, and rate stabilization funds. King County also issues bonds to fund the cost of construction projects under the capital improvement program.

## Expenditures

Of the total operating revenue of approximately \$530.3 million, the Wastewater Treatment Division planned to spend \$167.8 million to operate and maintain its facilities. The remaining \$362.5 million was budgeted for planning, designing, and building facilities, and debt service.

In 2019, the \$530.3 million in planned operating revenue was allocated as depicted in Figure 1.

## Capital Program Financing

Wastewater infrastructure is crucial for protecting water quality and economic vitality, and supporting jobs and growth while maintaining our region's natural assets like beaches, lakes, and rivers. Improvements to wastewater infrastructure are done through the WTD Capital Improvement Program.

The WTD Capital Improvement Program is funded 40 percent from the utility's ongoing revenue collection. The balance (60 percent) that is not cash-funded is debt-financed, first with any secured low cost state loans, then with municipal revenue bonds. Prior to 2017, WTD debt-financed a larger share of the program.

[The 2018 Financial Statements](#) show King County WTD is carrying \$4.0 billion in outstanding debt. Though WTD is significantly leveraged relative to the industry, the rating agencies' weighting of other positive financial metrics results in WTD maintaining favorable credit ratings.

## Bond Ratings

Standard & Poor's and Moody's investor services are leading global financial firms that rate corporate stocks and municipal bonds according to risk profiles. In November 2018, the firms confirmed the ratings of the WTD's bonds, citing:

- Strong management practices
- Consistent financial performance
- Solid rate base and large service area
- Commitment to a capital improvement plan

The Moody's rating for the sewer revenue bonds remained at Aa1 while the Standard & Poor's rating was maintained at AA+. These continued favorable credit ratings lower the cost of borrowing by reducing the amount of debt service, which, in turn, reduces impacts customer rates and charges. Given the capital-intensive nature of providing wastewater utility services, maintaining favorable credit ratings is fundamental to the overall financial sustainability of the utility.

## Sewer Rate and Capacity Charge

The 2020 King County monthly sewer rate is \$45.33 for single-family residences. The charge for multifamily, commercial, and industrial customers is \$45.33 for each 750 cubic feet of water used, with rate surcharges for high strength industrial discharge. Since 1990, WTD has levied a capacity charge on new connections to the sewer system, which are paid in addition to the monthly sewer bill. The capacity charge helps King County cover the cost of capacity expansion projects needed to serve

growth. The 2020 King County monthly capacity charge is \$66.35 and is paid over 15 years with the option to pay in full upfront at a discount.

The total annual King County sewer rate for a single-family residence is approximately \$544, and for customers also paying the capacity charge, \$1,318.

The member sewer agencies build and maintain the local sewer collection systems and are responsible for billing and customer service. The combined bill includes the local sewer collection system rate and the King County sewer treatment rate. The local collection system charges in 2020 range from \$144 to \$564 per year per for single family residential customers.

<b>King County Wholesale Monthly Sewer Rate</b>	\$45.33
<b>Monthly Capacity Charge</b>	\$66.35
<b>Approximate Local Sewer Agency Rates*</b>	\$12.00 – \$47.00
<b>Totals</b>	
<b>W/O Capacity Charge</b>	\$57.33 - \$92.33
<b>W/ Capacity Charge</b>	\$123.68 – \$158.68

\*There are 34 different agencies with a range of monthly fees

WTD is currently engaged in the 2021 rate proposal. The proposal will request an increase in the rate to fund wastewater investments in regional water quality. The proposal remains under discussion. Current increases being discussed are 4.5% in 2021 and 4.5% in 2023.

## Look Ahead at Potential Regional Water Quality Investments

The County has been and will continue to make investments in the regional wastewater system. There are several investments in the future that are defined in current County plans. The Clean Water Plan seeks to pull all currently defined investments together along with examining other potential investments over the coming decades. The table below gives an overview of the currently planned and to be determined investments. These investment needs will result in rate increases to provide the revenue needed for delivering projects. A general rule of thumb is that an additional \$1 million in annual revenue needs increases the King County monthly rate by approximately \$0.11.

