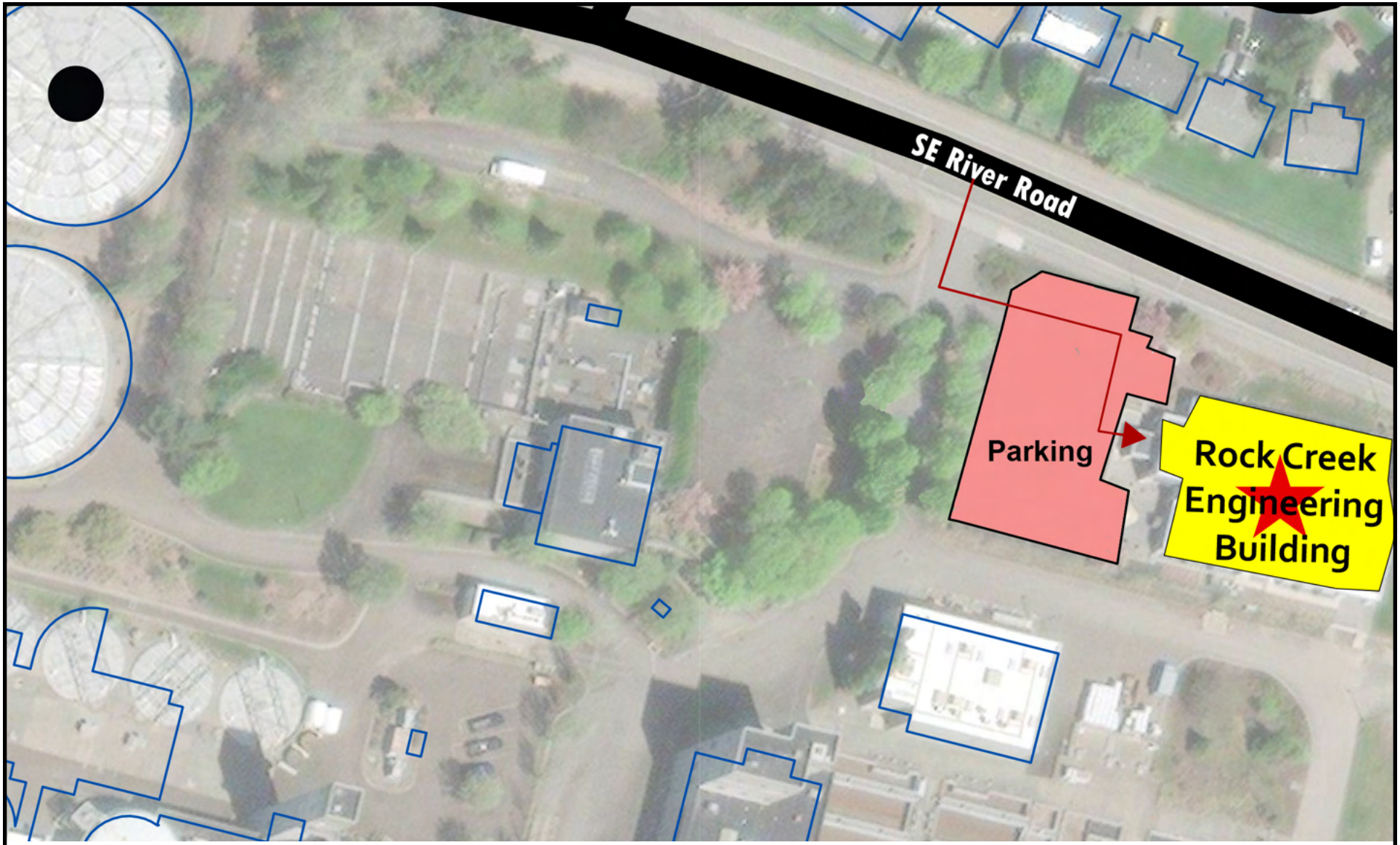
BOARD WORK SESSION

July 18, 2025

Clean Water Services
Rock Creek WRRF, Sedimentation Room
3235 SE River Rd, Hillsboro

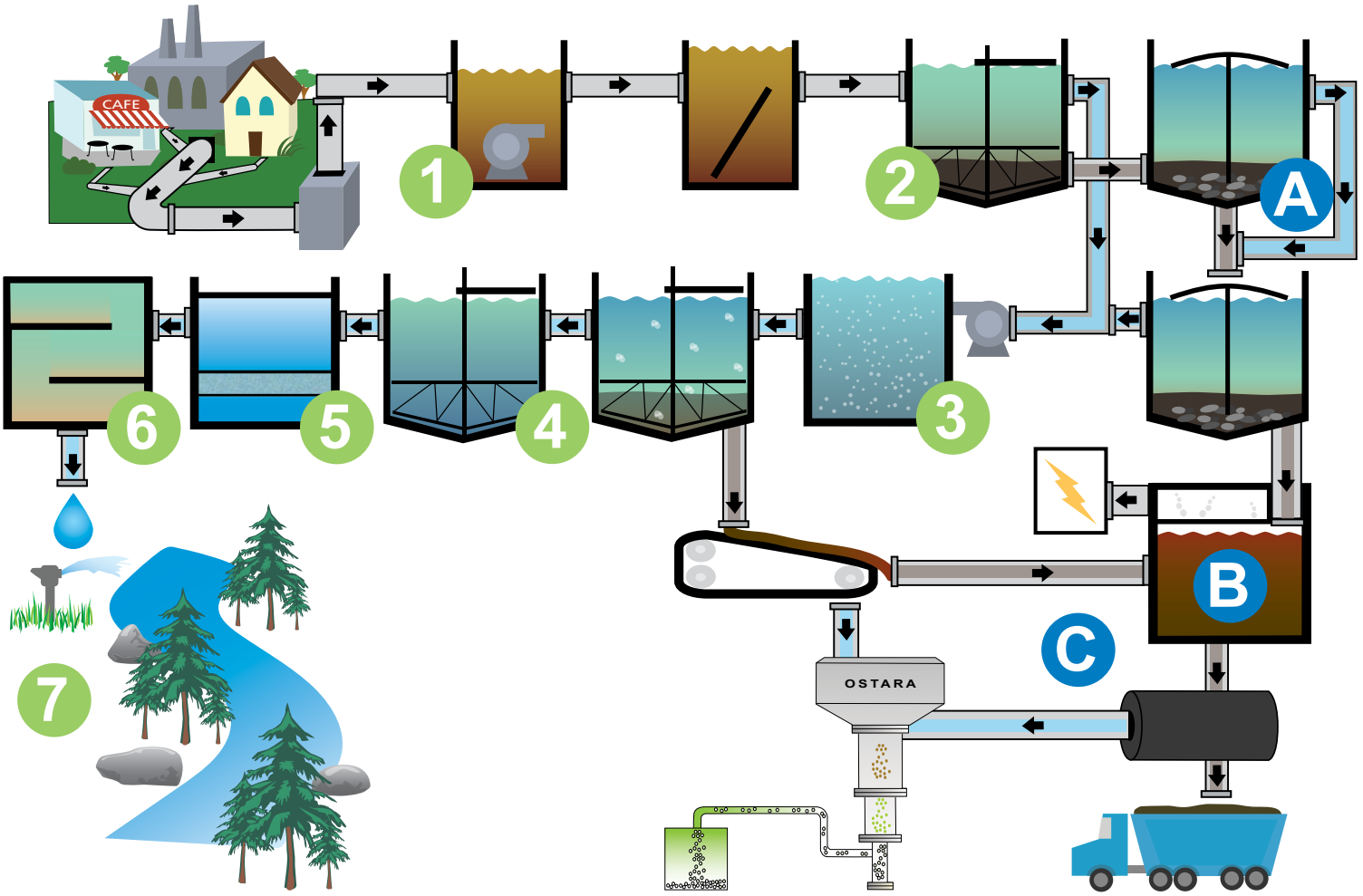
Clean Water Services



Rock Creek Water Resource Recovery Facility
3235 SE River Road
Hillsboro, Oregon 97123

Clean Water Services

ROCK CREEK WATER RESOURCE RECOVERY — PROCESS



Liquids Recovery

At the Rock Creek Water Resource Recovery Facility, used water flows through the plant through a series of processes: preliminary, primary, secondary, tertiary, disinfection and effluent discharge.

1 Preliminary Process

Flow from homes and industry eventually comes to the Rock Creek Influent Pump Station. The flow is measured and pumped to the Headworks Building. Headworks prepares the incoming flow for downstream treatment by screening out larger debris and garbage and allowing heavy materials to drop out prior to Primary Treatment.

2 Primary Treatment

Flow from Headworks is sent to up to four separate primary clarifiers. Primary clarifiers are large tanks that allow the flow to slow down. This lets particles settle to the bottom of the tank while fats, oils, and grease float to the surface. A skimming arm skims the water surface to remove buildup while sludge pumps remove sludge from the bottom of the clarifiers. The organic solids removed from these tanks are sent to solids handling for further treatment and the inorganic solids are dewatered and taken to the landfill.

3 Secondary Treatment

There are many types of secondary treatment. The Rock Creek Facility employs activated sludge with an enhanced biological nutrient removal configuration. This means an environment is created in aeration basins that allows the natural bacteria in wastewater to grow and thrive. The bacteria incorporates contaminants and phosphorus in the

Solids Recovery

The first half of the job at a water resource recovery facility is to remove foreign constituents from the liquid flow stream. Those foreign constituents, or solids, are resources that can be reclaimed. The solids treatment process consists of thickening, digestion, dewatering and phosphorus recovery.

A Thickening

The main purpose of thickening is to concentrate the solids by removing a large volume of water. We are able do this by gravity thickening the primary sludge. The UFAT® process, created at Durham, captures the volatile fatty acids in the primary sludge and returns those acids to the aeration basin to aid in nutrient removal.

The secondary sludge goes through a process invented by CWS called WASSTRIP®. It goes through a

ROCK CREEK WATER RESOURCE RECOVERY — PROCESS

water. The bacteria can also convert the nitrogen in the water into nitrogen gas. As the flow leaves the aeration basin, secondary clarifiers slow the water down similar to primary clarifiers. As the bacteria sink to the bottom, sludge pumps return the bacteria to the front to meet the incoming flow and remove further contaminants. A portion of the bacteria are removed (wasted), along with contaminants and nutrients in the bacteria, and sent to solids handling to maintain a stable aeration basin population.

4 Tertiary Treatment – Chemical Clarification

At Rock Creek, tertiary treatment is accomplished by chemical clarification. Alum is added to the secondary effluent to allow smaller particles to clump together and form a "floc" of particles. These larger clumps are easier to settle in the chemical clarifiers, where they are removed and sent to solids handling.

5 Tertiary Treatment - Filtration

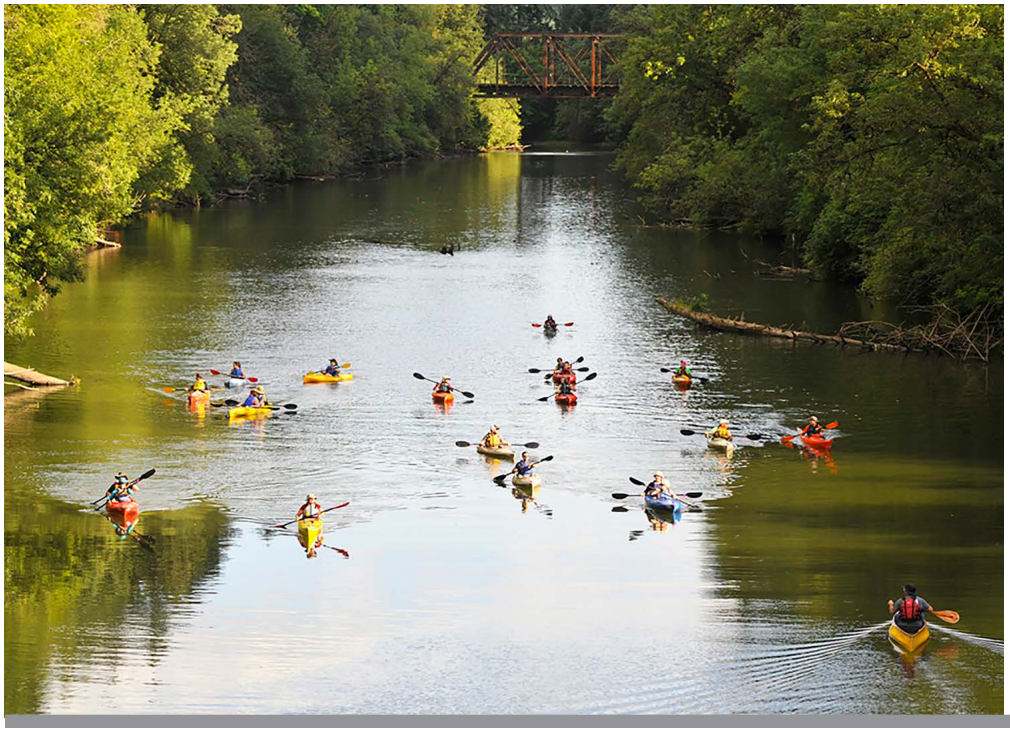
The filters contain a mixture of sand and anthracite media to capture fine particles that were unable to settle out in the primary and secondary treatment processes. This is the same process that occurs at drinking water plants for purifying the water and is a final step to reduce phosphorus concentrations to extremely low levels.

6 Disinfection

Disinfection inactivates harmful microorganisms and Durham accomplishes this with chlorine. The flow is dosed with sodium hypochlorite, a more concentrated form of bleach, and held in serpentine tanks called chlorine contact basins to allow sufficient contact time to disinfect the flow. As the flow leaves the chlorine contact basins, it passes through filters.

7 Effluent Discharge

As the flow prepares to leave the plant, sodium bisulfite is added to neutralize any remaining chlorine in the water. The resulting water is such high quality, it actually improves the health of the river and is close to drinking water quality. In the summer, a portion of the water is not returned to the river, but is instead used onsite or pumped offsite as Class A recycled water for irrigation. The recycled water is not dechlorinated so that the chlorine can prevent a recurrence of contamination.



process of gravity thickening in an environment without oxygen, which causes the bacteria to release stored phosphorus. Then, the secondary sludge is further thickened using a centrifuge. The liquid from the centrifuge is high in phosphorus, so it is sent to phosphorus recovery to reclaim the phosphorus. Sludge from the primary and secondary processes is mixed together and sent to the anaerobic digesters.

B Digestion

Anaerobic digesters function much like a human stomach. They consume what they're fed and turn that "food" into water and biogas, which is high in methane. The biogas is captured and fed to engine generators, which produce electricity used to help run the plant. They also provide heat to keep the digesters at a healthy temperature and space heating for much of the Rock Creek campus. During the digestion process the solids are stabilized to meet Class B biosolids criteria. Any solids left are sent to dewatering.

C Dewatering and Phosphorus Recovery

Water in the sludge from the anaerobic digesters is removed using high-speed dewatering centrifuges. This liquid has a high content of phosphorus and ammonia, so it's sent the phosphorus recovery center to make a high quality fertilizer.

Clean Water Services Board of Directors Work Session

Friday, July 18, 2025, 9 a.m.

Rock Creek Water Resource Recovery Facility
Engineering Building, Sedimentation Room
3235 SE River Road, Hillsboro, OR 97123

Hybrid Meeting (In-person and Virtual)
To access the meeting by phone, please dial +1.253.215.8782
Webinar ID: 849 3078 3653
Zoom Link

9:00 a.m.	**Welcome** Introductions and overview of agenda. • Elizabeth Edwards, Chief of Staff
9:05 a.m.	**CWS Billing** Staff will discuss the history of CWS billing, current billing practices for service and industrial charges, and challenges and opportunities for customer communication. • Kathy Leader, Chief Financial Officer • Joe Gall, Chief Utility Relations Officer • Erin Lowery, Finance Manager • Karen DeBaker, Communications & Community Engagement Div. Man.
10:00 a.m.	**Break**
10:15 a.m.	**Plan to Rebuild Trust** On April 8, 2025, the CWS Board of Directors adopted a Resolution and Order (CWS RO 25-5) directing Clean Water Services to audit spending, review policies, conduct a domicile review of Clean Water Insurance Company, restrict executive management team expenditures, and provide training. This is an update on the actions taken to implement CWS RO 25-5 and related materials, including an update on a forensic investigation, captive insurance domicile review, and initial considerations for customer assistance. • Rick Shanley, Acting CEO/GM • Elizabeth Edwards, Chief of Staff • Joe Gall, Chief Utility Relations Officer • Kathy Leader, Chief Financial Officer • Christine Meadows, Senior Assistant Legal Counsel • Laurie Olson, Risk Manager

11:30 a.m.	**Lunch**
12:00 p.m.	**West Basin Master Plan Update** The West Basin Master Plan is a comprehensive examination of the 20-year conveyance and treatment infrastructure needs of the Rock Creek, Forest Grove, and Hillsboro water resource recovery facilities that serve more than 400,000 residents of Hillsboro, Forest Grove, Gaston, North Plains, Cornelius, Banks, unincorporated Washington County, and portions of Beaverton. Staff will review the executive briefing. • Joshua Johnson, Principal Engineer • Jeff Hart, Capital Planning Interim Division Manager • Rick Shanley, Acting CEO/GM
1:00 p.m.	**Buildings Update: RIPL, Central, and Springer** CWS developed an occupied building plan to improve resiliency, accommodate long-term staffing needs, and meet regulatory compliance requirements. Staff will provide an update on the phased construction of RIPL and CWS Central, plans for the Administrative Building Complex, and a design update on the Springer facility. • Rick Shanley, Acting CEO/GM • Karen Bill, Treatment Plant Services Engineering Division Manager • Karen Chichetu, Laboratory Manager
2:00 p.m.	**Break**
2:15 p.m.	**Board Planning and Discussion** Board discussion and direction on engagement, needs, and issue planning, and direction to staff on support for a national search for permanent CEO/GM. • Kathryn Harrington, Chair • Rick Shanley, Acting CEO/GM • Elizabeth Edwards, Chief of Staff
3:45 p.m.	**Wrap Up** • Elizabeth Edwards, Chief of Staff
4:00 p.m.	**Adjourn**

CWS Billing

DISCUSSION PAPER

CWS Billing

This discussion paper provides background and explains current Clean Water Services billing practices for service and industrial charges.

RESIDENTIAL SERVICE CHARGE REVENUE

CWS receives service charge payments through two methods:

1. Directly billing customers.
2. Monthly remittance from partner cities.

Billing operations are established via intergovernmental agreements with each city.

Local and Regional Services

CWS directly bills customers in unincorporated areas of Washington County and the cities of Banks, Durham, Gaston, King City, and North Plains using a system jointly owned and utilized by CWS and Tualatin Valley Water District (TVWD), which have been jointly billing since 1994. These customers are billed for the local and regional costs for sewer and surface water management.

In areas serviced by both TVWD and CWS, customers receive a bill with charges from both entities and remit to TVWD. There are approximately 60,000 joint accounts. In areas served only by CWS, approximately 12,000 customers receive a bill with CWS charges and remit to TVWD (e.g., customers in City of Durham). CWS pays franchise fees to the five cities that receive regional and local services. CWS owns, operates, and maintains the infrastructure to deliver sewer and surface water management services.

CWS has an intergovernmental agreement with TVWD that includes sharing billing costs such as banking and merchant fees, postage, collections, bill printing, and customer service and billing staff. Because all customer payments are remitted to TVWD, cash transfers are conducted daily from TVWD to CWS via the Local Government Investment Pool.

Regional Services

Partner cities that receive only regional services — Beaverton, Cornelius, Forest Grove, Hillsboro, Sherwood, Tigard, and Tualatin — include CWS' adopted regional charges as part of city utility bills, as CWS is responsible for regional infrastructure in these areas. These cities then send CWS a monthly remittance

for the regional charges they collect. Each of these cities has its own billing system, sets its own local rates, and designs its own bills. CWS does not have access to city customer data; that information is retained by the respective cities.

INDUSTRIAL REVENUE

CWS bills 59 industrial customers in the service area for contributing significant discharges into the CWS system. CWS remits an agreed-upon percentage of the local component volume charges to the cities with industrial customers within city limits. CWS also charges and remits right-of-way fees to each city.

ATTACHMENTS

- Executive summary from 2008 Moss Adams Feasibility Study
- 14 example bills (12 city bills, 1 CWS-TVWD joint bill, 1 CWS only bill)
- Monthly report of Hillsboro sewer and storm receipts and remittances

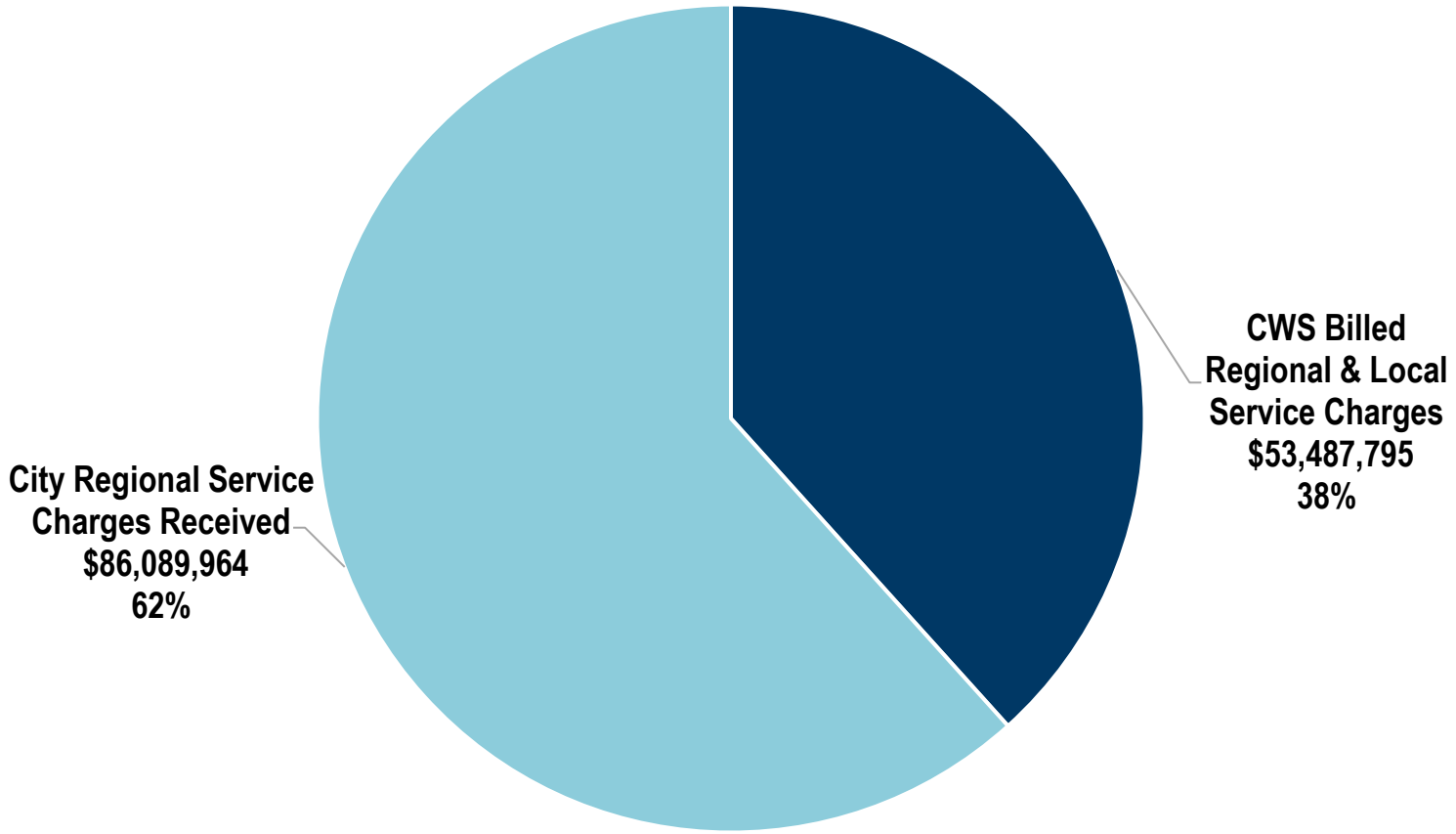
CWS Billing

Kathy Leader, Chief Financial Officer
Joe Gall, Chief Utility Relations Officer
Erin Lowery, Finance Manager
Karen DeBaker, Communications & Community Engagement Division Manager

Presentation Overview

- Billing with Tualatin Valley Water District (TVWD)
- Billing with seven cities that receive only regional services
- Industrial billings
- Communications

Service Charge Revenue Received FY 2023-24 $139,577,759



Billing History: Unified Sewerage Agency

- **1976:** Unified Sewerage Agency (USA) began billing on tax rolls
- **July 1990:** Surface water management (SWM) program began
- **Sept 1990:** Began directly billing customers for one year with option of making three payments
  - Not on property tax statement
- **July 1991:** Implemented direct billing of sewer along with SWM on a bimonthly bill
- **July 1994:** Intergovernmental agreement (IGA) with Tualatin Valley Water District (TVWD) for joint billing
  - TVWD bills USA-only accounts, although account maintenance remained at USA
- **July 1994:** Implemented consumption-based rates; sewer charge split into base and use

Billing with Tualatin Valley Water District

- Initial IGA with TVWD effective July 1, 1994
- 20-year renewal effective July 1, 2005
  - Includes CWS share of customer service and billing costs for TVWD staff, bill printing, postage, banking and merchant fees, and collections costs
  - FY 2025-26 budget: $1.7 million
- CWS staff
  - Two senior utility billing representatives
  - One business systems analyst 2

2008 Utility Billing Feasibility Study

- Moss Adams scope
  - Perform due diligence related to alternatives for billing and collections
  - Obtain comparative information to assess cost-effectiveness of TVWD agreement
- Analyzed five alternatives
  - Maintain existing relationship as-is
  - Maintain existing but negotiate improvements including autonomy and system capability
  - Bring billing in-house via Oracle Utilities
  - Bring billing in-house via alternate vendor
  - Outsource billing systems and/or processes

2008 Utility Billing Feasibility Study

- Moss Adams recommendations
  - Pursue option to continue existing relationship, but work out mutually agreeable business relationship
  - Consider adding to two-person customer service staff
  - Further define collections and billing processes
  - Document billing needs and requirements
  - Assess TVWD's support
  - If unable to renegotiate the IGA with TVWD, proceed with system replacement

Customers Billed by Clean Water Services

- Shared billing system
  - Unincorporated areas of Washington County and cities of Banks, Durham, Gaston, King City, and North Plains
  - Approximately 60,000 accounts jointly billed by TVWD for water, sewer, surface water management (SWM)
  - Approximately 12,000 accounts billed by CWS for sewer and SWM
  - CWS pays franchise fees to cities that receive local and regional services
- Accounts receivable
  - Daily cash transfer from TVWD to CWS via Local Government Investment Pool (LGIP)
  - Billing information pushes to CWS financial system of record – Oracle

Customers Billed by Cities

- Beaverton, Cornelius, Forest Grove, Hillsboro, Sherwood, Tigard, and Tualatin
- Each city bills for and retains money for local sewer and SWM
  - Rates set by each city
- Each city bills regional rates on behalf of CWS
  - Rates set by CWS
  - Cities remit amounts collected to CWS monthly
- Each city approach is unique
  - Lack of consistency across service area
- CWS does not have access to city data – no direct link to our customers

Industrial Customers

- CWS bills 59 industrial customers for contributing significant discharges into the CWS system
  - Beaverton: 4
  - Cornelius: 2
  - Forest Grove: 9
  - Hillsboro: 28
  - Sherwood: 1
  - Tualatin: 11
  - Unincorporated: 4
- CWS remits an agreed-upon percentage of the wastewater volume charges to each city for the local component
- CWS charges and remits to each city right-of-way fees for industrial customers within that city

Communications

- Opportunities
  - Inserts
    - ❖ Bimonthly (customers billed by CWS)
    - ❖ Yearly opportunity (customers billed by cities)
  - Customer service portal with TVWD
  - CWS webpage with bill explainers

Stay Informed About Rates

You are invited to take part in the budget process Clean Water Services (CWS) goes through each year to help guide the community's investments in water resources and establish sewer and stormwater rates. Here are some key dates:

- Our Proposed Fiscal Year 2025-26 Budget will be available for review by late April.
- The CWS Budget Committee will review the proposed budget in a public meeting on Friday, May 9.
- The CWS Board of Directors will conduct a public hearing to consider and adopt the budget on Tuesday, June 17.

Watch **cleanwaterservices.org/budget** for the proposed budget document and details on how to participate. We are dedicated to keeping rates reasonable and predictable and providing value for ratepayers through a livable community. Explore how you can contribute to that livable community – such as by planting native plants and properly disposing of household hazardous waste – at **cleanwaterservices.org/resources**.

Learn more at cleanwaterservices.org/budget

CleanWater Services
Cleanwaterservices.org

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0225CWS

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Manténgase Informado Sobre

Está invitado para participar en el proceso de presupuesto de
año para guiar las inversiones de la comunidad en recursos hídricos y estables
Estas son algunas fechas clave:

- Nuestro Presupuesto Propuesto para el Año Fiscal 2025-26 será disponible para repasar a finales de abril.
- El Comité de Presupuesto de CWS repasará el presupuesto propuesto en una junta publica el viernes, 9 de mayo.
- La Junta Directiva de CWS llevará a cabo una consulta pública para considerar y adoptar el presupuesto el martes, 17 de junio.

Visite **cleanwaterservices.org/es/presupuesto** para acceder al documento presupuesto propuesto y conocer como participar.
En CWS, nos comprometemos a mantener tarifas justas y predecibles, brindando valor a la comunidad a través de un entorno habitable. Descubra como puede contribuir a una comunidad más sostenible – como plantando plantas nativas y desechar apropiadamente los residuos peligrosos del hogar – en **cleanwaterservices.org/es/recursos**.

Más información en cleanwaterservices.org/es/presupuesto

CleanWater Services
Cleanwaterservices.org/es

que lleva a cabo cada
do y aguas pluviales.

02.2025 insert

Working Together for a Healthy Watershed

In late May, we began our annual releases of cool stored water. The Tualatin River is a vital source of water for Washington County communities, crops, and companies. To keep the river flowing and healthy during the warm and dry summer months, CWS releases cool water from Hagg Lake and Barney Reservoir. Scientists closely monitor the river to determine when more water is needed to sustain water quality and the ecology of the watershed.

This is one of the many ways CWS works to protect public health while enhancing the natural environment. You can also help keep
with your everyday actions. Picking up after your pets, staying on top of car maintenance to prevent leaks,
e just a few ways you can support the watershed.

rn more about changes to your bill, what's included
ce needs effectively and cost-efficiently, and how
hed at linktr.ee/CleanWaterServices.

CleanWater Services
Cleanwaterservices.org

0425CWS

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06.2025 insert

Trabajando juntos para lograr una cuenca saludable del río

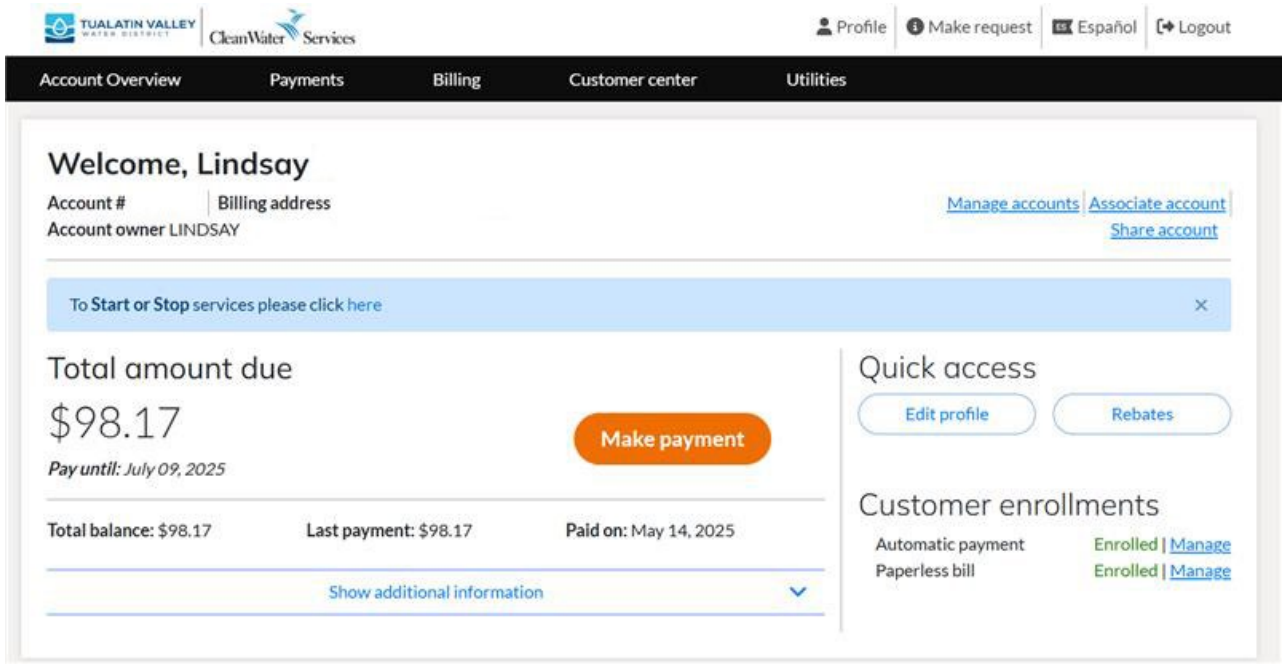
A finales de mayo, iniciamos nuestra liberación anual de agua fría almacenada. El río Tualatin es una fuente vital de agua para las comunidades, los cultivos y las empresas del condado de Washington. Para mantener el río fluyendo y en buen estado durante los meses calurosos y secos del verano, Clean Water Services (CWS, Servicios de Agua Limpia) libera agua fría del lago Hagg y de la reserva de Barney. Los científicos monitorean el río para determinar cuándo se necesita más agua para mantener la calidad del agua y la ecología de la cuenca.

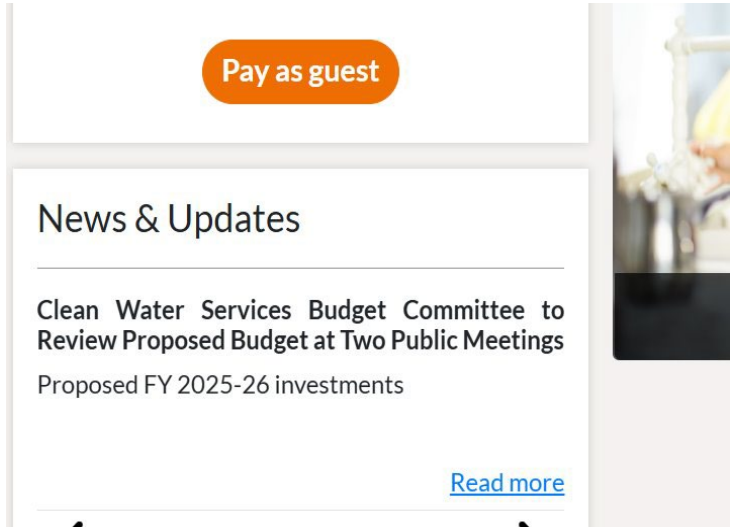
Esta es una de las muchas maneras en las que CWS trabaja para proteger la salud pública mientras mejora el ambiente natural. Usted también puede ayudar a mantener saludable la cuenca del río con sus acciones diarias. Recoger los desechos de sus mascotas, dar mantenimiento regular al vehículo para prevenir fugas y plantar especies nativas en su propiedad son algunas maneras en las que puede ayudar a preservar la cuenca del río.

El nuevo año fiscal comenzó el 1 de julio de 2025. Conozca más sobre los cambios en su factura, lo que incluye el nuevo presupuesto, cómo planeamos satisfacer las necesidades del servicio de manera eficaz y económica, y cómo usted puede tener un impacto positivo en la cuenca del río

Communications

- Challenges
  - Lack of access information about customers billed by cities
  - Complex service structure (co-bill, direct bill, wholesale)
  - Paperless and paper bills
  - Portal complexities
  - Fragmented and flooded communication landscape

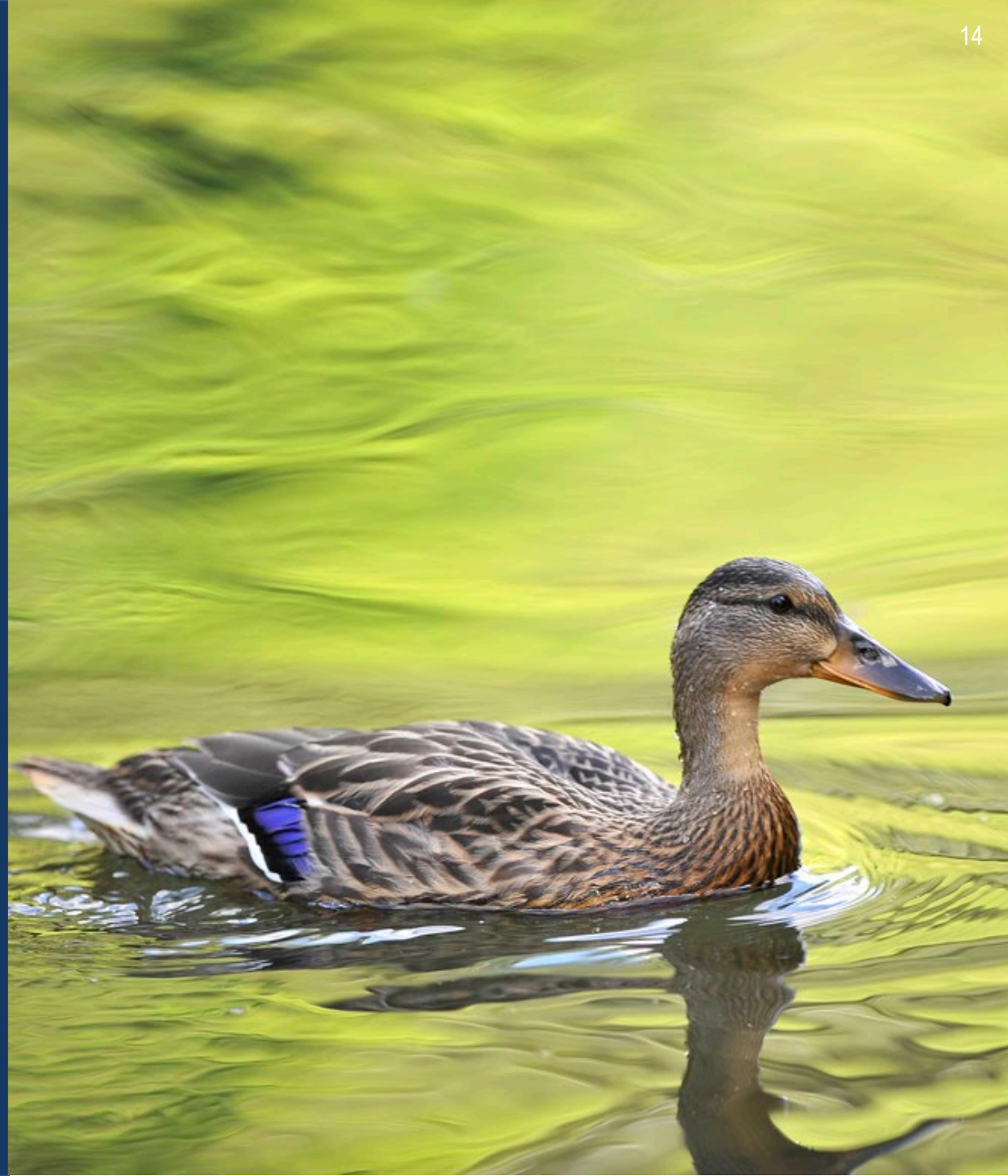




Questions for the Board About Billing

- Do you want CWS to continue to investigate alternative billing options?
- Is there more information that would be helpful to understand billing needs and challenges?

Thank You



Utility Billing Feasibility Study

June 5, 2008

Moss Adams LLP

805 SW Broadway, Suite 1200

Portland, Oregon 97205

(503) 242-1447

ACKNOWLEDGEMENTS

This study represents an important element of Clean Water Services' (CWS) due diligence to assess alternatives to its current utility billing and collections systems and processes. As such, it has a significant impact on the future of key revenue processes within the organization that affect day-to-day activities, staffing decisions, and capital and operating expenditures.

It was recognized at the outset of this study that input from and involvement by key stakeholders affected by CWS utility billing decisions was essential to obtain adequate input into the analysis. This study would not have been possible without the time and energy provided by staff and management at Clean Water Services and Tualatin Valley Water District. Individuals who were involved in this process include the following:

Clean Water Services

Bill Gaffi - General Manager
Bob Cruz - Deputy General Manager
Bruce Griswold - Business Services Department Director/Chief Financial Officer
Christina Day - Financial Planning Manager / UB Project Manager
Deb Partlow - Customer Service/Billing
Francene Gaunt - Customer Service/Billing
Kathleen Leader - Accounting Services Manager
Gayle Gieszler - Accounting Specialist
Mat Stickler - IT Division Manager
Jeff Van Note - IT Manager
Jody Becher - Business Systems Analyst, Oracle
Dale Bertelson - Permitting
Becky Stewart - Permitting
Janice Pivitt – Permitting

Tualatin Valley Water District

Greg DiLoreto - General Manager
Bernice Bagnall - Chief Financial Officer
Tod Burton - Financial Planning & Debt Project Manager
Bob Shields - Financial & Accounting Supervisor
Ismail Haggi - IT Manager
Brenda Lennox - Customer Service Manager
Lee Lawson - Customer Service
David George - Programmer, System Analyst

I. EXECUTIVE SUMMARY

In February 2008, Clean Water Services (CWS or District) contracted with Moss Adams to evaluate the feasibility of alternatives to the current utility billing and collections systems. The District's utility billing function is currently performed by Tualatin Valley Water District (TVWD). CWS entered into a five-year Intergovernmental Agreement (IGA) in 2005 to obtain billing services primarily for joint sewer and water accounts. TVWD coordinates the collections function, and has the authority to shut off service for unpaid balances on joint accounts. Over the course of this project, there were five alternatives that were analyzed related to feasibility, including two that tie to TVWD and three that bring utility billing functions in-house.

A. SCOPE AND OBJECTIVES

The purpose of the project is twofold. The first is to perform due diligence related to alternatives for conducting utility billing and collections. The second purpose is to obtain comparative information to assess the cost-effectiveness of the current IGA with TVWD. Moss Adams identified five general options for utility billing systems. These included two sets of options, the first of which relate to continuing to conduct utility billing with TVWD and the second revolving around other alternatives including bringing utility billing in-house.

Specifically, the alternatives analyzed in this study included the following:

1. Maintain the relationship with TVWD as formalized in the intergovernmental agreement (IGA)
2. Maintain the TVWD relationship, but negotiate improvements and increase systems capability and autonomy for CWS through development of reporting capabilities in-house
3. Bring utility billing in-house through acquisition and implementation of Oracle's utility billing offering
4. Bring utility billing in-house utilizing a best-of-breed application from a vertical market software vendor
5. Outsource utility billing systems and/or processes to a different vendor

Because the utility billing market is mature and a number of off-the-shelf software packages exist, custom development was not considered.

B. PROJECT APPROACH

The project followed a four-phase approach to conduct the alternatives analysis. The first phase included project initiation; second was a fact-finding process; third was an analysis of alternatives; and the fourth included development of this report.

During fact-finding, the project team reviewed available documentation, conducted a process and systems "walkthrough", interviewed management and key staff, and conducted market and industry research. Moss Adams conducted interviews with a number of individuals within various CWS departments as well as staff and management at TVWD. The evaluation of the alternatives included a gap analysis, a definition of utility billing needs,

and the extent the current systems and agreement meet those needs. This process helped to establish a framework for evaluating the advantages/disadvantages, risks, and costs of each alternative. Finally, the project team prepared this report detailing the results of our analysis. The format of this report provides a comparative view of the alternatives that will enable the District to make a decision regarding the optimal strategy for the utility billing system.

C. CRITERIA FOR COMPARISON

Each of the alternatives was analyzed based on a similar set of criteria, including advantages, disadvantages, risks, costs and timing. During analysis of the alternatives, there were four key factors that provided points of differentiation between the alternatives which should be considered as part of the decision process. The detailed impacts are discussed within each alternative, and a side-by-side summary is found in the Comparative Analysis section. In summary, the key impacts which should be considered include:

- **Staffing** – Staffing requirements vary among each of the alternatives. Options that continue the TVWD relationship have minimal impact to staffing, as many processes will continue to be provided by TVWD. However, some staffing increases are recommended to address increased workloads as some roles/responsibilities are shifted from TVWD to CWS staff. Among the in-house alternatives, staffing costs vary by the type of system implemented, with a Tier 1 system requiring significant IT staffing, and all in-house options requiring additional staffing for customer service, accounting/billing and IT functions.

- **Initial and ongoing costs** – Initial costs of system acquisition and implementation present a basis for alternatives that move billing in-house. With respect to alternatives associated with maintaining the TVWD relationship, CWS has less control over the ongoing costs, while these costs are directly controlled by CWS for in-house alternatives, but may be higher since some of them are not shared.

- **Risk** – Each of the alternatives carries with it a certain amount of risk. A number of risks have been identified and analyzed for each of the alternatives, including vendor availability (whether TVWD or a new system vendor), cost management, staffing and support, among others.

  A particular risk to consider is related to leverage. With the current arrangement, TVWD has the ability to shut off a customer's water in the event they do not pay their bill. As such, a risk identified by CWS to in-house billing options is the loss of leverage in the collection of fees if the District lost the ability to shut off water, which would potentially result in higher write-offs and bad debt expenses. To estimate the potential impact of this risk, Moss Adams used a National Association of Clean Water Agencies (NACWA) survey to identify the differences in the average bad debt expenses as a proportion of revenue for agencies that shut off water and those that do not. The differences in these ratios were then applied to the revenue projections to estimate the bad debt expense associated with each of the different alternatives.

- **Business Objectives -** Although staffing, costs, and risks represent key considerations that can be measured, it is important to also examine the qualitative impacts of the alternatives. Consideration has been given to how well each of the alternatives addresses the goals and objectives of the organization, both short- and

long-term. This includes components such as functional requirements and needs, business rules, access to information, and reporting, among others.

D. CONCLUSIONS AND RECOMMENDATIONS

The following conclusions and recommendations are presented based upon the analysis documented in this report. Each of the alternatives is listed below along with a summary analysis including whether the alternative is preferred or not.

Alternative 1 - Maintain Utility Billing with TVWD: This alternative involves the least disruption in the short-term and is the lowest cost alternative. Staying the course also represents a higher risk option and provides limited opportunities for CWS in terms of growth and improved functionality. Based on the analysis of this alternative as well as comparison against other alternatives, it is not recommended that this alternative be pursued. Additionally, TVWD has indicated that to CWS their intent to move forward with shifting some of the roles and responsibilities to CWS, placing into question whether this alternative is actually available.

Alternative 2 - Maintain Relationship with TVWD, but with Improvements: This alternative similarly provides an opportunity for more limited disruption, and involves pursuing opportunities for improving access to billing information for reporting purposes as well as defining and clarifying service levels. It is recommended that CWS consider pursuing this as the preferred alternative. Given the limitations associated with the current agreement, CWS should determine whether TVWD is open to negotiating a new multi-year agreement that spells out in greater detail the roles and responsibilities of each party and the service levels to be expected.

Alternative 3 - Bring Billing In-House Utilizing Oracle Utilities: This is the first of the alternatives that involves CWS building capacity and implementing systems to conduct utility billing itself. The costs and risks associated with this option are higher while the District implements and manages the change. However, this option avoids the need for going through a system selection effort as it entails purchasing the utility billing system offered by Oracle and known to be compatible with the District's current financial management systems. Depending on the District's risk tolerance, this is an option that is recommended for future consideration.

Alternative 4 - Bring Billing In-House Utilizing Best-of-Breed Systems: The second alternative associated with bringing billing in-house, this alternative involves less complicated systems that are designed specifically for the utility industry. Short-term risks and costs are higher with this alternative during implementation. In the long run, however, the risk is reduced and ongoing costs, while higher, are not expected to be significantly greater than staying the course, but with reduced risk and greater control for CWS.

Alternative 5: Outsourcing (Hosting to Full Service): With this option, CWS would discontinue the current arrangement with TVWD and identify a vendor who will provide hosted utility billing systems. This outsourcing option could also involve outsourcing services, including bill generation, payment processing, and even customer service. If CWS is averse to considerable increases in customer service, billing and IT staff, then this option would be preferred as it will allow greater flexibility over the current situation for CWS to define its own business rules around utility billing.

In general, alternatives that involve maintaining the utility billing relationship with TVWD present lower costs and potentially lower short-term risks than options which involve bringing utility billing in-house. However, a number of other intangible benefits were identified indicating that building capacity for in-house utility billing processes would be beneficial. These benefits can be summarized as providing the District with more control over a critical business process, as well as building capacity to perform retail billing for other cities or water districts if the need arises in the future.

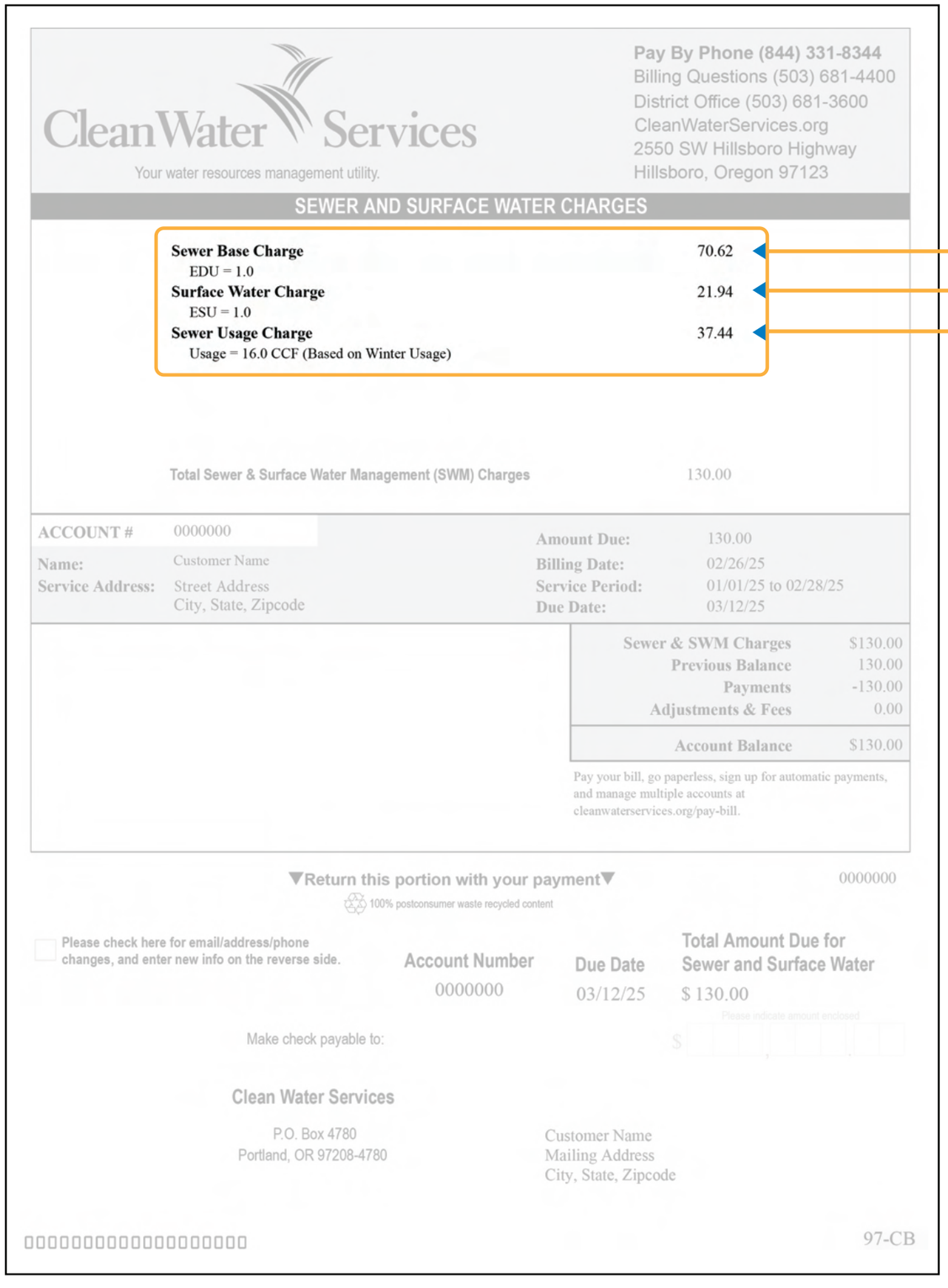
Based on the analysis contained within this report, the following recommendations have been assembled. These recommendations are based on not only the analysis of the alternatives, but on evaluation of the current status of utility billing at CWS, including staffing and technology.

Recommendations

- Pursue Alternative 2 whereby CWS and TVWD work out a mutually agreeable business relationship through the term of the current IGA and beyond.
- Consider adding customer service staff internally to address heavy workload issues.
- Further define collections processes as well as current billing processes. Develop complete documentation for business processes, procedures and policies for utility billing. This could be accomplished through the development of flowcharts for each of the key billing processes identified in the Billing Process Overview section of this report.
- Document utility billing needs and requirements. Perform a needs analysis of utility billing which could be used in a system selection project if necessary. Such an analysis can use the business process documentation to define must-have, nice-to-have, and optional features of products, and perform a gap analysis against a standard product set. This gap analysis can be used to identify those business processes which must be modified in order to use an off-the-shelf package, or identify customizations which will likely be necessary for off-the-shelf packages.
- Assess TVWD's support of Alternative 2 and consider in-house options as fallbacks and/or long-term options
- If unable to re-negotiate the IGA, proceed with system replacement and search process, and allow market to determine whether Alternative 3, 4 or 5 is the best option.

CWS should review the study results carefully against the factors that are most important to the organization. Every organization has particular sensitivities that will place different weights on certain criteria, such as costs, risks or factors that are more intangible. As such, advantages, disadvantages, costs and risks need to be factored into the decisions regarding next steps.

Example Bill for Cities of Banks, Durham, King City, and North Plains and CWS-Only Unincorporated Washington County



Clean Water Services
Your water resources management utility.

Pay By Phone (844) 331-8344
Billing Questions (503) 681-4400
District Office (503) 681-3600
CleanWaterServices.org
2550 SW Hillsboro Highway
Hillsboro, Oregon 97123

SEWER AND SURFACE WATER CHARGES

Sewer Base Charge	70.62
EDU = 1.0	
Surface Water Charge	21.94
ESU = 1.0	
Sewer Usage Charge	37.44
Usage = 16.0 CCF (Based on Winter Usage)	

Total Sewer & Surface Water Management (SWM) Charges 130.00

ACCOUNT # 0000000
Name: Customer Name
Service Address: Street Address, City, State, Zipcode

Amount Due: 130.00
Billing Date: 02/26/25
Service Period: 01/01/25 to 02/28/25
Due Date: 03/12/25

Sewer & SWM Charges	$130.00
Previous Balance	130.00
Payments	-130.00
Adjustments & Fees	0.00
Account Balance	$130.00

Pay your bill, go paperless, sign up for automatic payments, and manage multiple accounts at cleanwaterservices.org/pay-bill.

▼Return this portion with your payment▼ 0000000

100% postconsumer waste recycled content

Please check here for email/address/phone changes, and enter new info on the reverse side.

Account Number	Due Date	Total Amount Due for Sewer and Surface Water
0000000	03/12/25	$ 130.00

Please indicate amount enclosed
$

Make check payable to:

Clean Water Services
P.O. Box 4780
Portland, OR 97208-4780

Customer Name
Mailing Address
City, State, Zipcode

97-CB

Sewer Base Charge: $59.04
Sewer Base Local Charge: $11.58

Surface Water Charge: $ 5.48
Surface Water Local Charge: $16.46

Sewer Usage Charge: $31.36
Sewer Usage Local Charge: $ 6.08

Clean Water Services

CWS provides and retains fees for both Regional and Local services in your area.

NOTE: THIS BILL REFLECTS A TWO-MONTH BILLING CYCLE.

Regional Services: (Sewer and SWM Rates)

Provided to all customers in the service area:

- Constructing, operating, and maintaining treatment plants, sewage pump stations, and pressure lines
- Designing, building, and maintaining sewer lines 24" and larger
- Compliance reporting, oversight for National Pollutant Discharge Elimination System (NPDES) permit, including municipal separate storm sewer system (MS4)
- Maintaining minimum stream flows
- Service area restoration and enhancing stream corridors

Local Services: (Sewer and SWM Rates)

Services to support operating and maintaining local collection system and 24-hour response:

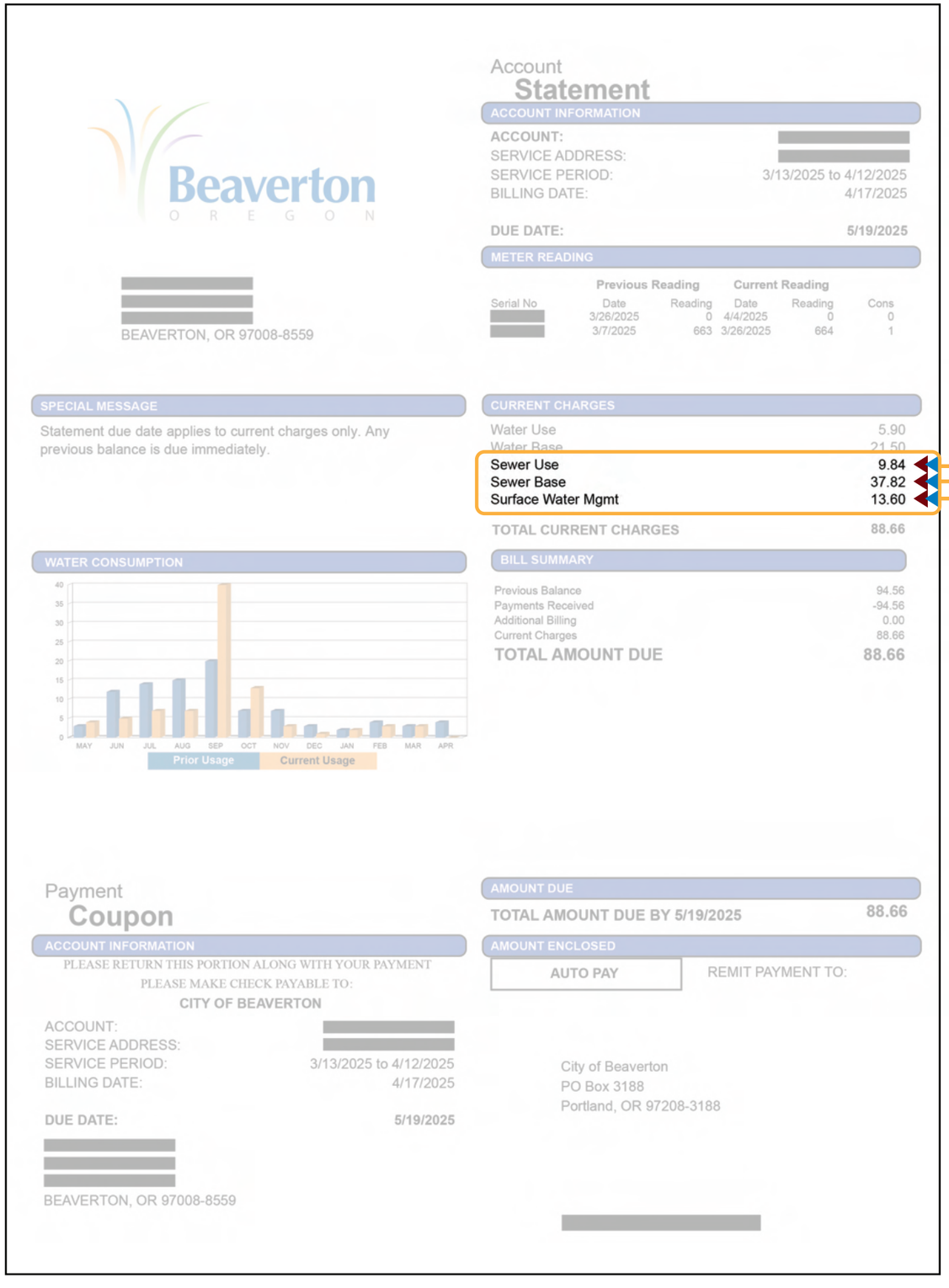
- Designing, building, maintaining, repairing sewer lines 21" and smaller
- Cleaning, inspecting sewer pipes
- Designing, building, maintaining, repairing local stormwater facilities
- Sweeping streets
- Maintaining water quality facilities
- Cleaning catch basins, water quality manholes

Clean Water Services

Sewer Base:
The Sewer Base charges are about 2/3 of the charges and are a fixed rate, billed every two months.

Sewer Use:
The Sewer Use charges are based on average winter water consumption. New customers are charged based on current system average.

SWM: Surface Water Management
SWM are fixed charges which are used for drainage management, maintaining water quality facilities, 24/7 emergency response, cleaning catch basins, enhancing stream corridors, and street sweeping.



Sewer Use Charge:	$ 7.84
Sewer Use Charge:	$ 1.50
Sewer Use Surcharge:	$ .50
Sewer Base Charge:	$29.52
Sewer Base Charge:	$ 6.82
Sewer Base Surcharge:	$ 1.48
SWM Fixed Charge:	$ 2.74
SWM Charge:	$ 8.86
SWM Surcharge:	$ 2.00

Clean Water Services

Regional Services: (Sewer and SWM Rates)

Provided to all customers in the service area:

- Constructing, operating, and maintaining treatment plants, sewage pump stations, and pressure lines
- Designing, building, and maintaining sewer lines 24" and larger
- Compliance reporting, oversight for National Pollutant Discharge Elimination System (NPDES) permit, including municipal separate storm sewer system (MS4)
- Maintaining minimum stream flows
- Service area restoration and enhancing stream corridors

Beaverton OREGON

Local Services: (Sewer and SWM Rates)

Services to support operating and maintaining local collection system and 24-hour response:

- Designing, building, maintaining, repairing sewer lines 21" and smaller
- Cleaning, inspecting sewer pipes
- Designing, building, maintaining, repairing local stormwater facilities
- Sweeping streets
- Maintaining water quality facilities
- Cleaning catch basins, water quality manholes

Clean Water Services

City of Beaverton

Sewer Base:

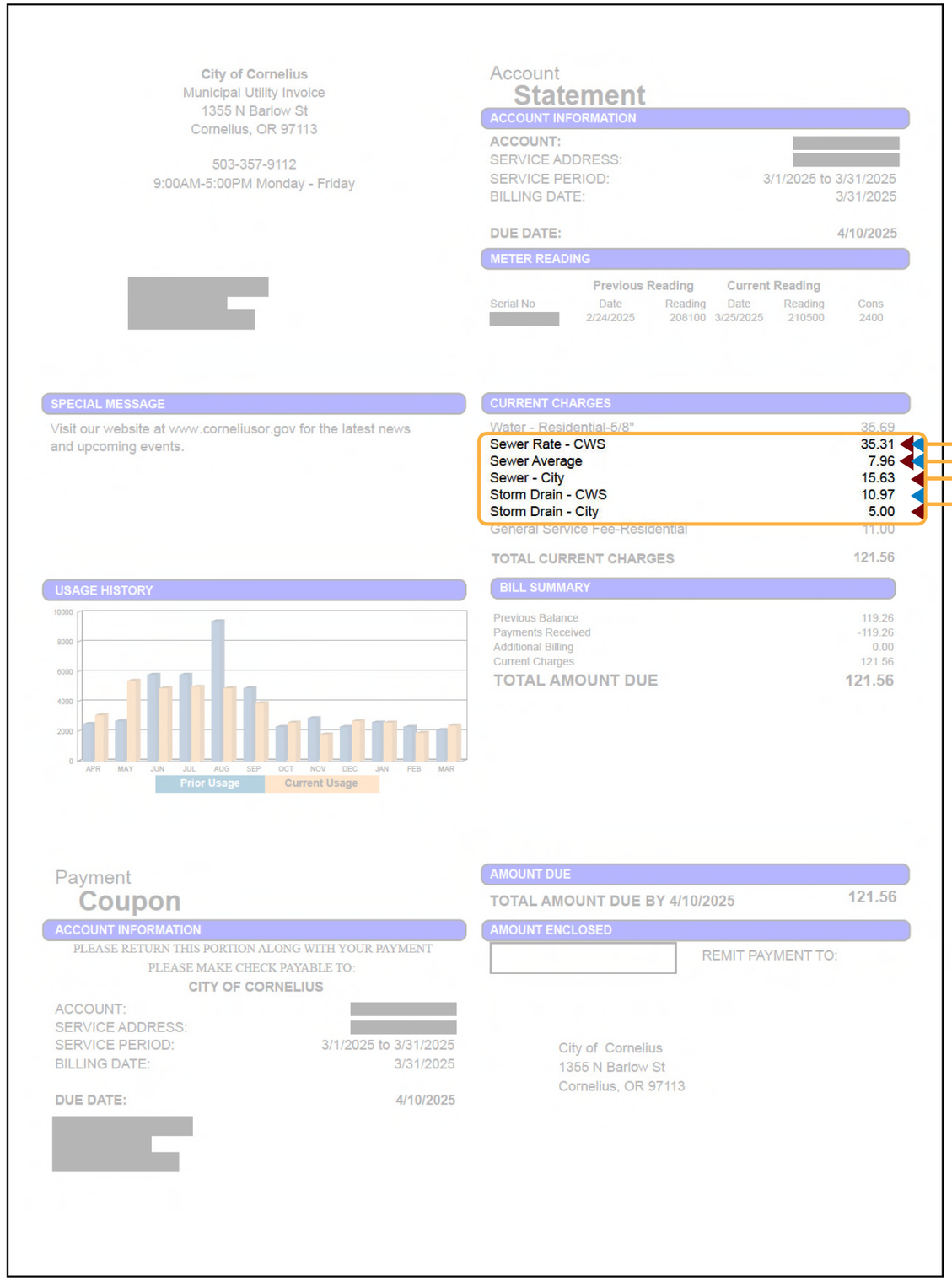
The Sewer Base charges are about 2/3 of the charges and are a fixed rate, billed monthly.

Sewer Use:

The Sewer Use charges are based on average winter water consumption. New customers are charged based on current system average.

SWM: Surface Water Management

SWM are fixed charges which are used for drainage management, maintaining water quality facilities, 24/7 emergency response, cleaning catch basins, enhancing stream corridors, and street sweeping.



Sewer Rate: $29.52
Sewer Surcharge: $ 5.79

Sewer Average Charge: $ 5.00
Sewer Average Charge: $ .97
Sewer Average Surcharge: $ 1.99

Sewer Rate: $15.63

SWM Fixed Charge: $ 2.74
SWM Charge: $ 5.00
SWM Surcharge: $ 8.23

Clean Water Services

Regional Services: (Sewer and SWM Rates)

Provided to all customers in the service area:

- Constructing, operating, and maintaining treatment plants, sewage pump stations, and pressure lines
- Designing, building, and maintaining sewer lines 24" and larger
- Compliance reporting, oversight for National Pollutant Discharge Elimination System (NPDES) permit, including municipal separate storm sewer system (MS4)
- Maintaining minimum stream flows
- Service area restoration and enhancing stream corridors

Cornelius
Oregon's Family Town

Local Services: (Sewer and SWM Rates)

Services to support operating and maintaining local collection system and 24-hour response:

- Designing, building, maintaining, repairing sewer lines 21" and smaller
- Cleaning, inspecting sewer pipes
- Designing, building, maintaining, repairing local stormwater facilities
- Sweeping streets
- Maintaining water quality facilities
- Cleaning catch basins, water quality manholes

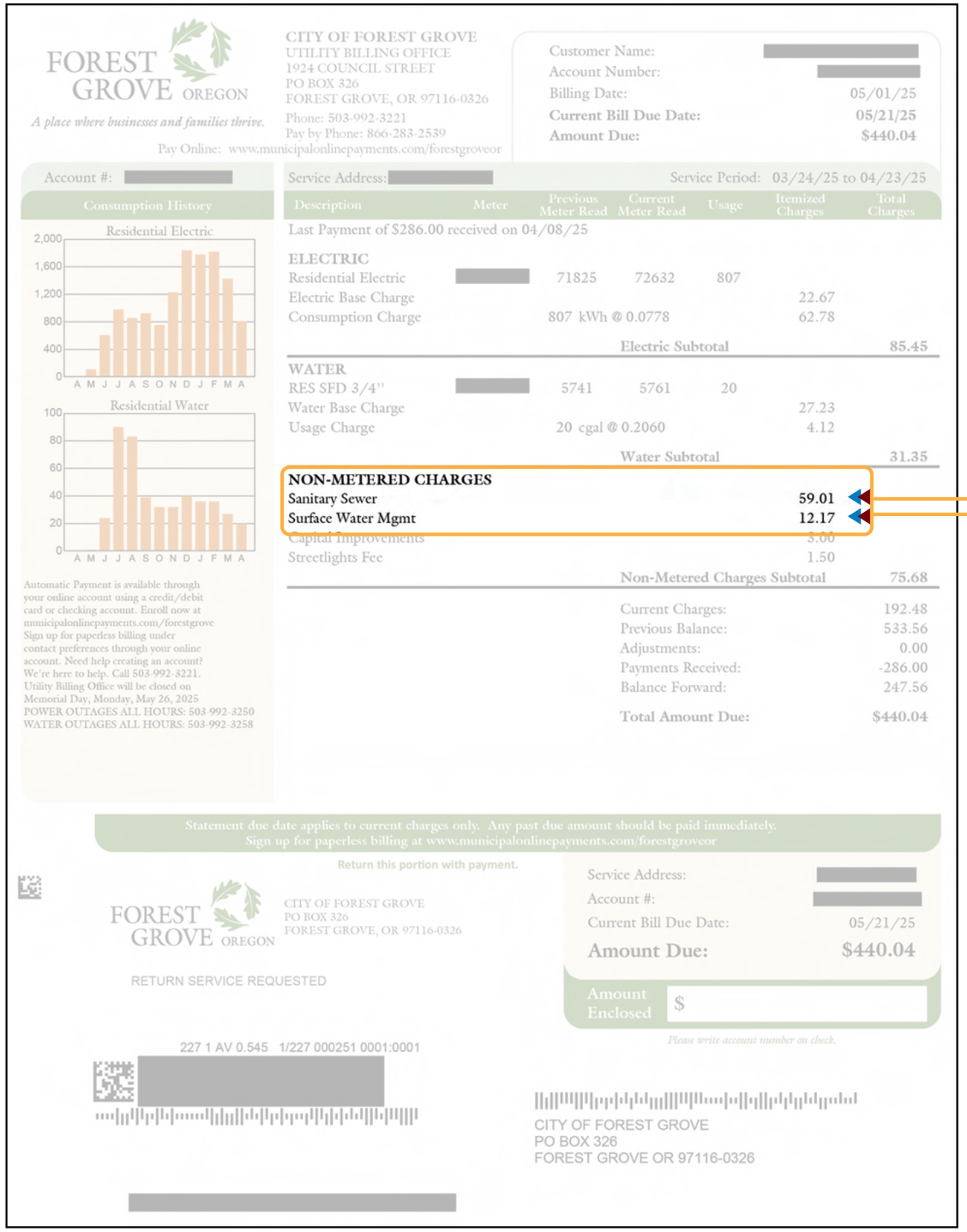
Clean Water Services

City of Cornelius

Sewer Base (Rate):
The Sewer Base charges are about 2/3 of the charges and are a fixed rate, billed monthly.

Sewer Use (Average):
The Sewer Use charges are based on average winter water consumption. New customers are charged based on current system average.

SWM: Surface Water Management
SWM are fixed charges which are used for drainage management, maintaining water quality facilities, 24/7 emergency response, cleaning catch basins, enhancing stream corridors, and street sweeping.



FOREST GROVE OREGON

A place where businesses and families thrive.

CITY OF FOREST GROVE
UTILITY BILLING OFFICE
1924 COUNCIL STREET
PO BOX 326
FOREST GROVE, OR 97116-0326
Phone: 503-992-3221
Pay by Phone: 866-283-2539
Pay Online: www.municipalonlinepayments.com/forestgroveor

Customer Name: [redacted]
Account Number: [redacted]
Billing Date: 05/01/25
Current Bill Due Date: 05/21/25
Amount Due: $440.04

Account #: [redacted]
Service Address: [redacted]
Service Period: 03/24/25 to 04/23/25

Consumption History

Residential Electric

Residential Water

Automatic Payment is available through your online account using a credit/debit card or checking account. Enroll now at municipalonlinepayments.com/forestgrove
Sign up for paperless billing under contact preferences through your online account. Need help creating an account? We're here to help. Call 503-992-3221.
Utility Billing Office will be closed on Memorial Day, Monday, May 26, 2025
POWER OUTAGES ALL HOURS: 503-992-3250
WATER OUTAGES ALL HOURS: 503-992-3258

Description	Meter	Previous Meter Read	Current Meter Read	Usage	Itemized Charges	Total Charges
Last Payment of $286.00 received on 04/08/25						
ELECTRIC						
Residential Electric	[redacted]	71825	72632	807		
Electric Base Charge					22.67	
Consumption Charge		807 kWh @ 0.0778			62.78	
			Electric Subtotal			85.45
WATER						
RES SFD 3/4"	[redacted]	5741	5761	20		
Water Base Charge					27.23	
Usage Charge		20 cgal @ 0.2060			4.12	
			Water Subtotal			31.35
NON-METERED CHARGES						
Sanitary Sewer					59.01	
Surface Water Mgmt					12.17	
Capital Improvements					3.00	
Streetlights Fee					1.50	
			Non-Metered Charges Subtotal			75.68
			Current Charges:			192.48
			Previous Balance:			533.56
			Adjustments:			0.00
			Payments Received:			-286.00
			Balance Forward:			247.56
			Total Amount Due:			$440.04

Statement due date applies to current charges only. Any past due amount should be paid immediately.
Sign up for paperless billing at www.municipalonlinepayments.com/forestgroveor

Return this portion with payment.

FOREST GROVE OREGON
CITY OF FOREST GROVE
PO BOX 326
FOREST GROVE, OR 97116-0326

RETURN SERVICE REQUESTED

Service Address: [redacted]
Account #: [redacted]
Current Bill Due Date: 05/21/25
Amount Due: $440.04

Amount Enclosed $

Please write account number on check.

227 1 AV 0.545 1/227 000251 0001:0001

CITY OF FOREST GROVE
PO BOX 326
FOREST GROVE OR 97116-0326

Sewer Base Charge: $29.52
Sewer Charge: $ 5.79
Sewer Surcharge: $ 4.91

Sewer Use Charge: $11.72
Sewer Use Charge: $ 2.28
Sewer Use Surcharge: $ 4.79

SWM Fixed Charge: $ 2.74
SWM Charge: $ 8.23
SWM Surcharge: $ 1.20

Clean Water Services

Regional Services: (Sewer and SWM Rates)

Provided to all customers in the service area:

- Constructing, operating, and maintaining treatment plants, sewage pump stations, and pressure lines
- Designing, building, and maintaining sewer lines 24" and larger
- Compliance reporting, oversight for National Pollutant Discharge Elimination System (NPDES) permit, including municipal separate storm sewer system (MS4)
- Maintaining minimum stream flows
- Service area restoration and enhancing stream corridors

FOREST GROVE OREGON

Local Services: (Sewer and SWM Rates)

Services to support operating and maintaining local collection system and 24-hour response:

- Designing, building, maintaining, repairing sewer lines 21" and smaller
- Cleaning, inspecting sewer pipes
- Designing, building, maintaining, repairing local stormwater facilities
- Sweeping streets
- Maintaining water quality facilities
- Cleaning catch basins, water quality manholes

Clean Water Services

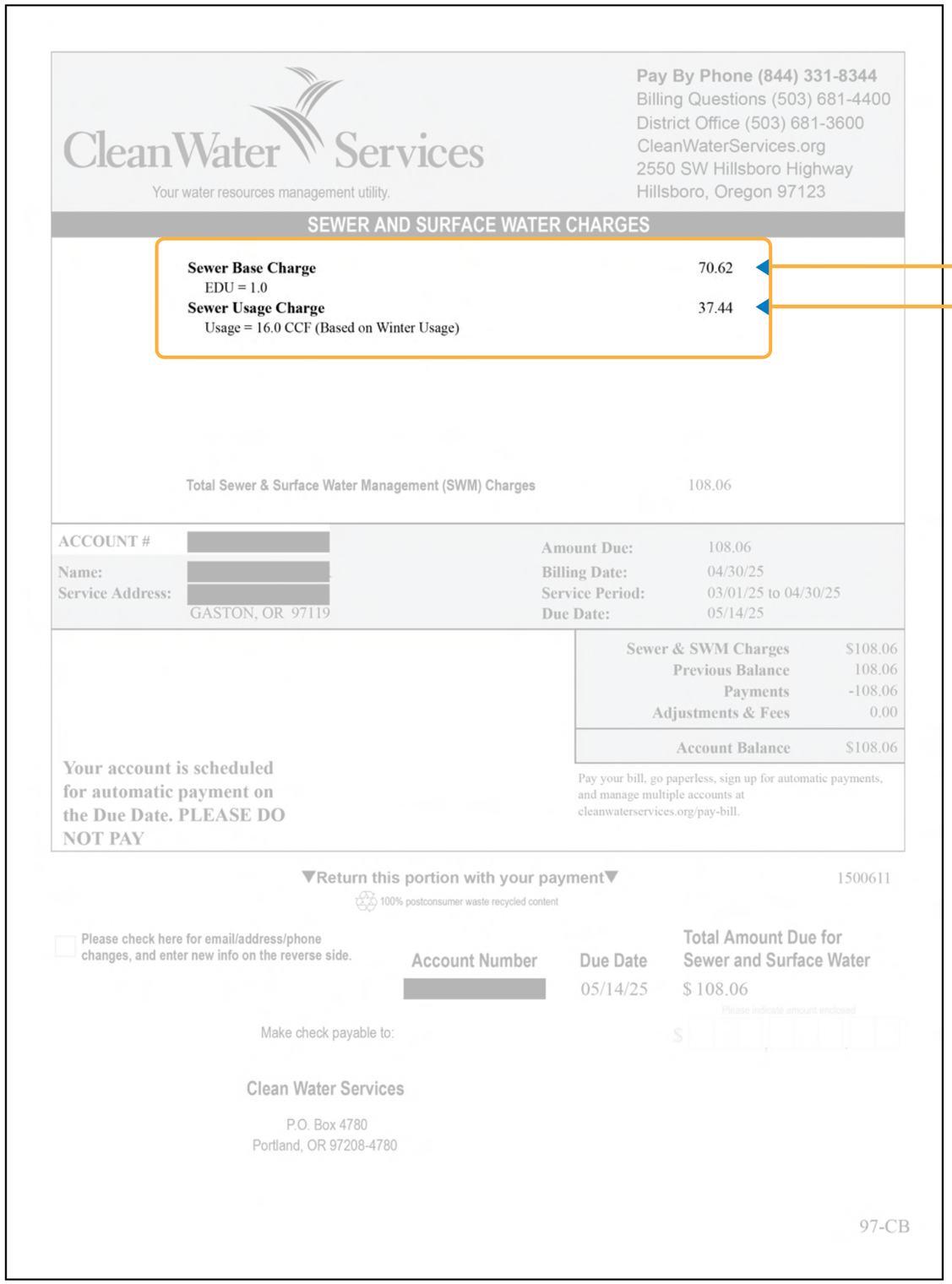
City of Forest Grove

Sewer Base:
The Sewer Base charges are about 2/3 of the charges and are a fixed rate, billed monthly.

Sewer Use:
The Sewer Use charges are based on average winter water consumption. New customers are charged based on current system average.

SWM: Surface Water Management
SWM are fixed charges which are used for drainage management, maintaining water quality facilities, 24/7 emergency response, cleaning catch basins, enhancing stream corridors, and street sweeping.

Example Bill for City of Gaston



CleanWater Services
Your water resources management utility.

Pay By Phone (844) 331-8344
Billing Questions (503) 681-4400
District Office (503) 681-3600
CleanWaterServices.org
2550 SW Hillsboro Highway
Hillsboro, Oregon 97123

SEWER AND SURFACE WATER CHARGES

Sewer Base Charge	70.62
EDU = 1.0	
Sewer Usage Charge	37.44
Usage = 16.0 CCF (Based on Winter Usage)	

Total Sewer & Surface Water Management (SWM) Charges 108.06

ACCOUNT #
Name:
Service Address:
GASTON, OR 97119

Amount Due:	108.06
Billing Date:	04/30/25
Service Period:	03/01/25 to 04/30/25
Due Date:	05/14/25

Sewer & SWM Charges	$108.06
Previous Balance	108.06
Payments	-108.06
Adjustments & Fees	0.00
Account Balance	$108.06

Your account is scheduled for automatic payment on the Due Date. PLEASE DO NOT PAY

Pay your bill, go paperless, sign up for automatic payments, and manage multiple accounts at cleanwaterservices.org/pay-bill.

▼Return this portion with your payment▼ 1500611

100% postconsumer waste recycled content

Please check here for email/address/phone changes, and enter new info on the reverse side.

Account Number	Due Date	Total Amount Due for Sewer and Surface Water
	05/14/25	$ 108.06

Please indicate amount enclosed
$

Make check payable to:

Clean Water Services

P.O. Box 4780
Portland, OR 97208-4780

97-CB

Sewer Base Charge: $59.04
Sewer Base Local Charge: $11.58

Sewer Usage Charge: $31.36
Sewer Usage Local Charge: $ 6.08

CleanWater Services

CWS provides and retains fees for both Regional and Local services in your area.

NOTE: THIS BILL REFLECTS A TWO-MONTH BILLING CYCLE.

Regional Services: (Sewer)

Provided to all customers in the service area:

- Constructing, operating, and maintaining treatment plants, sewage pump stations, and pressure lines
- Designing, building, and maintaining sewer lines 24" and larger
- Maintaining minimum stream flows
- Service area restoration and enhancing stream corridors

Local Services: (Sewer)

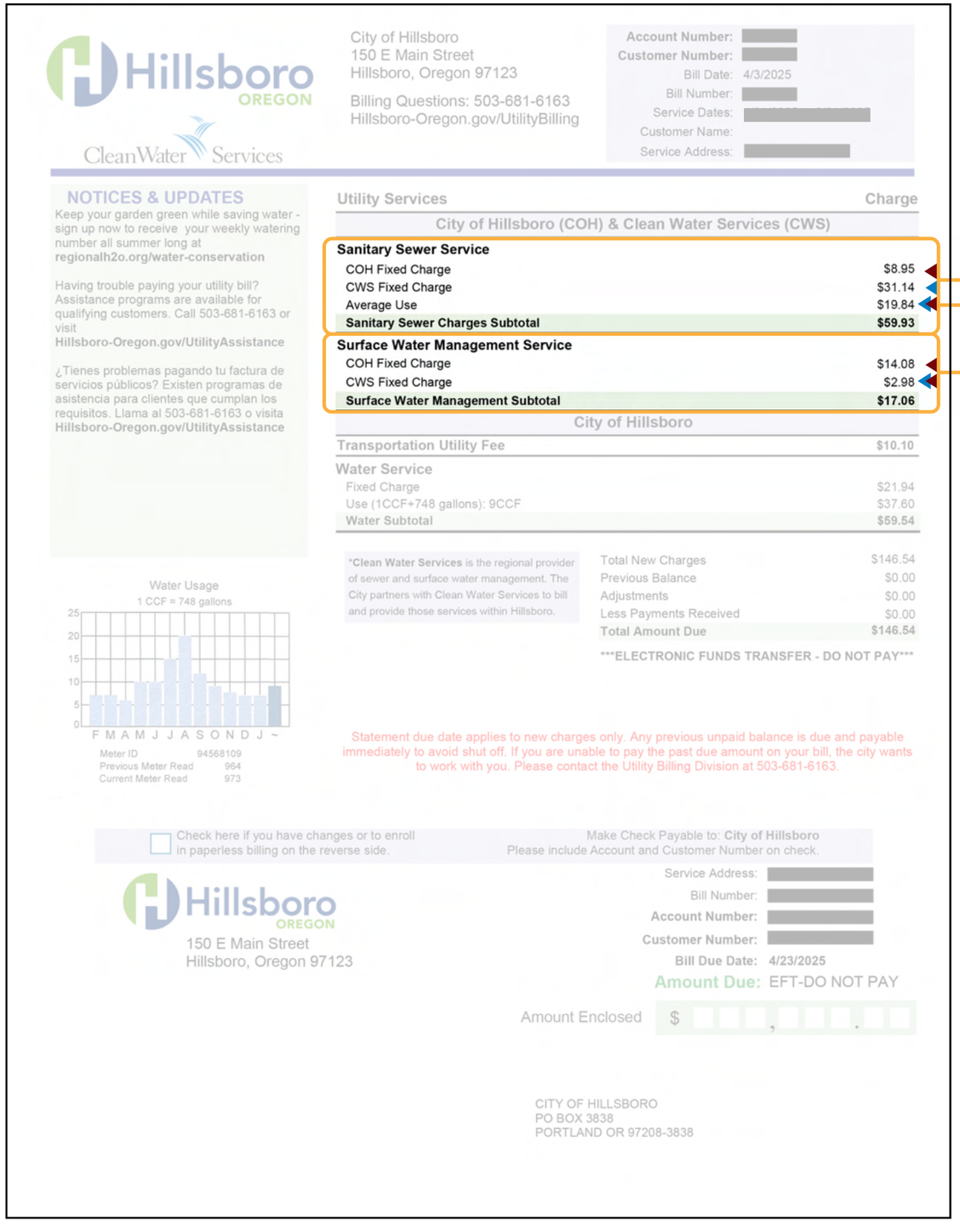
Services to support operating and maintaining local collection system and 24-hour response:

- Designing, building, maintaining, repairing sewer lines 21" and smaller
- Cleaning, inspecting sewer pipes

Clean Water Services

Sewer Base:
The Sewer Base charges are about 2/3 of the charges and are a fixed rate, billed every two months.

Sewer Use:
The Sewer Use charges are based on average winter water consumption. New customers are charged based on current system average.



City of Hillsboro
150 E Main Street
Hillsboro, Oregon 97123

Billing Questions: 503-681-6163
Hillsboro-Oregon.gov/UtilityBilling

Account Number:
Customer Number:
Bill Date: 4/3/2025
Bill Number:
Service Dates:
Customer Name:
Service Address:

NOTICES & UPDATES

Keep your garden green while saving water - sign up now to receive your weekly watering number all summer long at regionalh2o.org/water-conservation

Having trouble paying your utility bill? Assistance programs are available for qualifying customers. Call 503-681-6163 or visit Hillsboro-Oregon.gov/UtilityAssistance

¿Tienes problemas pagando tu factura de servicios públicos? Existen programas de asistencia para clientes que cumplan los requisitos. Llama al 503-681-6163 o visita Hillsboro-Oregon.gov/UtilityAssistance

Utility Services	Charge
City of Hillsboro (COH) & Clean Water Services (CWS)	
Sanitary Sewer Service	
COH Fixed Charge	$8.95
CWS Fixed Charge	$31.14
Average Use	$19.84
Sanitary Sewer Charges Subtotal	**$59.93**
Surface Water Management Service	
COH Fixed Charge	$14.08
CWS Fixed Charge	$2.98
Surface Water Management Subtotal	**$17.06**
City of Hillsboro	
Transportation Utility Fee	$10.10
Water Service	
Fixed Charge	$21.94
Use (1CCF+748 gallons): 9CCF	$37.60
Water Subtotal	$59.54

*Clean Water Services is the regional provider of sewer and surface water management. The City partners with Clean Water Services to bill and provide those services within Hillsboro.

Total New Charges	$146.54
Previous Balance	$0.00
Adjustments	$0.00
Less Payments Received	$0.00
Total Amount Due	$146.54

ELECTRONIC FUNDS TRANSFER - DO NOT PAY

Water Usage
1 CCF = 748 gallons

Meter ID 94568109
Previous Meter Read 964
Current Meter Read 973

Statement due date applies to new charges only. Any previous unpaid balance is due and payable immediately to avoid shut off. If you are unable to pay the past due amount on your bill, the city wants to work with you. Please contact the Utility Billing Division at 503-681-6163.

Check here if you have changes or to enroll in paperless billing on the reverse side.

Make Check Payable to: City of Hillsboro
Please include Account and Customer Number on check.

Service Address:
Bill Number:
Account Number:
Customer Number:
Bill Due Date: 4/23/2025
Amount Due: EFT-DO NOT PAY

Amount Enclosed $, .

150 E Main Street
Hillsboro, Oregon 97123

CITY OF HILLSBORO
PO BOX 3838
PORTLAND OR 97208-3838

Sewer Fixed Charge: $ 8.95
Sewer Fixed Surcharge: $ 1.62
Sewer Fixed Charge: $29.52

Sewer Avg. Use Charge: $ 3.12
Sewer Avg. Use Surcharge: $ .65
Sewer Avg. Use Charge: $16.07

SWM Fixed Charge: $14.08
SWM Fixed Surcharge: $ .24
SWM Fixed Charge: $ 2.74

Regional Services: (Sewer and SWM Rates)

Provided to all customers in the service area:

- Constructing, operating, and maintaining treatment plants, sewage pump stations, and pressure lines
- Designing, building, and maintaining sewer lines 24" and larger
- Compliance reporting, oversight for National Pollutant Discharge Elimination System (NPDES) permit, including municipal separate storm sewer system (MS4)
- Maintaining minimum stream flows
- Service area restoration and enhancing stream corridors

Local Services: (Sewer and SWM Rates)

Services to support operating and maintaining local collection system and 24-hour response:

- Designing, building, maintaining, repairing sewer lines 21" and smaller
- Cleaning, inspecting sewer pipes
- Designing, building, maintaining, repairing local stormwater facilities
- Sweeping streets
- Maintaining water quality facilities
- Cleaning catch basins, water quality manholes

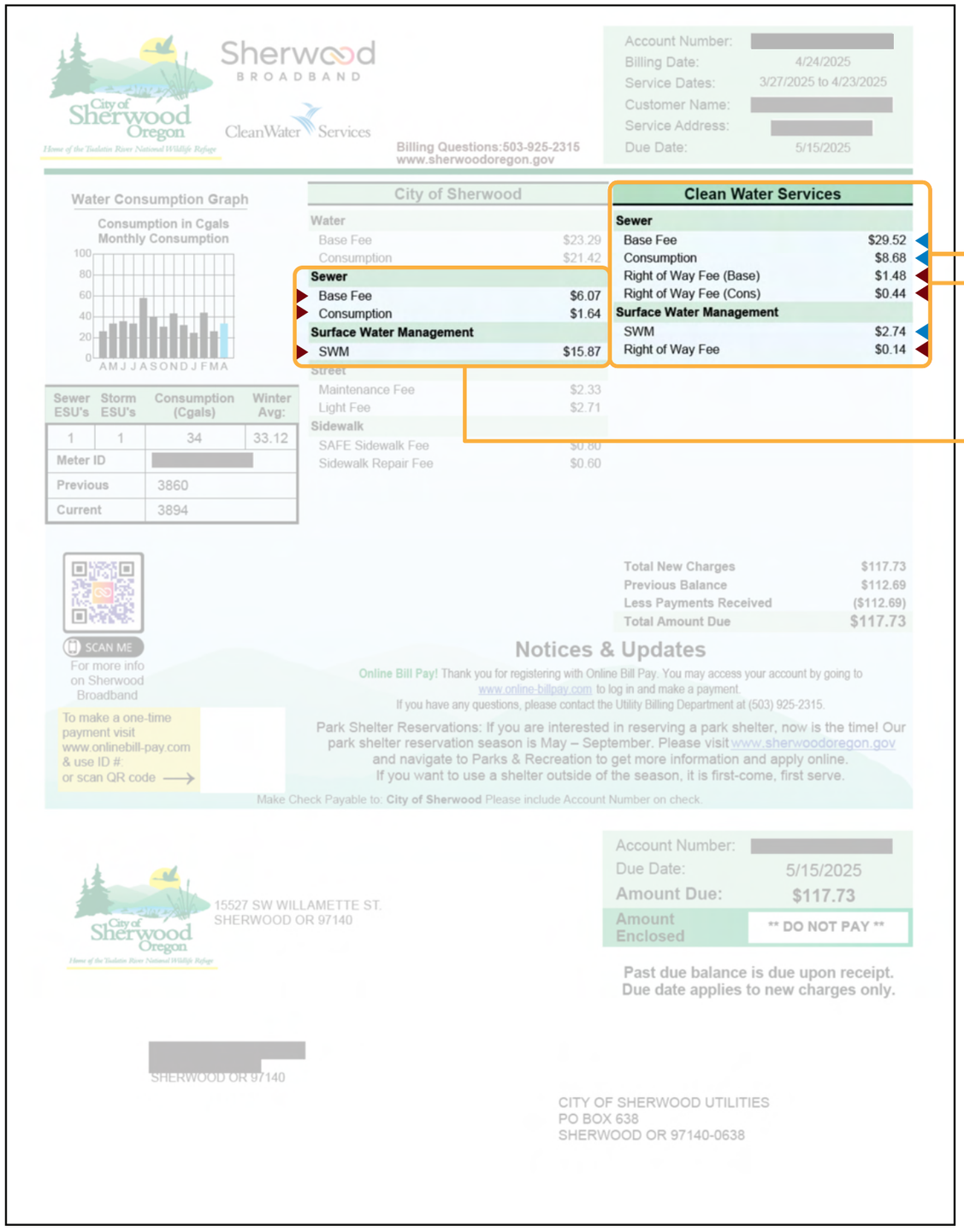
Clean Water Services

City of Hillsboro

Sewer Base (Fixed):
The Sewer Base charges are about 2/3 of the charges and are a fixed rate, billed monthly.

Sewer Use (Average):
The Sewer Use charges are based on average winter water consumption. New customers are charged based on current system average.

SWM: Surface Water Management
SWM are fixed charges which are used for drainage management, maintaining water quality facilities, 24/7 emergency response, cleaning catch basins, enhancing stream corridors, and street sweeping.