<b>Major Wastewater Treatment Program Investment Needs</b>	<b>Order of Magnitude Cost Estimate<sup>1</sup></b>	<b>Current Planned Timeframe of Expenditure<sup>2</sup></b>
Asset Management (maintaining system)	\$ +	2020 – 2030
Conveyance System (pipes and pumps) Capacity Improvements	\$ \$	2020 – 2060



Combined Sewer Overflow Control <sup>3</sup>	\$ \$ +	2020 – 2030
Treatment Plant Capacity Expansion (population growth)	TBD <sup>4</sup>	2020 – 2060
Treatment Plant Treatment Upgrades (higher level of treatment)	TBD <sup>5</sup>	2020 – 2060

Notes:

1: \$ = Approximately \$1 Billion

2: Timeframes shown relate to identified forecasted needs. System needs extend into the future outside of these timeframes.

3: Cost estimate under review. Revised estimate expected.

4: Clean Water Plan will develop order of magnitude cost. Cost of capacity expansion at the three regional treatment plants will be multi-billion-dollar investments.

5: Clean Water Plan will develop order of magnitude costs. The concepts assessed will include upgrades at treatment plants to remove nutrients (nitrogen) and advanced treatment improvements to remove trace pollutants, such as pharmaceuticals.

For more information on the King County Wastewater Treatment Division Funding visit:

<https://www.kingcounty.gov/depts/dnrp/wtd/about/finances.aspx>

## Household and Community Utility Rate Affordability

Utility rate affordability or the ability of low-income families to pay for basic water and sewer services is a subject of increasing concern.<sup>1</sup> Utility rate affordability challenges are not unique to our region. Rising utility service costs have brought increasing attention to the affordability of water and sewer service throughout the country. Historically, affordability for clean water services has been largely considered through the lens of US EPA's financial capability assessment (FCA) guidelines, which include a two-part evaluation drawing on both a Residential Indicator (for household affordability) and a Financial Capability Indicator (FCI) (for community affordability). These guidelines are currently under review in response to a National Academy of Public Administration report - "Developing a New Framework for Community Affordability of Clean Water Services" - that pointed to deficiencies in the EPA guidance. EPA is currently working with national organizations, such as the National Association of Clean Water Agencies, to overhaul the guidance.

Household affordability under current EPA guidance examines average household wastewater cost as a percent of Median Household Income (MHI) and compares it to a 2% threshold. Community affordability is based on several metrics related to the permittee and community combining them to determine the FCI. Currently under consideration per recommendations from The American Water

<sup>1</sup> Teodoro MP. Water and sewer affordability in the United States. AWWA Wat Sci. 2019; e1129.

<https://doi.org/10.1002/aws2.1129>

Works Association, National Association of Clean Water Agencies, and the Water Environment Federation are the following indicators<sup>2</sup>:

#### For Household Affordability:

Household Burden Indicator (HBI), defined as basic water service costs (all wastewater, drinking water, and stormwater combined) as a percent of the 20<sup>th</sup> percentile household income (i.e., the Lowest Quintile of Income for the Service Area (LQI)); plus a Poverty Prevalence Indicator (PPI), defined as the percentage of community households at or below 200% of the Federal Poverty Level (FPL).

#### For Community Affordability:

Assessment is tied to using long-term cash flow modeling to inform how and when capital improvements may be implemented within the financial capability of a utility. This approach emphasizes that maintaining key fiscal policy measures at levels that allow utilities to finance capital improvements at reasonable interest rates is a critical basis for maintaining a utility's financial sustainability. The forecast includes projections of annual revenues, utility rates, operation and maintenance expenses, capital needs, debt service requirements, and key fiscal policy measures, such as debt service coverage and projections of fund cash balances. The modeling supports determination of system-wide rate increases required to support system operations and enable financing of planned capital expenditures, while ensuring compliance with fiscal policy targets. The calculation of several metrics inform the analysis provide a basis for determining projected levels of utility rates that define the financial capability (and sustainability) of a utility:

- Cumulative Rate Increase: a measure of the compounding effect of annual rate adjustments;
- Typical Bills as A Percentage of LQI and Median Income: supports comparison to the household affordability benchmarks and current and projected billings of other similarly situated utilities;
- Outstanding Debt Per Customer Account or Per Capita: measures the debt burden placed on a utility and its customer base;
- Capital Structure: provides an indication of the extent of future leverage and position to fund new requirements.