Sewer Base Fee: $29.52
Sewer Consumption: $ 8.68
SWM Fixed Fee: $ 2.74

Sewer Base Fee: $ 6.07
Sewer Consumption: $ 1.64
SWM Fee: $15.87
Sewer Right-of-Way (Base): $ 1.48
Sewer Right-of-Way (Cons): $ .44
SWM Right-of-Way Fee: $ .14

CleanWater Services

Regional Services: (Sewer and SWM Rates)

Provided to all customers in the service area:

- Constructing, operating, and maintaining treatment plants, sewage pump stations, and pressure lines
- Designing, building, and maintaining sewer lines 24" and larger
- Compliance reporting, oversight for National Pollutant Discharge Elimination System (NPDES) permit, including municipal separate storm sewer system (MS4)
- Maintaining minimum stream flows
- Service area restoration and enhancing stream corridors

City of Sherwood Oregon
Home of the Tualatin River National Wildlife Refuge

Local Services: (Sewer and SWM Rates)

Services to support operating and maintaining local collection system and 24-hour response:

- Designing, building, maintaining, repairing sewer lines 21" and smaller
- Cleaning, inspecting sewer pipes
- Designing, building, maintaining, repairing local stormwater facilities
- Sweeping streets
- Maintaining water quality facilities
- Cleaning catch basins, water quality manholes

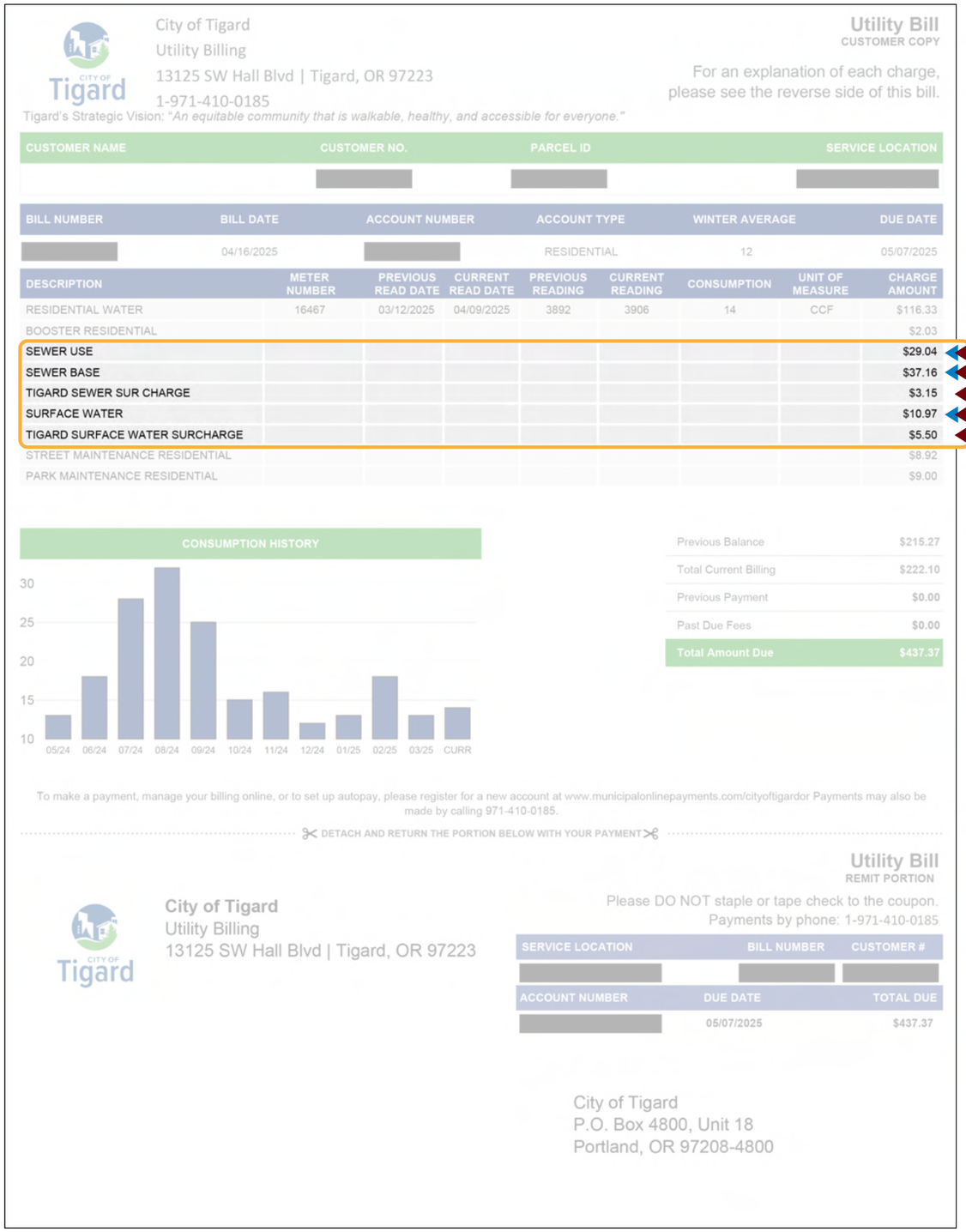
Clean Water Services

City of Sherwood

Sewer Base:
The Sewer Base charges are about 2/3 of the charges and are a fixed rate, billed monthly.

Sewer Use:
The Sewer Use charges are based on average winter water consumption. New customers are charged based on current system average.

SWM: Surface Water Management
SWM are fixed charges which are used for drainage management, maintaining water quality facilities, 24/7 emergency response, cleaning catch basins, enhancing stream corridors, and street sweeping.



City of Tigard
Utility Billing
13125 SW Hall Blvd | Tigard, OR 97223
1-971-410-0185

Tigard's Strategic Vision: *"An equitable community that is walkable, healthy, and accessible for everyone."*

Utility Bill
CUSTOMER COPY

For an explanation of each charge, please see the reverse side of this bill.

CUSTOMER NAME	CUSTOMER NO.	PARCEL ID	SERVICE LOCATION
	[redacted]	[redacted]	[redacted]

BILL NUMBER	BILL DATE	ACCOUNT NUMBER	ACCOUNT TYPE	WINTER AVERAGE	DUE DATE
[redacted]	04/16/2025	[redacted]	RESIDENTIAL	12	05/07/2025

DESCRIPTION	METER NUMBER	PREVIOUS READ DATE	CURRENT READ DATE	PREVIOUS READING	CURRENT READING	CONSUMPTION	UNIT OF MEASURE	CHARGE AMOUNT
RESIDENTIAL WATER	16467	03/12/2025	04/09/2025	3892	3906	14	CCF	$116.33
BOOSTER RESIDENTIAL								$2.03
SEWER USE								$29.04
SEWER BASE								$37.16
TIGARD SEWER SUR CHARGE								$3.15
SURFACE WATER								$10.97
TIGARD SURFACE WATER SURCHARGE								$5.50
STREET MAINTENANCE RESIDENTIAL								$8.92
PARK MAINTENANCE RESIDENTIAL								$9.00

CONSUMPTION HISTORY

Previous Balance	$215.27
Total Current Billing	$222.10
Previous Payment	$0.00
Past Due Fees	$0.00
Total Amount Due	$437.37

To make a payment, manage your billing online, or to set up autopay, please register for a new account at www.municipalonlinepayments.com/cityoftigardor Payments may also be made by calling 971-410-0185.

DETACH AND RETURN THE PORTION BELOW WITH YOUR PAYMENT

Utility Bill
REMIT PORTION

Please DO NOT staple or tape check to the coupon.
Payments by phone: 1-971-410-0185

City of Tigard
Utility Billing
13125 SW Hall Blvd | Tigard, OR 97223

SERVICE LOCATION	BILL NUMBER	CUSTOMER #
[redacted]	[redacted]	[redacted]

ACCOUNT NUMBER	DUE DATE	TOTAL DUE
[redacted]	05/07/2025	$437.37

City of Tigard
P.O. Box 4800, Unit 18
Portland, OR 97208-4800

Sewer Use Charge: $23.32
Sewer Use Charge: $ 4.52
Sewer Use Surcharge: $ 1.20

Sewer Base Charge: $29.52
Sewer Charge: $ 7.64
Sewer Surcharge: $ 3.15

SWM Fixed Charge: $ 2.74
SWM Charge: $ 8.23
SWM Surcharge: $ 5.50

Clean Water Services

Regional Services: (Sewer and SWM Rates)

Provided to all customers in the service area:

- Constructing, operating, and maintaining treatment plants, sewage pump stations, and pressure lines
- Designing, building, and maintaining sewer lines 24" and larger
- Compliance reporting, oversight for National Pollutant Discharge Elimination System (NPDES) permit, including municipal separate storm sewer system (MS4)
- Maintaining minimum stream flows
- Service area restoration and enhancing stream corridors

City of Tigard

Local Services: (Sewer and SWM Rates)

Services to support operating and maintaining local collection system and 24-hour response:

- Designing, building, maintaining, repairing sewer lines 21" and smaller
- Cleaning, inspecting sewer pipes
- Designing, building, maintaining, repairing local stormwater facilities
- Sweeping streets
- Maintaining water quality facilities
- Cleaning catch basins, water quality manholes

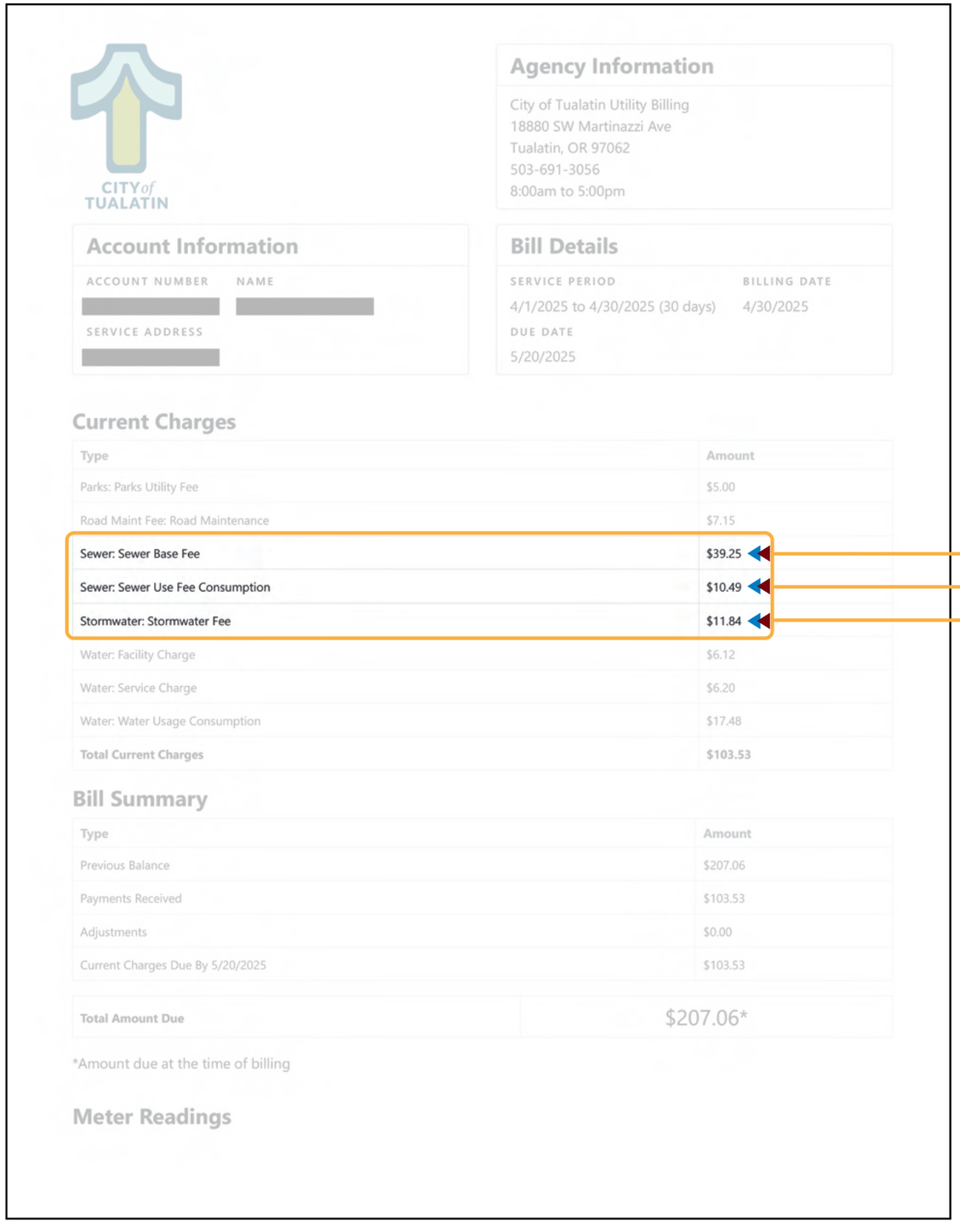
Clean Water Services

City of Tigard

Sewer Base:
The Sewer Base charges are about 2/3 of the charges and are a fixed rate, billed monthly.

Sewer Use:
The Sewer Use charges are based on average winter water consumption. New customers are charged based on current system average.

SWM: Surface Water Management
SWM are fixed charges which are used for drainage management, maintaining water quality facilities, 24/7 emergency response, cleaning catch basins, enhancing stream corridors, and street sweeping.



CITY of TUALATIN

Agency Information

City of Tualatin Utility Billing
18880 SW Martinazzi Ave
Tualatin, OR 97062
503-691-3056
8:00am to 5:00pm

Account Information

ACCOUNT NUMBER [redacted] NAME [redacted]
SERVICE ADDRESS [redacted]

Bill Details

SERVICE PERIOD 4/1/2025 to 4/30/2025 (30 days)
BILLING DATE 4/30/2025
DUE DATE 5/20/2025

Current Charges

Type	Amount
Parks: Parks Utility Fee	$5.00
Road Maint Fee: Road Maintenance	$7.15
Sewer: Sewer Base Fee	$39.25
Sewer: Sewer Use Fee Consumption	$10.49
Stormwater: Stormwater Fee	$11.84
Water: Facility Charge	$6.12
Water: Service Charge	$6.20
Water: Water Usage Consumption	$17.48
Total Current Charges	**$103.53**

Bill Summary

Type	Amount
Previous Balance	$207.06
Payments Received	$103.53
Adjustments	$0.00
Current Charges Due By 5/20/2025	$103.53
Total Amount Due	$207.06*

*Amount due at the time of billing

Meter Readings

Sewer Base Charge: $29.52
Sewer Base Charge: $ 5.79
Sewer Base Surcharge: $ 3.94

Sewer Use Charge: $ 7.84
Sewer Use Charge: $ 1.52
Sewer Use Surcharge: $ 1.13

SWM Fixed Charge: $ 2.74
SWM Charge: $ 8.23
SWM Surcharge: $ .87

Clean Water Services

Regional Services: (Sewer and SWM Rates)

Provided to all customers in the service area:

- Constructing, operating, and maintaining treatment plants, sewage pump stations, and pressure lines
- Designing, building, and maintaining sewer lines 24" and larger
- Compliance reporting, oversight for National Pollutant Discharge Elimination System (NPDES) permit, including municipal separate storm sewer system (MS4)
- Maintaining minimum stream flows
- Service area restoration and enhancing stream corridors

CITY of TUALATIN

Local Services: (Sewer and SWM Rates)

Services to support operating and maintaining local collection system and 24-hour response:

- Designing, building, maintaining, repairing sewer lines 21" and smaller
- Cleaning, inspecting sewer pipes
- Designing, building, maintaining, repairing local stormwater facilities
- Sweeping streets
- Maintaining water quality facilities
- Cleaning catch basins, water quality manholes

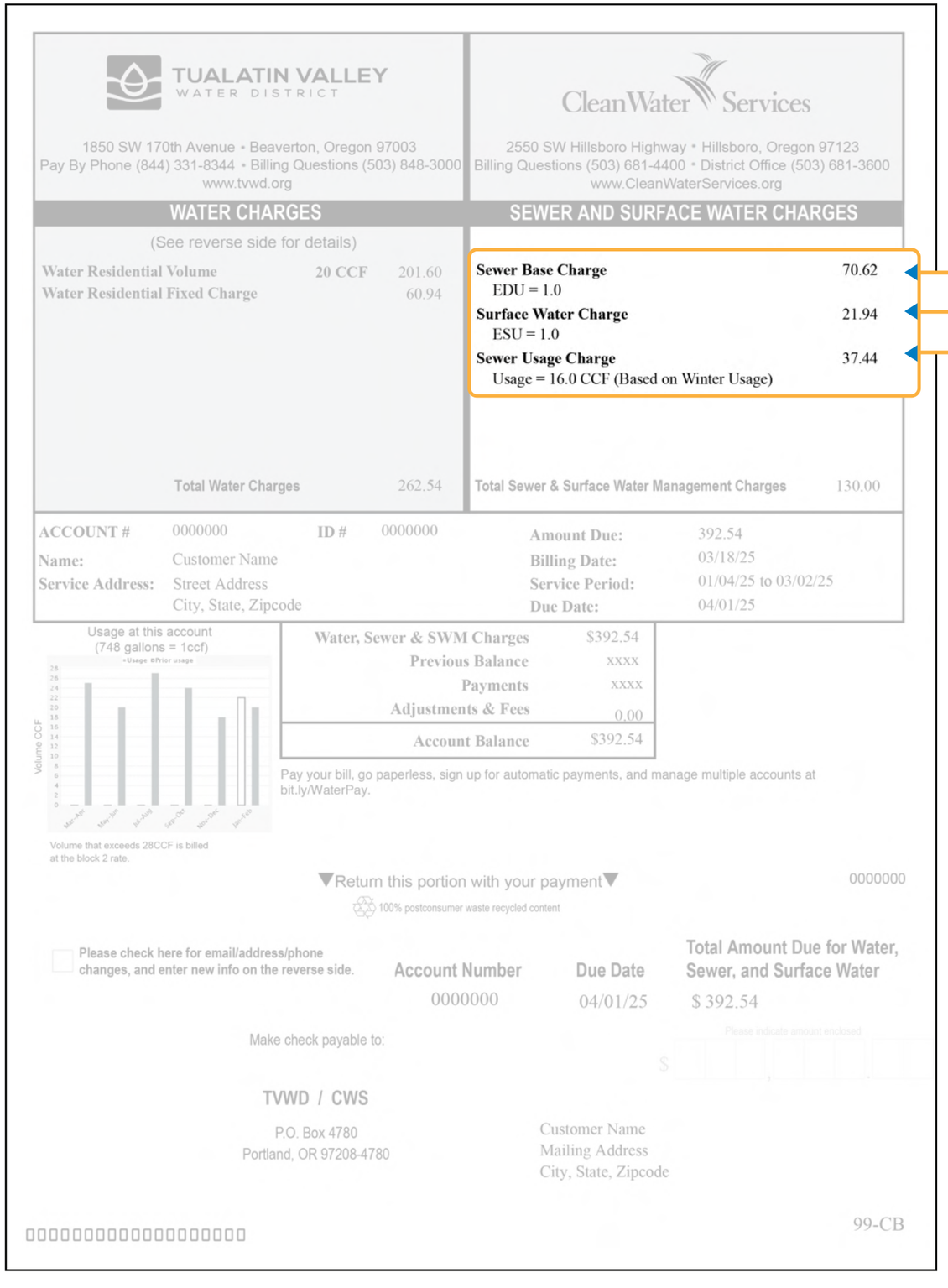
Clean Water Services

City of Tualatin

Sewer Base:
The Sewer Base charges are about 2/3 of the charges and are a fixed rate, billed monthly.

Sewer Use:
The Sewer Use charges are based on average winter water consumption. New customers are charged based on current system average.

SWM: Surface Water Management
SWM are fixed charges which are used for drainage management, maintaining water quality facilities, 24/7 emergency response, cleaning catch basins, enhancing stream corridors, and street sweeping.



TUALATIN VALLEY WATER DISTRICT

1850 SW 170th Avenue • Beaverton, Oregon 97003
Pay By Phone (844) 331-8344 • Billing Questions (503) 848-3000
www.tvwd.org

CleanWater Services

2550 SW Hillsboro Highway • Hillsboro, Oregon 97123
Billing Questions (503) 681-4400 • District Office (503) 681-3600
www.CleanWaterServices.org

WATER CHARGES

(See reverse side for details)

Water Residential Volume	20 CCF	201.60
Water Residential Fixed Charge		60.94
Total Water Charges		262.54

SEWER AND SURFACE WATER CHARGES

Sewer Base Charge EDU = 1.0	70.62
Surface Water Charge ESU = 1.0	21.94
Sewer Usage Charge Usage = 16.0 CCF (Based on Winter Usage)	37.44
Total Sewer & Surface Water Management Charges	130.00

ACCOUNT #	0000000	ID #	0000000
Name:	Customer Name		
Service Address:	Street Address City, State, Zipcode		

Amount Due:	392.54
Billing Date:	03/18/25
Service Period:	01/04/25 to 03/02/25
Due Date:	04/01/25

Usage at this account
(748 gallons = 1ccf)

Volume that exceeds 28CCF is billed at the block 2 rate.

Water, Sewer & SWM Charges	$392.54
Previous Balance	xxxx
Payments	xxxx
Adjustments & Fees	0.00
Account Balance	$392.54

Pay your bill, go paperless, sign up for automatic payments, and manage multiple accounts at bit.ly/WaterPay.

▼Return this portion with your payment▼ 0000000

100% postconsumer waste recycled content

Please check here for email/address/phone changes, and enter new info on the reverse side.

Account Number	Due Date	Total Amount Due for Water, Sewer, and Surface Water
0000000	04/01/25	$ 392.54

Please indicate amount enclosed.

$

Make check payable to:

TVWD / CWS

P.O. Box 4780
Portland, OR 97208-4780

Customer Name
Mailing Address
City, State, Zipcode

99-CB

Sewer Base Charge: $59.04
Sewer Base Local Charge: $11.58

Surface Water Charge: $ 5.48
Surface Water Local Charge: $16.46

Sewer Usage Charge: $31.36
Sewer Usage Local Charge: $ 6.08

CleanWater Services

CWS provides and retains fees for both Regional and Local services in your area.

NOTE: THIS BILL REFLECTS A TWO-MONTH BILLING CYCLE.

Regional Services: (Sewer and SWM Rates)

Provided to all customers in the service area:

- Constructing, operating, and maintaining treatment plants, sewage pump stations, and pressure lines
- Designing, building, and maintaining sewer lines 24" and larger
- Compliance reporting, oversight for National Pollutant Discharge Elimination System (NPDES) permit, including municipal separate storm sewer system (MS4)
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Local Services: (Sewer and SWM Rates)

Services to support operating and maintaining local collection system and 24-hour response:

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- Designing, building, maintaining, repairing local stormwater facilities
- Sweeping streets
- Maintaining water quality facilities
- Cleaning catch basins, water quality manholes

Clean Water Services

Sewer Base:
The Sewer Base charges are about 2/3 of the charges and are a fixed rate. Note: You may be billed monthly or bi-monthly.

Sewer Use:
The Sewer Use charges are based on average winter water consumption. New customers are charged based on current system average.

SWM: Surface Water Management
SWM are fixed charges which are used for drainage management, maintaining water quality facilities, 24/7 emergency response, cleaning catch basins, enhancing stream corridors, and street sweeping.

CLEAN WATER SERVICES
MONTHLY REPORT OF CITY SEWER & STORM RECEIPTS & REMITTANCES
FY 2024-25

CITY: HILLSBORO

MONTH: Mar-25

BILLING PERIOD: March-25

SEWER SVCS ALLOCATION:

District Rate ($29.52 + $1.96)	31.48	83.612%
City Rate ($5.79 + $0.38)	6.17	16.388%
ROW Fee - N/A	0.00	0.000%
	$37.65	100.000%

		Pre-Feb 2025 billings	Feb-25 and newer		Remittance to CWS	CWS Use
Sewer Service Fees Collected (100%)		$190,232.42	$2,597,923.79			
Cash adjustments outside normal billings attached (Sewer)		82.23	-			
Net Sewer Service Fees Collected		$190,150.19	$2,597,923.79			
Local Portion (City Retains)	16.388%	$ 31,161.40				
District-wide Portion (To CWS)	83.612%	**51052000 8026**		**A**	**$2,756,912.58**	#101.000.0000.40120.0000.0000

STORM SVCS ALLOCATION:

District Allocation (25%)	2.74	24.977%
Local Allocation (75%)	8.23	75.023%
ROW Fee - N/A	0.00	0.000%
	$ 10.97	100.000%

		Pre-Feb 2025 billings	Feb-25 and newer			
Surface Water Management ($10.97 per ESU)						
Service Fees Collected (100%)		$55,885.10	$246,894.29			
Cash adjustments outside normal billings attached (SWM)		(14.08)	-			
		$55,871.02	$246,894.29			
Local Portion (City Retains)	75.023%	$ 41,916.00				
District-wide Portion (To CWS)	24.977%	**52052000 8026**		**B**	**$260,849.31**	#201.000.0000.40120.0000.0000

Sanitary Sewer SDC Charges ($7,009.00 per EDU): $279,224.26

Reimbursement Portion of Sanitary SDCs ($4,204.00 per EDU)					
District-wide Portion (To CWS)	59.9800%	**51452200 8026**	**C**	**$ 167,478.71**	#107.000.0000.41020.0000.0000
Improvement Portion of Sanitary SDCs ($2,805.00 per EDU)					
Local Portion (City Retains)	3.9825%	$ 11,120.11			
District-wide Portion (To CWS)	36.0375%	**51452200 8026**	**D**	**$ 100,625.44**	#107.000.0000.41210.0000.0000
Adjustments or Corrections (please provide explanation)			**E**		
Erosion Control Fees Collected			**F**		#201.000.0000.40290.0000.0000
Total Remittance to CWS (Sum of A through F)				**$3,285,866.04**	

Sewer Permit Numbers Issued # _____ thru # _____
Number of Connection Permits Issued (in EDU's) _____
Total number of EDU's Served (period end) _____

SWM Permit Numbers Issued # _____ thru # _____
Number of SWM Connection Permits Issued (in ESU's) _____
Total number of ESU's Served (period end) _____

Industrial Customers

CWS bills 59 industrial customers for contributing significant discharges into the CWS system.

Hillsboro

1. ACUMED Brookwood Campus
2. ACUMED, LLC.
3. AGC Electronics America
4. Applied Materials, Inc.
5. Beaverton Foods, Inc.
6. CoorsTek, Inc.
7. Davis Tool, Incorporated
8. DEQ Laboratory
9. Ebara Technologies, Inc
10. Forest Dental Equipment
11. Genentech, Inc.
12. Hillsboro Landfill Inc
13. Hitachi High-Tech America, Inc
14. Intel Corporation - Ronler Acres Campus
15. Jireh Semiconductor, Incorporated
16. JSR Micro, Inc.
17. KoMiCo Hillsboro LLC
18. Linde Inc.
19. Oregon Health Sciences University West Campus ONPRC
20. Prudential Cleanroom Services
21. Qorvo
22. QuantumClean
23. Resers Fine Foods - Century Blvd Plant
24. Sumitomo Electric Semiconductor Materials, Inc.
25. TOK America
26. Tokai Carbon USA Inc
27. Tokyo Electron US Holdings
28. U.S. Linen & Uniform, Inc.

Unincorporated

1. Analog Devices
2. Intel Corporation - Aloha Campus
3. Leupold & Stevens Inc
4. Tosoh Quartz, Inc

Tualatin

1. Anodize Solutions, LLC
2. Ardent Mills
3. Brew Dr. Kombucha
4. Fujimi Corporation
5. JAE Oregon Inc
6. Lam Research Corp
7. Pacific Foods
8. Pacific Nutritional Foods
9. Pioneer Metal Finishing
10. Union Wine Co.
11. United Site Services

Forest Grove

1. Chaucer Foods
2. Forest Grove Transfer Station
3. Lieb Foods, LLC
4. MGC Pure Chemicals America, Inc.
5. New Season Foods, Inc.
6. Old Trapper Smoked Products
7. Sake One Corporation
8. TTM Technologies North America, LLC
9. Westak of Oregon, Inc.

Beaverton

1. Bimbo's Bakeries USA
2. FormFactor, Inc
3. International Paper - Specialty Products
4. Northwest Rubber Extruders, Inc.

Cornelius

1. Sheldon Manufacturing, Inc.
2. Summit Foods, Inc. - Main Location

Sherwood

1. Cascade Columbia Distribution Co

Break

Plan to Rebuild Trust

Plan to Rebuild Trust

Rick Shanley, Acting Chief Executive Officer/General Manager
Elizabeth Edwards, Chief of Staff
Joe Gall, Chief Utility Relations Officer
Kathy Leader, Chief Financial Officer
Laurie Olson, Risk Manager
Christine Meadows, Senior Assistant Legal Counsel

Presentation Overview

- Leadership update on communications and engagement
- Update on R&O 25-5 implementation
  - Forensic investigation update
  - Clean Water Insurance Company (CWIC) domicile preview
- Customer assistance timeline
- Previous discussion
  - April 8: CWS Resolution and Order 25-5 adopted
  - April 29: CEO presents initial R&O update and Plan to Restore Public Trust
  - June 10: Acting CEO/General Manager presents progress on R&O and Plan to Rebuild Trust

Rebuilding Trust: Communications & Engagement

- CWS Essentials fall sessions scheduled:
  - September 18 and 20 (elected officials)
  - September 11 (staff)
- CWS-focused Chair-Mayors meeting on July 14
- Acting CEO/GM met with All Leaders (supervisor group), Employee Advisory Council, onboarding and leadership cohorts, and select departments and programs
  - Scheduling underway for other employee meetings with Acting CEO
- Acting CEO/GM issued three all-staff emails providing updates on budget and organizational shifts
- Publicized new confidential employee hotline via newsletter, flyers, etc.

Employee Feedback

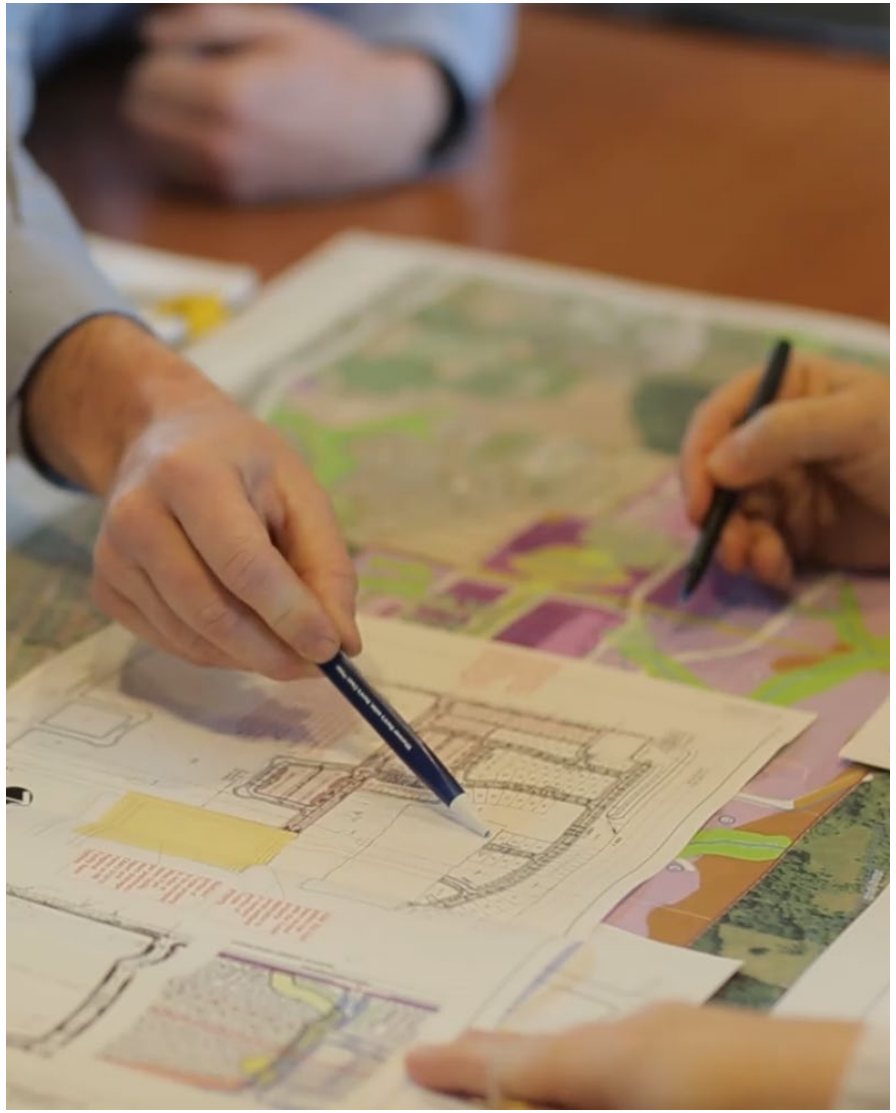
- Feedback and concerns
  - Losing goal share
  - Equity
  - Misconception around hiring “freeze”
  - Having voice in creating and prioritizing efficiencies
- Initial Gallup results show local-level engagement held steady, while organizational satisfaction and trust dipped
- Launched new employee hotline on June 27 to provide confidential line of communication to Board

City Partner Feedback

- Invited all city managers to meet with CEO (and now Acting CEO/General Manager)
- Met with Tualatin, Hillsboro, Sherwood, Cornelius, and Beaverton
- Key topics
  - Commitment to ongoing partnership
  - Progress on R&O
  - CWIC domicile location
  - Audit update
  - Billing option analysis
- Agreement to continue high levels of communication

Resolution & Order 25-5

- 14 separate actions in R&O
- Still on track for timely completion of all items
- Details
  - Exhibit A: R&O status report
  - Exhibit B: Annotated R&O
  - Exhibit C: Forensic investigation scope of work
  - Exhibit D: CWIC domicile preview

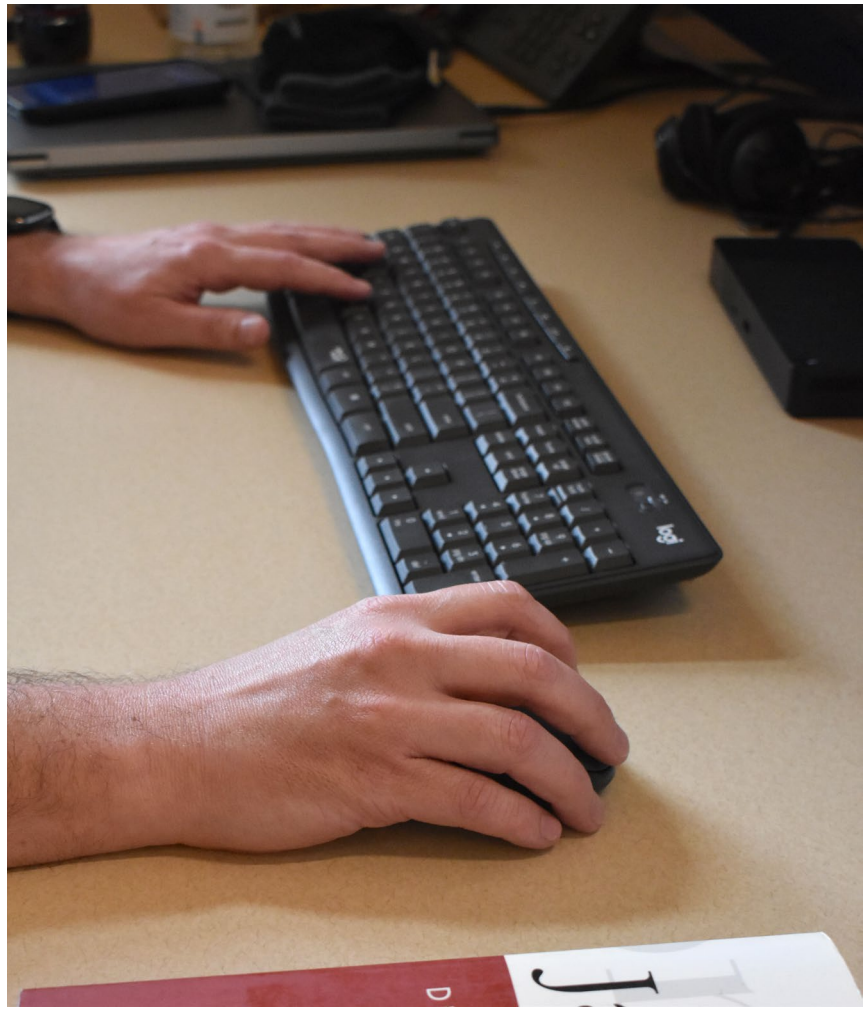


Forensic Investigation Scope of Work

- Retained forensic accounting firm, Morones Analytics, LLC
- Morones Analytics, LLC is:
  - Conducting a forensic accounting investigation of training, travel, and meals expenditures from FY 2021-25
  - Determining spending trends and whether CWS acted in compliance with U.S. General Services Administration per diem expenditures and CWS policies
  - Producing summaries of spending by CWS
  - Comparing CWS travel and meal policies to peer agencies in region
- If other concerns are identified, Morones maintains flexibility to pursue additional areas

Forensic Investigation Scope of Work

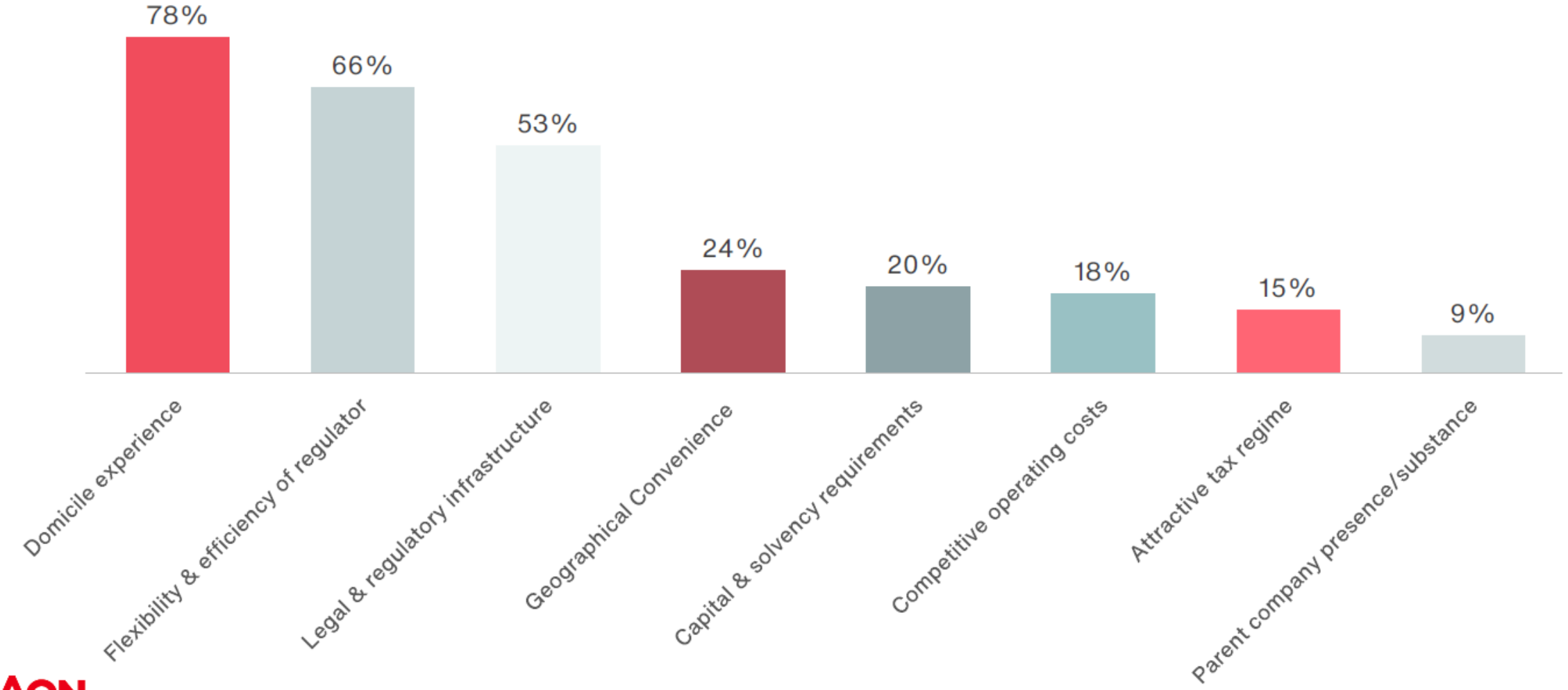
- September 1, 2025:
  - Complete investigation
  - Submit copies of report for management response
- September 15, 2025:
  - Complete management response
- September 30, 2025:
  - Complete final report
- October (date TBD)
  - Present report at CWS Board meeting



Clean Water Insurance Company (CWIC)

CWIC Domicile Considerations

- Regulatory experience and reputation are important factors

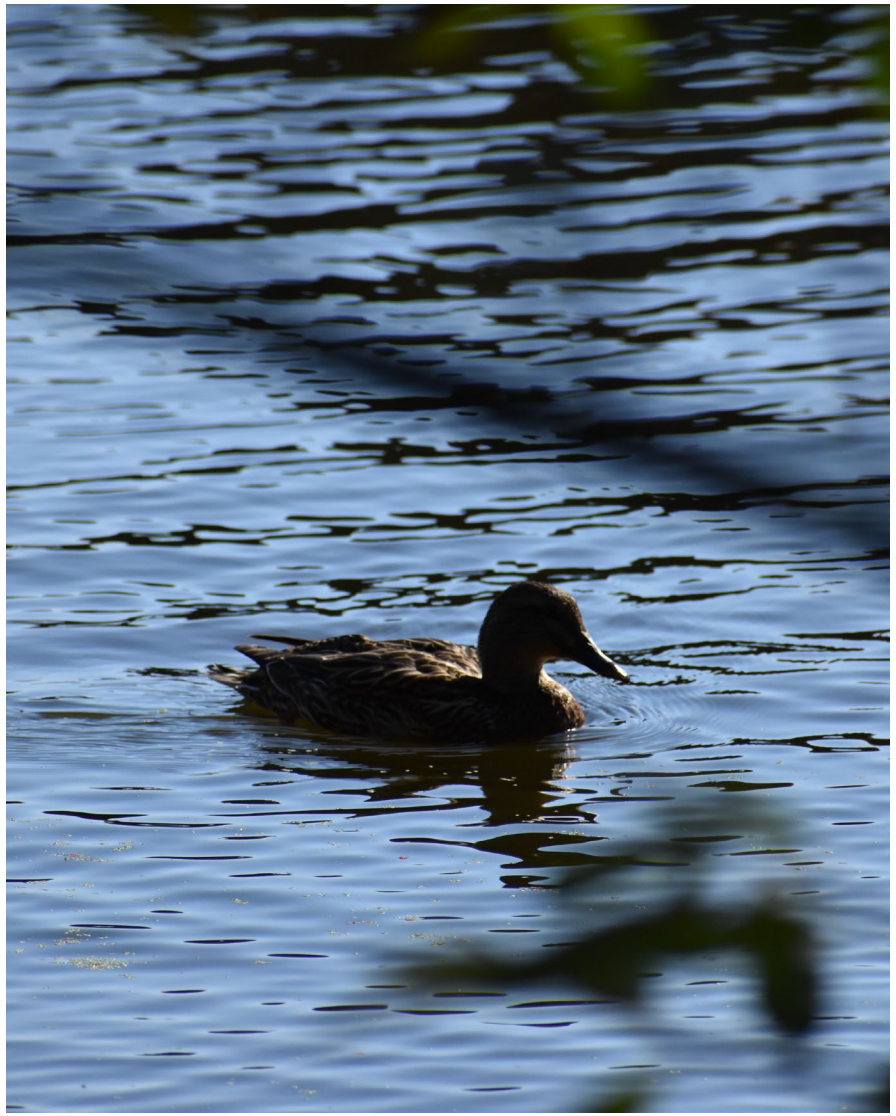


AON

Aon Captive Insurance Management Benchmarking Survey

CWIC Domicile Considerations: Oregon

- Oregon not presently a viable domicile for CWIC
- Current captive structure not available to public sector under current regulations
- Lack of experience



2022 CWIC Domicile Evaluation

Domicile	Cover	Costs (Annual)	Regulatory	Taxation (federal / local / premium	Administration	Domicile Expertise	Convenience (Oregon)	Total Score
Vermont	115	49	125	40	85	50	10	474
Hawaii	115	46	125	40	85	38	30	479
Arizona	115	49	125	50	85	28	16	468
S Carolina	115	46	125	40	85	38	11	460
Bermuda	110	39	125	25	85	50	6	440

2025 CWIC Domicile Evaluation

Domicile	Cover	Costs	Regulatory	Convenience	Total Score
Arizona	120	110	142	40	412
Hawaii	120	105	148	27	400
Nevada	120	115	111	4	386
Utah	120	105	124	36	385
Vermont	120	100	150	22	392

2025 CWIC Domicile Evaluation

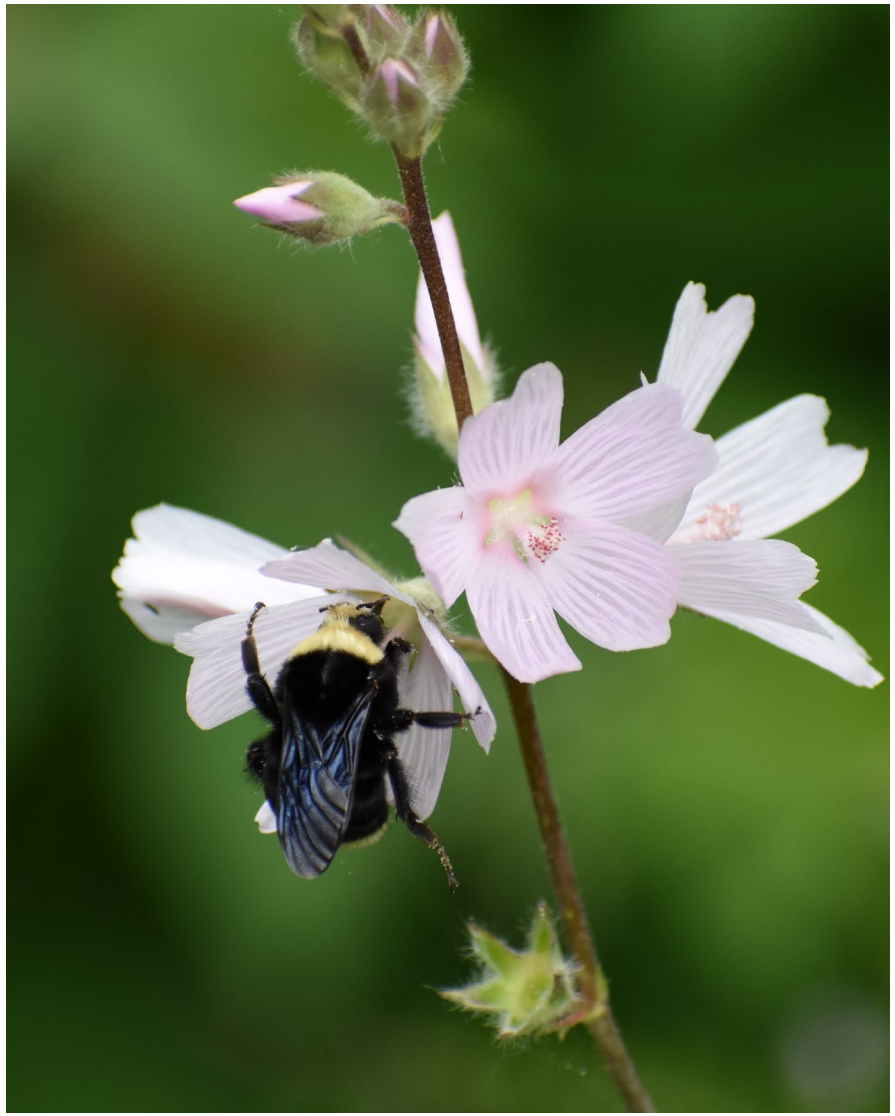
- Arizona is a growing, well-respected domicile; manages captives in variety of industries
- CWS may realize some cost savings in Arizona
  - Jurisdiction does not charge premium tax
- Hawaii is well-respected with a strong regulatory environment
  - Travel expenses may be higher than other options
- Potential savings and noneconomic advantages with changing domicile from Hawaii to Arizona need to be measured against costs associated with re-domestication

Analysis to Move CWIC

- Re-domestification analysis
  - Estimated cost
  - Summary of the process
- Review and make recommendations to current policies and procedures
  - CWS board interaction
- Schedule

Analysis to Move CWIC Board Question

- Do you need any additional information or analysis?



Customer Assistance Program

Customer Assistance Program Review

- Two types of local assistance
  - Emergency assistance (e.g., Beaverton, Hillsboro, Tigard, Tualatin, Sherwood, Forest Grove)
  - Low-income subsidy (e.g., Tualatin Valley Water District)
- Past discussions
  - October 11, 2023
- Proposed timeline
  - Review programs offered across the service territory and by peer agencies
  - Analyze technical feasibility and costs associated with approaches
  - Report initial findings at November 7, 2025, Board work session

Customer Assistance Program Board Questions

- For further guidance, should we explore an emergency assistance program, a low-income assistance subsidy, or both?
- Is there other information that would be helpful?

Questions and Discussion

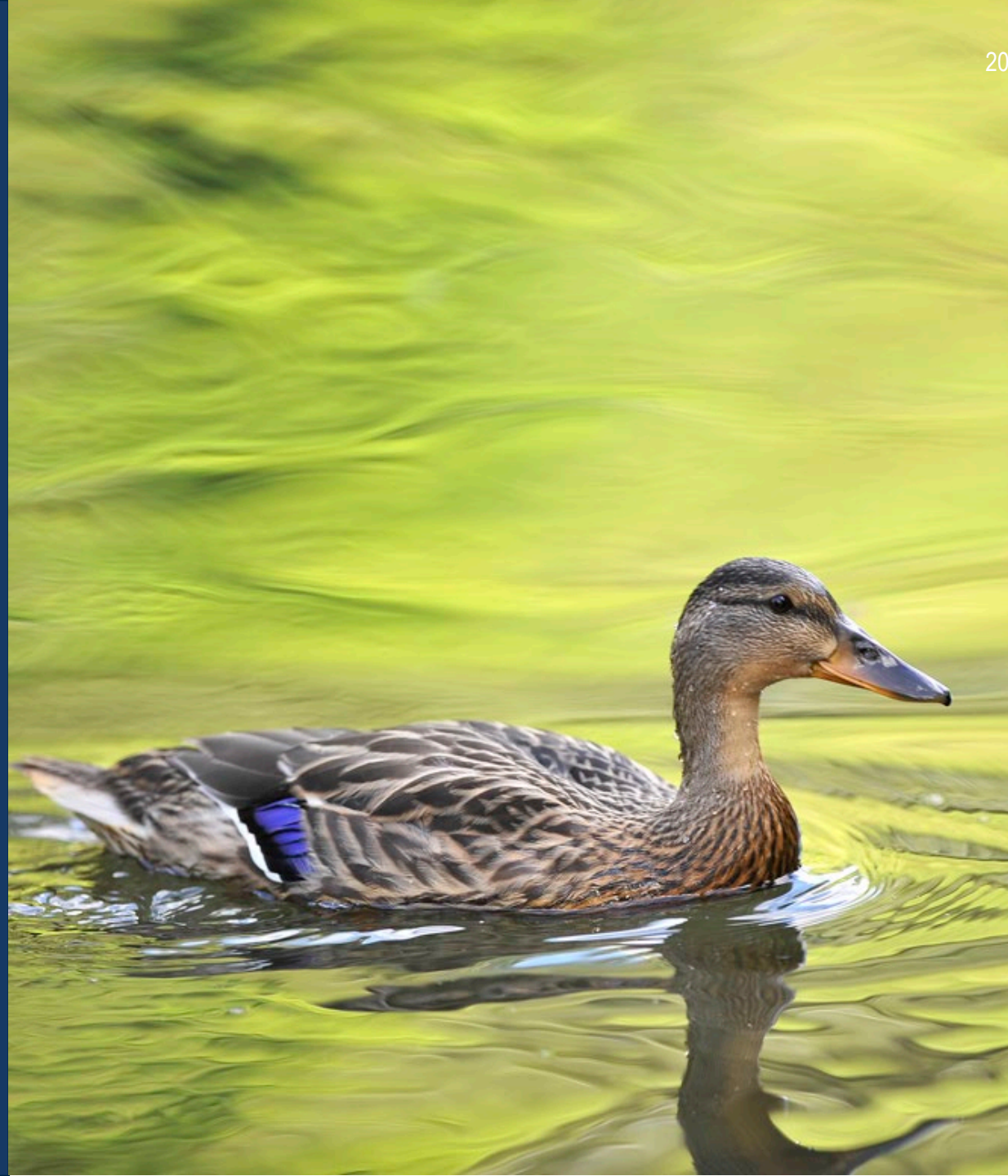


Exhibit A: Clean Water Services Plan to Rebuild Trust Status Report

RO #	R&O ACTION: FISCAL ACCOUNTABILITY	SUMMARY OF ACTIONS	TARGET DATE	COMPLETED
1	Hire an outside investigator to conduct a fiscal and performance audit of travel and meals for the past three fiscal years. General Counsel & Chief Compliance Officer will manage. • Provide findings to the Board as soon as reasonably practical.	• Professional services agreement with scope of work in place with Morones Analytics.		☑
		• Complete investigation and submit copies of report for management for review.	9/1/2025	
		• Complete management comments.	9/15/2025	
		• Complete final report.	9/30/2025	
		• Present report to Board.	TBD	
2	District Finance department will conduct a comprehensive review of the executive management team's expenses. • Monthly reports to General Counsel & Chief Compliance Officer. • Quarterly reports to the Board.	• Process in place.		☑
		• April and May reports submitted to General Counsel.		☑
		• Planning first report to Board to cover Q4.	July 2025	
13	Train District employees on compliance with laws and District policies related to expending District resources that apply to the employee groups. • Due by August 1, 2025.	• Legal and Finance are conducting training. • 19 sessions held as of June 30, 2025. • 351 staff members have attended.	7/31/2025	

New activities since June 10 are highlighted in yellow

RO #	R&O ACTION: TRAVEL	SUMMARY OF ACTIONS	TARGET DATE	COMPLETED
3	Evaluate the employee travel approval process and develop written guidelines on allowable travel and training. • Report findings to the Board by June 30, 2025.	• Evaluation of approval process complete.		☑
		• Prepared written guidelines.		☑
4	Revise District Travel and Training Policy [FA 103] to describe appropriate travel expenditures. • Due by May 1, 2025.	• Complete.		☑
5	General Counsel & Chief Compliance Officer will review District Travel and Training Policy [FA 103] and revise as necessary to conform to Resolution and Order 25-5. • Due by June 30, 2025.	• Review complete. • Following policy. • Gathering data about use cases working with policy to inform meaningful changes. • Details about policy are included in staff compliance training. • Chief Financial Officer met with Administrative Services team to discuss new policy.		☑
12	Finance or General Counsel & Chief Compliance Officer will reject noncompliant travel and training reimbursement requests.	• Process is in place. • Chief Financial Officer reviews all travel reimbursement requests. ○ Corrects per diem amounts on day of departure and return at 75%. ○ Requires support for mileage including commute miles. ○ Requires copies of conference agendas. • Rejects tips paid over 20%.		☑

New activities since June 10 are highlighted in yellow

RO #	R&O ACTION: MEALS AND REFRESHMENTS	SUMMARY OF ACTIONS	TARGET DATE	COMPLETED
9	General Counsel & Chief Compliance Officer will review District Meals and Refreshment Policy [FA 106] adopted January 1, 2025. • Due by June 30, 2025. • Revise as necessary to curtail executive management team meal expenditures.	• Legal review complete. • Gathering data about use cases working with policy to inform meaningful changes. • Details about policy are included in staff compliance training. • Chief Financial Officer met with Administrative Services team to discuss policy.		☑
10	District will not reimburse local meal purchases by executive management team members, absent compelling circumstances, such as an emergency. • All executive management team members will return purchasing cards to Finance.	• Complete.		☑
		• Complete.		☑
11	District will continue coding food expenditures to a single line item. • Provide staff training if necessary.	• New code specific to food incorporated in FY 2025-26 budget. Effective 7/1/2025. • Incorporated in staff compliance training.		☑

New activities since June 10 are highlighted in yellow

R&O#	R&O ACTION: CAPTIVE INSURANCE COMPANY	SUMMARY OF ACTIONS	TARGET DATE	COMPLETED
6	District's Board recommends that the Board for Clean Water Insurance Company adopt a travel and training policy substantially conforming to the District Travel and Training Policy [FA 103].	• CWIC Board adopted policy effective 5/6/2025.		☑
7	District will expedite a domicile review of the captive insurance company by a third-party consultant.	• In progress. Contract with Aon is in place, and work is underway. • Completed domicile review. Met with Acting CEO/GM, incorporated comments. • Next steps: ○ Complete re-domestification analysis. ○ Present analysis to Board.	7/31/2025	
8	District CEO/GM will obtain approval from the District's Board before nominating representatives to serve on behalf of the managing member on the Board of Clean Water Insurance Company.	• Preparing documents to name Acting CEO/GM to the CWIC board. • District will seek District Board approval for future vacancies.		☑

New activities since June 10 are highlighted in yellow

R&O#	R&O ACTION: GENERAL	SUMMARY OF ACTIONS	TARGET DATE	COMPLETED
14	District Chief Executive Officer/General Manager must work with the Board of Directors on a plan to restore the trust of community (customers), local government partners, employees, and the Board of Directors.	• Initial work session to restore public trust on April 29.		☑
		• Captive insurance information session on May 16.		☑
		• Work session to rebuild trust on June 10.		☑
		• Launched employee hotline on June 27.		☑
		• July all-day work session.	7/18/2025	
		• Refining communications and engagement strategy.	Ongoing	

New activities since June 10 are highlighted in yellow

BEFORE THE BOARD OF DIRECTORS OF CLEAN WATER SERVICES

In the Matter of Directing the District to Audit Spending, Review Policies and Plans, Conduct a Domicile Review, Restrict Executive Management Team Expenditures and Provide Training.	RESOLUTION AND ORDER NO. 25-5

The above-entitled matter came before the Board of Directors (Board) of Clean Water Services (District) at its regular meeting of April 8, 2025; and

It appearing to the Board that travel and meal expenditures by the District must be audited; and

It appearing to the Board that executive management team expenditures (directors and above) must be reviewed and restricted; and

It appearing to the Board that a domicile review for the captive insurance company must be expedited; and

It appearing to the Board that the District Travel and Training Policy needs to be revised; and

It appearing to the Board that the District Meal and Refreshment Policy adopted January 1, 2025, may need to be revised; it is therefore

1 RESOLVED AND ORDERED that a fiscal and performance audit of travel and meals by the District for the last three fiscal years be conducted by an outside auditor to be managed by the General Counsel and Chief Compliance Officer of the District and provide the findings to the Board as soon as reasonably practical; and it is further

2 RESOLVED AND ORDERED that monthly reporting on executive management team expenses be comprehensively reviewed by the Finance Department and such reports be provided to the Chief Compliance Officer with quarterly reports to the Board; and it is further

CLEAN WATER SERVICES
2550 S.W. Hillsboro Highway
Hillsboro, Oregon 97123-9379
Telephone (503) 681-3600 Fax (503) 681-3603

3 RESOLVED AND ORDERED that the District evaluate the employee travel approval process and develop written guidelines on allowable travel and training and report back findings to the Board by June 30, 2025; and it is further

4 RESOLVED AND ORDERED that the District Travel and Training Policy [FA 103] be revised in the manner described in Exhibit A with an effective date of May 1, 2025 (to allow for employee training) to better describe appropriate travel expenditures; and it is further

5 RESOLVED AND ORDERED that the District Travel and Training Policy [FA 103] be reviewed by the General Counsel and Chief Compliance Officer by June 30, 2025, and revised as necessary to conform to this Resolution and Order; and it is further

6 RESOLVED AND ORDERED that the Board recommends that the Board for Clean Water Insurance Company (CWIC) adopt a travel and training policy substantially conforming to the District Travel and Training Policy [FA 103] as may be further amended; and it is further

7 RESOLVED AND ORDERED that the District expedite a domicile review of the captive insurance company by a third-party consultant; and it is further

8 RESOLVED AND ORDERED that the District CEO is directed to obtain District Board of Directors approval in advance of nominating representatives to serve on behalf of the managing member on the Board of Clean Water Insurance Company; and it is further

9 RESOLVED AND ORDERED that the District Meals and Refreshment Policy [FA 106] adopted January 1, 2025, be reviewed by the General Counsel and Chief Compliance Officer by June 30, 2025, and revised as necessary to curtail executive management team meal expenditures: and it is further

10 RESOLVED AND ORDERED that, absent compelling circumstances such as an emergency, all local meal purchases by executive management team members are not reimbursable by the District and all executive management team members shall return purchasing cards to Finance if members have one; and it is further

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RESOLVED AND ORDERED that the District continue the process of coding food expenditures to a single line item and provide staff training if necessary; and it is further

RESOLVED AND ORDERED that Finance and/or Chief Compliance Officer will reject non-compliant travel and training reimbursement requests; and it is further

RESOLVED AND ORDERED that the District shall provide training to all District employees on compliance with laws and District policies related to expending District resources that are applicable to the employee groups by August 1, 2025; and it is further

RESOLVED AND ORDERED that the District Chief Executive Officer must work with the Board of Directors on a plan to restore the trust of our community (customers), local government partners, employees and the Board of Directors.

DATED this 8th day of April, 2025.

CLEAN WATER SERVICES
By its Board of Directors

_____
Chair Kathryn Harrington

_____
Recording Secretary

CLEAN WATER SERVICES
2550 S.W. Hillsboro Highway
Hillsboro, Oregon 97123-9379
Telephone (503) 681-3600 Fax (503) 681-3603

EXHIBIT C

CONTRACT FOR PROFESSIONAL SERVICES

This Contract for Professional Services (Contract), dated June 10, 2025, is between Clean Water Services (District) and Morones Analytics, LLC (Consultant).

RECITALS

1. District is in need of professional services.

2. Consultant represents that Consultant has sufficient experience and expertise to perform the services under this Contract.

3. District and Consultant wish to enter into a Contract for Consultant to provide these services.

GENERAL TERMS AND CONDITIONS

1. Services to be Provided

Consultant will provide the services described in Exhibit A, Scope of Work and Special Terms and Conditions. will be performed with the same degree of care, skill, diligence, competency, and knowledge that is ordinarily exhibited and possessed by other professionals in good standing in the same or similar field and community as Consultant.

In performing the services, Consultant is an independent contractor and not an employee of District. District has
this Contract but does
subconsu

No provision of this Contract will be construed to create a partnership, joint venture, employer-employee, landlord-tenant or principal-agent relationship.

2. Cost of Services

District will ified in Exhibit B.

Interest will
forth herein.

If there is a dispute concerning the amount due under any invoice, District may withhold the disputed amount without incurring interest or other charges pending the outcome of the dispute.

District has accuracy of
s to all documents necessary to permit adequate evaluation of the billing data submitted.

3. Interference with Performance

If at any time Consultant believes that District is in any way hindering, delaying or interfering
will promptly inform District in writing and describe
in detail the way in which Consultant believes that such hindrance, delay or interference is
ure to promptly inform District in writing will operate as a waiver of

The terms of this paragraph do to
Paragraph 7 herein.

4. Changes in Work

Subject to the requirements of this section, District has the right to request work outside the scope of this Contract and to cancel a portion of the work at any time. District will pay Consultant an amount to be agreed upon by the parties for all additional work. District will pay Consultant a reduced amount to be agreed upon by the parties if District cancels work. District will not be liable for profits lost due to cancelled work.

Consultant will not perform work outside the scope of this Contract until the parties have signed an amendment that describes the work and contains the terms of payment. Consultant will not be entitled to payment for work outside the scope of this Contract unless the parties signed such an amendment before Consultant performed the work. All work performed in the absence of such an amendment will be considered within the scope of the Contract.

5. Time of Performance

Time is of the essence in the performance of this Contract. Consultant will complete all work in accordance with the schedule in Exhibit A.

6. Excusable Delays

Neither District nor Consultant is responsible for or liable for damages resulting from delays due to causes beyond their reasonable control, including, but not limited to, acts of God, acts or omissions of governmental authorities, strikes, lockouts, acts of the public enemy, wars, blockades or civil disturbances. If there is
will be extended for a period equal to the length of the delay. Consultant will notify District in writing not more than ten days after the occurrence of any event that Consultant believes will result in such a delay. The failure of Consultant to provide such notice will result in a waiver of

7. Suspension of Work

District may suspend the work at any time by delivering written notice to Consultant. If District suspends the work for reasons that are not ult, Consultant will be allowed an

expenses resulting from the suspension. Such expenses must be reasonable, customary and actually incurred. District is not liable for profits lost due to suspension of work.

8. Rejected Work

Not applicable.

9. Intellectual Property

All right, title, and interest in all intellectual property conceived or developed in the course of Consultant's work for District under this Contract are works made for hire and the property of District. As used herein, the term "intellectual property" includes, but is not limited to, all inventions, patents, copyrightable subject matter, copyrights, test data, trade secrets, studies, reports, designs, plans, maps and specifications, and other confidential information and software. District understands that Consultant's proprietary and copyrighted data remains the property of Consultant and no copyright or work for hire rights or right, title or interest will transfer to District.

10. Publications

Consultant may not disclose, publish or otherwise distribute any information, materials, documentation, reports or work product (collectively, Work Product) that Consultant may acquire, develop or produce in performing services pursuant to this Contract or any amendment thereto, or that Consultant may receive from District, directly or indirectly, without first

discretion. If Consultant requests permission to disclose, publish, present or otherwise distribute any Work Product, Consultant must provide District with the entire publication, presentation or distribution, including summaries, editorial comments or other explanatory information and materials that will accompany the Work Product.

11. Indemnification

To the fullest extent permitted by law, Consultant will indemnify, hold harmless, reimburse and defend District and the officers, directors, partners, members, employees, agents, consultants, and subconsultants of District, and the successors in interest of the foregoing, from, for and against suits, actions, claims, damages, penalties, liabilities, losses and expenses (including but not limited to all fees and related costs, disbursements and expenses of engineers, architects,

the Contract, but only to the extent caused by a breach of this Contract by Consultant or the negligent acts, errors or omissions of Consultant, any subconsultant, subcontractor, any supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the work described in the Contract or anyone for whose acts any of them may be liable.

12. Insurance

Neither Consultant nor any subconsultant will commence work under this Contract until Consultant has obtained all the insurance required herein and submitted a certificate of insurance to District. Consultant will maintain the insurance for the duration of this Contract. Review of the insurance by District does not relieve or decrease liability. The insurance certificate must
to cancellation. Clean Water Services, its directors, officers, employees, and agents must be

listed as additional insureds on any policy satisfying the requirements of item B below. The following minimum insurance is required:

A. Workers compensation in the amount required by Oregon law, and employers liability insurance in the amount of $1,000,000.

B. Commercial general liability in the amount of $1,000,000 combined single limit per occurrence and a $2
Commercial General Liability and Automobile coverages do not meet the minimum limits required above, Consultant must maintain during the life of this Contract, Excess or Umbrella Liability over the primary policies sufficient to meet the total aggregate limits required by this Contract.

C. Professional liability insurance in the amount of $1,000,000.

13. Termination

District may terminate this Contract without cause at any time upon the delivery of written notice. If the Contract is terminated, District will pay Consultant for all work performed in accordance with the requirements of this Contract prior to the date of termination. District will

termination.

The termination of this Contract will not relieve or release Consultant from any liability to District for damages sustained by District by virtue of any breach of this Contract by Consultant

payment due to Consultant upon such termination as a set-off against the amount of any such damages until such time as the exact amount of damages due District from Consultant is determined.

If the Contract is terminated for any reason allowed herein or allowed by law, Consultant will promptly deliver all work in progress to District. District is
final invoice until District has received the work in progress.

14. Arbitration

All disputes arising out of or relating to the project or this Contract are subject to arbitration in accordance with the American Arbitration Association rules then in effect. Written notice of demand for arbitration must be filed with the American Arbitration Association within a reasonable time after the dispute has arisen, but may not be made after the date when institution of legal or equitable proceedings based on such claim would be barred by the applicable contractual provision or statute of limitations. The award rendered by the arbitrators will be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

In any arbitration proceedings brought under this section or any legal proceedings arising out of or relating to this Contract, the prevailing party is entitled to reasonable attorney fees, together

with all reasonable investigation, expert and other costs incurred, in addition to any other relief to which any party may otherwise be entitled.

f its lien rights or bond claim rights otherwise provided by law, which rights are fully reserved.

15. Change Orders, Amendments, Waivers

This Contract, all change orders, modifications, amendments and any waiver of any portion of the Contract will not be effe Chief Executive Officer or the Chief Executive Officer

16. Compliance With Applicable Laws

Consultant will keep itself fully informed of and comply with all federal, state and local laws, regulations and ordinances applicable to this Contract, as those laws, regulations and ordinances may be adopted or amended from time to time. These laws, regulations and ordinances including, without limitation, the provisions of ORS 279B.220, 279B.225, 279B.230, 279B.235 and 279B.270, are incorporated by reference herein to the extent that they are applicable to the Contract and required by law to be incorporated. All permits, licenses, and fees necessary to prosecute and complete the work will be secured and paid for by Consultant unless otherwise specified by District.

17. Tax Law Compliance

Consultant will pay all taxes, including federal, state, regional, county and city taxes, and taxes of any other governmental entity, applicable to the services performed or materials provided under this Contract. Consultant represents, warrants and covenants that Consultant has complied with, and agrees that during the term of this Contract will comply with Oregon Tax Laws and applicable tax laws of political subdivisions of this State including, but not limited to, ORS

Laws or the applicable tax laws of political subdivisions of this State for the six years prior to the date Consultant executes this Contract or the period of time Consultant has been in business, whichever is less, or during the term of the Contract is a default for which District may terminate the Contract and seek damages and other relief available under the terms of the Contract or under applicable law.

18. Third Party Beneficiaries

No provision of this Contract will in any way inure to the benefit of any third person so as to constitute any such person a third party beneficiary of this Contract or of any one or more of the terms of this Contract, or otherwise give rise to any cause of action in any person not a party to this Contract.

19. No Contingent Fees

Consultant warrants that Consultant has not employed or retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure this Contract, and that Consultant has not paid or agreed to pay any company or person, other than a bona fide employee working solely for Consultant any fee or consideration of any kind, contingent upon or resulting from the award or making of this Contract. If Consultant breaches the warranty in this paragraph, District has the right to deduct from the Contract price or otherwise recover the full amount of such fee or consideration.

20. Waiver of OTCA Rights

Consultant hereby waives all indemnity rights Consultant may have under the Oregon Tort Claims Act which arise as a result of an agency or alleged agency relationship between the parties.

21. Conflicts of Interest

Consultant will remain free of conflicts of interest at all times. Conflicts of interest include, but are not limited to, the following:

purchase, a significant financial interest held by Consultant in any manufacturer or seller of products or services so recommended. District has the exclusive right to determine what constitutes a significant financial interest.

22. Assignment

Consultant will

23. Project Management

Each party will assign a project manager to this Contract. The project managers must be authorized to act on behalf of their respective employers concerning all matters related to this Contract, except, however that Contract amendments will not be effective unless approved pursuant to Paragraph 15 herein.

24. Interpretation of Contract

This Contract will not be construed for or against any party by reason of the authorship or alleged authorship of any provision. The paragraph headings in this Contract are for ease of reference only and will not be used in construing or interpreting this Contract.

25. Severability/Survival

If any of the provisions in this Contract are held illegal, invalid or unenforceable, the enforceability of the remaining provisions will not be impaired. All provisions concerning the

limitation of liability, indemnity and conflicts of interest will survive the termination of this Contract for any cause.

26. Choice of Law/Venue

This Contract and all rights, obligations and disputes arising out of the Contract will be governed by Oregon law. All disputes and litigation arising out of this Contract will be decided by the state courts in Oregon. Venue for all disputes and litigation will be in Washington County, Oregon.

27. Integration

This document constitutes the entire agreement between the parties on the subject matter hereof and supersedes all prior or contemporaneous written or oral understandings, representations or communications of every kind on the subject. No course of dealing between the parties and no usage of trade will be relevant to supplement any term used in this Contract. Acceptance or acquiescence in a course of performance rendered under this Contract will not be relevant to determine the meaning of this Contract and no waiver by a party of any right under this Contract will

28. Electronic Signature

This Contract may be executed in several counterparts, each of which will be an original, all of which will constitute one and the same instrument. An electronic signature will be considered an original. The individuals signing this Contract certify that they are authorized to execute it on behalf of Consultant and District, respectively.

MORONES ANALYTICS, LLC	CLEAN WATER SERVICES
By: Signed by: Jennifer Prager 16952CA5410A4D6...	By: Signed by: Brad Anderson F2F8D2ADE70B4C6...
Jennifer Prager, Director	Chief Executive Officer or Designee

EXHIBIT A
SCOPE OF WORK

FORENSIC ACCOUNTING INVESTIGATION REPORT

I. PROJECT DESCRIPTION

Consultant shall conduct a forensic accounting investigation of training, travel and meals expenditures by the District for FY 2021-22, FY 2022-23, FY 2023-24 and FY 2024-25 (July-February) consistent with the AICPA Statement on Standards for Forensic Services to determine the spending trends during the review period as well as whether reviewed transactions were documented and in compliance with Government Service

II. SCOPE OF WORK

1.1 **Consultant Activities:**

A. For FY 2021-22, FY 2022-23, FY 2023-24 and FY 2024-25 (July-February) Consultant shall:

1. Summarize training, travel and meal expenditures by fiscal year, for each fiscal year in question based on amounts:
    a. - based on the District Pcard Expense Report Details report;
    b. Amounts reimbursed to employees based on the AP Invoice Distribution by Vendor report;
    c. Petty cash reimbursements to employees based on the AP Invoice Distribution by Vendor report; and
    d. Other training, travel and meal disbursements per the District Account Analysis Actuals – Subledger Detail Report.
2. Training, travel and meal expenses will be summarized, by fiscal year, by:
    a. Department;
    b. Program; and
    c. Individual that disbursement was incurred on behalf of, to the extent data is available in the District Pcard Expense Report Details, AP Invoice Distribution by Vendor reports for employees and petty cash reimbursements.
3. Training, travel and meal expenses recorded in the District Travel-Training Plan History report summarized by:
    a. Conference;
    b. Location; and
    c. Employee attendee.
4. From the District Pcard Expense Report Details, Consultant will summarize disbursements by:
    a. Location; and

b. Individual.

5. From the District Pcard Expense Report Details, Consultant and District will determine a sample of transactions (consisting of transactions both specifically identified and randomly selected) for Consultant to trace to source documents to confirm:
    a. Documentation submitted;
    b. Prior approval, if applicable;
    c. General ledger coding;
    d. Compliance with IRS rates for mileage;
    e. Compliance with GSA per diem rates for travel meals;
    f. Comparison of lodging expenses to GSA rates; and
    g. Compliance with District policies.
6. Consultant and District will determine a sample of payments to employees from the AP Invoice Distributions by Vendor (consisting of transactions both specifically identified and randomly selected) for Consultant to trace to source documents to confirm:
    a. Documentation submitted;
    b. Prior approval;
    c. General ledger coding;
    d. Approved Travel/Training Request Form;
    e. Submitted Travel/Training Reconciliation Form;
    f. Compliance with IRS rates for mileage;
    g. Compliance with GSA per diem rates for travel meals;
    h. Comparison of lodging expenses to GSA rates; and
    i. Compliance with District policies.
7. Consultant and District will determine a sample of Travel/Training Reconciliation Forms (consisting of transactions both specifically identified and randomly selected) for Consultant to trace to source documents to confirm:
    a. Documentation submitted;
    b. Approved Travel/Training Request Form;
    c. General ledger coding;
    d. Compliance with IRS rates for mileage;
    e. Compliance with GSA per diem rates for travel meals;
    f. Comparison of lodging expenses to GSA rates;
    g. Compliance with District policies; and
    h. Completeness of reporting with Oracle Learning Management code.
8. Comparison of District Travel and Training Policy and Meals and Refreshments Policy to the Travel and Training Policy for the City of Portland Bureau of Environmental Services and Clackamas Water Environment Services with regards to any requirements related to:
    a. Pre-approval;
    b. Local meal policy;
    c. Travel meal policy;

d. Loding rates.

9. This scope is based on preliminary discussions and is intended to remain flexible. It may be updated as needed, particularly if additional areas of concern or red flags are identified during the review

B. Consultant shall evaluate internal controls over training, travel and meal spending and communicate any internal control deficiencies observed during the course of the investigation. Additionally, Consultant shall communicate any opportunities for the District to improve reporting.

1.2 **Reports Required:**

A. ***Forensic Accounting Investigation Report*** – Report to management in letter form including findings, observations, opinions, comments or recommendations relating to training, travel and meal expenditures, or any other matters that come to the attention of Consultant during the course of the investigation.

B. Other communications required under professional standards as required or appropriate.

STANDARDS

C. Forensic Investigation Standards and Scope

1. The forensic investigation shall be performed in accordance with the AICPA Statement on Standards for Forensic Services.

2. The scope of the forensic accounting investigation, will be

Officer in coordination with appropriate staff.

D. Reporting Deadlines

The forensic investigation shall be completed by September 30, 2025.

E. Meeting and Progress Reports

1. Commencement of Work – Pre-forensic accounting investigation meeting with District staff shall be held no later two weeks after contract, to discuss the investigation plan.
2. Exit Meeting – Post-forensic accounting investigation shall be held with appropriate officials on a mutually agreeable date.

staff to discuss the results of the forensic accounting investigation prior to th
allow for a management response.

3. Presentation of the Forensic Accounting Investigation Report– Consultant shall present the forensic accounting investigation s at a regularly scheduled Board meeting.

F. Work Products

Consultant shall maintain materials and working papers developed during the engagement for a minimum of 7 years from the date of the report and shall make available for examination by District.

III. SCHEDULE AND CONTRACT DURATION

Consultant shall complete the following tasks by the following dates:

Task	**Completion Dates**
Perform Investigation	September 1, 2025
Submit copies of report for management response	September 1, 2025
Management Response shall be completed by	September 15, 2025
Final report completed	September 30, 2025
Presentation of the Report at a regularly scheduled Board meeting	TBD

The Contract will be effective from the date written on page one and run through the date District accepts C
terminated earlier pursuant to the terms of the Contract.

IV. OTHER TERMS

Consultant shall assign support staff to provide services under this Contract and Jennifer Prager to manage the Contract and supervise the support staff. If Morones Analytics is unable to perform the services described herein or District, in its sole discretion, determines that any of its staff is unable to perform the services, District will provide notice to Consultant of the need for a replacement (Replacement Notice). Upon receipt of the Replacement Notice, Consultant shall provide District with the names and resumes of two additional qualified personnel that can replace the identified staff person. District shall have the opportunity to conduct interviews with the additional personnel in order to determine the best fit for District. District will notify Consultant of the replacement personnel that it has chosen. Consultant will have the replacement personnel available to

EXHIBIT B
PAYMENT

1. District will pay Consultant on an hourly basis and reimburse Consultant for the reasonable expenses directly incurred by Consultant in performing Consultant's services. District will pay Consultant at the labor and expense reimbursement rates contained in Exhibit B(1). District will reimburse Consultant at cost for all expenses, including subconsultant fees, not listed herein. Consultant will not add markups or administrative fees to Consultant's expense reimbursement requests. District's total payment to Consultant, including expense reimbursement, will not exceed $50,000.

2. Consultant will invoice District monthly. Consultant's invoices will contain a description of any task performed during the billing period, the hourly rates applicable to each task, the hours spent on each task, an itemized description of the expenses incurred during the billing period, and the total amount billed. Consultant must indicate the total amount of the Contract, the total of the invoice, the total invoiced to date and the remaining Contract balance. District has 30 days after the payment.

EXHIBIT B (1)
RATES

Consultant	Hourly Rate
Jennifer Prager	$450
Kori Bogard	$350
Jennifer Murphy	$475
Serena Morones	$625
Archita Shah	$325

Exhibit D

Clean Water Services ("CWS")

Captive Domicile Review

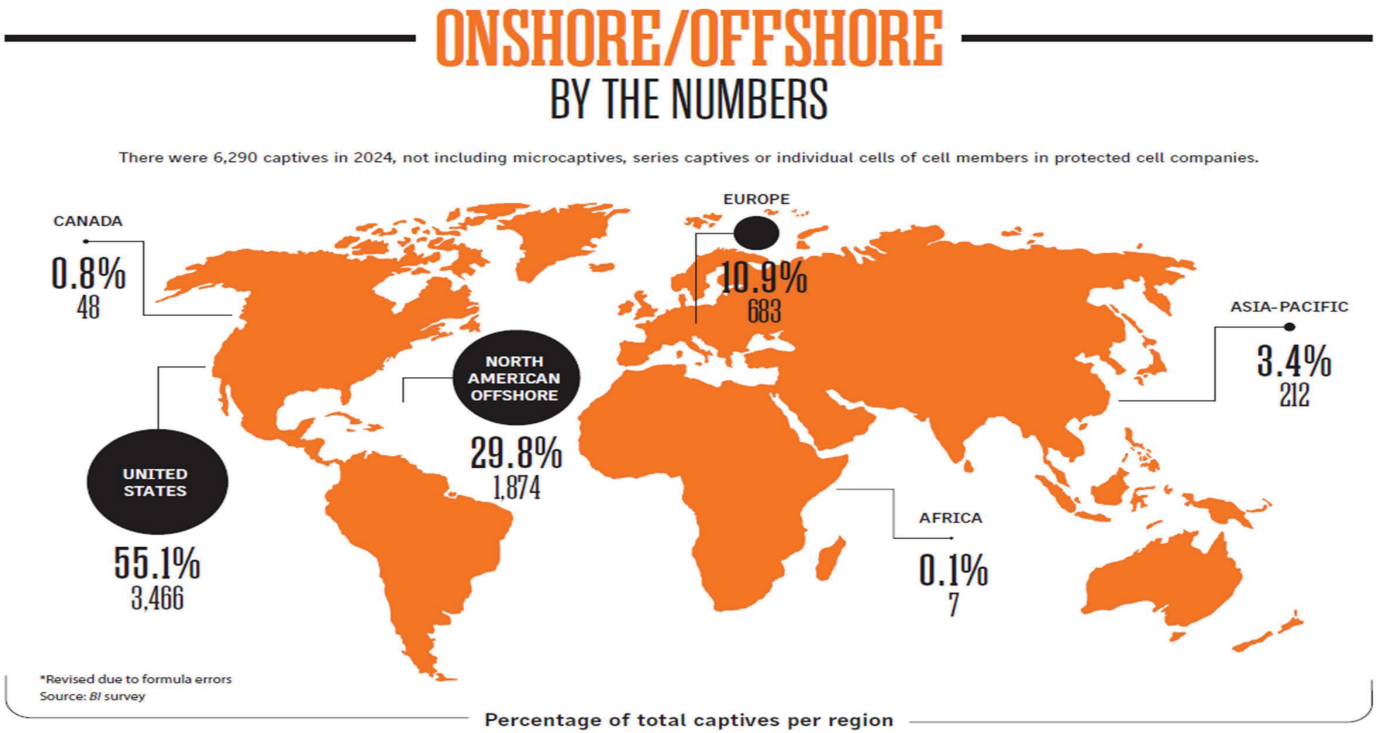
June 2025

Commercial Risk Solutions | Risk Finance and Captive Consulting

Domicile Landscape

Global Distribution of Captive Insurance Companies

Source: Business Insurance – March 2025



Leading Captive Domiciles

AON

Recommended Domiciles for CWS Review

Based on the Aon Captive Benchmarking Survey in the Energy & Power/Utilities Industry (closest industry benchmark for CWS), geographic proximity to CWS's headquarters in Oregon, along with current domicile of Hawaii, Aon is proposing the following captive domiciles for comparison in the CWS Domicile Review:

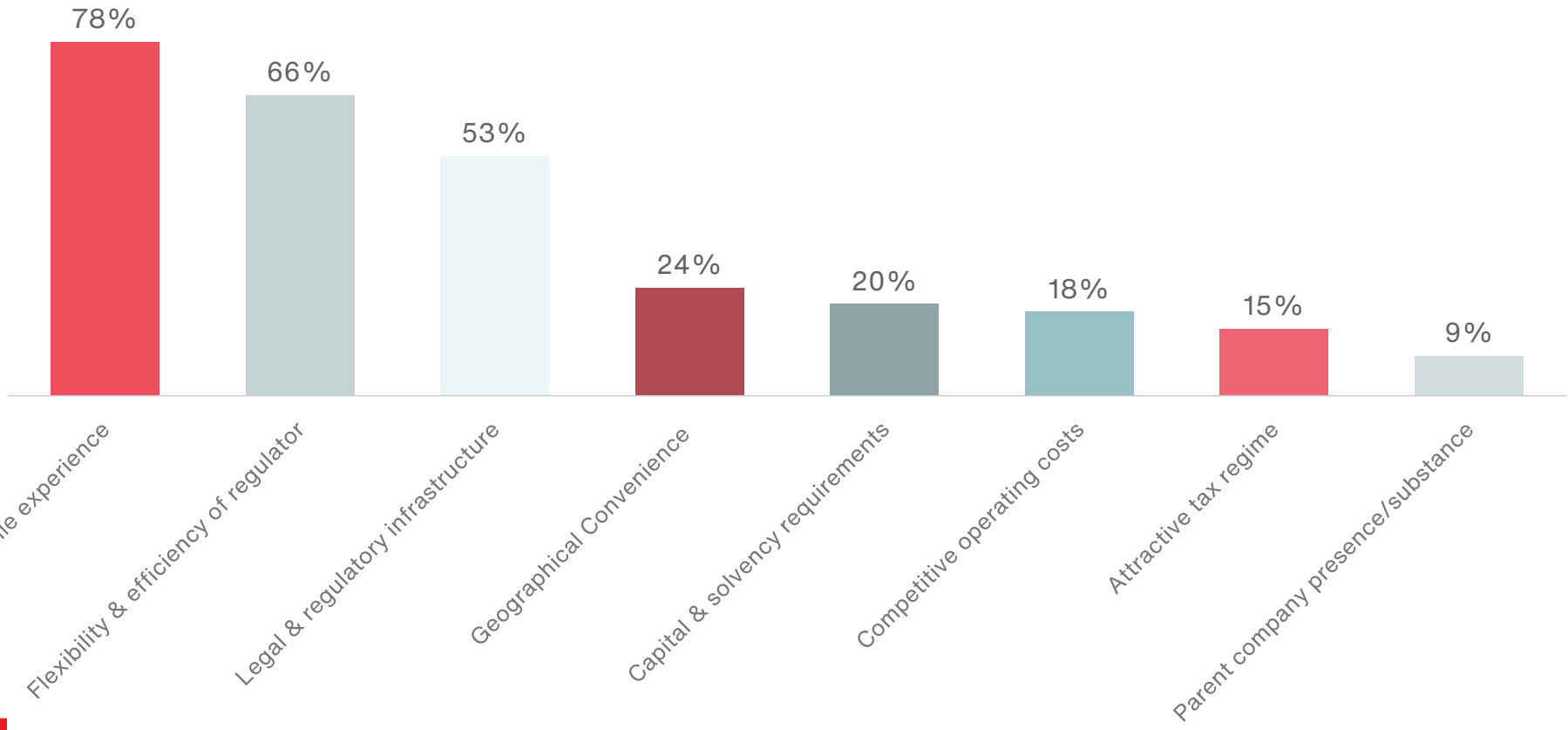
- Hawaii
- Arizona
- Nevada
- Utah
- Vermont

A number of factors should be taken into account when reviewing suitable domiciles for a captive insurance company, including but not limited to:

- Regulatory and Legislative Climate
- Quality of ancillary support services such as audit and legal
- Domicile Reputation
- Reporting and Audit Requirements
- Capitalization Requirements
- Annual Costs
- Government Fees
- Investment Restrictions
- Taxation

Reasons for Domicile Selection

Regulatory experience and reputation are important factors



Captive Domicile Considerations by Captive Owners

Category	 Arizona	 Hawaii	 Nevada	 Utah	 Vermont
Number of Captives Licensed as of 12/31/24	201	272	92	462	683
Year Captive Law Enacted	2002	1987	1999	2003	1981
Total gross written premium (2023)	$10.4B	$12.3B	$365M	$2.3B	$30B
Approximate number of full-time employees in captive regulatory department	3 to 5	15	1 to 3	11	32
Ability to access Terrorism Risk Insurance Program (TRIPRA)	Yes	Yes	Yes	Yes	Yes
Ability to write ERISA Employee Benefits	Yes	Yes	Yes	Yes	Yes
Premium tax rates	N/A	**Direct:** .25% up to $25M, .15% $25M $50M, .05% $50M to $250M **No Premium Tax for Assumed Premium**	**Direct:** .4% up to $20M, .20% $20M to $40M, .075% $40M+ **Assumed:** .225% up to $20M, .15% $20M to $40M, .025% $60M+ ($5k credit in first year)	N/A	**Direct:** .38% up to $20M, .285% $20M to $40M, .19% $40M to $60M, .072% $60M+ **Assumed:** .214% up to $20M, .143% $20M to $40M, .048% $40M to $60M, .024% $60M+ ($5k credit first two years)
Minimum premium tax	N/A	N/A	$5,000	N/A	$7,500
Maximum premium tax	N/A	$200,000	$175,000	N/A	$200,000
Minimum required capital and surplus	$250,000	$250,000	$200,000	$250,000	$250,000
Ability to fund surplus capital via Letter of Credit (LOC)	Yes	Yes	Yes	Yes	Yes
Speed of licensing	30 to 45 days	30 days or less	30 to 45 days	30 to 45 days	30 days or less
Annual license fee	$5,500	Class 1 and 2 - $300 Class 3 - $500	$500	$7,500	$500
Estimated Costs	Annual: $195,500 Start Up: $37,500	$195,000	$190,000	$185,000	Annual: $190,500 Start Up: $43,000

AON

Detailed Domicile Matrix

ITEM	DETAIL	IMPORTANCE (0-5)										
			Arizona		Hawaii		Nevada		Utah		Vermont	
			Score	Result	Score	Result	Score	Result	Score	Result	Score	Result
COVERAGE	Ability to direct write coverage	5.00	5.00	25.00	5.00	25.00	5.00	25.00	5.00	25.00	5.00	25.00
	Ability to insure first party risks	5.00	5.00	25.00	5.00	25.00	5.00	25.00	5.00	25.00	5.00	25.00
	Ability to insure related third party risks	5.00	5.00	25.00	5.00	25.00	5.00	25.00	5.00	25.00	5.00	25.00
	Ability to insure unrelated third party risks	5.00	5.00	25.00	5.00	25.00	5.00	25.00	5.00	25.00	5.00	25.00
	Ability to access Terrorism Risk Insurance Program (TRIPRA)	3.00	5.00	15.00	5.00	15.00	5.00	15.00	5.00	15.00	5.00	15.00
	Ability to insure ERISA regulated employee benefits	1.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
COST	Annual regulatory fees	5.00	3.00	15.00	5.00	25.00	5.00	25.00	3.00	15.00	5.00	25.00
	Domicile tax (premium tax)	5.00	5.00	25.00	4.00	20.00	3.00	15.00	5.00	25.00	3.00	15.00
	Capitalization requirements	5.00	4.00	20.00	4.00	20.00	5.00	25.00	4.00	20.00	4.00	20.00
	Service provider fees	5.00	5.00	25.00	5.00	25.00	5.00	25.00	5.00	25.00	5.00	25.00
	Travel and meeting expenses	5.00	5.00	25.00	3.00	15.00	5.00	25.00	4.00	20.00	3.00	15.00
REGULATORY	Stability of regulatory team	4.00	4.00	16.00	5.00	20.00	3.00	12.00	4.00	16.00	5.00	20.00
	Stability of captive regulation	5.00	5.00	25.00	5.00	25.00	3.00	15.00	3.00	15.00	5.00	25.00
	Receptiveness to new captive business	5.00	5.00	25.00	5.00	25.00	4.00	20.00	5.00	25.00	5.00	25.00
	Flexibility with business plan changes	5.00	5.00	25.00	5.00	25.00	4.00	20.00	4.00	20.00	5.00	25.00
	Annual reporting requirements & examinations	5.00	5.00	25.00	5.00	25.00	4.00	20.00	4.00	20.00	5.00	25.00
	Investment restrictions	4.00	5.00	20.00	5.00	20.00	5.00	20.00	5.00	20.00	5.00	20.00
	Experience with captives in parent company's industry	2.00	3.00	6.00	4.00	8.00	2.00	4.00	4.00	8.00	5.00	10.00
CONVENIENCE	Geographic Proximity	5.00	4.00	20.00	3.00	15.00	4.00	20.00	4.00	20.00	2.00	10.00
	Time Zone	4.00	5.00	20.00	3.00	12.00	5.00	20.00	4.00	16.00	3.00	12.00
Weighted results			**412.00**		**400.00**		**386.00**		**385.00**		**392.00**	
			Arizona		Hawaii		Nevada		Utah		Vermont	

Notes: 0 = not able to offer/no importance
5 = excellent match/high importance

Domicile Recommendation

Domicile	Cover	Costs	Regulatory	Convenience	Total Score
Arizona	120	110	142	40	412
Hawaii	120	105	148	27	400
Nevada	120	115	111	40	386
Utah	120	105	124	36	385
Vermont	120	100	150	22	392

Based on the results of the analysis, Arizona scored highest followed by Hawaii and Vermont. Arizona is a well-respected domicile that has been growing and currently manages captives in a wide variety of industries. CWS may realize some cost savings in Arizona, as the jurisdiction does not charge premium tax. Hawaii is also well-respected with a strong regulatory environment, however due to its location travel expenses may be higher than other options.

While all the domiciles under consideration provide viable options for CWS to operate a captive insurance company, Arizona scored the highest based on the criteria analyzed. CWS may drive travel cost and premium tax efficiencies by domiciling in Arizona, however this potential savings will need to be measured against the costs associated with re-domestication should CWS consider changing domicile from Hawaii.

Note: Aon recommends CWS consult with its own legal and tax advisors for any considerations when selecting a domicile.

Domicile Analysis Criteria

Captive Domicile Selection Matrix – Sample Overview

ITEM	DETAIL	IMPORTANCE (0-5)
		(0 = not important / 5 = most important)
COVERAGE	Ability to direct write coverage	
	Ability to insure first party risks	
	Ability to insure related third party risks	
	Ability to insure unrelated third party risks	
	Ability to access Terrorism Risk Insurance Program (TRIPRA)	
COST	Annual regulatory fees	
	Domicile tax (premium tax)	
	Capitalization requirements	
	Service provider fees	
	Travel and meeting expenses	
REGULATORY	Stability of regulatory team	
	Stability of captive regulation	
	Receptiveness to new captive business	
	Flexibility with business plan changes	
	Annual reporting requirements & examinations	
	Investment restrictions	
	Experience with captives in parent company's industry	
CONVENIENCE	Geographic proximity/travel convenience	
	Time zone	

Captive Domicile Selection Matrix – What's Important to You?