A critical element of the Clean Water Plan will be the evaluation of the financial requirements of the alternatives under consideration, as well as the impact these requirements will have on both household and community affordability. The specific methods for this evaluation are currently under development. WTD does anticipate examining options for mitigating household affordability. Some options include the following:

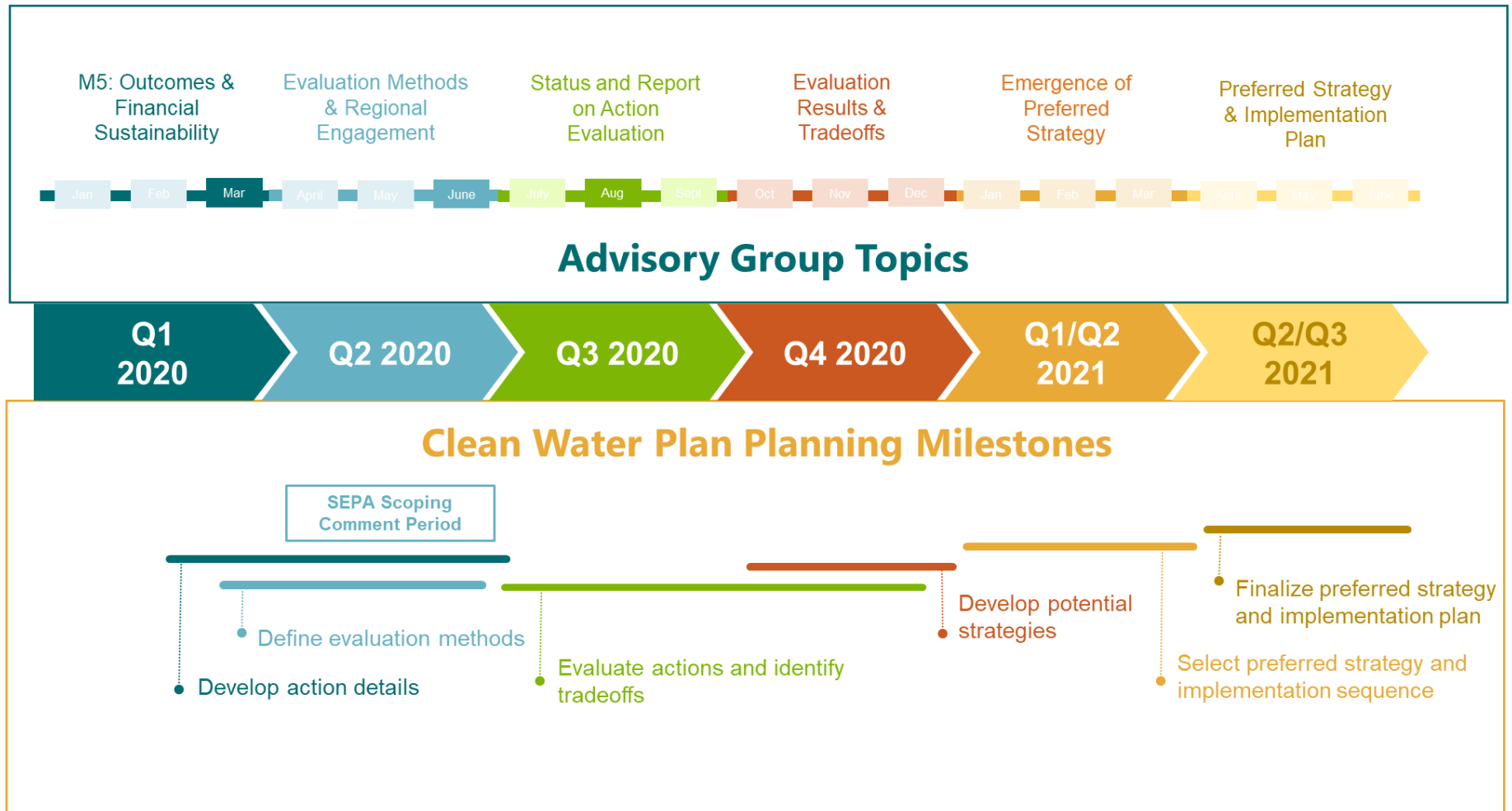
- Deferral of payment to be levied as a lien on a property when sold. Annually, the balance incurs 5% interest.
- Payment plan options that include paying more frequent, but smaller bills.
- Eligible low-income housing can qualify for a reduced capacity charge.