Coverage

The captive coverage is scored 0-5 based on the type of insurance you wish to write and the importance of that coverage to you.

COVERAGE	Ability to direct write coverage
	Ability to insure first party risks
	Ability to insure related third party risks
	Ability to insure unrelated third party risks
	Ability to access Terrorism Risk Insurance Program (TRIPRA)
	Ability to insure ERISA regulated employee benefits

Captives have the ability to insure a variety of 1st party and 3rd party insurance coverages on a direct basis, as well as assume insurance from another carrier (typically through a fronting carrier), and to cede reinsurance. Weighting is traditionally higher for 1st party coverages as they are most commonly written by a captive.

Captive Domicile Selection Matrix – What's Important to You?

Cost

Cost is a factor to consider as expenses vary dependent on the domicile. Many domiciles charge similar fees.

COST	Annual regulatory fees
	Domicile tax (premium tax)
	Capitalization requirements
	Service provider fees
	Travel and meeting expenses

- Annual regulatory fees generally start at $500+ dependent on domicile but are relatively inexpensive as to stay competitive with the other domiciles hence we usually score the fee importance relatively low.
- All domiciles have minimum capitalization rules. Minimum capitalization is typically $250,000 for single parent captives in most US domiciles.
- Premium taxes vary by domicile but are typically .50% or less of annual written premiums.
- Service provider fees are negotiated between the captive and the provider (auditors, captive managers, actuaries, etc.). Service provider fees and expenses tend to be slightly higher offshore.
- Most jurisdictions require an in-person annual meeting although some may allow for meetings to be held virtually.

Captive Domicile Selection Matrix – What's Important to You?

Regulatory

Regulatory scoring is focused on the stability, responsiveness and flexibility of the domicile regulatory team.

REGULATORY	Stability of regulatory team
	Stability of captive regulation
	Receptiveness to new captive business
	Flexibility with business plan changes
	Annual reporting requirements & examinations
	Investment restrictions
	Experience with captives in parent company's industry

Regulator and domicile experience with captives as well as captives in your particular industry are scored in this category.

Captive Domicile Selection Matrix – What's Important to You?

Convenience

CONVENIENCE	Geographic proximity & travel efficiency
	Time zone

- Time zone is a consideration for being able to coordinate with regulators and service providers.
- Geographic proximity and lost travel time is factored in as most domiciles will require travel by the Directors and Officers to attend the annual meeting.

Captive Domicile Selection – Additional Considerations

Taxation

When assessing the feasibility of forming a captive insurance company it is important to consider any tax implications that may result from the captive. This study does not include any tax advice as Aon is not a qualified tax advisor. We recommend that CWS discuss potential tax implications with it's qualified tax counsel. Some tax implications that might be considered include:

- Federal income taxes
- Federal excise taxes, where applicable
- Self-procurement taxes and other state or local taxes
- Premium Tax
- Any other applicable tax

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About Aon

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Lunch

West Basin Master Plan Update

DISCUSSION PAPER

West Basin Master Plan

This discussion paper provides an overview of the planning process and key outcomes for the West Basin Master Plan.

INTRODUCTION AND BASIS OF PLANNING

Clean Water Services' West Basin is 76 square miles with 1,036 miles of sewer main, 61 miles of interceptors and trunks, 28 pump stations, and 61 miles of force mains. Infrastructure in the West Basin serves a population of 410,000, projected to grow to 520,000 by 2045. Treatment is provided by three water resource recovery facilities (WRRFs): Rock Creek, Forest Grove, and Hillsboro.

The purpose of the West Basin Master Plan (WBMP) is to provide a roadmap for upgrading and expanding treatment and conveyance infrastructure while adding capacity to serve growth and industry, maintaining flexibility in an uncertain regulatory environment, addressing infrastructure age and condition, and building seismic and climate resilience.

Planning is based on population growth projections developed by the Portland State University Population Research Center, supplemented by projections from Metro and discussions with partner cities to better estimate where growth is expected to occur. Growth projections are used in conjunction with historical flow monitoring and climate information to project future flows through the conveyance network and at the treatment plants. Flow projections and historical information are used to develop loading projections for WRRFs. Planning also considers potential regulatory changes that may impact treatment, as well as approaches to increase seismic resiliency.

The WBMP is intended to be a "living" plan, updated regularly to assess the growth and timing of projects through monitoring and modeling of flow, load, and process data. This helps the plan remain flexible and adapt to potential regulatory and development changes, and to implement projects ahead of development so CWS can reliably serve residents, businesses, and industries.

An Executive Summary of the WBMP supplements the presentation and this discussion paper. The final complete WBMP is scheduled for late July 2025.

PLANNING OUTCOMES: CONVEYANCE

Conveyance planning used a systematic approach to develop potential project alternatives, screen for feasibility, and then compare capital costs and scoring based on non-cost criteria to identify preferred alternatives. Preferred alternatives that had relatively low capital and lifecycle costs and relatively high non-cost criteria scores were selected.

Conveyance planning identified the following major projects over the 20-year planning period:

- Rock Creek basin:
  - Nine trunk projects
  - Seven pump station/force main projects
  - Inflow and infiltration (I&I) reduction in selected areas
- Forest Grove and Hillsboro basins:
  - Two trunk projects
  - Three pump station/force main projects
  - I&I reduction in selected areas

The most significant projects include the multiphase Beaverton Trunk, Turner Creek Trunk, Lower Rock Creek Trunk, and Jackson School West pump station/force main projects.

Additionally, conveyance planning recommended a regular program of replacement and renewal for aging conveyance infrastructure.

PLANNING OUTCOMES: TREATMENT

Treatment planning used flow and load projections and computer simulations of plant processes to identify when additional treatment capacity would be required.

WRRF planning identified the following major projects over the 20-year planning period:

- Rock Creek WRRF:
  - Tertiary filter improvements
  - Grit removal improvements
  - Secondary treatment expansion
  - Digester improvements

- Forest Grove WRRF:
  - Aeration improvements
  - Secondary treatment expansion
- Hillsboro WRRF:
  - Headworks improvements

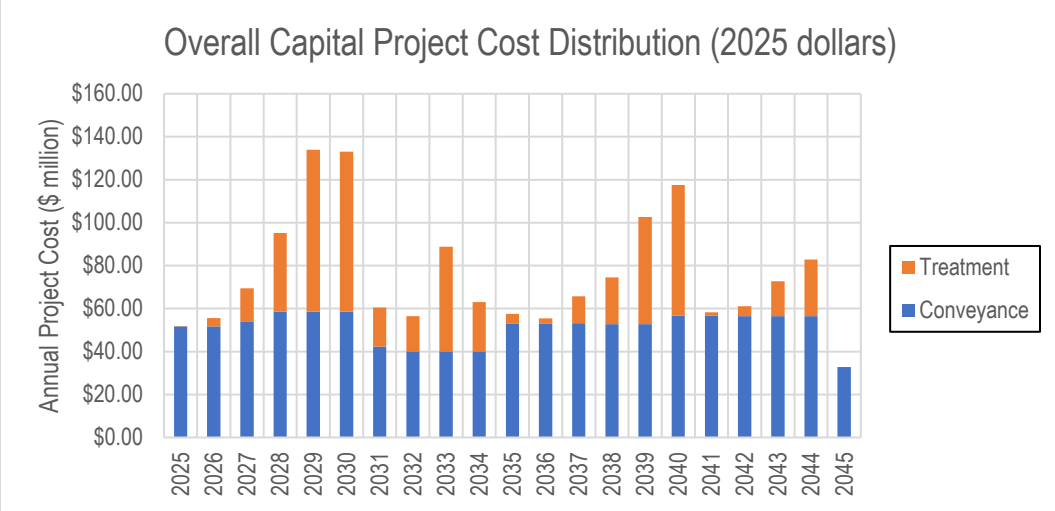
Additionally, site plans for each WRRF were developed to help ensure adaptability and flexibility. Site planning is essential to reserve space for projects that are not necessary within the 20-year planning horizon but may be necessary before the service area reaches buildout. Site planning also identifies areas for potential projects that are not required in the current regulatory framework but may be necessary if regulations change.

RECOMMENDED CAPITAL IMPROVEMENT PROGRAM

The WBMP recommends a Capital Improvement Program (CIP) comprising:

- Approximately $1.08 billion (in 2025 dollars) in capital costs over 20 years for conveyance projects.
- Approximately $513 million (in 2025 dollars) in capital costs over 20 years for treatment projects.

The capital project cost distribution is shown in the figure below:



PREVIOUS DISCUSSIONS AND ACTIVITY

- On May 16, 2023, the Board charged the Clean Water Services Advisory Commission with reviewing and providing input on the WBMP and making a recommendation to the Board on adoption.
- In September 2023, CWS formed a subcommittee with Elaine Stewart (Environmental representative), Marc Farrar (Building/Developer representative), and Andy Haugen (District 4 representative) to review the WBMP and provide input to staff on the project, to include planning assumptions, project goals, and selection criteria. The subcommittee was asked to provide input based on their broad perspectives to ensure the plan reflects diverse needs and community values. The subcommittee met with the WBMP project team three times between October 2023 and December 2024 and provided regular updates to CWAC.
- The WBMP project team updated CWAC four times — June 14, 2023; January 10, 2024; April 9, 2025; and June 12, 2025.
- On June 12, 2025, CWAC unanimously voted to recommend adoption of the WBMP to the Board.

NEXT STEPS

- August 2025: Present the West Basin Master Plan to the Board for adoption.

West Basin Master Plan

Josh Johnson, Principal Engineer and Project Manager

Jeff Hart, Capital Planning Division Manager

Rick Shanley, Acting Chief Executive Officer and General Manager

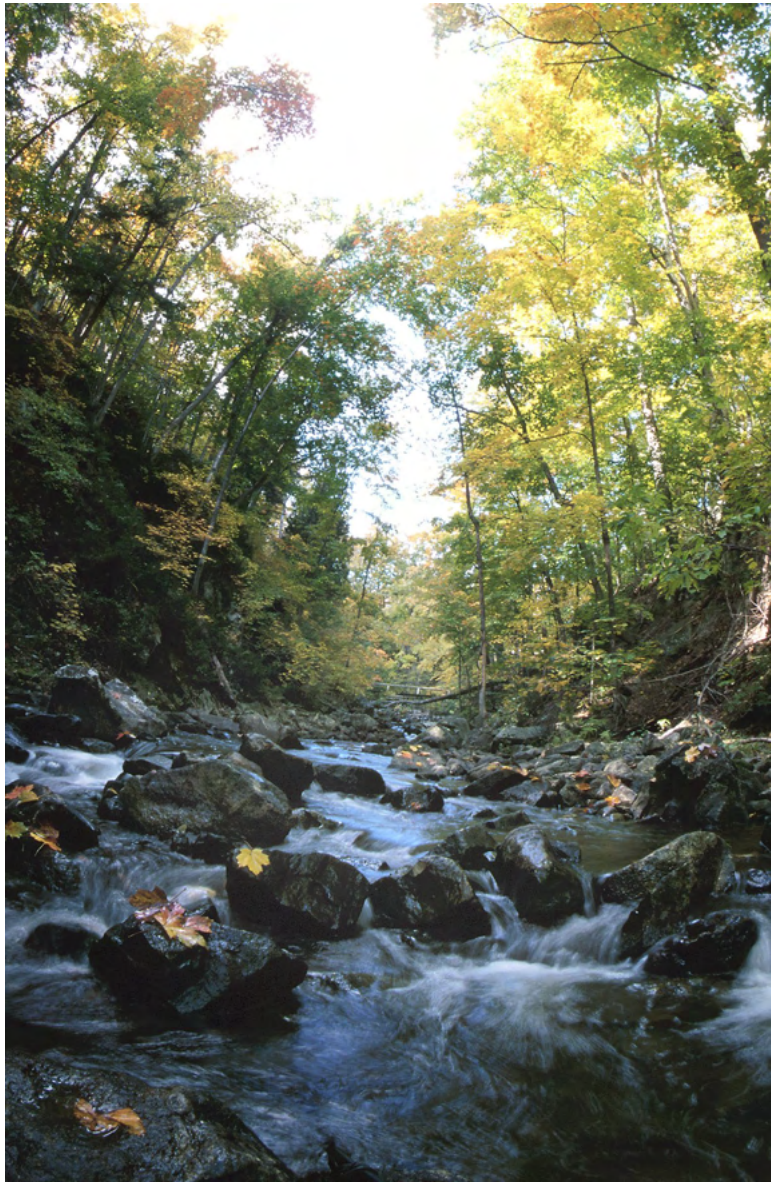
Presentation Overview

- Introduction and basis of planning
- Planning outcomes: Conveyance
- Planning outcomes: Treatment
- Recommended Capital Improvement Program (CIP)

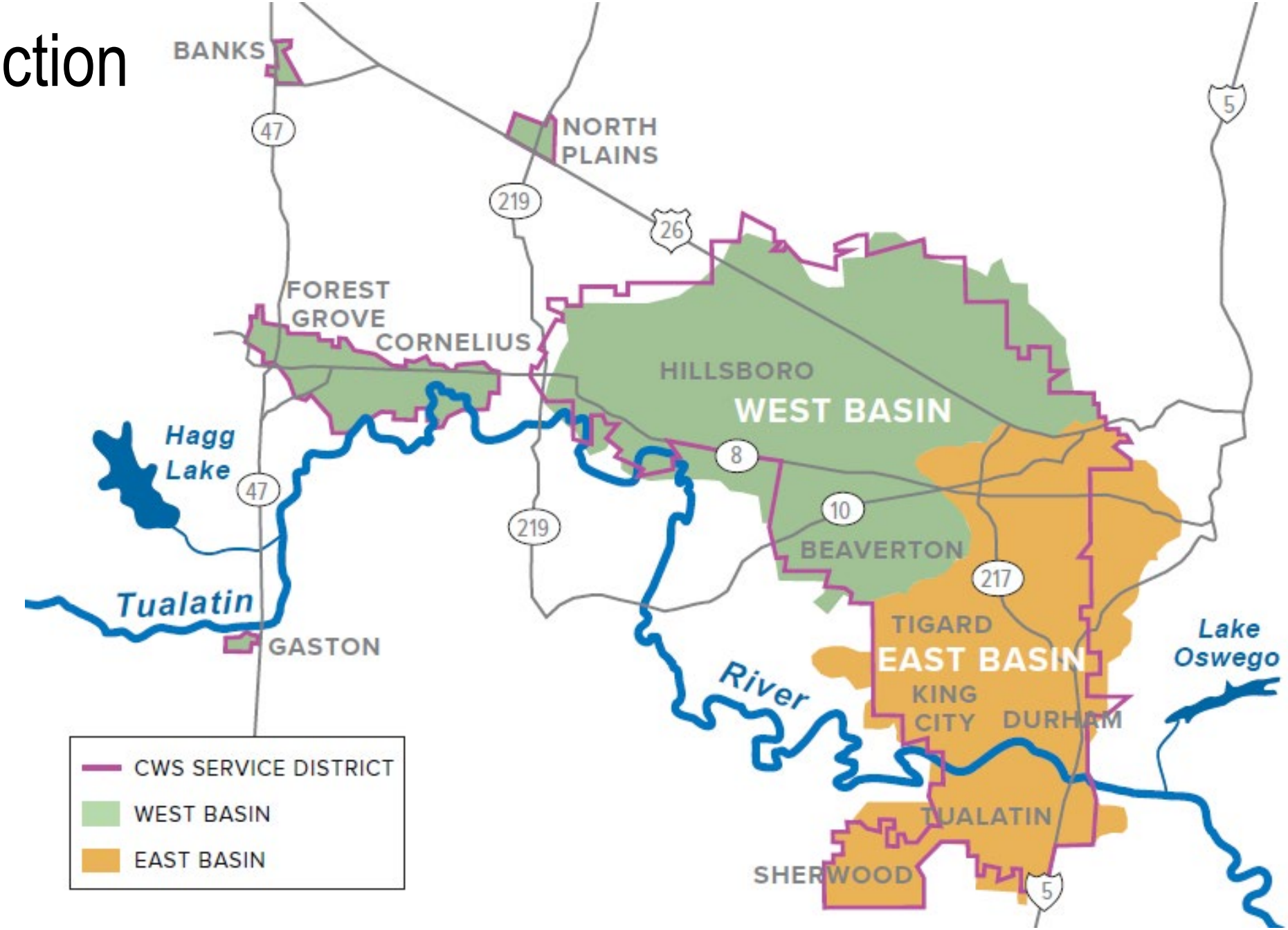
- Previous discussion
  - May 16, 2023: Board charged Clean Water Services Advisory Commission with reviewing and providing input on West Basin Master Plan

Introduction

- 410,000 population in West Basin area, 520,000 by 2045
- West Basin conveyance overview
  - 76 square miles
  - 1,036 miles of sewer mains
  - 61 miles of interceptors and trunks
  - 28 pump stations and 61 miles of force mains
- Three water resource recovery facilities (WRRFs)
  - Rock Creek: up to 230 million gallons per day (mgd)
  - Forest Grove: up to 34 mgd
  - Hillsboro: up to 20 mgd

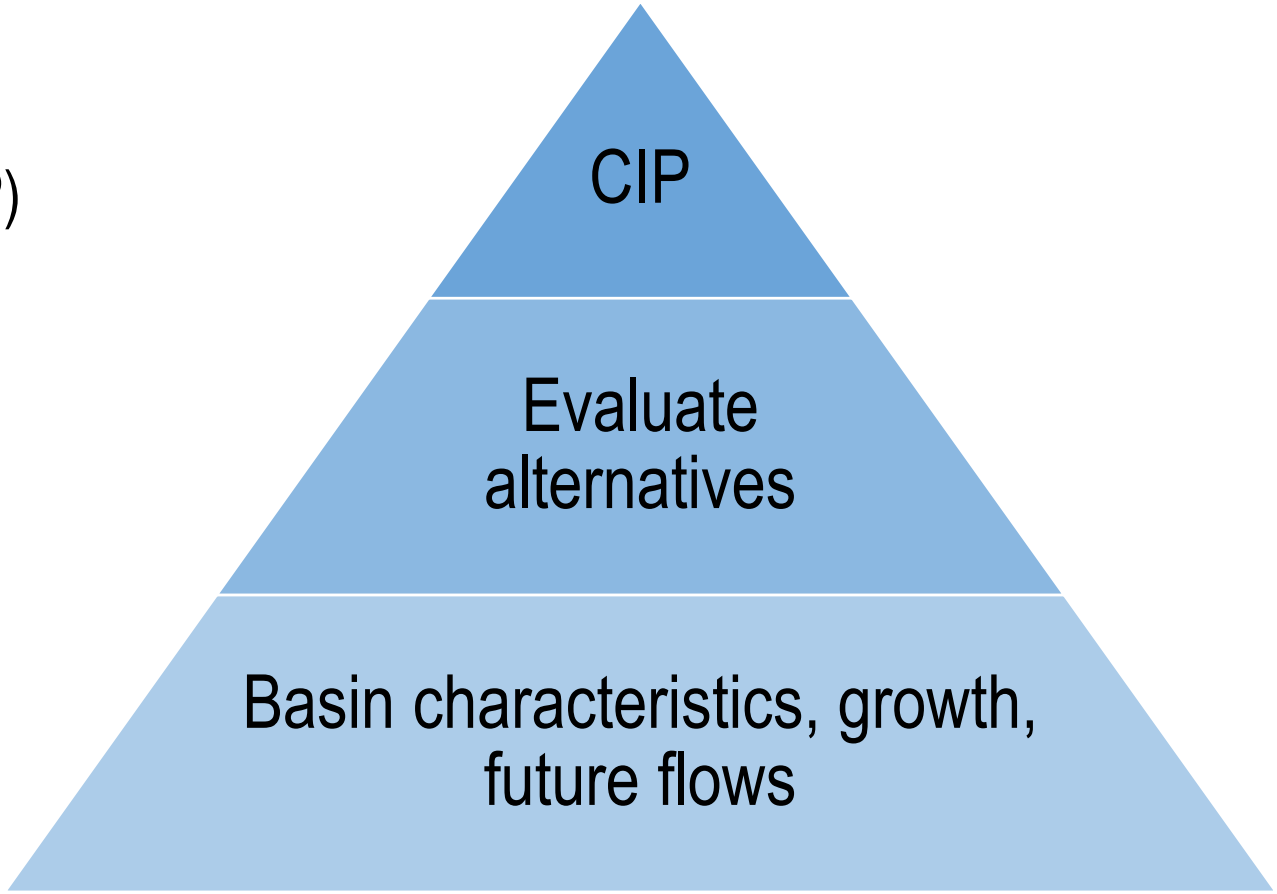


Introduction



Why Do a Master Plan?

- The West Basin Master Plan (WBMP) is a roadmap for upgrading and expanding our treatment and conveyance infrastructure.

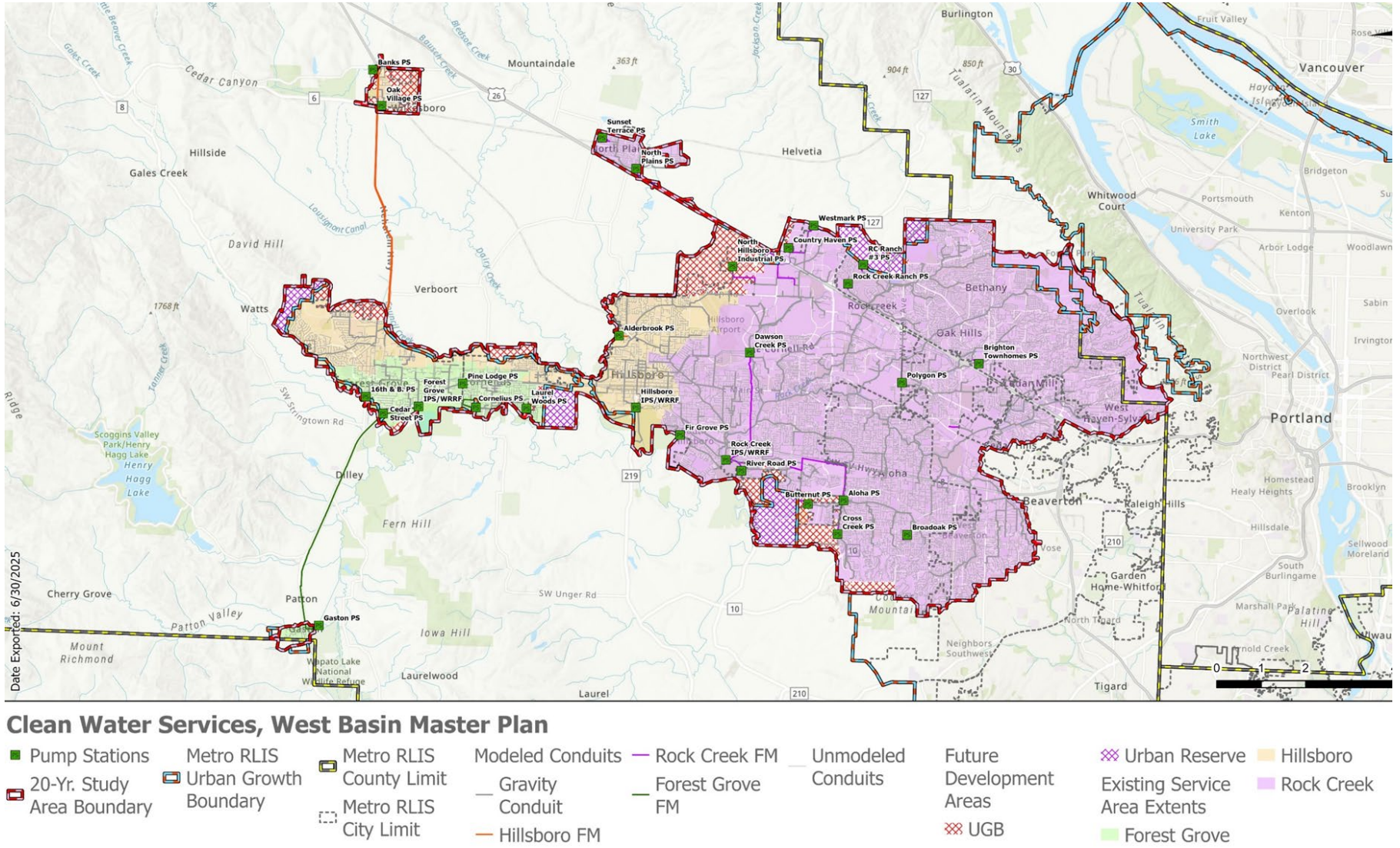


Planning Goals and Basis

- Goals and challenges for the plan
  - Capacity to serve growth and industry
    - Where does growth occur?
    - When and how much?
  - Uncertain regulatory environment
  - Infrastructure age and condition
  - Resilience for seismic events and climate change

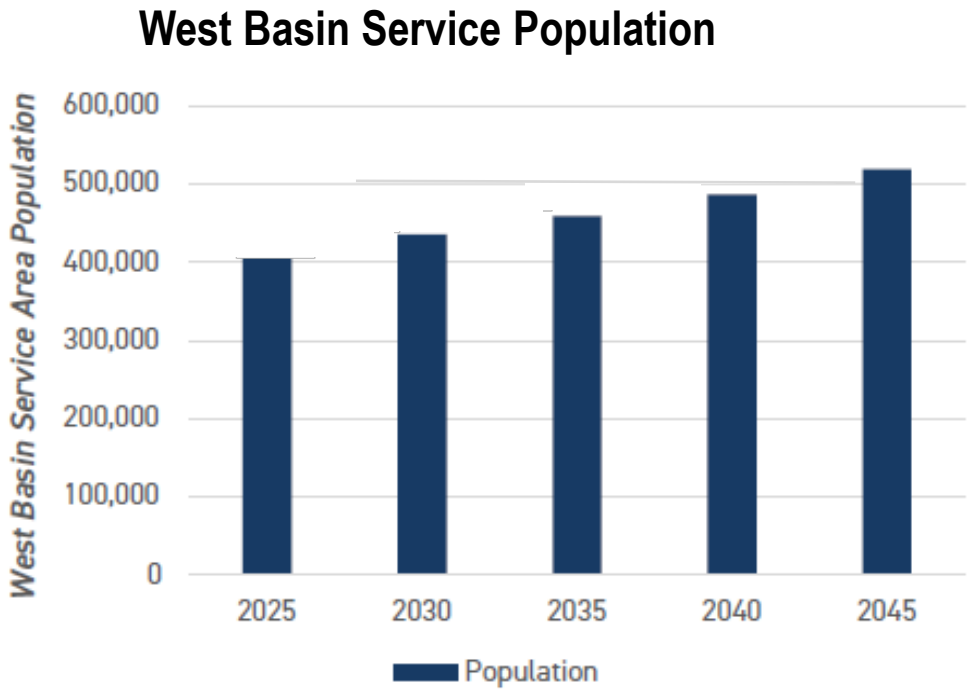
Planning Goals and Basis

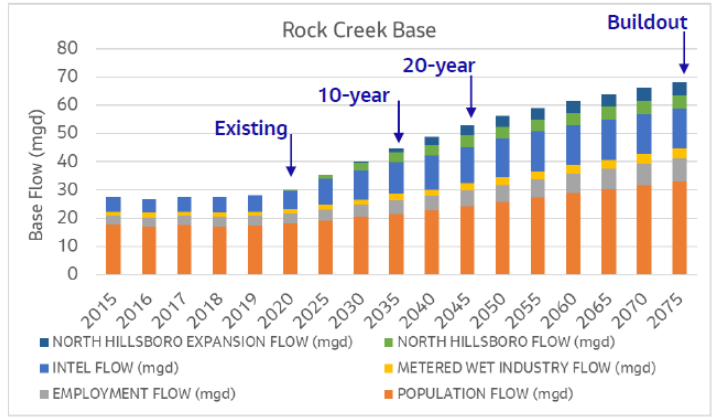
- West Basin overview: Where does growth occur?

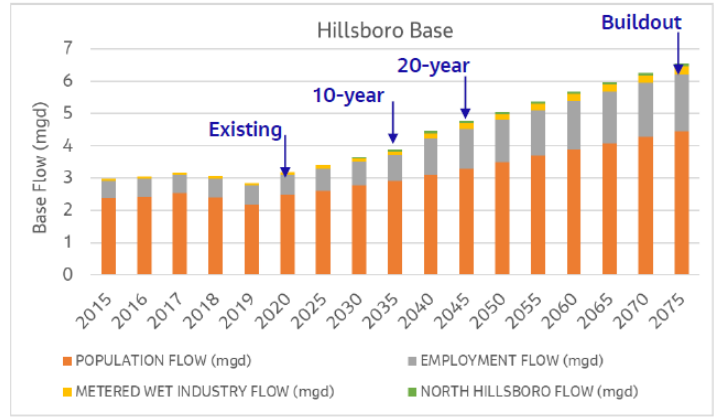


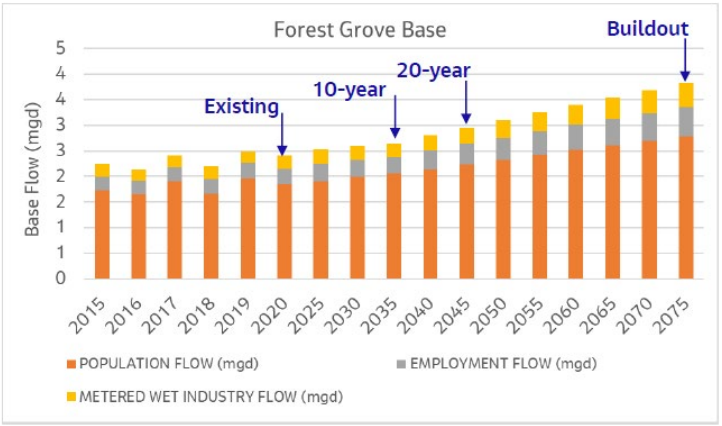
Planning Goals and Basis

- How much growth occurs, and when?





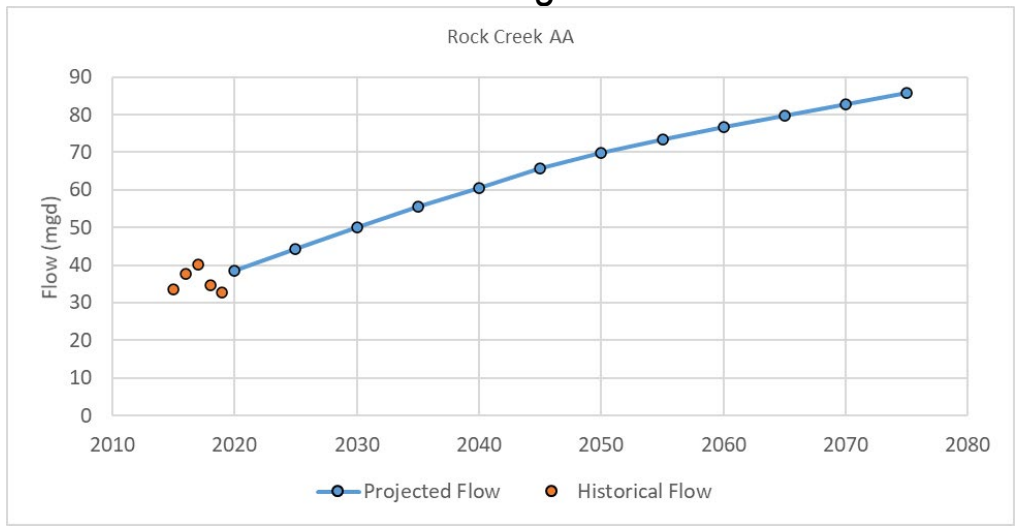




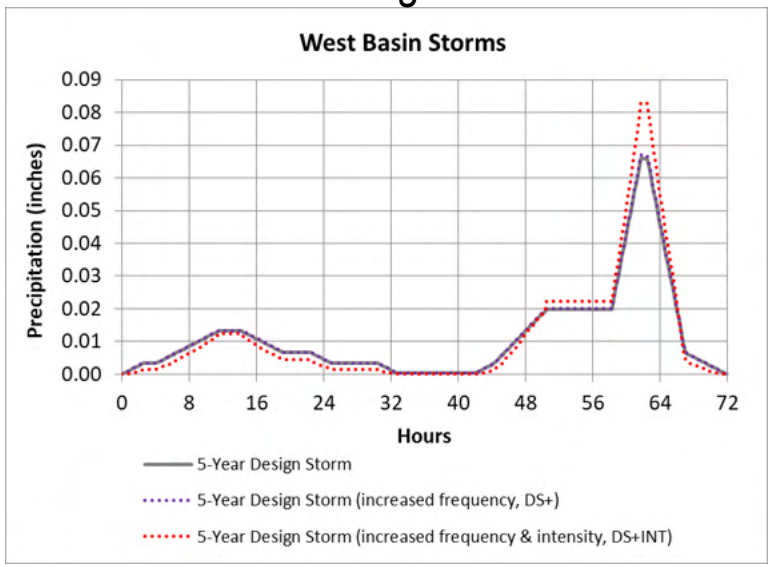
Planning Basis

- Flow projections
  - Developed based on population and historical flow monitoring information
  - Build climate resiliency into planning flows through design storm evaluation
- Loading projections
  - Some processes are driven by load, not flow
  - Loading is the total amount per day of a substance that needs to be treated
  - Built up from flow projections and historical WRRF information

Rock Creek Average Annual Flow



5-Year Design Storm



Planning Basis

- Regulatory issues
  - Aluminum
  - Phosphorous
  - Total suspended solids (TSS)
  - Per- and polyfluoroalkyl substances (PFAS)
- Seismic resiliency
  - Build resiliency into new projects
  - Look for opportunities for pipelines above ground
  - Phased approach to restore treatment

Level of Service at WRRFs

Phase	Time Horizon	Power Status	Treatment Objective
Immediate	First 24 hours	Unavailable	Pumped bypass with disinfection
Midterm	First 3 months	Unavailable	Primary treatment with disinfection
Midterm	First 6 months	Available	Secondary treatment
Long Term	Beyond 6 months	Available	Full permit compliance

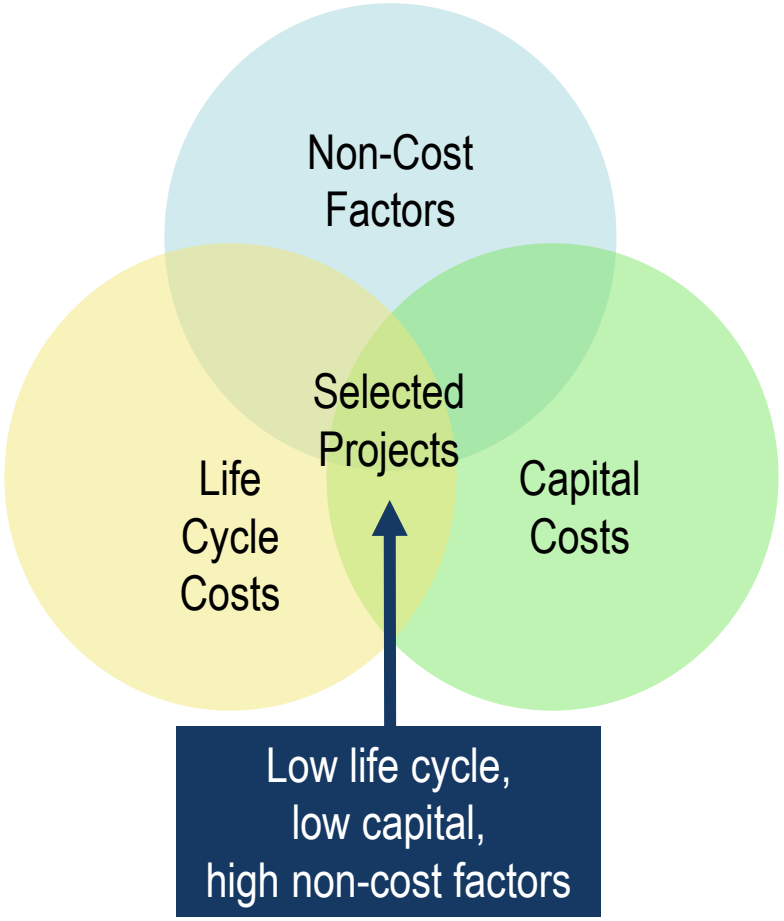
“Living” Plan

- Flexibility to adapt to change
  - Potential regulatory changes
  - Potential development changes
- “Just in time” capacity
  - CWS philosophy is to continually assess growth and timing of projects
    - Model flow and process
    - Monitor flow and loads
  - Implement projects ahead of development so CWS can reliably serve residents, businesses, and industries

Initial Basin-wide Planning

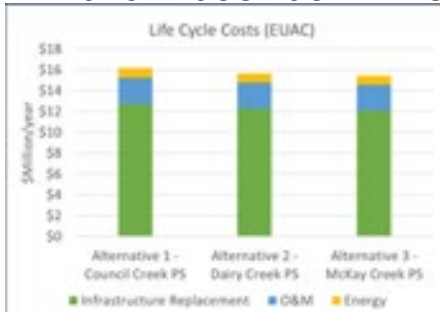
- Multiday workshop
- Considered different treatment, conveyance, and regulatory scenarios
- Findings
  - Maximize flows to Rock Creek WRRF
  - Divert Banks and West Forest Grove to Forest Grove WRRF
  - Rock Creek has capacity under most likely regulatory scenario
  - Save space for additional processes at Forest Grove in case regulations change

Conveyance Planning Basis

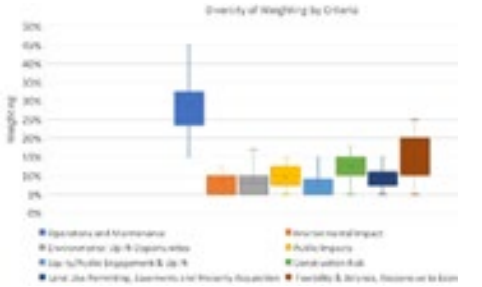


CAPITAL COST COMPARISON

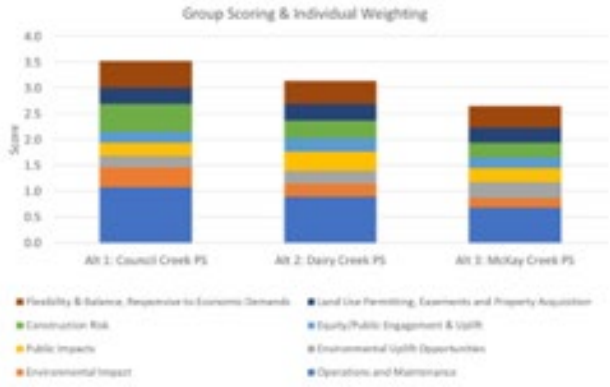
LIFE CYCLE COST COMPARISON



CRITERIA WEIGHTING (NON-COST)

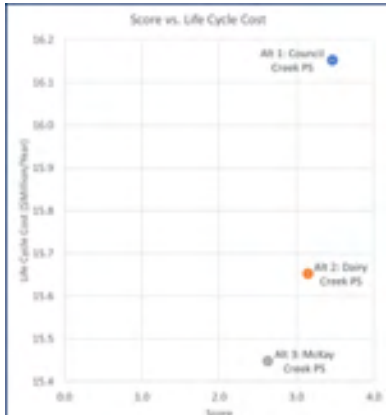


ALTERNATIVES SCORING

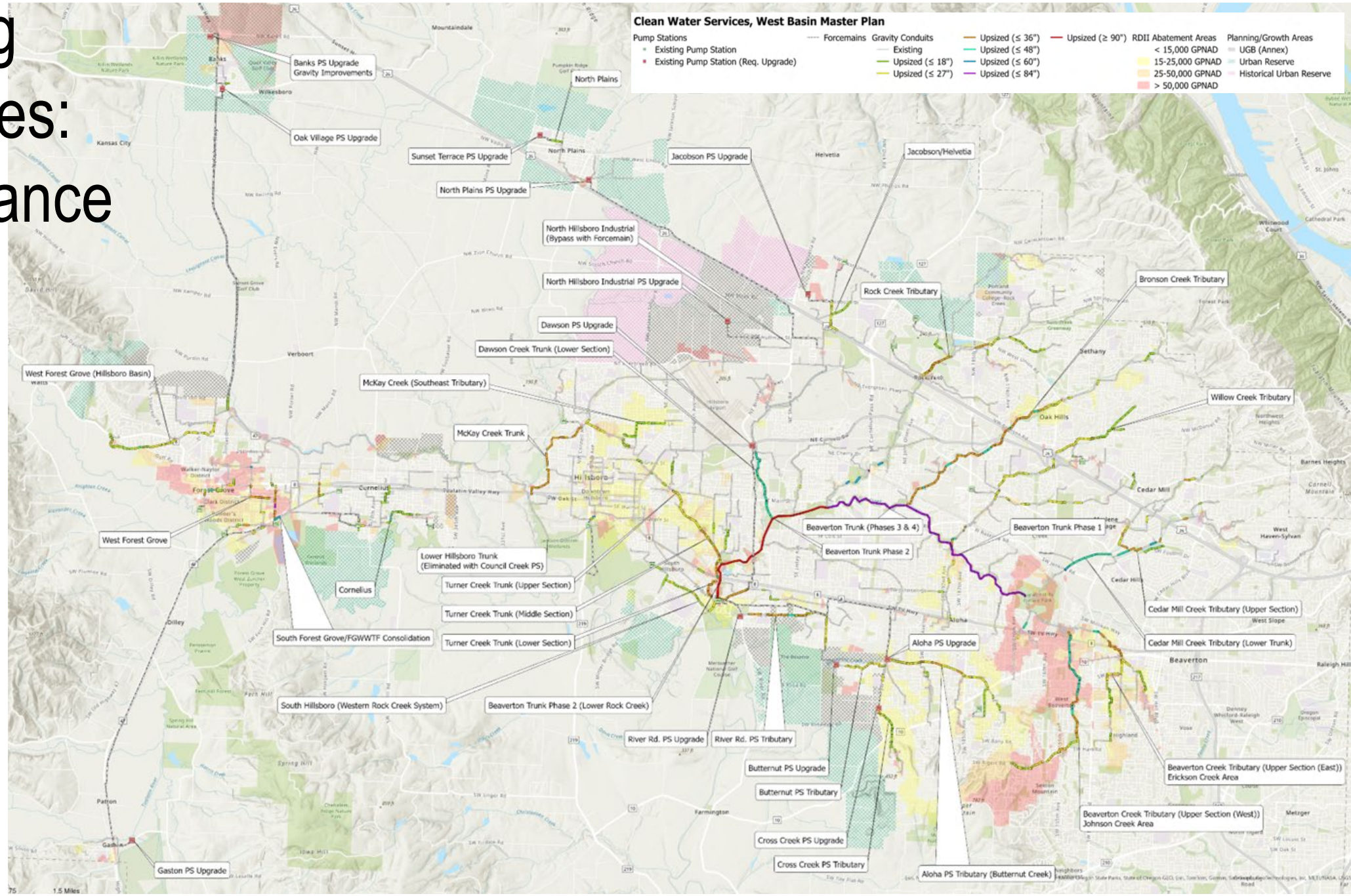


SCORE VS CAPITAL COST

SCORE VS LIFE CYCLE COST



Planning Outcomes: Conveyance



Planning Outcomes

Hillsboro and Forest Grove Basins: Conveyance Capital Projects

- Inflow and infiltration (I&I) reduction upstream of McKay Creek trunk
- I&I reduction upstream of Forest Grove WRRF
- Council Creek Pump Station and force main
- Banks Pump Stations
- West Forest Grove trunks
- Cornelius trunk improvements
- Gaston Pump Station

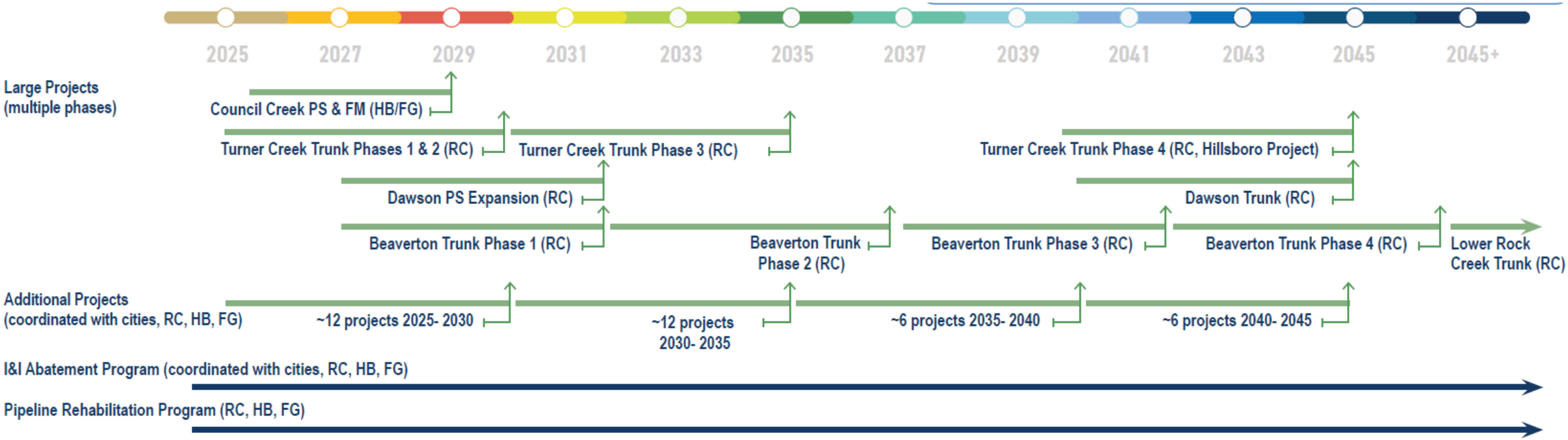
Planning Outcomes

Rock Creek Basin: Conveyance Capital Projects

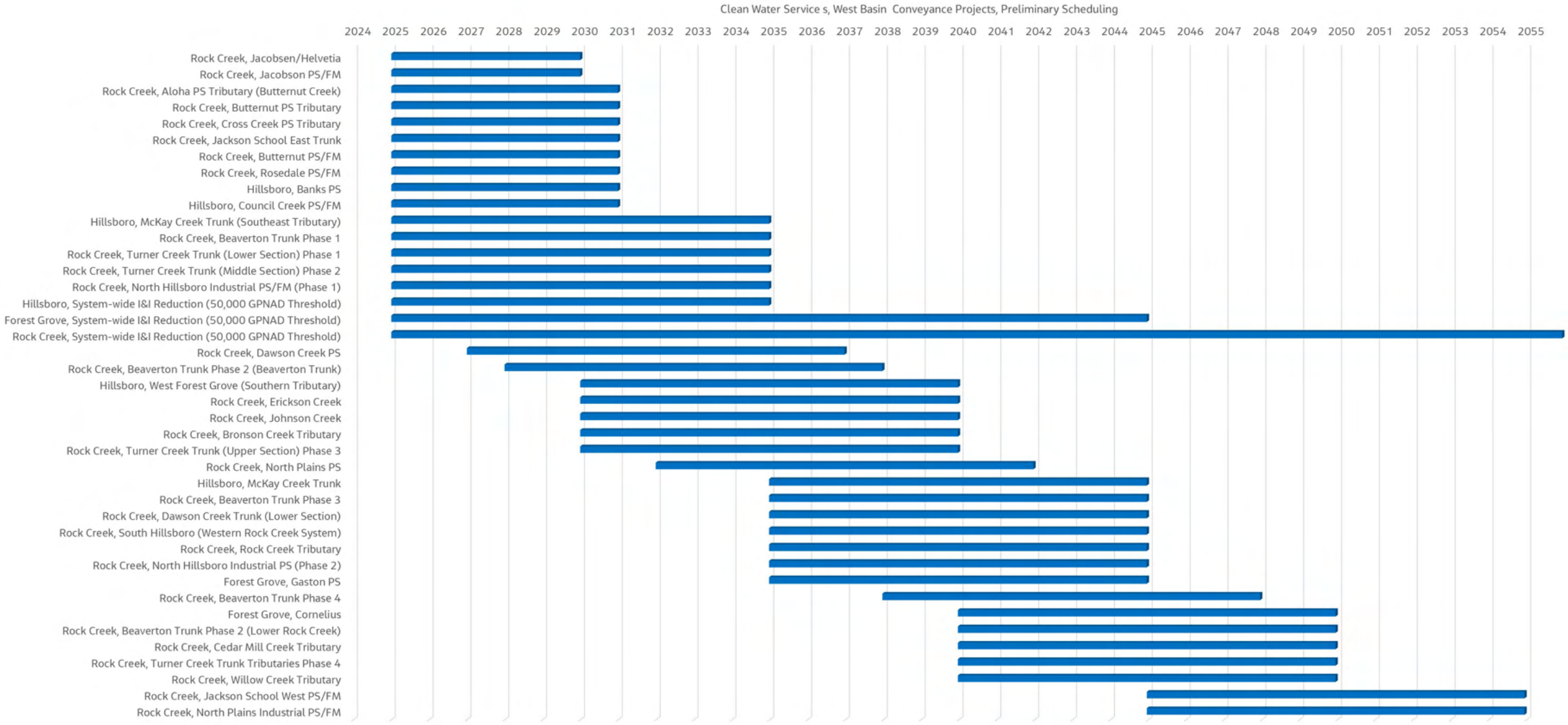
- I&I reduction upstream of Beaverton Trunk, Turner Creek trunk, and Aloha Pump Station
- Beaverton trunk (multiple phases)
- Lower Rock Creek trunk
- Turner Creek trunk (multiple phases)
- Rock Creek Tributary trunks
- Jackson School east trunk
- North Hillsboro Industrial Pump Station expansion and force main
- Jacobson Pump Station and force main, and Bendemeer trunk
- Dawson Pump Station expansion
- Dawson trunk
- North Plains Pump Station expansion
- Aloha Pump Station and gravity trunk
- Butternut Pump Station and force main, and gravity trunk
- Rosedale Pump Station and force main, Cross Creek Pump Station decommissioning

Planning Outcomes: Conveyance

- 50 capacity improvement projects: ~$648 million
- I&I abatement projects: ~$260 million
- Replacement and renewal program: ~ $168 million

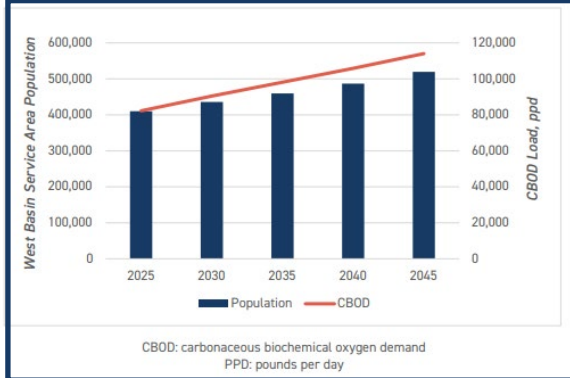


Planning Outcomes: Conveyance



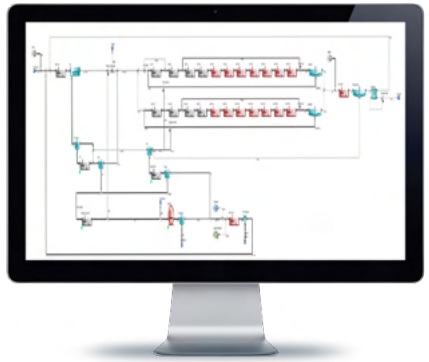
Treatment Planning Basis

Population forecasts, basin characteristics, and historical data

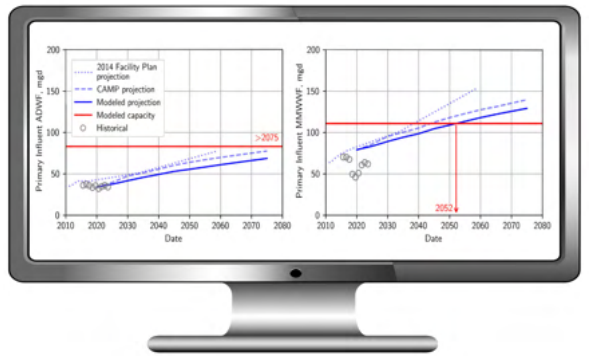


CBOD: carbonaceous biochemical oxygen demand
PPD: pounds per day

Project future flows and loads

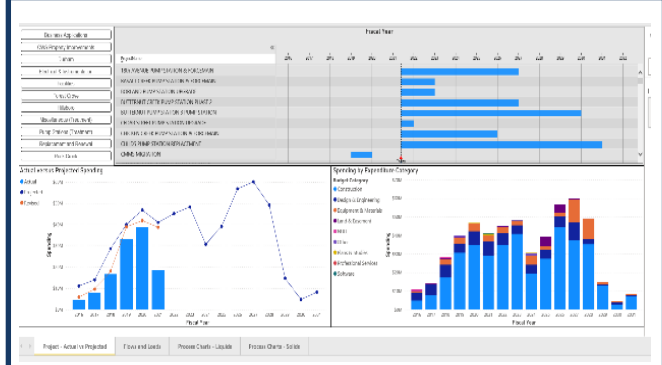


Calibrate WRRF process models and run with projected flows and loads



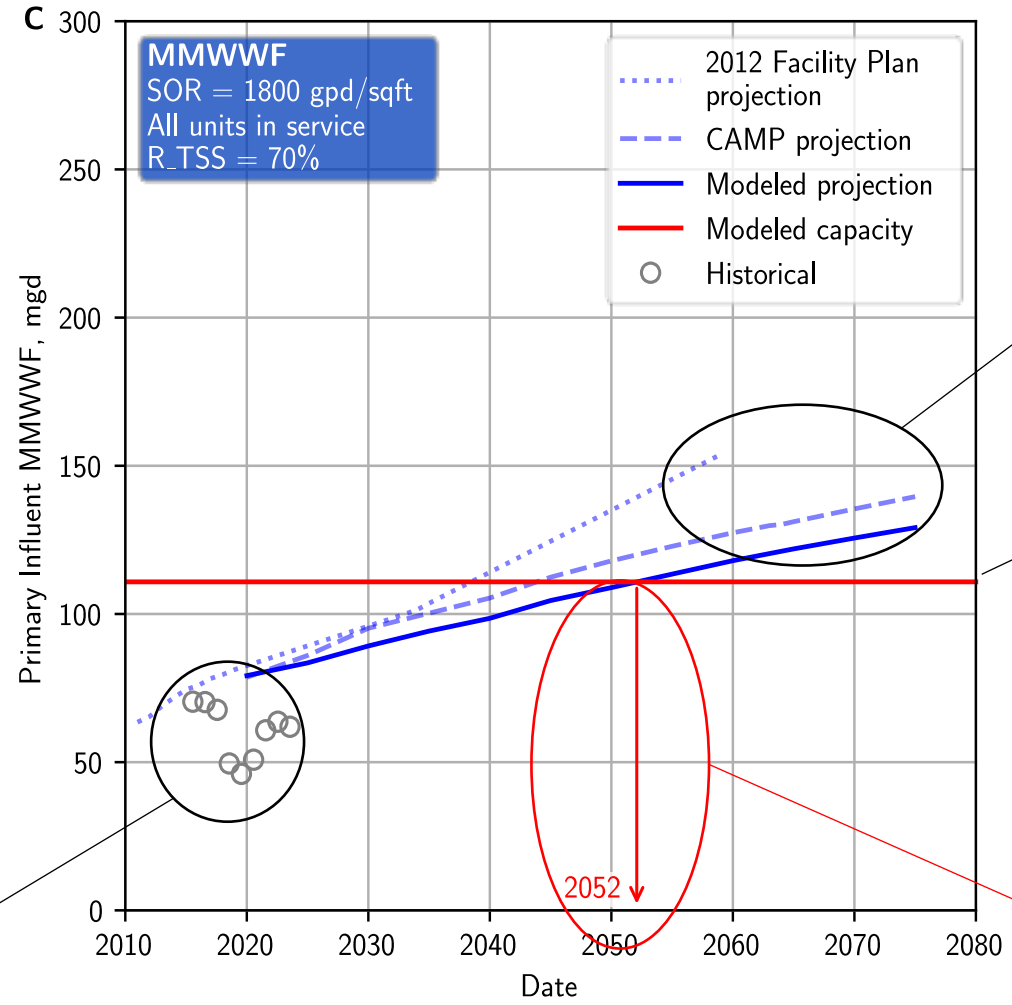
Identify when and where capacity must be added and evaluate alternatives for capacity

WRRF site plans



Capital Improvement Program

Treatment Planning Basis: Trigger Plots



Actual historical data

Modeled flow or load based on growth.

- Solid lines show 2025 model
- Dashed lines show previous results for comparison.

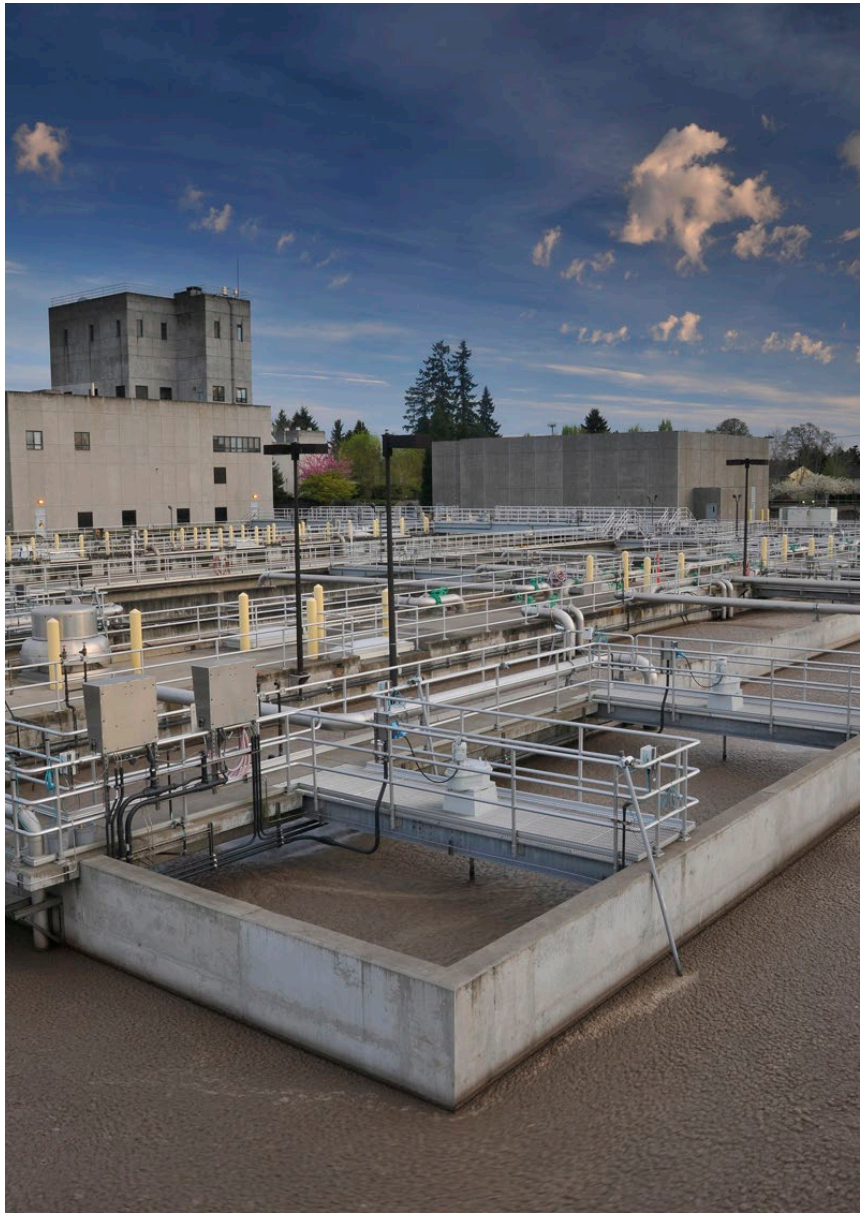
Current WRRF capacity

Trigger year is the year that the projected flow or load exceeds our capacity to treat it – time to add capacity

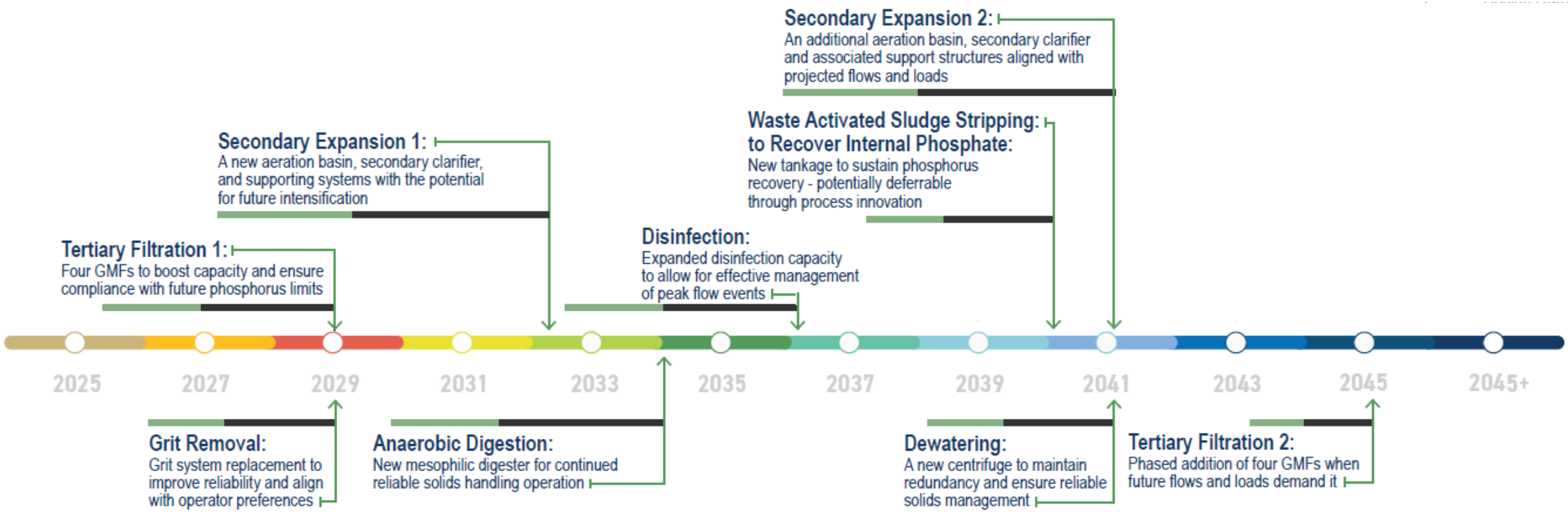
Trigger plot for primary clarifier unit process

Planning Outcomes: Rock Creek

- Approximately $396 million through 2045
- Major projects:
  - Tertiary filter expansion
  - Grit removal improvements
  - Secondary expansion
  - Digester improvements

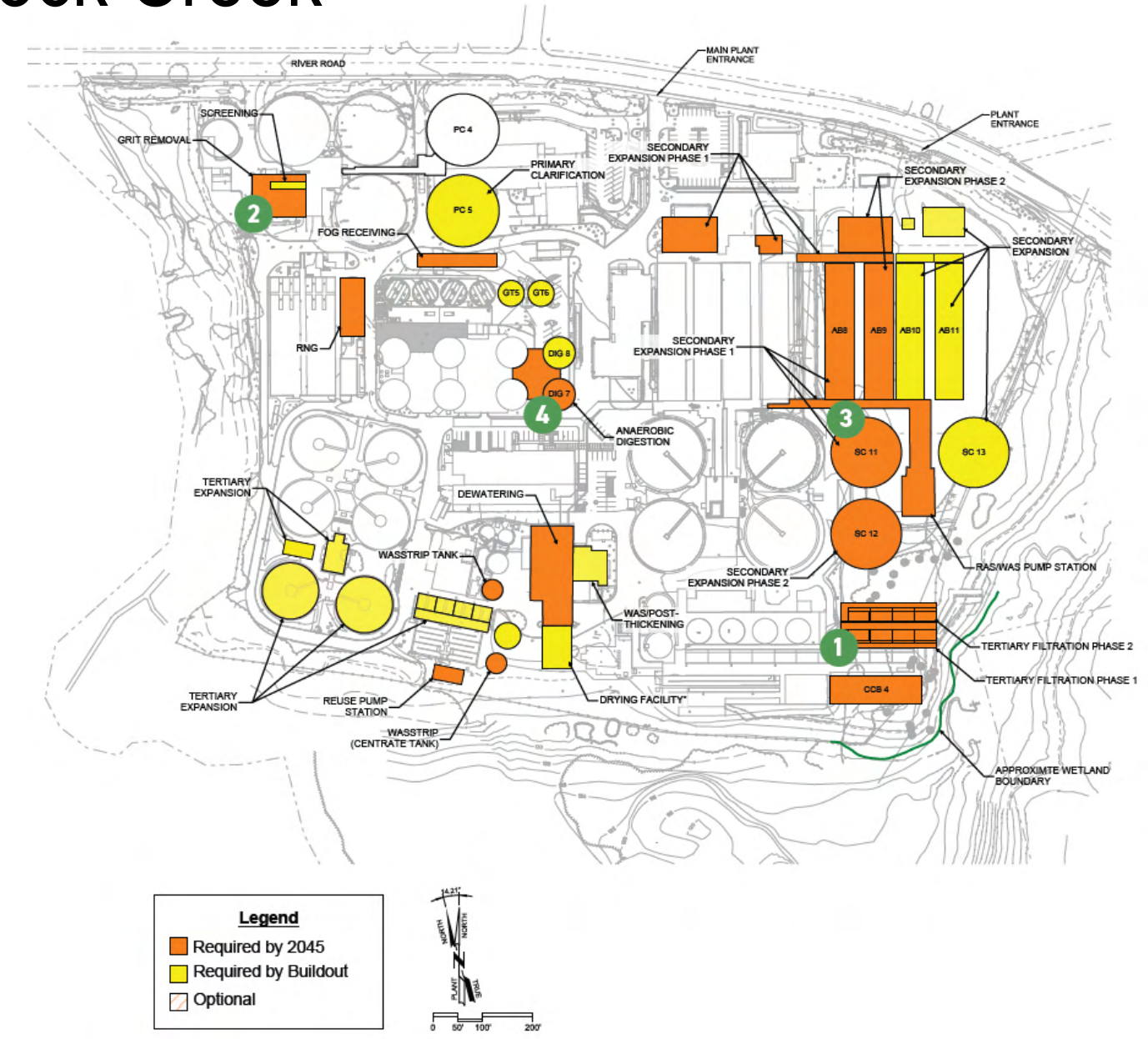


Planning Outcomes: Rock Creek Project Timeline



Planning Outcomes: Rock Creek

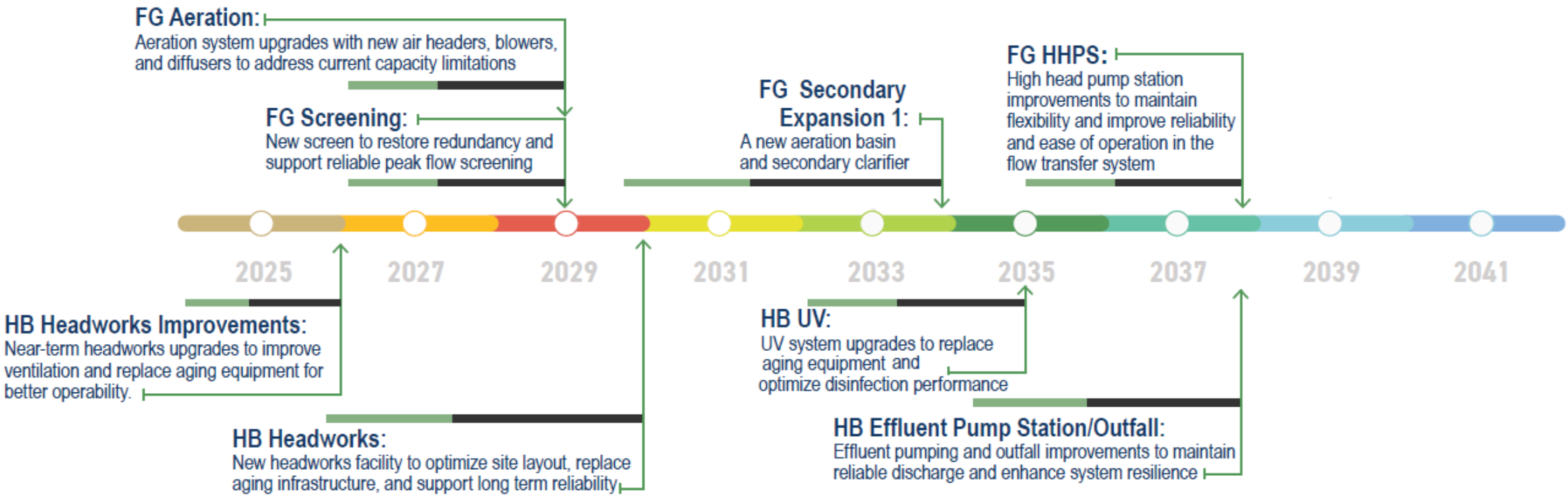
- Long-term site planning is essential for reserving spaces for future processes:
  - Headworks upgrades
  - Primary clarification
  - Secondary treatment
  - Tertiary treatment
  - Disinfection
  - Fats, oils, and grease (FOG) receiving
  - Solids treatment
  - Renewable natural gas



Planning Outcomes: Forest Grove and Hillsboro

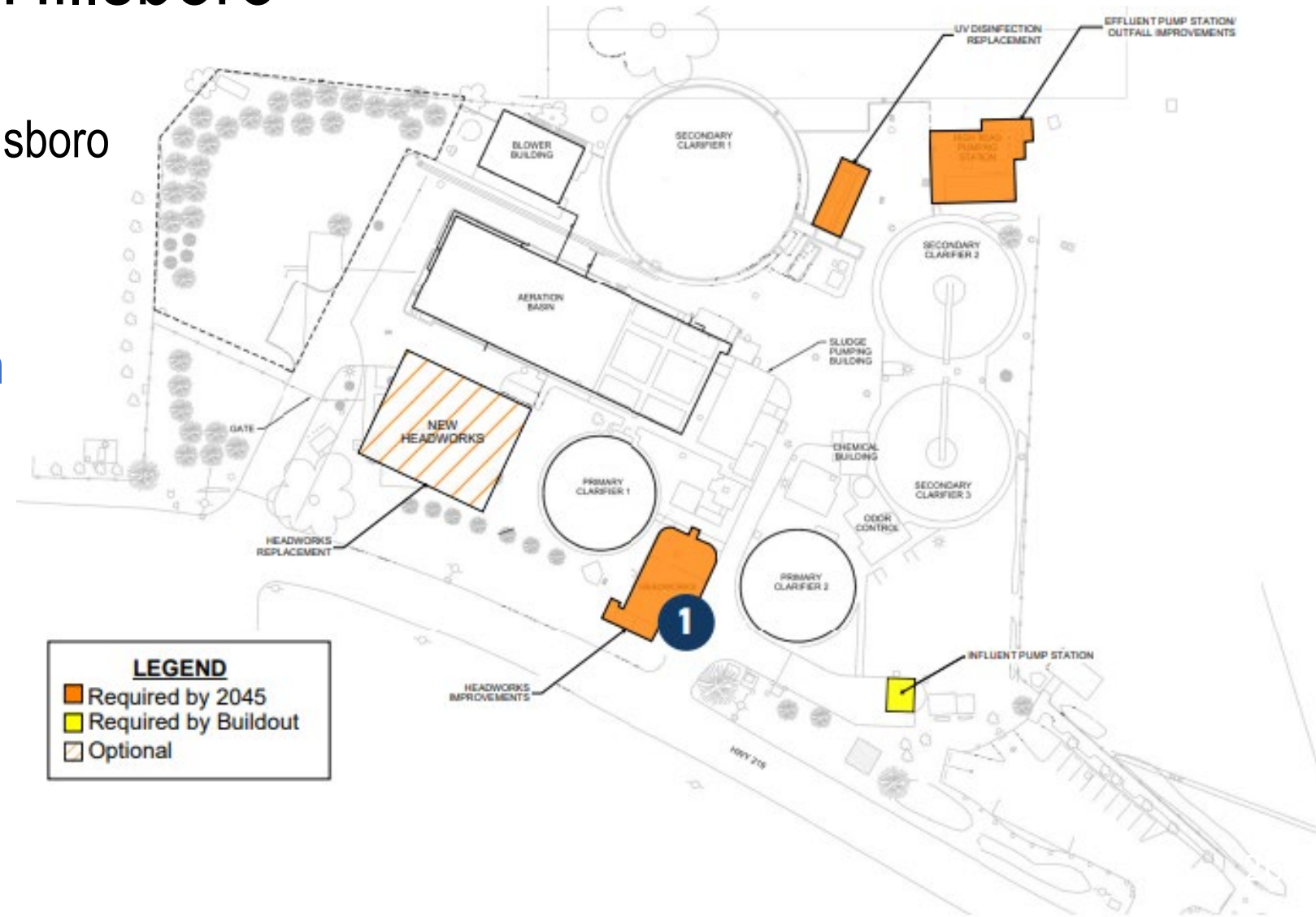
- Approximately $117 million through 2045
- Major projects
  - Forest Grove aeration improvements
  - Forest Grove secondary expansion
  - Hillsboro headworks

Planning Outcomes:
Forest Grove and Hillsboro Project Timeline



Planning Outcomes: Forest Grove and Hillsboro

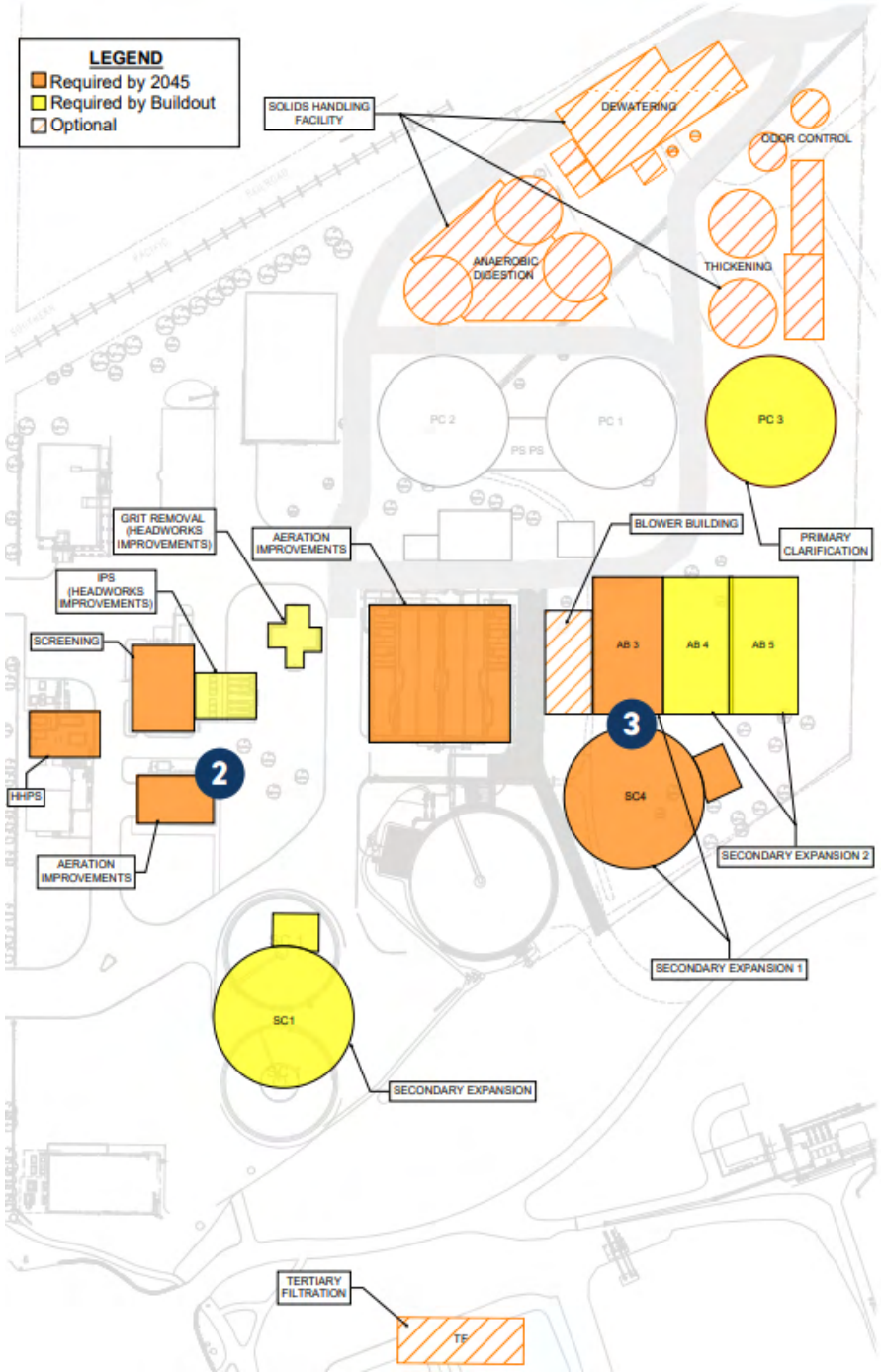
- Long-term site planning: Hillsboro
  - Headworks upgrades
  - Disinfection
  - High-head pump station
  - Influent pump station



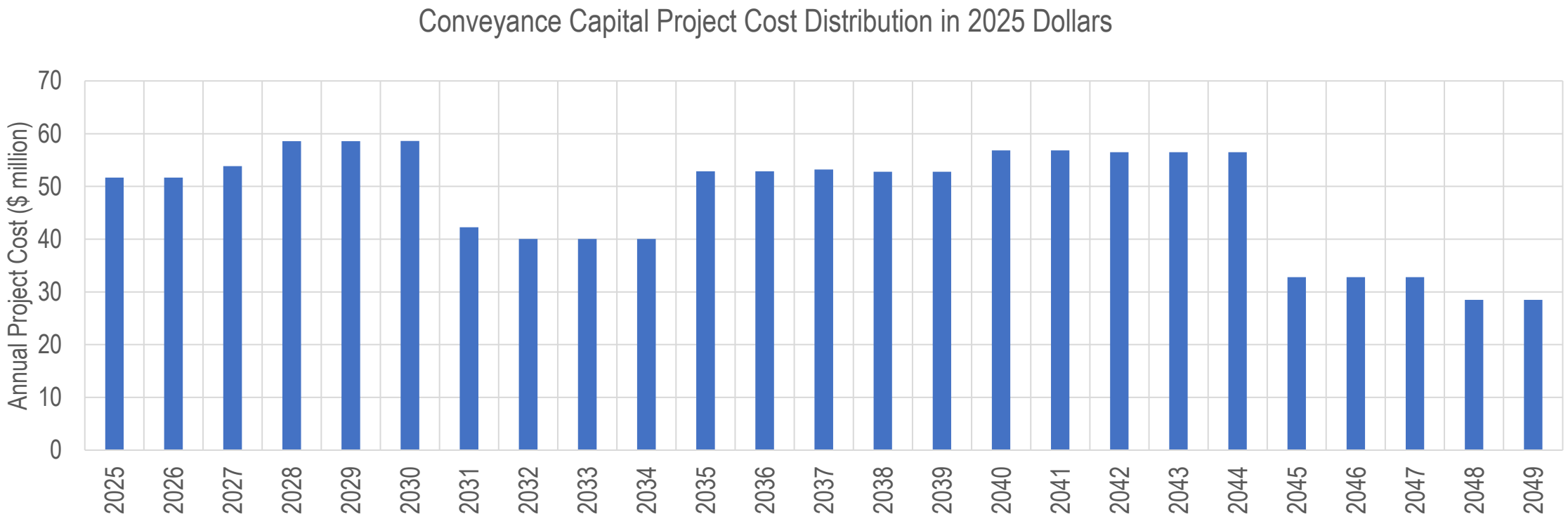
Planning Outcomes: Forest Grove and Hillsboro

- Long-term site planning: Forest Grove
  - Headworks upgrades
  - Screening
  - Aeration improvements
  - Secondary treatment
  - High-head pump station
  - Blower building*
  - Solids treatment*
  - Tertiary treatment*

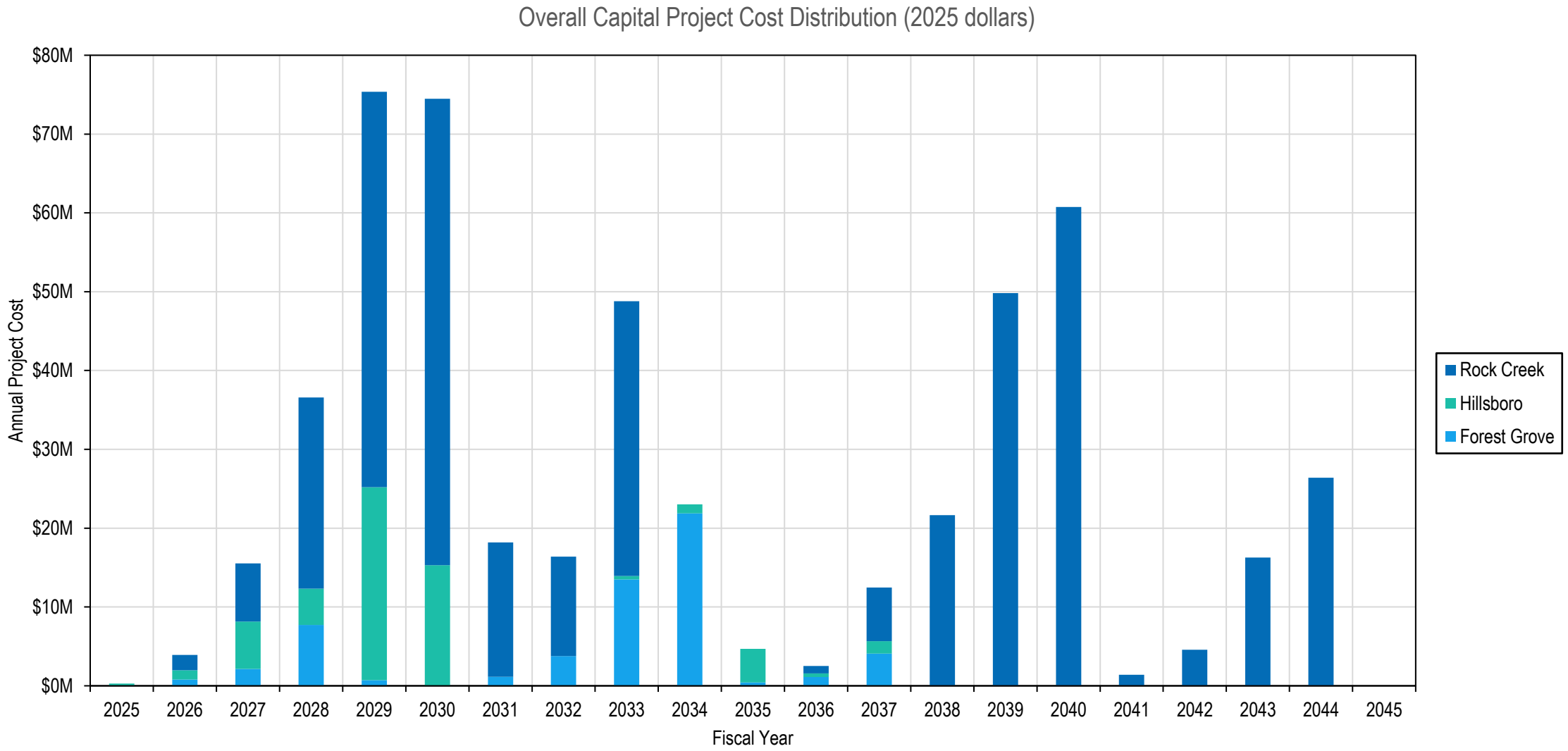
* Space reserved for potential project.
Need dependent on regulations and growth.



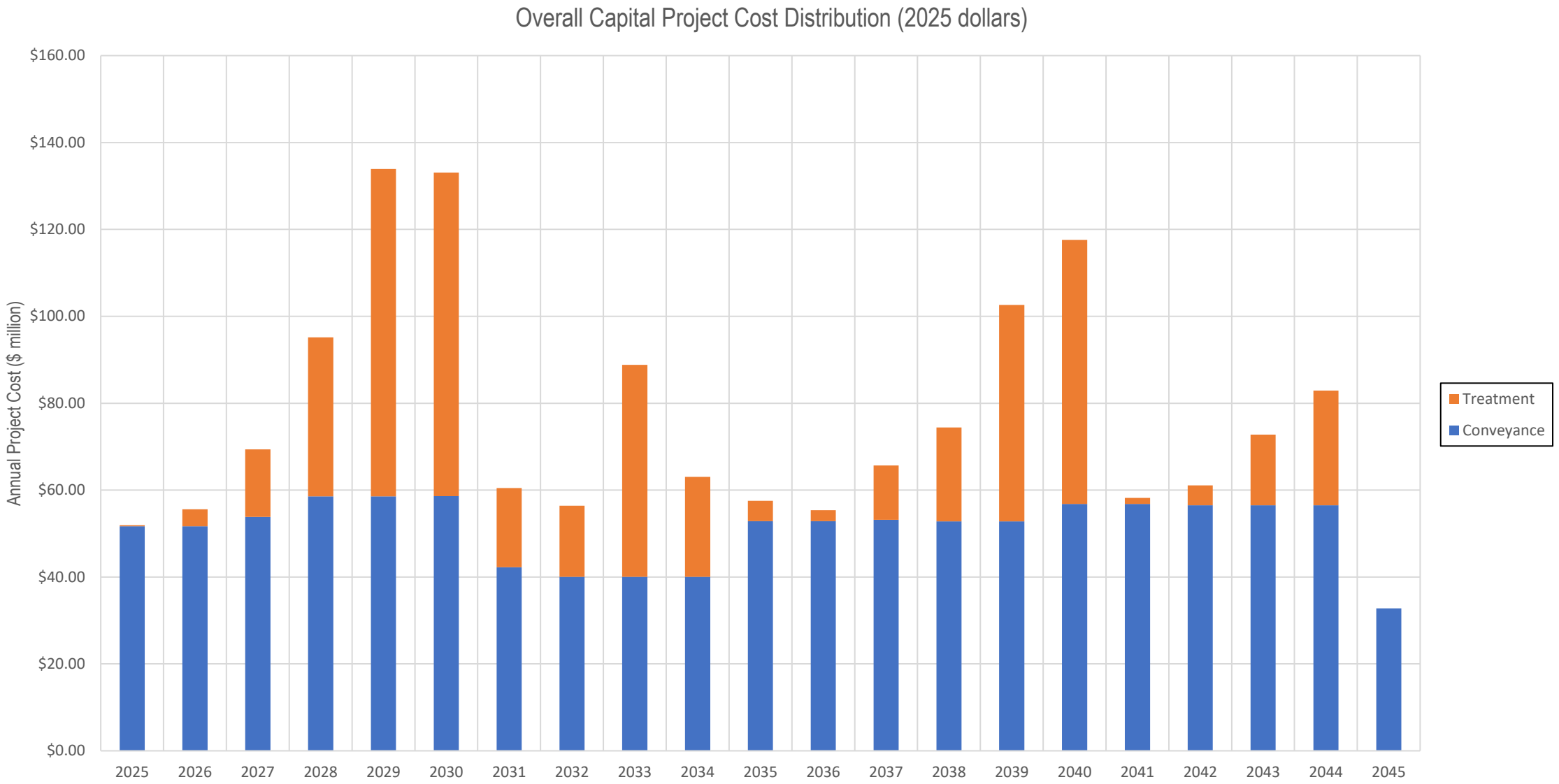
Recommended CIP: Conveyance



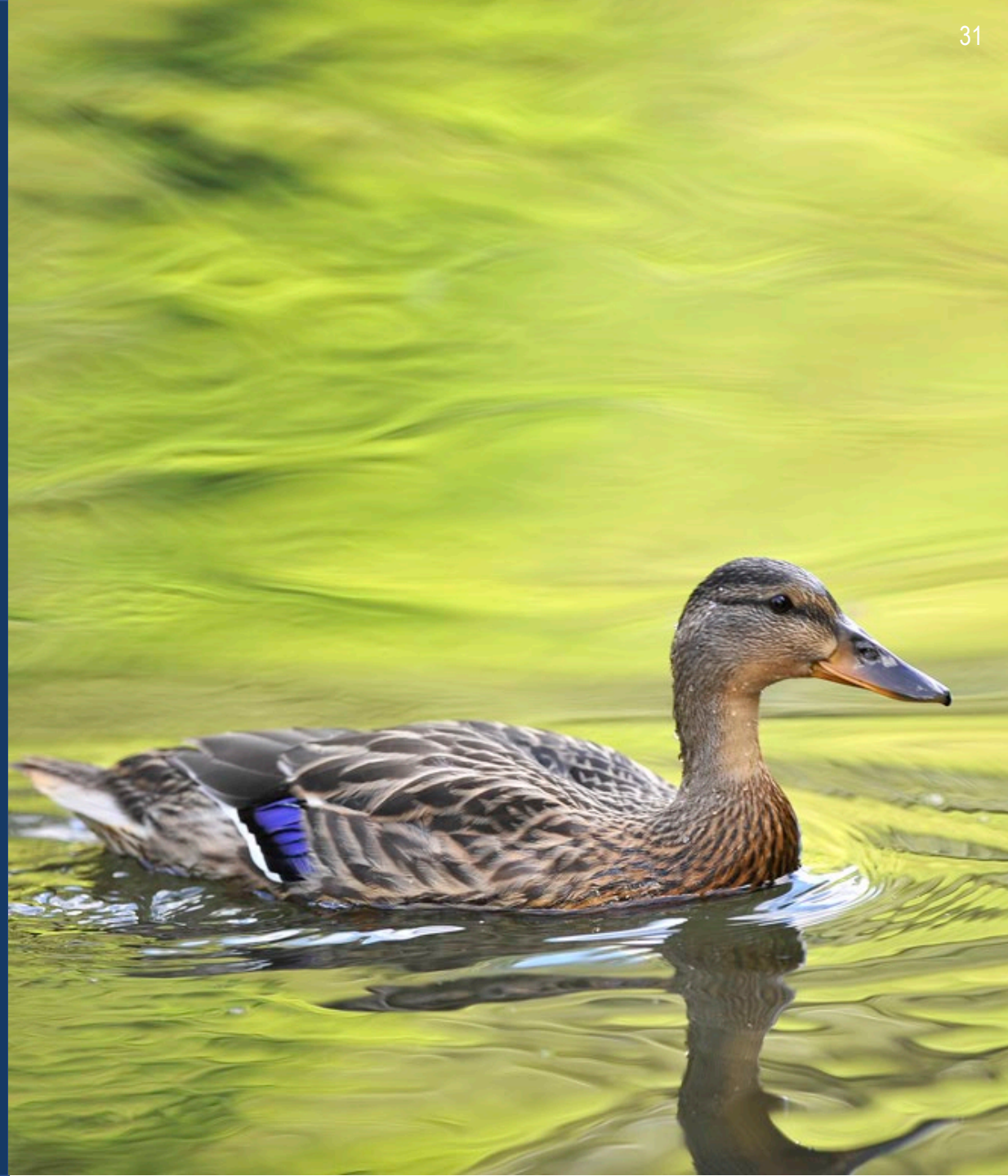
Recommended CIP: Treatment



Recommended CIP: Overall



Questions?



WEST BASIN MASTER PLAN

Executive Briefing

May 2025

Clean Water Services

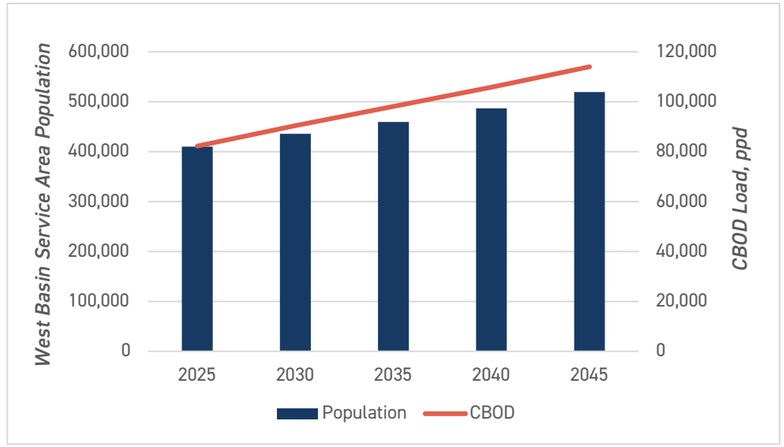
Introduction

The mission of Clean Water Services (the District) is to safeguard the Tualatin River's health and vitality, ensure the economic success of the region, and protect public health for over 610,000 residents and businesses in Washington County. This West Basin Master Plan (Plan) describes the District's approach to accomplishing this mission within the West Basin, which consists of an interconnected system serving the cities of Hillsboro, Beaverton, Forest Grove, Cornelius, North Plains, Gaston, and Banks. Along with conveyance infrastructure, the District's West Basin includes three water resource recovery facilities (WRRF) – the Rock Creek, Hillsboro, and Forest Grove WRRFs.

The recommendations of this Plan account for growth and emerging challenges anticipated over the planning period (through the year 2045) and beyond. These include:

- **Capacity to serve growth and industry.** This includes residential flow from infill of existing served areas (Oregon House Bill 2001 allows single family residential zoned areas to densify), expanding the collection system into the identified growth areas, including unincorporated Washington County and the cities of Beaverton, Hillsboro, Forest Grove, Cornelius, North Plains, Gaston, and Banks, and the ability to serve existing and future industrial customers and customers and co-implementer city goals.
- **An uncertain regulatory environment.** The alternatives in the plan are flexible to adapt to changes in discharge limits (e.g., mass loads, nutrients, temperature) and take advantage of potential future reuse opportunities.
- **Infrastructure age and condition.** Collection system projects in all basins target aging assets (pumping and conveyance pipelines), and several WRRF improvements are driven by the need to repair or replace components nearing the end of their useful life.
- **Resilience for seismic events and climate change.** Throughout the collection system and at all WRRFs, the plan increases seismic resilience over time and accounts for the variability of flows due to climate change.