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<sup>2</sup> See "Developing a New Framework for Household Affordability and Financial Capability Assessment in the Water Sector," AWWA, NACWA, WEF, April, 2019.



## Appendix A: Clean Water Plan Milestones & Advisory Group Meeting Topics

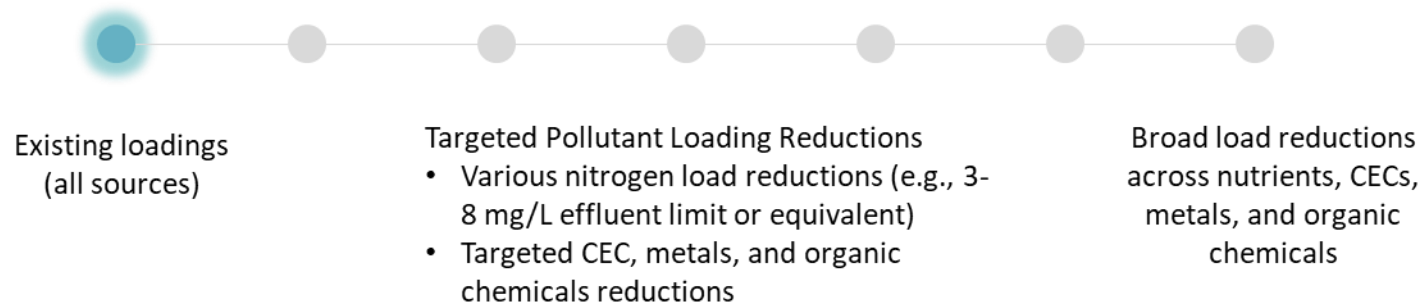


## Appendix B: Action Performance Ranges

Below are visual representations of the performance ranges being explored as part of the Clean Water Plan. Within the ranges, highlighted bubbles indicate existing performance.

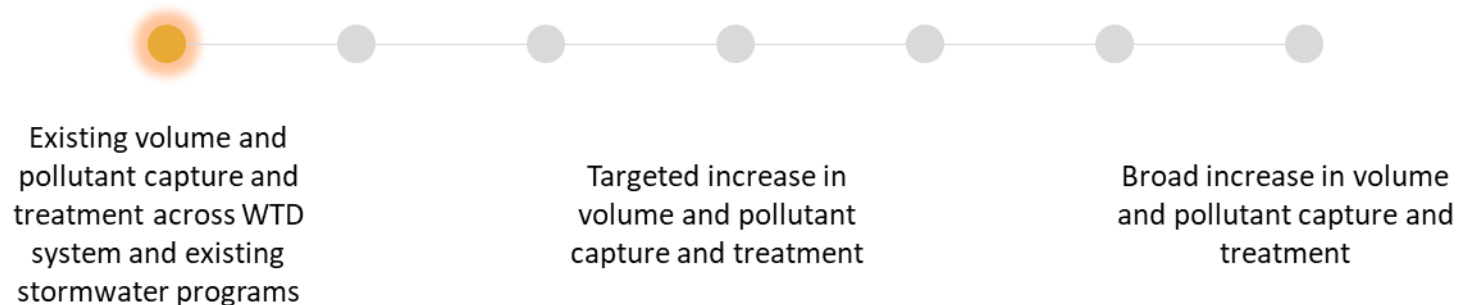
### 1: Pollutant Load Reduction to Regional Water Bodies