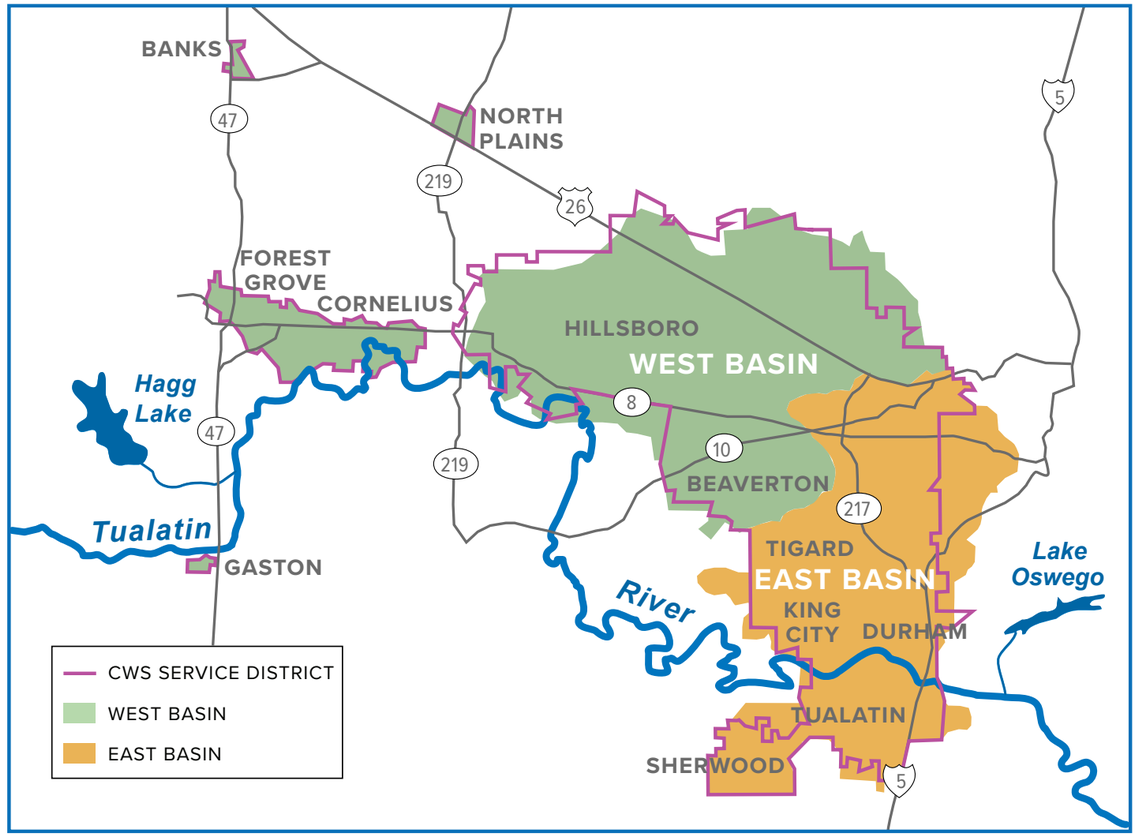
West Basin Service Population



CBOD: carbonaceous biochemical oxygen demand
PPD: pounds per day

West Basin Study Area

Clean Water Services



Sanitary basin plans are one element of the District's overall planning efforts, along with strategies for stormwater management and natural enhancement and ongoing adaptations based on water quality data. The District's planning efforts interface with local planning, land use, and community needs, and the District's co-implementers at cities within the West Basin service area provided input on projected areas of growth or new development. As the Plan was developed, the District team provided regular updates to and sought input from the Clean Water Services Advisory Commission (CWAC). CWAC feedback helped develop the non-cost criteria used to evaluate potential conveyance projects.

Planning Process and Objectives

Basin Analysis

The West Basin planning process started with a multiday working session involving treatment, conveyance, and regulatory specialists from the District and consultant team. The team evaluated different scenarios encompassing the treatment and conveyance infrastructure within the West Basin.

Four conveyance and two treatment scenarios were considered, with the conveyance scenarios assuming different distributions of flows and loads between Forest Grove, Hillsboro, and Rock Creek, and the treatment scenarios assuming different National Pollutant Discharge Elimination System (NPDES) permit limits and options for treating solids generated at each WRRF. Major findings of the process framed the more detailed evaluation of alternatives conducted during the next planning phase.

Key Findings of the Initial Planning Process

- The most effective use of conveyance and treatment infrastructure should maximize flows to the Rock Creek WRRF, with flows from Banks and West Forest Grove diverted to the Forest Grove WRRF.
- Under the current regulatory environment, there is sufficient space at the Rock Creek WRRF to accommodate treatment requirements through the planning period. Should the regulatory picture change, space should be retained at the Forest Grove WRRF for liquid stream expansion and/or a regional solids treatment facility, and the use of the regional conveyance system should be reevaluated.

Detailed Evaluation of Alternatives

Once the preferred conveyance and treatment scenario was identified, the team performed more detailed evaluations of conveyance and treatment alternatives to achieve the planning goals for capacity and performance. The recommended alternatives for conveyance and each WRRF are summarized later in this document. Key objectives were sought for each conveyance and treatment alternative, as summarized below.

Optimization to Maximize Use of Existing Facilities

Basin planning helped the team optimize treatment and conveyance within the West Basin. The subsequent, more detailed evaluations of conveyance and treatment alternatives identified additional opportunities for optimization, such as:

- **Regional Conveyance of Solids and Peak Flows.** Currently, the District uses two high head pump stations (HHPS) and twin 24-inch force mains to shift flows and loads on a seasonal basis, maximizing the capacity of existing treatment units across the West Basin. Key HHPS improvements will allow this process to continue in the future, deferring major treatment expansions at both Forest Grove and Hillsboro WRRF.
- **Getting the Most From Existing Treatment Processes.** Existing tertiary treatment (filtration) processes at Rock Creek are approaching capacity. The District is planning to expand the filters considering multiple parameters including chemical dose, the degree of pretreatment, and filter loading rate. The District will conduct full-scale testing of existing filters as part of the expansion project, defining these parameters to optimize project timing and capacity.
- **Conveyance Optimization:** The team evaluated optimal level of infiltration and inflow (I&I) removal for cost-effectiveness across conveyance and treatment systems. In the Rock Creek system, the team performed an optimization across thousands of conveyance options with objectives to reduce costs and increase system performance.

Innovation to Increase Performance

In multiple process areas, the planning team evaluated innovative processes to maximize performance and reduce capital cost. For example:

- **Secondary Process Densification.** Before expanding secondary treatment, the District will continue to test processes that increase mixed liquor density in the activated sludge process. Incorporating densification into secondary treatment improvements may help the District get more secondary capacity within a smaller footprint.
- **Primary Sludge Heating.** The District is evaluating an alternative to optimize the process that thickens primary solids and generates volatile fatty acids (VFA) to enhance biological phosphorous removal, also known as unified fermentation and thickening (UFAT.) By heating primary solids prior to thickening and/or by modifying operation of the UFAT system, the District may be able to defer a multimillion dollar UFAT expansion project.

Flexibility to Adapt to Change

The planning team worked closely with the District's Regulatory Affairs Department to determine the likely future permit requirements. The group considered the impact of the following permit conditions:

- **Aluminum.** With the Environmental Protection Agency's establishment of aquatic life criteria for aluminum, future tertiary treatment requirements at Rock Creek WRRF are uncertain. Currently, Rock Creek requires addition of aluminum (in the form of alum, a chemical coagulant) in the tertiary processes to meet the 0.1 mg/L total phosphorus (TP) limit. This could result in elevated aluminum concentrations in the effluent that may impact the ability to meet future aluminum limits. An effluent phosphorus limit of 0.5 mg/L can be met with reduced alum addition early in the process where the aluminum will be effectively removed from the effluent. The recommended plan preserves space to meet a 0.1 mg/L TP limit with an aluminum limit in place. Pilot testing the tertiary filtration process will help the District understand how to maximize the existing tertiary treatment infrastructure with minimum alum addition, to minimize the aluminum concentration in the final effluent.
- **Phosphorous.** Water quality modeling suggests that the Tualatin River is no longer as sensitive to phosphorus inputs as it once was. To address the needs of the river and mitigate impacts from aluminum requirements, the District continues to work with the Oregon Department of Environmental Quality to support an update of the phosphorus Total Maximum Daily Load (TMDL). Based on this uncertainty, two effluent TP scenarios were evaluated: (1) 0.1 mg/L TP and (2) 0.5 mg/L TP.
- **Bubbled Total Suspended Solids (TSS) Mass Load.** In addition to meeting TSS concentration limits at each of the District's four WRRFs, the District four WRRFs must also meet a bubbled mass load limit. The District is currently able to meet this limit with tertiary filtration at the Rock Creek and Durham WRRFs. If the mass load limit is not raised, sometime between the year 2045 and buildout, the District will need to consider different alternatives to comply with the limit. This Plan evaluated tertiary filtration expansion alternatives at the Rock Creek WRRF and recommends an approach that minimizes capital expenditure and preserves space for tertiary filters at the Forest Grove WRRF, if needed to comply with the bubbled mass load limit beyond the planning period.
- **Per- and polyfluoroalkyl substances (PFAS).** The future of regulatory action on PFAS is uncertain, however there may be restrictions that could affect the land application of biosolids. Therefore, solids stabilization processes that destroy PFAS or the ability to cost-effectively add processes that could destroy PFAS were considered during the solids planning process.

Building Resilience Over Time

In 2018, the District completed a detailed evaluation of the seismic resilience of existing treatment processes at the Rock Creek WRRF. The study developed level of service (LOS) goals to be achieved over time, which are shown in the table on the following page. The planning team applied this process to the facilities at Forest Grove and Hillsboro. In addition, the District completed a Regional Climate Change Modeling Approach Evaluation as part of the West Basin planning process, which informs future efforts to estimate the impact of climate change on key parameters including population growth and peak flows due to rainfall-derived I&I. In the conveyance system, the District considered opportunities to build resiliency for creek crossings and above-ground pipelines including coordination with bridge resiliency projects.

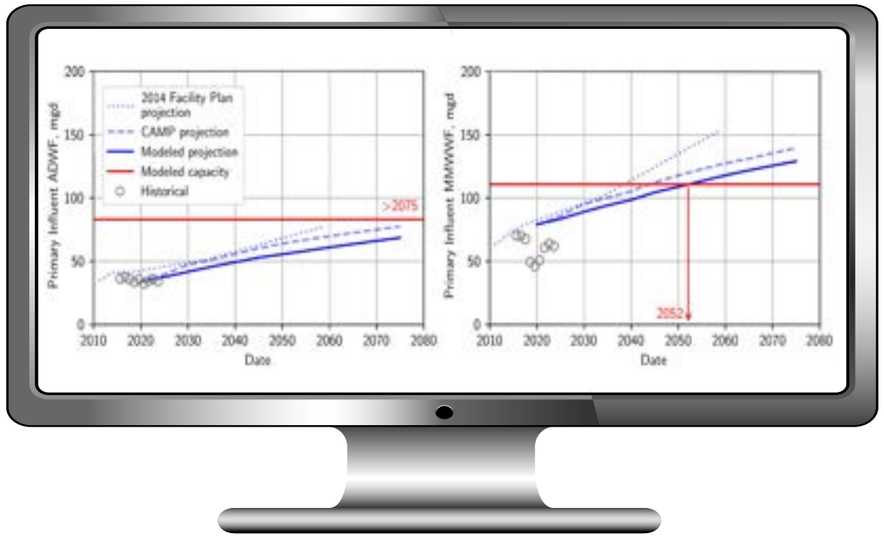
LOS Goals for WRRFs

Phase	Time Horizon	Power Status	Treatment Objective
Immediate	First 24 hours	Unavailable	Pumped bypass with disinfection
Midterm	First 3 months	Unavailable	Primary treatment with disinfection
Midterm	First 6 months	Available	Secondary (30/30) treatment
Long term	Beyond 6 months	Available	Full NPDES compliance

Just-In-Time Capacity

"Just-In-Time Capacity" refers to the District's philosophy of continually assessing growth and the timing of projects to add conveyance and treatment capacity, so that the District is always able to serve residents, businesses, and industries. Initiating process expansions to match flow and load increases due to growth is fundamental to the District's planning process. The West Basin planning team developed a family of trigger plots for each liquid and solids stream treatment process, considering the key flow and load parameters that influence that specific unit processes capacity. These plots represent flow and load increases based on population data taken from the Portland State University Population Research Center.

In cases where recent trends differ from these projections, the planning team developed a range of trigger years (i.e., the earliest date based on projections, the later date reflecting current trends). The potential to distribute capital expenditures over the planning period by selecting the later trigger year is reflected in the Capital Improvement Plan (CIP) presented in this Executive Briefing.



Trigger plots developed for each WRRF process help the District add treatment capacity to match growth. Similarly, trigger plots developed for the conveyance system identify critical capacity bottlenecks in the collection system.

Collection System Planning Process

Collection System Decision-Making Process

The planning team collaborated with District staff to evaluate, score, and select conveyance system improvements from many alternatives. The process integrated multiple perspectives in discussing and selecting each improvement project including participation from conveyance, pumping and treatment, natural resources, and operations and maintenance (O&M) staff. Weighted scoring criteria covering improvement project feasibility, risk, and opportunities were established with higher weighting for scoring categories with long-term benefits such as O&M.

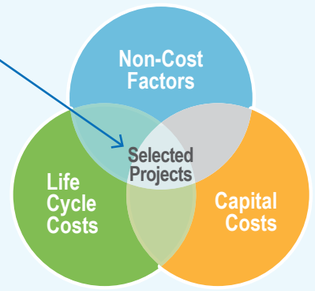
Initial capital costs and life cycle costs were also compared for each alternative. Life cycle costs consist of annualized replacement costs of different asset types (pumps vs pipes) with varied life spans, annual O&M costs, and annual energy costs.

An example decision process for the Hillsboro and Forest Grove systems is presented below where three alternatives were considered for a new diversion pump station using cost comparisons and the scoring methodology.

Alternatives Selection Process

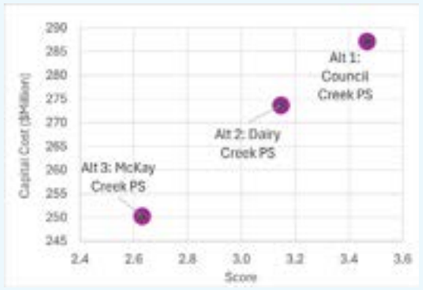
The example below includes three integrated alternatives with a range of gravity system improvements and three pump station and force main options between the Hillsboro and Forest Grove basins. The preferred alternative (highest score, Council Creek Pump Station) was selected due to feasibility of construction and flexibility for phasing. The Council Creek Pump Station alternative had a higher initial capital cost and a competitive life cycle cost while scoring higher than other alternatives on non-cost categories.

High scoring alternatives with competitive life cycle costs were typically selected as the preferred alternative due to project benefits, feasibility for implementation, and longer-term cost savings.



Non-Cost Factors Categories & Weighting

Scoring Category	Weighting (%)
Operations and Maintenance	22
Environmental Impact & Permitting	13
Environmental Uplift Opportunities	10
Public Impacts	10
Equity/Public Engagement & Uplift	9
Construction Risk	13
Easements & Property Acquisition	9
Flexibility & Balance, Responsiveness	14



SCORE VS CAPITAL COST

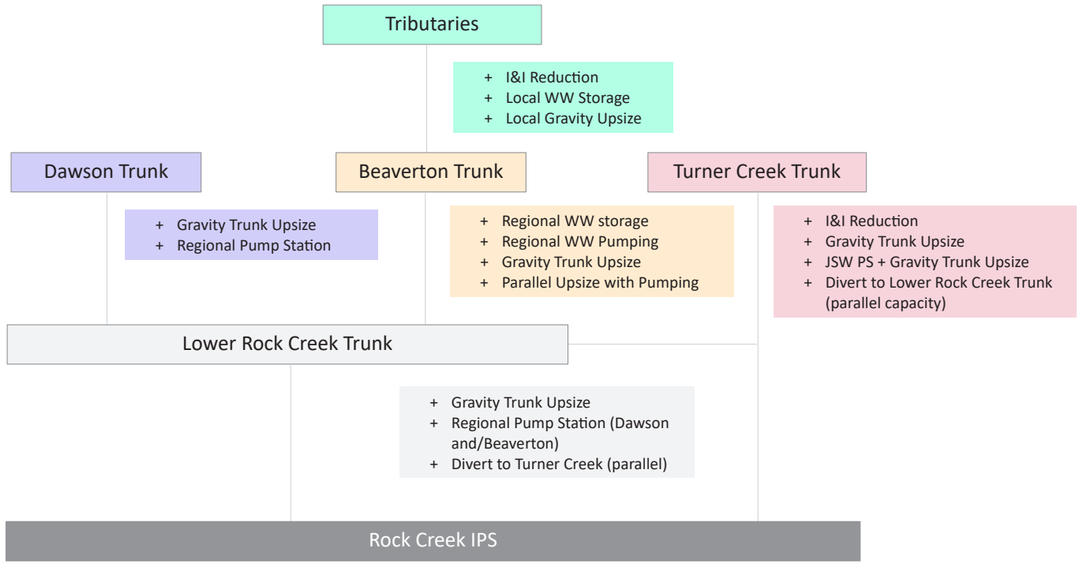
SCORE VS LIFE CYCLE COST

Life Cycle Cost = Annualized replacement cost by infrastructure type + annual O&M cost + annual energy cost

The Rock Creek system is complex with hundreds of potential combinations of improvement projects making up thousands of alternatives. The schematic below presents the combinations of improvement types considered for different areas of the system including I&I abatement, pipe upsizing, wet weather storage, regional pump stations, and basin rerouting via diversion pumping.

For the alternative review process in the Rock Creek system, the planning and District team first optimized for a wide range of improvement alternatives for initial capital cost, life cycle cost, and improvement scoring and then narrowed the discussion to high-scoring and low-cost alternatives for finalizing improvement project selection.

Rock Creek Composite Options and Scenarios



I&I = Rainfall-Derived Infiltration and Inflow
WW = Wet Weather
JSW = Jackson School West
PS = Pump Station
IPS = Influent Pump Station

Collection System Improvements

Based on the alternatives scoring and review, improvements were selected in the categories presented below and shown on the adjacent maps. Growth projections and system capacity were coordinated with co-implementer cities (Hillsboro, Beaverton, Forest Grove, Cornelius, Banks, Gaston, and North Plains). Gravity conveyance pipeline projects smaller than 24 inches in diameter and within city limits are implemented by the cities. All pump station and force main projects are implemented by the District. Gravity conveyance pipelines projects 24 inches and larger located anywhere within the District, or smaller than 24 inch but located in unincorporated Washington County are also implemented by the District.

1. **Wet Weather and Growth Capacity** – Projects are required due to a combination of limited existing capacity, influence of I&I, and future growth.
   - Beaverton Trunk System and Tributary Trunks (Erickson Creek Trunk coordinated with the City of Beaverton).
   - Lower Rock Creek Trunk System.
   - Turner Creek Trunk System (upper trunk system coordinated with the City of Hillsboro).
   - Minter Bridge Trunk System (coordinated with the City of Hillsboro).
   - McKay Creek Tributary Trunk (coordinated with the City of Hillsboro).
   - Council Creek Pump Station (alleviates capacity issues in the Lower Hillsboro Trunk System).
   - Central Forest Grove Trunk System (coordinated with the City of Forest Grove).
   - Aloha Pump Station and Trunk System.

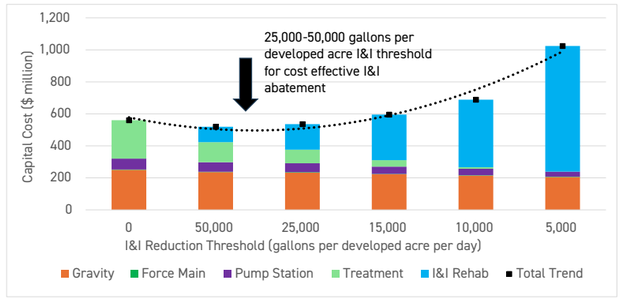
2. **Growth Capacity** – Projects are primarily driven by co-implementer city and county growth.
   - North Hillsboro Pump Station and Trunk System (Jackson School East coordinated with City of Hillsboro and developers).
   - Dawson Pump Station and Trunk System.
   - South Hillsboro Pump Stations and Trunk System (multiple pump stations and diversion from the Aloha Basin).
   - West Forest Grove Trunk System (coordinated with the City of Forest Grove).
   - Cornelius Trunks (coordinated with the City of Cornelius).
   - Gaston Pump Station.
   - Banks Pump Stations.
   - North Plains Pump Station.

3. **Strategic Rainfall-Derived I&I Abatement Program (pipe and lateral rehabilitation)** – A program to reduce the influence of rainfall and groundwater into the system. In many cases, downstream capacity projects are required, but when balanced with I&I abatement, infrastructure sizing is more feasible for construction and longer-term O&M.

   The I&I abatement program is coordinated with coordinated with co-implementer cities in key areas. Within city limits a 50/50 shared cost program is available. Cities perform I&I assessment and abatement within city limits and the District performs the same work in unincorporated Washington County and for all pipelines 24 inches and larger. Areas planned for I&I abatement include:

   - City of Beaverton in tributary system to the Beaverton Trunk and Rock Creek WRRF (Erickson and Johnson Creek basins).
   - City of Hillsboro in tributary systems to the Turner Creek Trunk, Rock Creek WRRF, and McKay Creek Trunk.
   - City of Forest Grove in downtown and west Forest Grove reducing impact to the Forest Grove WRRF.
   - Aloha Basin and Cross Creek Basin in unincorporated Washington County with impacts to the Aloha Pump Station, South Hillsboro Pump Stations, and Rock Creek WRRF.

A critical part of the Plan was to identify a cost-effective level of investment in the I&I abatement program when balanced with capacity upgrades for conveyance and treatment. The map on the next page shows the results of the analysis where varied thresholds of I&I removal were considered in combination with capacity upgrades to understand the optimal investment across the system.

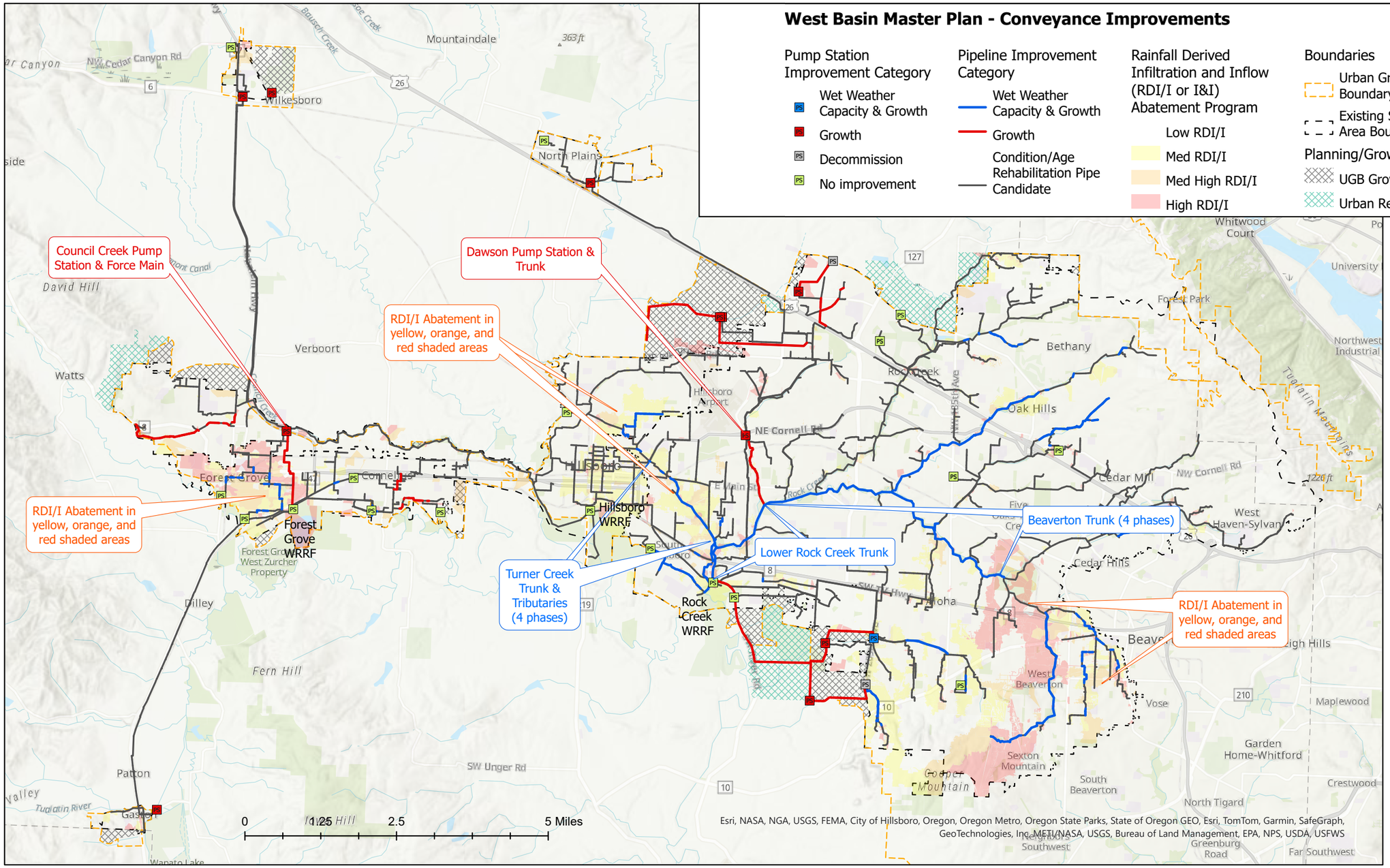


4. **Large Diameter Pipeline Infrastructure Age/Condition** – A program to fund repair and replacement (R&R) of existing gravity pipelines as assets reach the end of their useful life.

   Individual projects were not defined, but a program cost was estimated based on available age, material, and condition data. Future program work will include more detailed risk assessment of assets and prioritization of funding for assets with the highest risk for structural failure or increased O&M requirements. The R&R program will be coordinated with the I&I abatement program and capacity upgrades as some assets are impacted by poor condition, I&I, and existing capacity limits. Pump station asset replacement and costs are tracked by District staff and were not documented within the plan.

See map on following page.

Collection System Improvements



The West Basin conveyance system capital improvement plan includes projects for growth capacity and wet weather capacity, and programs for I&I abatement and pipeline rehabilitation. This map illustrates project locations and highlights four key capacity projects. These four projects are also described in more detail on pages 13 and 14.

Collection System Capital Improvement Plan

The conveyance capital improvement plan includes more than 50 capacity projects (~$648 million) plus the I&I abatement program (~$260 million) and R&R program (~$168 million). Project costs are class 5 estimates in 2025 dollars (-50 percent to +100 percent planning accuracy where project concepts are at ~2 percent maturity). Costs include city shared funding contributions. Several of the larger projects are described below and an overall capital improvement plan timeline for major projects presented of below.

1 Council Creek Pump Station and Force main

Timing: 2025-2029

Estimated Project Cost: $19 million (2025 dollars)

- Driver: Alleviate capacity constraints in Lower Hillsboro Trunk and accommodate growth in West Forest Grove.
- 10-11 million gallon per day (mgd) pump station with 20- to 24-inch force main (~7,000 linear feet).
- Diversion structure on Council Creek Trunk can split flow between Forest Grove and Hillsboro treatment facilities.

2 Turner Creek Trunk

Timing: Four phases (Phases 1 & 2, 2025-2030; Phase 3, 2030-2035; Phase 4, 2040-2045)

Estimated Project Cost: $74.5 million (2025 dollars)

- Driver: Existing capacity and I&I influence.
- Lower range of sizing available with target I&I abatement.
- Trunk sewer upsized to 18- to 36-inch diameters with some local 10- to 12-inch diameters (>17,000 linear feet).
- Local park opportunities (City of Hillsboro) for uplift or linear storage.
- Consider routing opportunities to improve access for O&M.

3 Beaverton and Lower Rock Creek Trunks

Timing: Five phases (Beaverton Trunk Phase 1, 2027-2032; Phase 2, 2032-2037; Phase 3, 2037-2042; Phase 4, 2042-2046; Lower Rock Creek Trunk, 2045+).

Estimated Project Cost: $285 million (2025 dollars)

- Driver: Existing capacity, I&I influence, and growth.
- Lower range of sizing available with target I&I abatement.
- Trunk sewer upsized to 66- to 90-inch diameters (>36,000 linear feet).
- Lower range of sizing protects the Rock Creek Influent Pump Station by allowing surcharged storage and greater level of peak flow attenuation.

4 Dawson Pump Station and Trunk

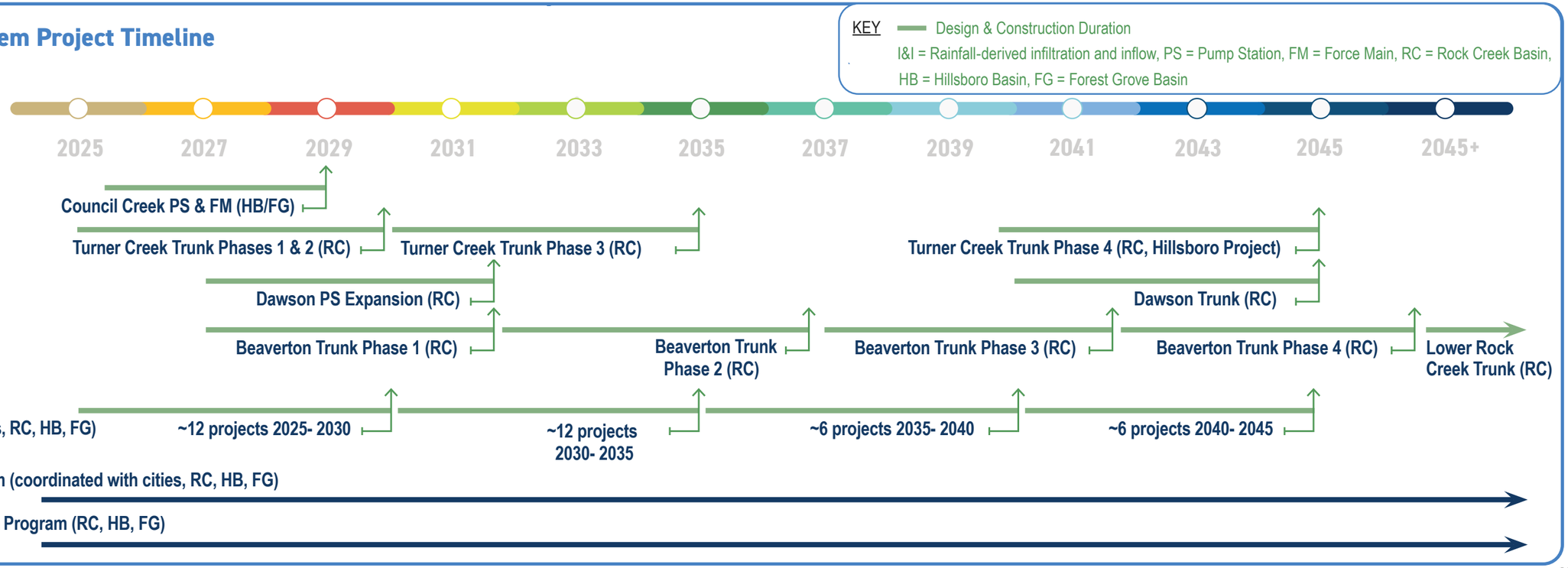
Timing: (Pump Station, 2027-2032; Trunk, 2040-2045, may be delayed indefinitely depending on North Hillsboro development and type of industry).

Estimated Project Cost: $27 million (2025 dollars).

- Driver: Industrial growth (North Hillsboro).
- Pump station expansion (expand from 18 mgd to 27.5 mgd), no additional force mains.
- Trunk sewer upsized to 42-inch diameter (>6,000 linear feet).
- Creek uplift opportunities with trunk sewer project.

Collection System Project Timeline

The figure at right shows the expected CIP for collection system projects.



ROCK CREEK WRRF IMPROVEMENTS

Rock Creek WRRF Projects

The planning team identified over $396 million in process improvement projects at the Rock Creek WRRF that will be needed through the planning period (through year 2045). As previously described, most projects incorporate some combination of optimization, innovation, and a just-in-time approach to matching capacity with growth. Additional projects have been identified as being needed to meet buildout flow and load conditions. The figure at right is a site plan illustrating the conceptual layout of these projects.

The estimated timeline of each improvement identified within the planning period is shown in the figure on the following pages. Several key projects that will be triggered in the relative near term are described below.

1 Tertiary Filter Expansion, Phase 1

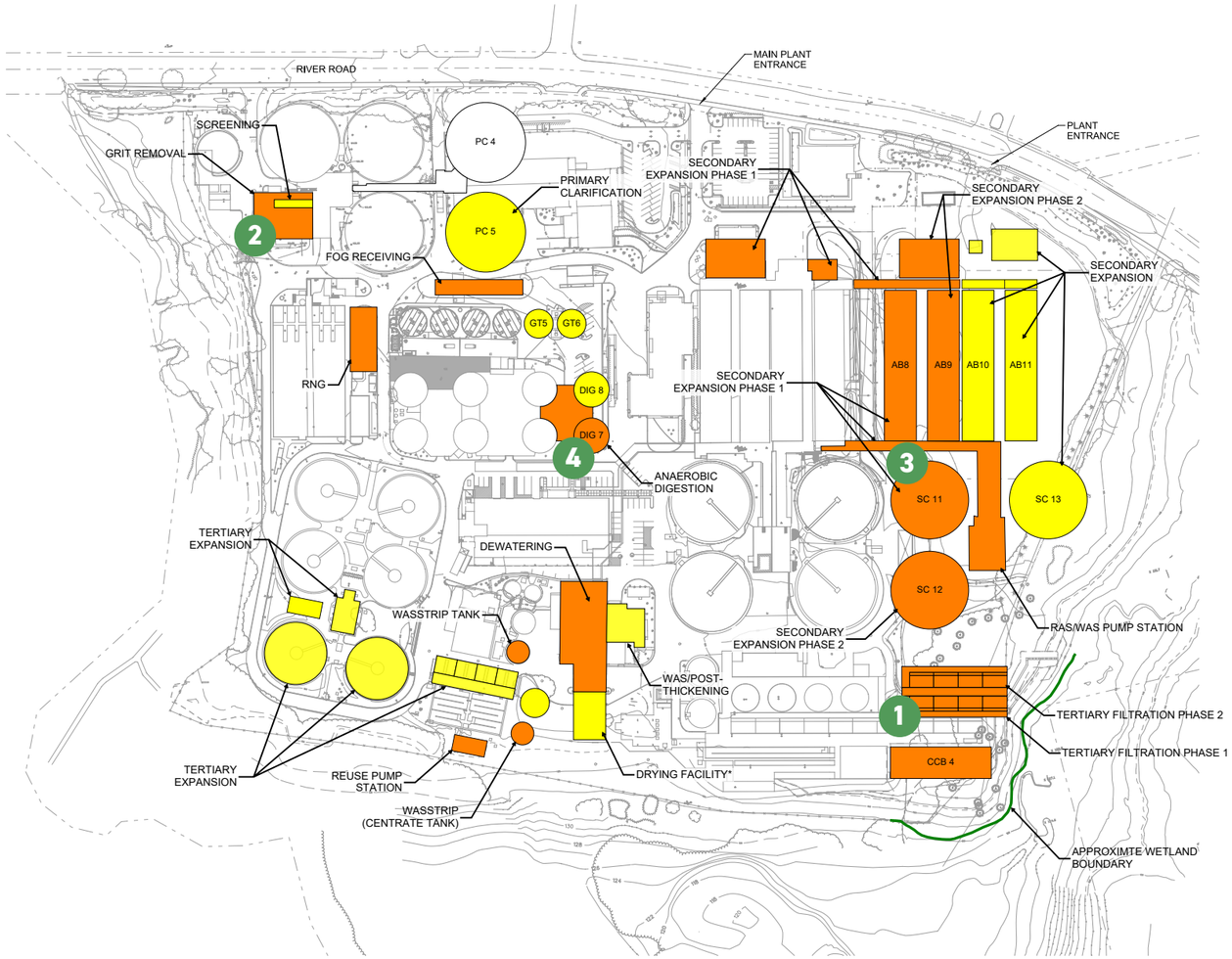
Trigger Date: 2029
Estimated Project Cost: $50 million

Driven by TSS and phosphorous limits, the Phase 1 Tertiary Filter Expansion Project will include up to four new granular media filters (GMF) constructed as part of the existing East filter complex. Support facilities including backwash facilities will also be included. The number of GMFs will be determined based on pilot testing and constructability review during preliminary design.

2 Grit Removal Improvements

Trigger Date: 2029
Estimated Project Cost: $4 million

The existing grit removal system, which removes grit from primary sludge settled in the primary clarifiers, is nearing the end of its service life and lacks redundancy under peak conditions. Several alternatives were evaluated to improve system capacity, reliability, and performance. During preliminary design, the District will perform testing to compare a conventional grit removal with an innovative process that produces a cleaner, dryer grit project, which has the potential to reduce the cost of grit disposal.



3 Secondary Expansion Phase 1

Trigger Date: 2032
Estimated Project Cost: $80 million

Expansion of the current secondary (activated sludge) process is expected to be needed between 2032 and 2036. Space for building a new aeration basin and secondary clarifier is provided on the east side of the WRRF site. In addition to multiple secondary support facilities (e.g., primary sludge pumping, return activated sludge/waste activated sludge, aeration blowers), the District will evaluate intensification to increase the capacity per unit volume gained by the expansion.

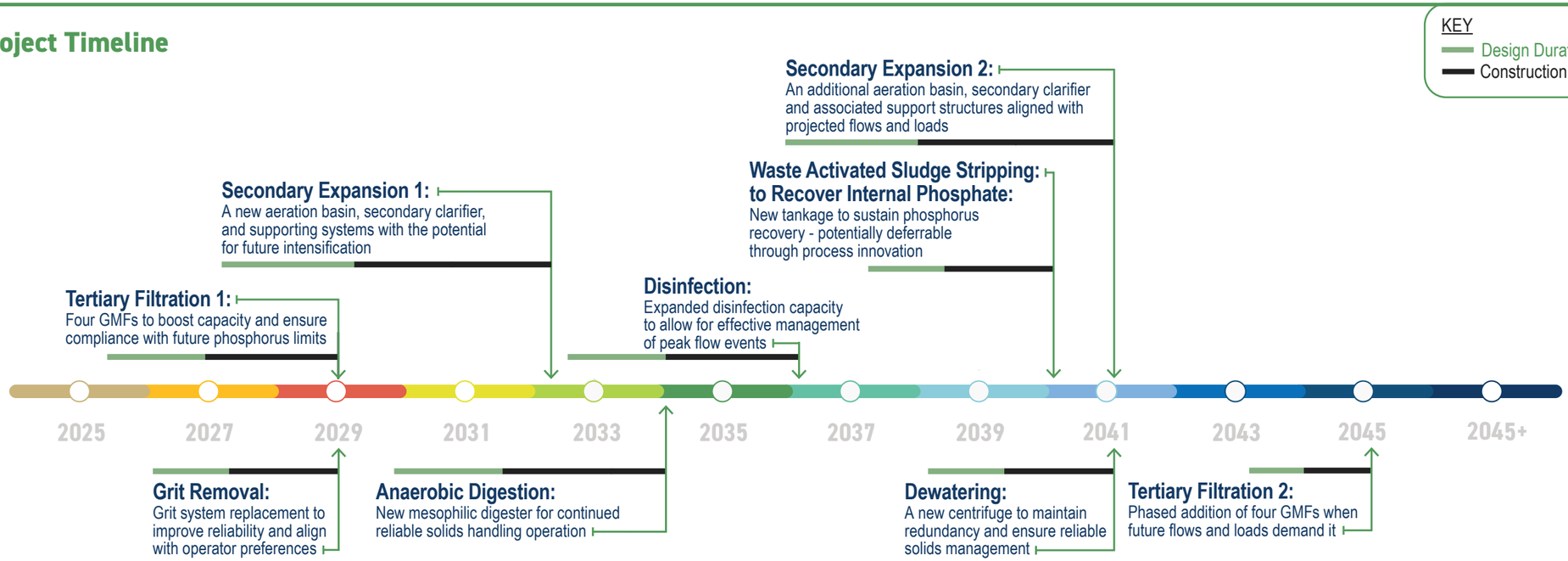
4 Digester Improvements

Trigger Date: 2034
Estimated Project Cost: $40 million

The existing digestion system at Rock Creek will reach its reliable capacity to treat solids under maximum loading conditions within the planning period. The recommended alternative expands the current, proven mesophilic digestion process. The recommended alternative also maintains space on the site for future improvements that dry biosolids to achieve a Class A product to reduce hauling costs and/or as one step in a process to destroy PFAS, if needed.

Rock Creek WRRF Project Timeline

The figure at right shows the expected CIP for improvements at the Rock Creek WRRF with a trigger year within the planning period. The figure shows the expected duration of each project, including design and construction. As shown, multiple, overlapping projects will likely be needed over the next decade.



HILLSBORO WRRF IMPROVEMENTS

Hillsboro WRRF Projects

The Hillsboro WRRF will continue to play a critical function in the West Basin, providing wet weather treatment capacity and helping to distribute flows and loads from the Hillsboro service area to other treatment facilities during the regulatory dry weather season. Although no expansion projects are identified during the planning period, the planning team identified important improvements to the headworks as well as other improvements to address the reliable performance of preliminary treatment and ultraviolet (UV) disinfection systems, with total estimated CIP project costs ranging from $14 million to $60 million.

The estimated timeline of each improvement identified within the planning period is shown in the figure on pages 21 and 22. A key project that will be triggered in the relative near-term is described below.

1 Headworks Improvements

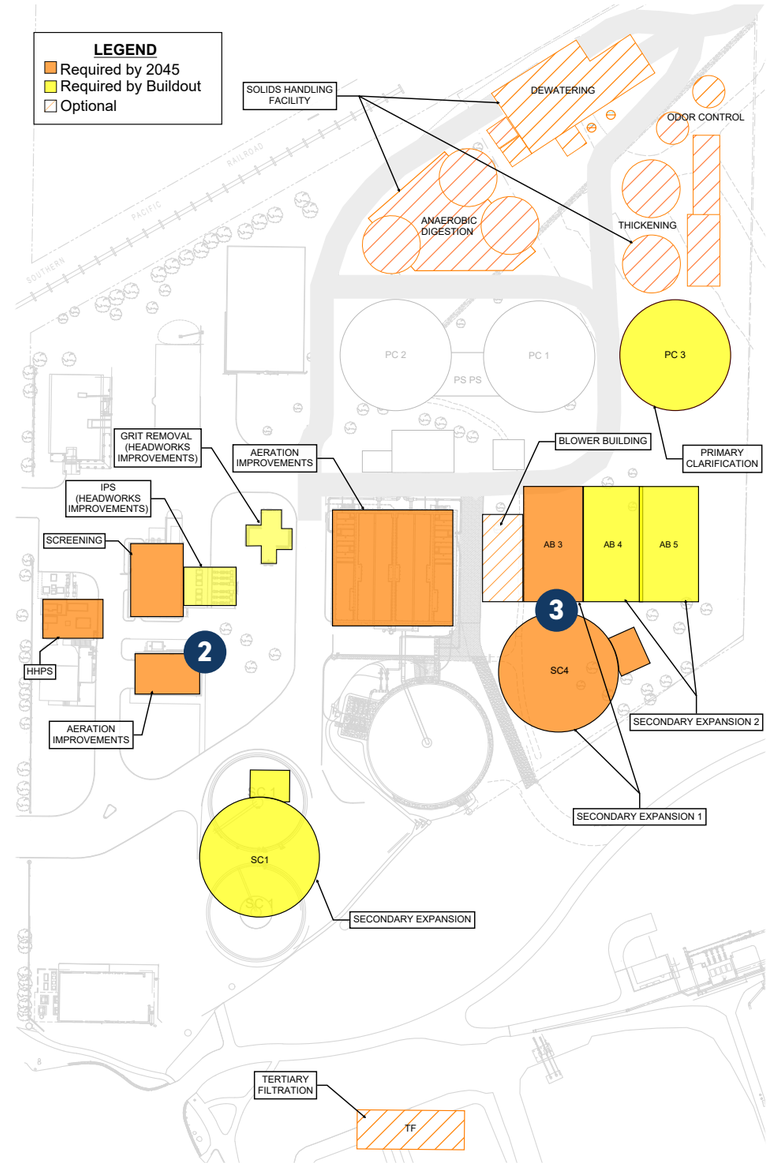
Trigger Date: 2025+
Estimated Project Cost: $4 million to $40 million

Improvements to the existing headworks at Hillsboro are needed to address equipment reliability and working conditions within the building. The planning team considered two alternatives – more modest improvements to the existing structure, or construction of a new facility. Accordingly, the CIP includes a range of costs. As this project moves forward, the District will select the preferred set of improvements to meet CIP constraints and performance goals.

FOREST GROVE WRRF IMPROVEMENTS

Forest Grove WRRF Projects

Due to its location in the West Basin regional system and available space at the site, the Forest Grove WRRF will see more significant expansion over the planning period. Key improvements at Forest Grove, totaling over $57 million in estimated project costs, will address secondary capacity due to service area growth and to treat flows and loads that will be rerouted from Hillsboro.



The estimated timeline of each improvement identified within the planning period is shown in the figure at the bottom of the page. Key projects that will be triggered in the relative near term are described below.

2 Aeration Improvements

Trigger Date: 2029
Estimated Project Cost: $10 million

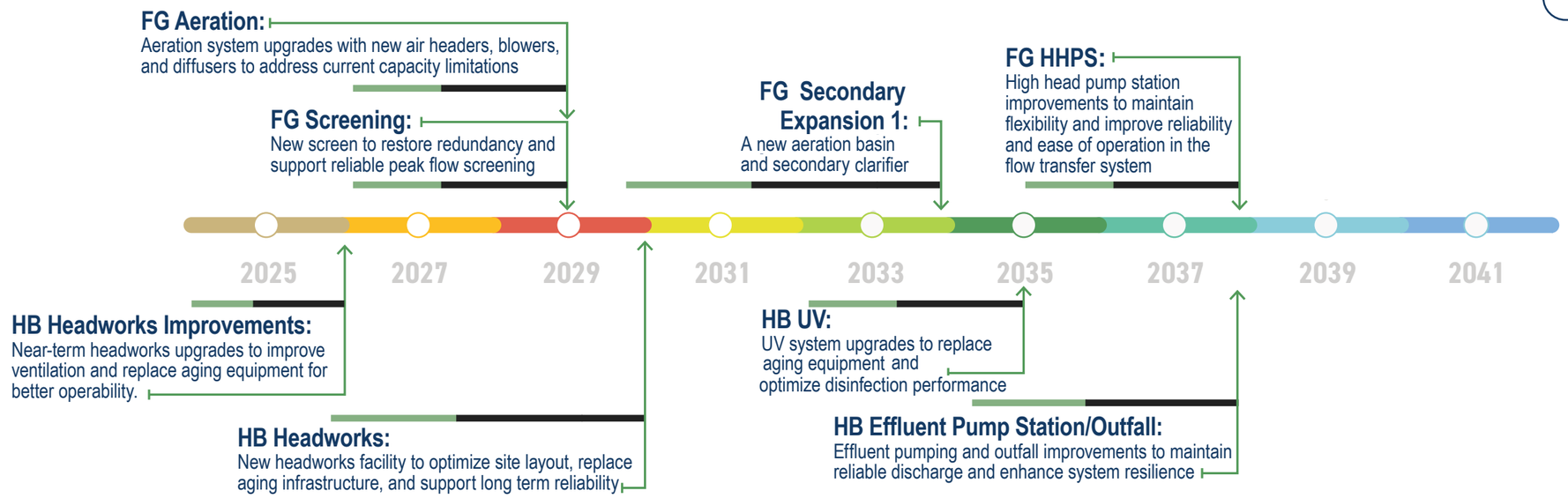
Improvements to the existing Forest Grove aeration system are needed to increase treatment capacity, efficiency, and reliability of assets. The project will include new high efficiency blowers to supply air to the secondary process, new aeration piping and diffusers in the existing aeration basins, and automated controls.