#### Performance Range 1.1: Pollutant Load Reduction\* to Regional Waterbodies



### 2: Wet Weather Pollutant Management to Regional Water Bodies

#### Performance Range 2.1: Pollutant Load Reduction\* to Regional Waterbodies

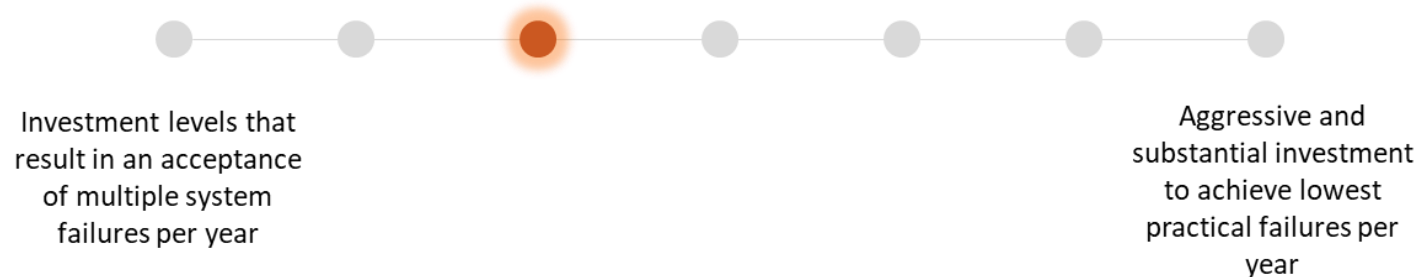


### 3: Risk of Failure and Resiliency: Action Performance Ranges

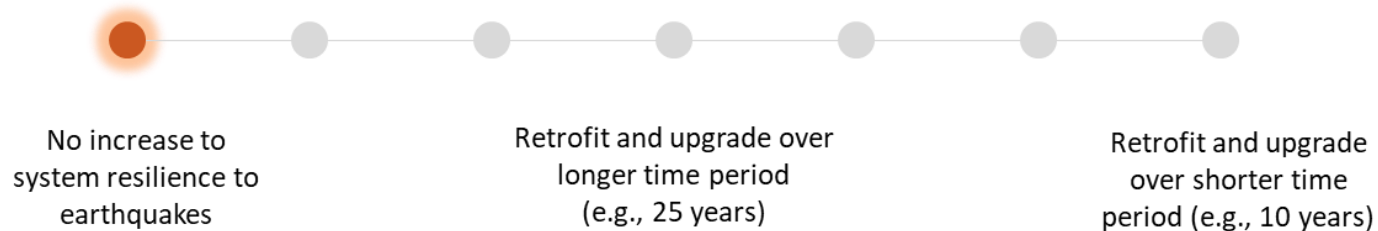
#### Performance Range 3.1: Conveyance Pipe Overflow



#### Performance Range 3.2: Infrastructure Failure

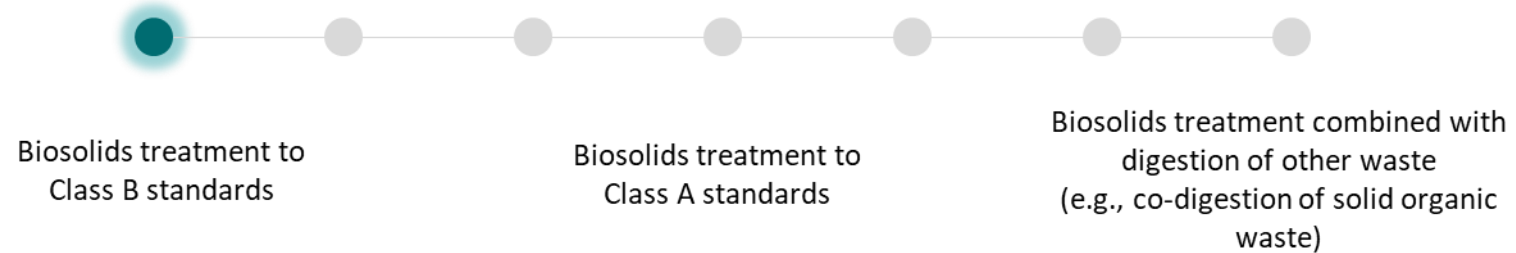


#### Performance Range 3.3: Earthquake Resilience



## 4. Resource Recovery

### Performance Range 4.1: Biosolids End Use Diversification



### Performance Range 4.2: Carbon Emissions and Energy Consumption