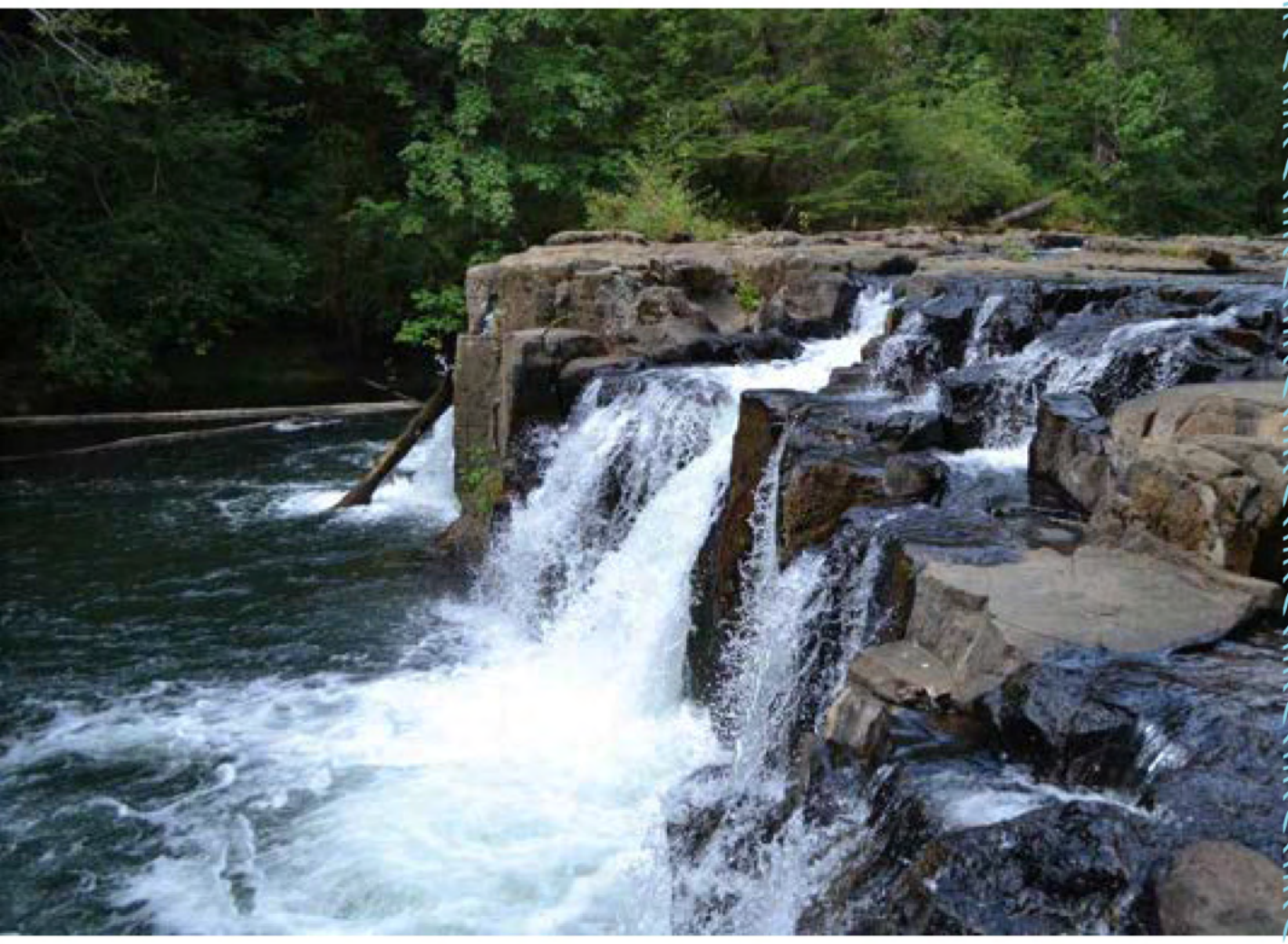
3 Secondary Expansion Phase 1

Trigger Date: 2034
Estimated Project Cost: $30 million

Following aeration system improvements, the secondary process will require expansion to accommodate growth. A new aeration basin and secondary clarifier are required within the planning period. There is space for an additional primary clarifier and secondary expansion to meet buildout flows and loads, while leaving room to the north of the site for a potential future regional solids treatment facility.

Forest Grove & Hillsboro WRRF Project Timeline





Clean Water Services

Buildings Update: RIPL, Central, and Springer

DISCUSSION PAPER

Occupied Building Projects Status Update

This is an update to the informational report provided to the Budget Committee in May as supplemental information regarding two Clean Water Services (CWS) building projects that are under construction and one project in the planning and design phase.

Introduction

CWS developed an occupied building plan to improve resiliency, accommodate long-term staffing needs, and meet regulatory compliance requirements. This includes the retirement of the Administrative Building Complex (ABC) and the phased construction of RIPL and CWS Central. The Springer facility for Field Operations' day-to-day needs and emergency operations is in the design phase.

The ABC located at the Jackson Bottom Wetlands has significant issues due to age and location, including:

1. Critical laboratory systems that are antiquated and at the end of their useful life.
2. Seismic and flood vulnerabilities for a building that serves as the central administrative functions for both CWS' day-to-day operations and emergency operations.
3. Condition issues require major investment to address the building envelope, mechanical system, and long-standing pest infestation issue.
4. Need for more office space to accommodate employees and facilitate work on premises.

These significant challenges led CWS to plan for the eventual transition to RIPL and CWS Central to support laboratory and administrative staff, respectively.

Project Status Summary

A brief status update for each of the occupied building projects is provided, and additional details are included in the appendices.

The cost estimate levels are also defined to clarify the accuracy for the various project phases. Table 1 provides a summary reference for the cost estimating classification system as applied in engineering, procurement, and construction and developed by the Association for the Advancement of Cost Estimate (AACE).

Table 1: Cost Estimate Classification Matrix

Project Cost Estimate Stages		Project Definition	Expected Range of Accuracy of Project Estimate	
			Low Range	High Range
Level 5	Strategic planning, concept, and feasibility estimate	0 to 10% design	-50%	+100%
Level 4	Preliminary design project estimate	10% to 30% design	-20%	+30%
Level 3	Final design project estimate	100% design	-15%	+20%
Level 2	Construction bid project estimate	Construction award	-10%	+15%
Level 1	Final project close-out	Final project total cost	Project complete	

RIPL PROJECT SUMMARY

The RIPL project will house a new regulatory compliance laboratory, research laboratory, flexible laboratory space, new analysis equipment (inductively coupled plasma mass spectrometry, gas chromatography-mass spectrometry), workspaces, and meeting spaces.

- **Project budget:** $65 million (Level 2 estimate at construction bid phase), including $55.1 million construction contract
- **Current progress:** In construction
- **Complet on and move-in:** January 2027

CWS CENTRAL SUMMARY

The CWS Central project is for tenant improvements to the building at SW Greenbrier Parkway to replace the current ABC. CWS Central meets current and future needs for CWS' administrative functions. The overall project budget is cost-contained with tenant improvements to improve building function, using existing furniture (left by the previous owner and furniture from ABC), and augmenting furniture with offerings (disassemble and move, furniture free) from companies that are downsizing their office spaces.

- **Project budget:** $5.3 million (estimate at architectural design phase)
- **Current progress:**
    - Heating, ventilating, and cooling (HVAC) system confirmed to have remaining useful life with an asset maintenance plan.

    - Old lighting system needs to be upgraded to energy-efficient, modern lighting.
    - Office space needs paint and new carpet in areas that are worn and frayed.
- Tenant renovations are under design and sequenced by the East and West building wings on three floors to facilitate move-in as the renovations are completed by floor.
- Teams currently occupying the building:
    - Facilities Maintenance
    - CEO Office
    - Conveyance Engineering
    - Strategy
    - Finance
- **Final completion and move-in:** Tenant renovation improvements will enable a sequenced and phased staff move-in with full renovation completed by November 2026.

ADMINISTRATIVE BUILDING COMPLEX (ABC) SUMMARY

CWS and City of Hillsboro leadership are in initial discussions regarding the potential for a mutual property transaction. The Board will be briefed by the end of the calendar year on the disposition of the ABC. The last team to move out of the ABC will be Laboratory Operations, planned for January 2027.

SPRINGER PROJECT SUMMARY

The Springer Street Facility Improvements will support the Construction Field Operations and Pump Station Maintenance groups, and CWS emergency operations.

- **Project budget:** $23.6 million (Level 4 estimate at preliminary design phase)
- **Current progress:** 60 percent design
- **Completion and move-in:** December 2028

PRIOR BOARD UPDATES

- Board work session: April 6, 2023

APPENDIX 1
RIPL PROJECT

The RIPL project has progressed through final design and public construction bidding; construction commenced in Fiscal Year 2024-25. The upgraded facility will support regulatory and research laboratories, laboratory support systems, offices, and training rooms.

A Level 4 project cost (-20 to +30%) was presented to the Board in April 2023 at $47 million. Since 2023, several project modifications have increased the project cost, including:

- Enhancing the mechanical HVAC system to better support laboratory functions and the converted office space.
- Reconfiguring the transformer and automatic transfer switching to improve electrical redundancy.
- Replacing exterior windows after water intrusion was discovered during demolition.
- Allocating space for future flexible laboratory use.
- Fully renovating the second floor versus phasing of the improvements, which reduced overall project costs and future disruption to staff occupying the building.

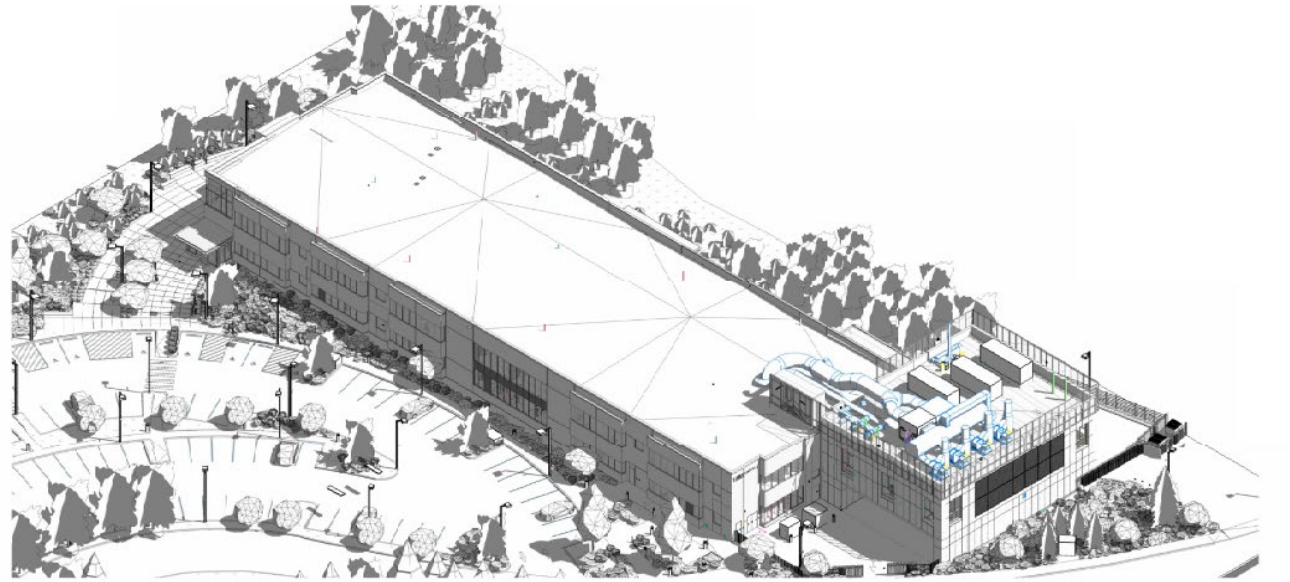
Value engineering was conducted at major design milestones and resulted in an estimated savings of approximately $5 million. Example of design changes that reduced the project cost include:

- Removed 10,000 square-foot entry lobby addition to existing building footprint ~$1.3 million
- Removed exterior architectural elements and passive shading elements ~$500,000
- Removed structural steel and seismic improvements for existing building by locating heavy mechanical equipment in new fully seismically resilient north addition ~$1.5 million
- Removed finished carpentry for built-in casework, displays, benching, and public interest elements ~$200,000
- HVAC ductwork routing on roof vs. interior ~$100,000
- Exterior landscaping simplification, reuse of existing southeast parking lot area, and south pavilion interconnection to Fern Hill North improvements ~ $1.4 million

The final design includes the complete renovation of the 62,300-square-foot building and a fully seismic resilience class IV 15,919-square-foot north expansion to accommodate laboratory sample receiving logistics and second-floor mechanical systems consisting of exhaust systems, chillers, boilers, humidification, and other HVAC support equipment. The total facility size will be 78,219 square feet.

The Level 2 construction estimate (-10 to +15%) for the final design was approximately $49 million, and the lowest bid was approximately $54 million. This equates to an overall improvement cost of approximately $700 per square foot. Substantial project completion is anticipated by September 2026, with full operational transfer of laboratory functions expected by January 2027. Continued valued engineering to reduce costs for laboratory equipment and furnishing allowances during the construction submittal phase is ongoing. The use of recycled furniture being offered in Washington County will be evaluated.

RIPL: Overall 3D View

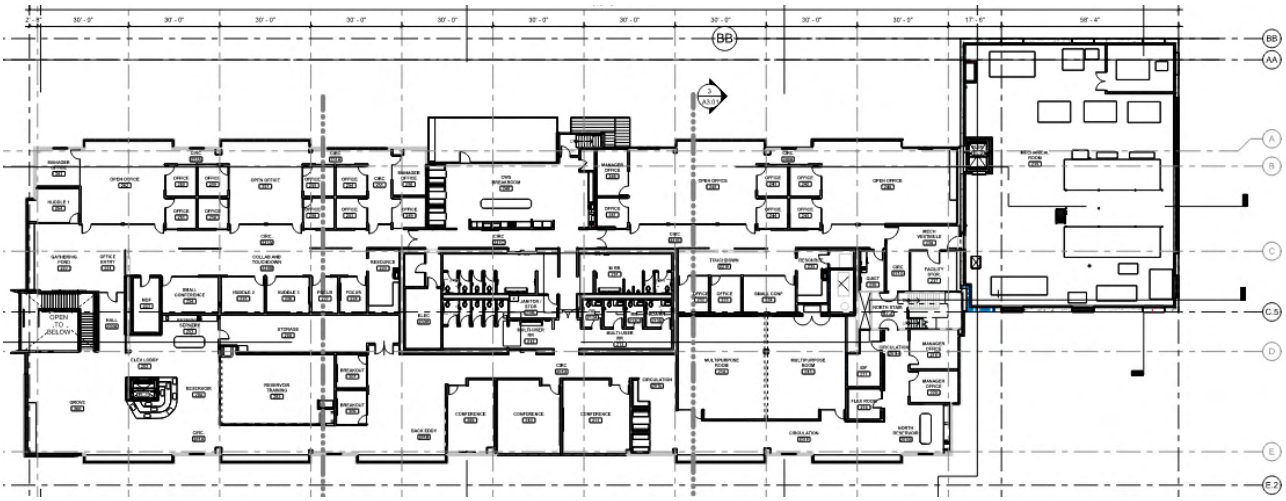


RIPL: North View of Logistics and 2nd Floor Mechanical

RIPL: Main Entry View

RIPL: First Floor

RIPL: Second Floor

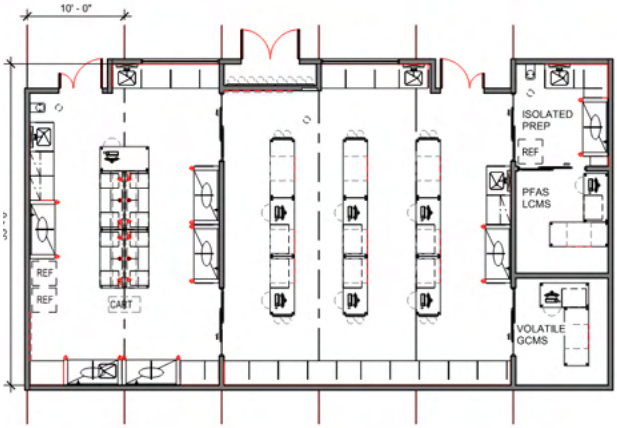


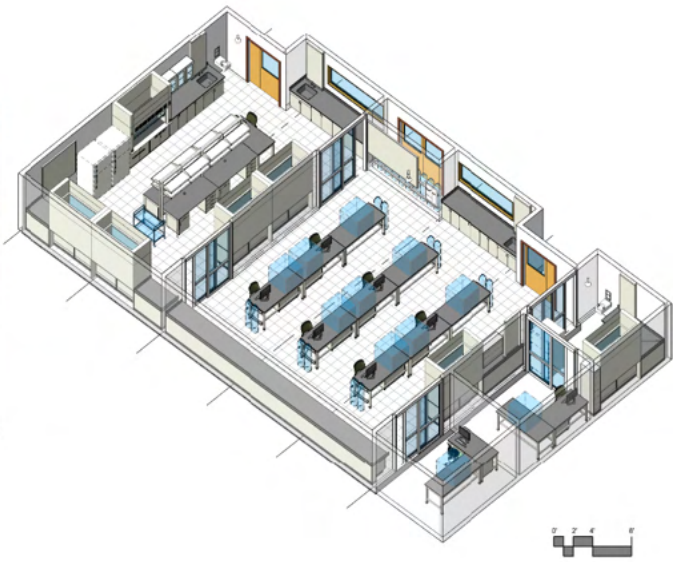
RIPL: Detailed Organic Analysis Plan

DETAILED SPACE REQUIREMENTS

MARCH 30, 2021

CATEGORY: SAMPLE ANALYSIS
SPACE ID: SA-2
SPACE NAME: ORGANIC ANALYSIS
AREA: 1,980 NSF





Innovation Center Laboratory Project
Scott | Edwards Architecture

Clean Water Services
Research Facilities Design

APPENDIX 2
CWS Central

Purchased in early 2024, the CWS Central building is an 83,000-square-foot, three-story office building that will serve as CWS' new main office. It was built in 1999. The building was well-built and maintained. Preliminary concept planning was completed in late October; subsequent value engineering to align costs focused on minor tenant improvements (TI) for each floor, with phased implementation to accelerate move-in occupancy. Currently, the project is in design. The cost estimate is based on a standard to minimal tenant improvement range of $40 - $80 per square foot, with a resulting budget of $5.3 million.

While the building's mechanical, electrical, and plumbing systems are original equipment, a detailed condition assessment conducted during the design phase has determined that with proper preventive maintenance, the lifespan of these systems can be extended, allowing for the deferral of significant HVAC replacement costs. The tenant improvement will be sequenced in the following order:

- **TI #1** – First floor west
- **TI #2** – Second floor east
- **TI #3** – Third floor
- **TI #4** – First floor east
- **TI #5** – Second floor west

APPENDIX 3
SPRINGER PROJECT

CWS has an existing Material Handling Yard with a warehouse and attached small office area located at 3395 NE Springer Road. The conceptual planning work presented to the Board in April 2023 outlined key improvements to the Springer Facility Campus to support employee workspaces, construction equipment maintenance and storage, project staging, material handling, and emergency field operations. The conceptual Level 5 cost estimate was $14 million (-50 to +100%).

The project includes the construction of a new, seismically resilient 15,800-square-foot building designed to accommodate the current Construction Field Operations staff while allowing for future growth and emergency response capabilities. Additional site improvements will enhance the existing 8,500-square-foot warehouse to support construction equipment maintenance and storage. Plans also include new covered vehicle outbuildings and upgraded site security measures to ensure operational resilience.

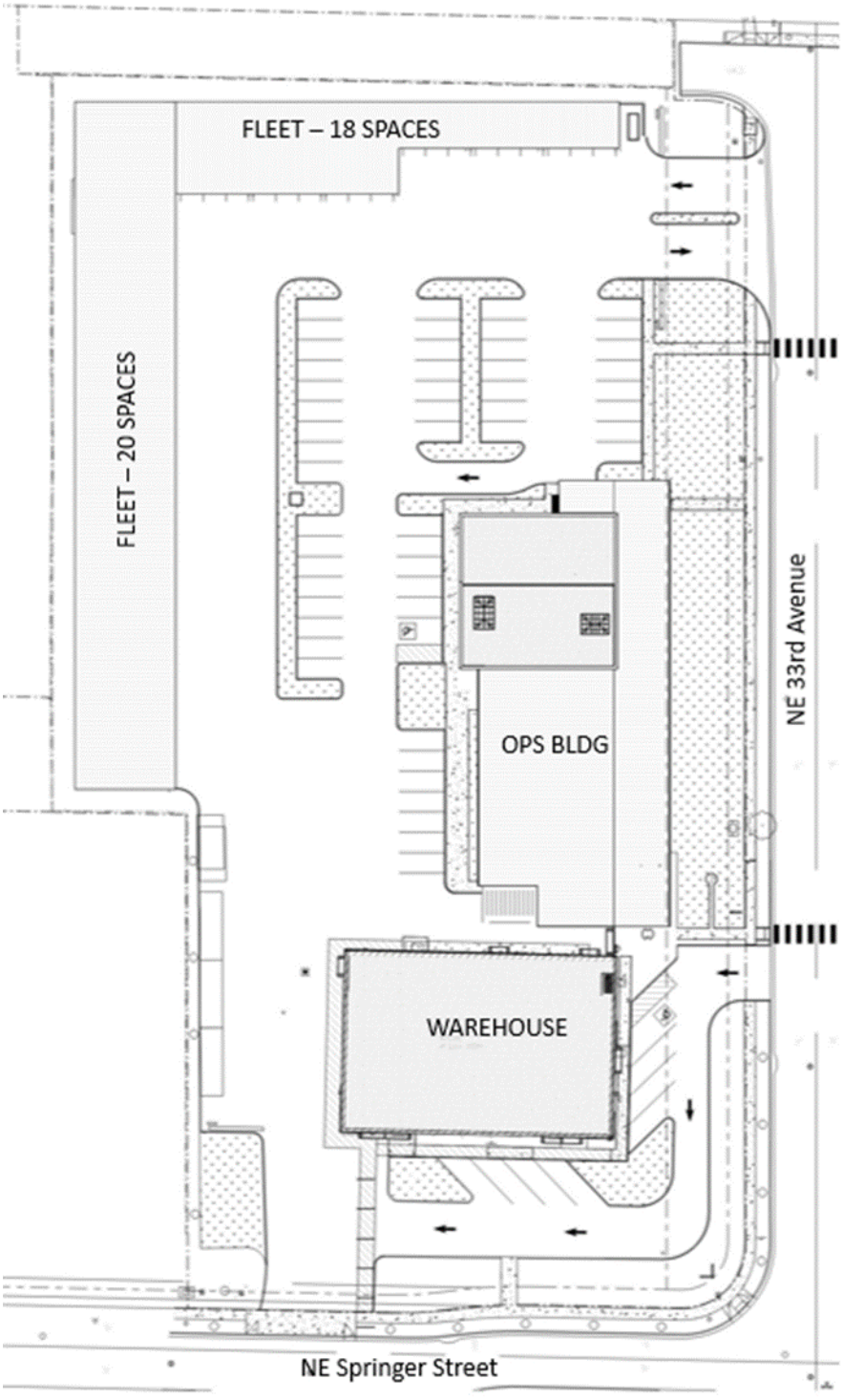
The early design development process has refined project elements that have caused changes in project cost from the conceptual estimate, including:

- Review of CWS planned user group functionalities and programming increased the size of the new Operations Building from 6,500 square feet to 15,800 square feet.
- Support of emergency field operations with seismic resilience class IV new structures, seismic improvements to the existing warehouse, backup power generator, and solar.

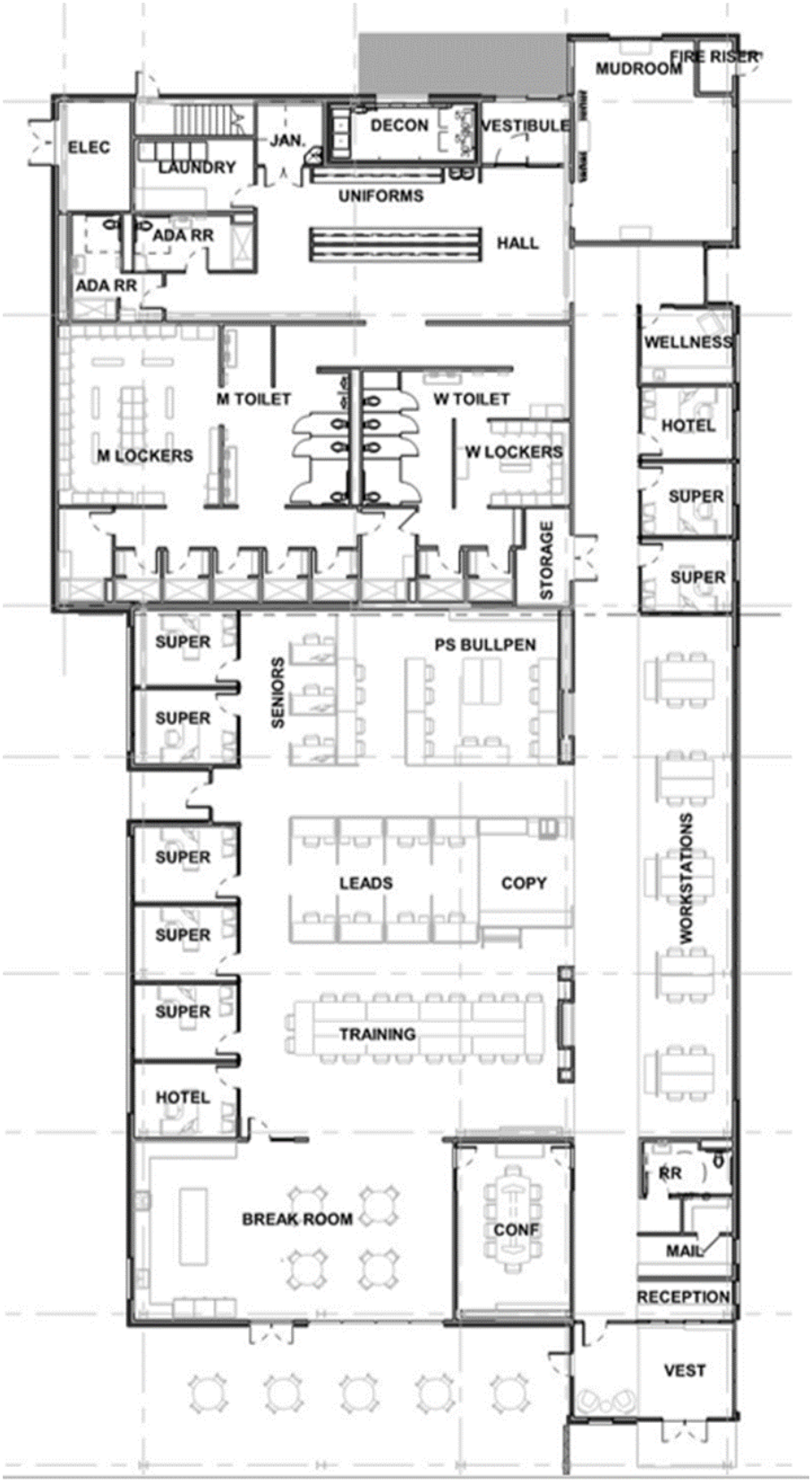
A value engineering review was completed to reduce the overall project cost. Key elements that were implemented include simplifying architectural elements including exterior modifications to the entry and roof lines, and interior modifications to the ceiling and acoustical structure. The HVAC system complexity was also reduced. A value engineering study will be conducted as the design progresses to the 75% completion level.

The Springer Street Facility project reached the 60 percent design deliverable in June 2025. CWS will ask the Board to approve an amendment to the contract for architectural services on July 22. Construction is anticipated to be sequenced for June 2027 upon Board approval. The total project cost (Level 4 estimate) is $25.2 million.

Springer Street Facility: Site Plan – Northwest corner of NE Springer Street and NE 33rd Avenue



Springer Street Facility: Operations Building Floor Plan



Springer Street Facility: Rendering (looking Northwest from NE 33rd Street) showing existing warehouse building on left, new operations building on right, new covered fleet parking in background.

RIPL, Central, Springer Project Updates

Rick Shanley, Acting Chief Executive Officer/General Manager

Karen Bill, Treatment Plant Services Engineering Division Manager

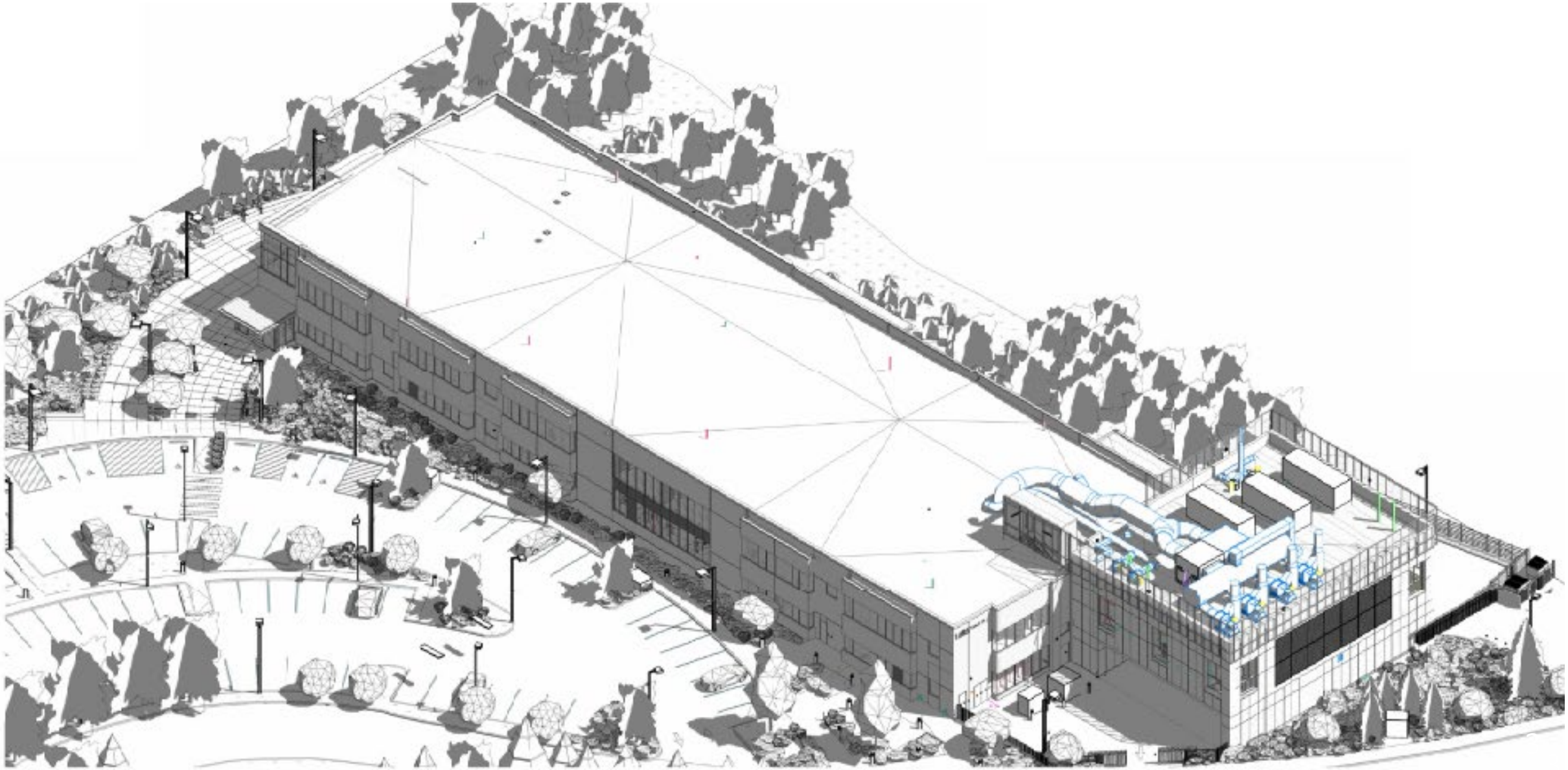
Karen Chichetu, Laboratory Manager

Presentation Overview

- RIPL project construction update
- Central project design update
- Springer project update

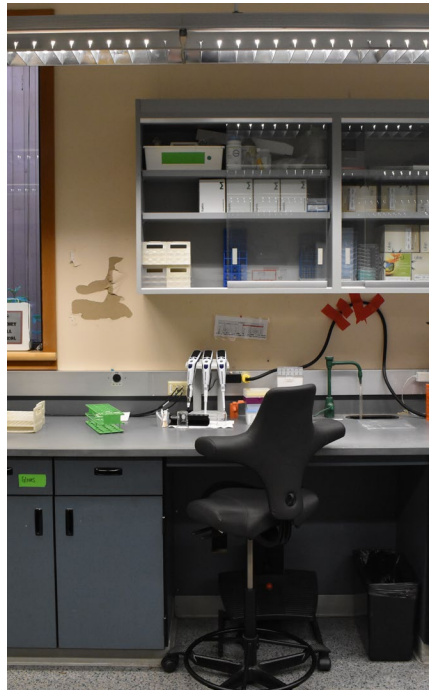
- Previous discussion
  - Board work session: April 6, 2023

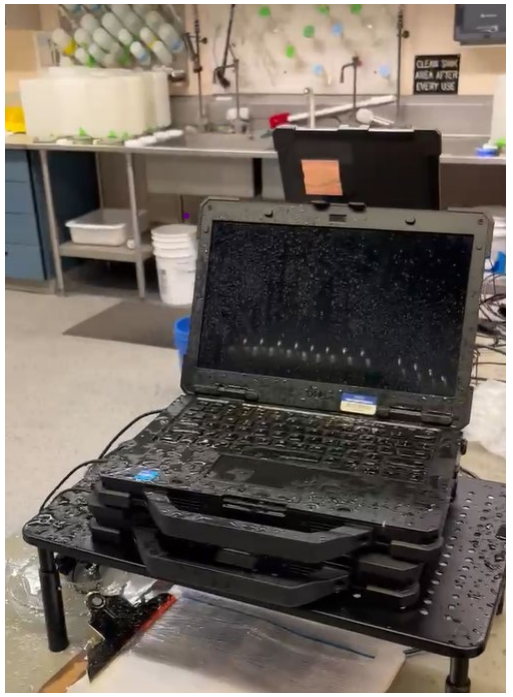
RIPL



Why RIPL

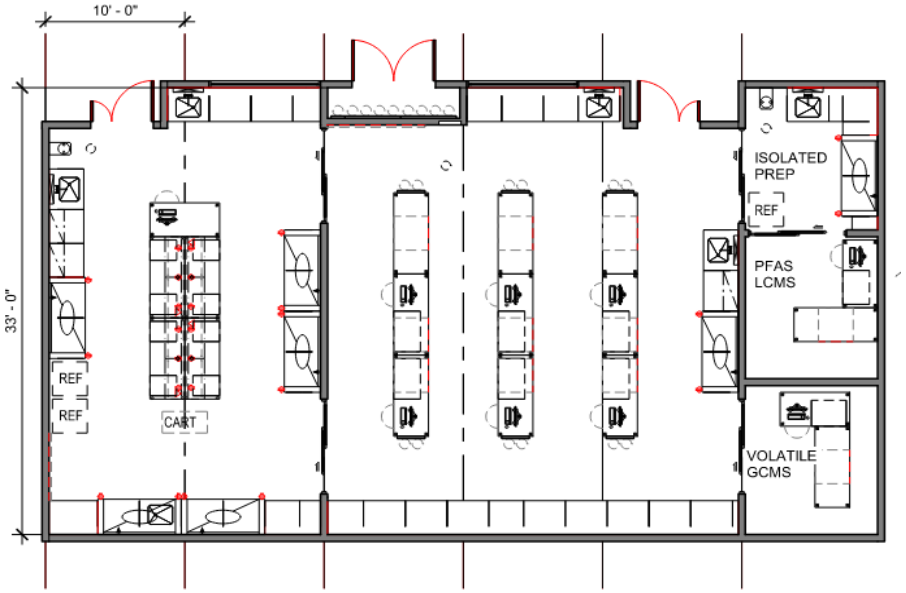
- Aging infrastructure
  - Lab building at ABC is 30 years old
- System failures
  - Hoods; uninterruptible power supply; heating, ventilation, air conditioning (HVAC); corroded ductwork; impact ability to do work
- Analytical demands
  - Demands on the lab continue to grow
  - Overcrowding (space and utilities)
- Security
  - Improved security measures for sample drop off, chain of custody of samples – not possible at current location

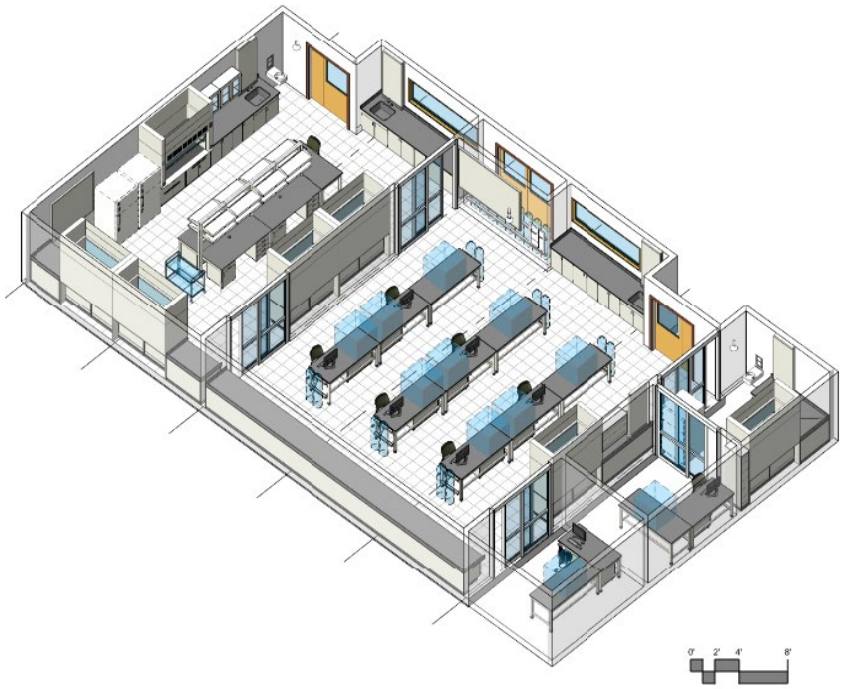




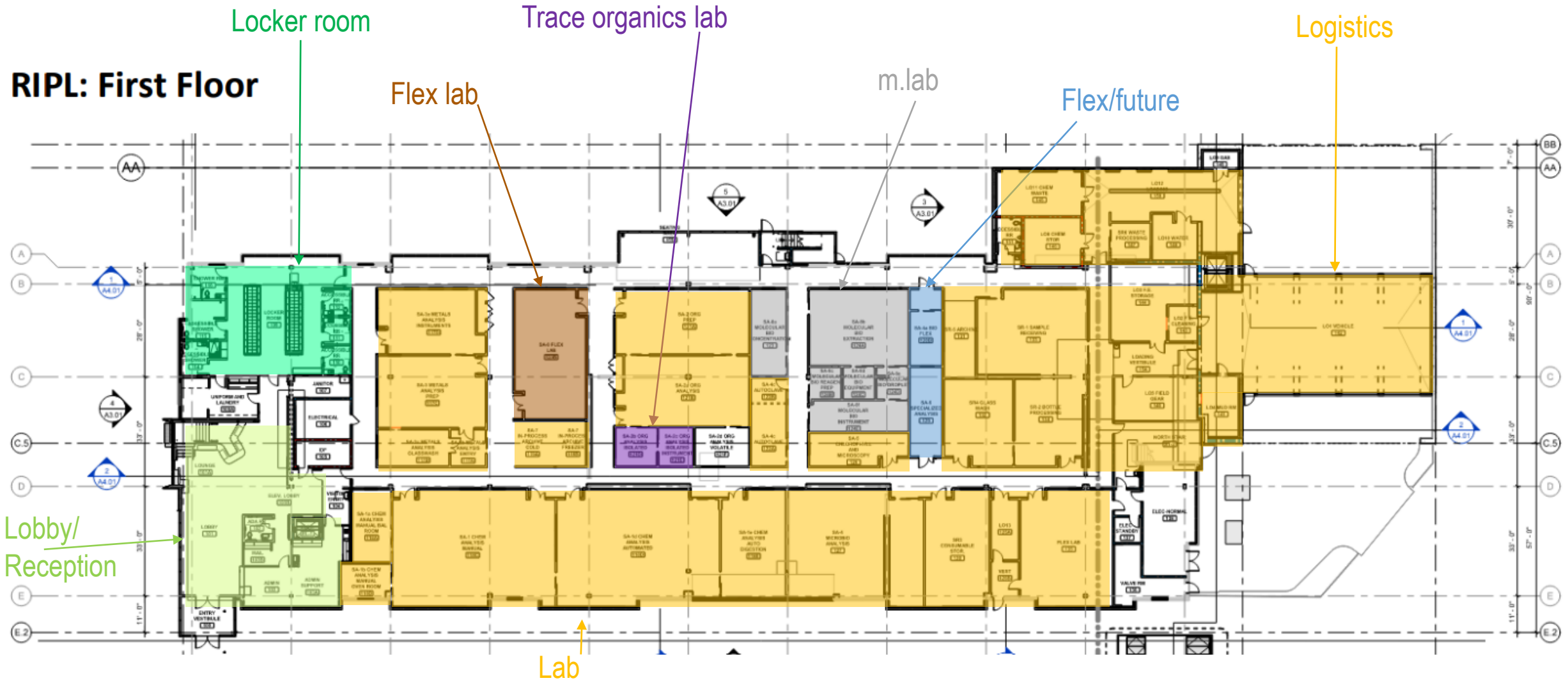
Why RIPL

- Lab analysis testing cost comparison
  - Laboratory Services budget
    - Personnel costs: $4 million
    - Operational costs: $1 million
    - Total in-house cost: $5 million
  - External contracting
    - Standard turnaround time: $ 3.7 million
    - Service fees for faster turnaround: $2-$3 million
    - Total external cost: $5.7- $6.7 million
- Economies of scale of having folks together
  - Logistics and support
  - Home base for Molecular, Environmental, and Watershed modeling teams



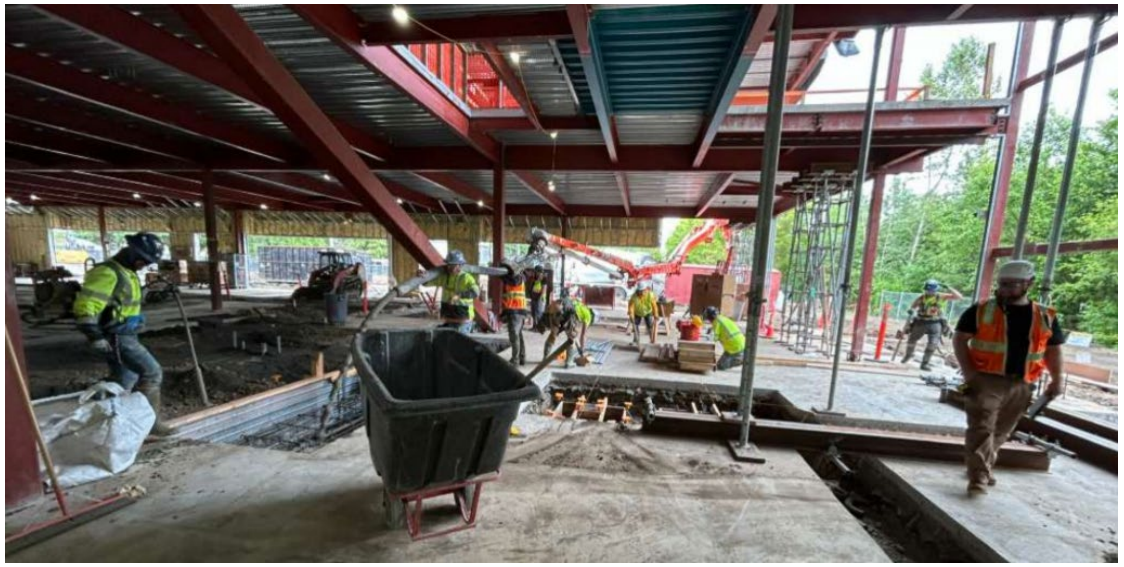


Innovation Integrated Within Water Quality Lab



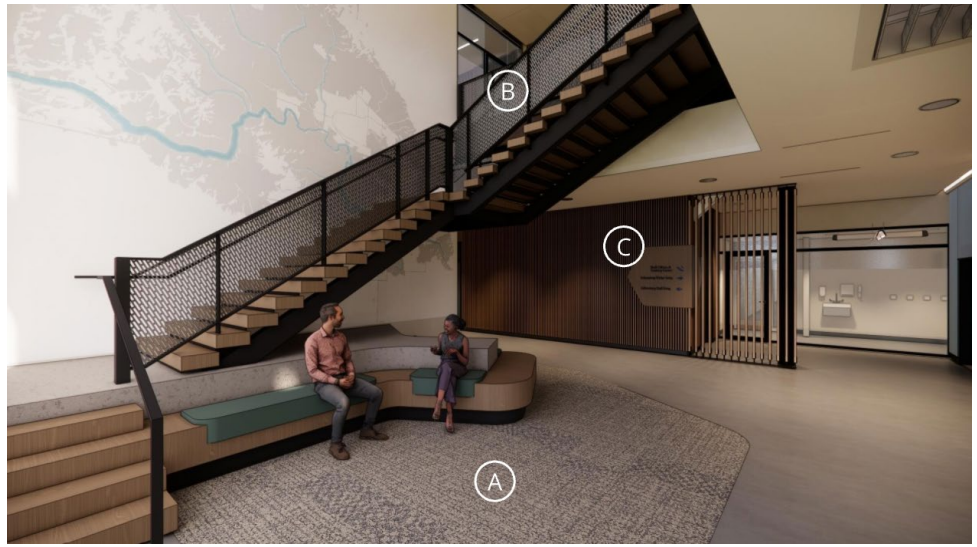
RIPL

- Construction focus
  - North building addition for mechanical equipment
  - Structural footing and foundations
  - Under slab utilities
  - Electrical service feeds from Forest Grove Light & Power
  - North retaining wall for foundation
  - Laboratory utilities



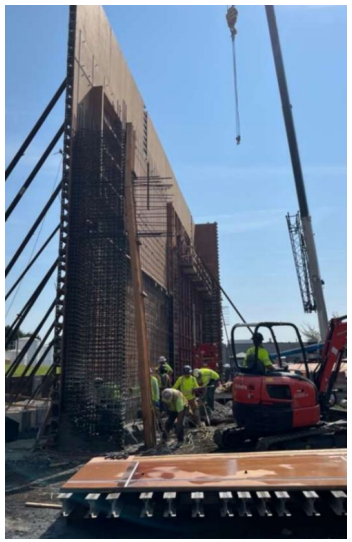
RIPL: Additional Considerations

- Ongoing value engineering
  - Phasing lab equipment purchases
  - Evaluating furniture package
  - Branding, storytelling, wayfinding
- Revisit branding

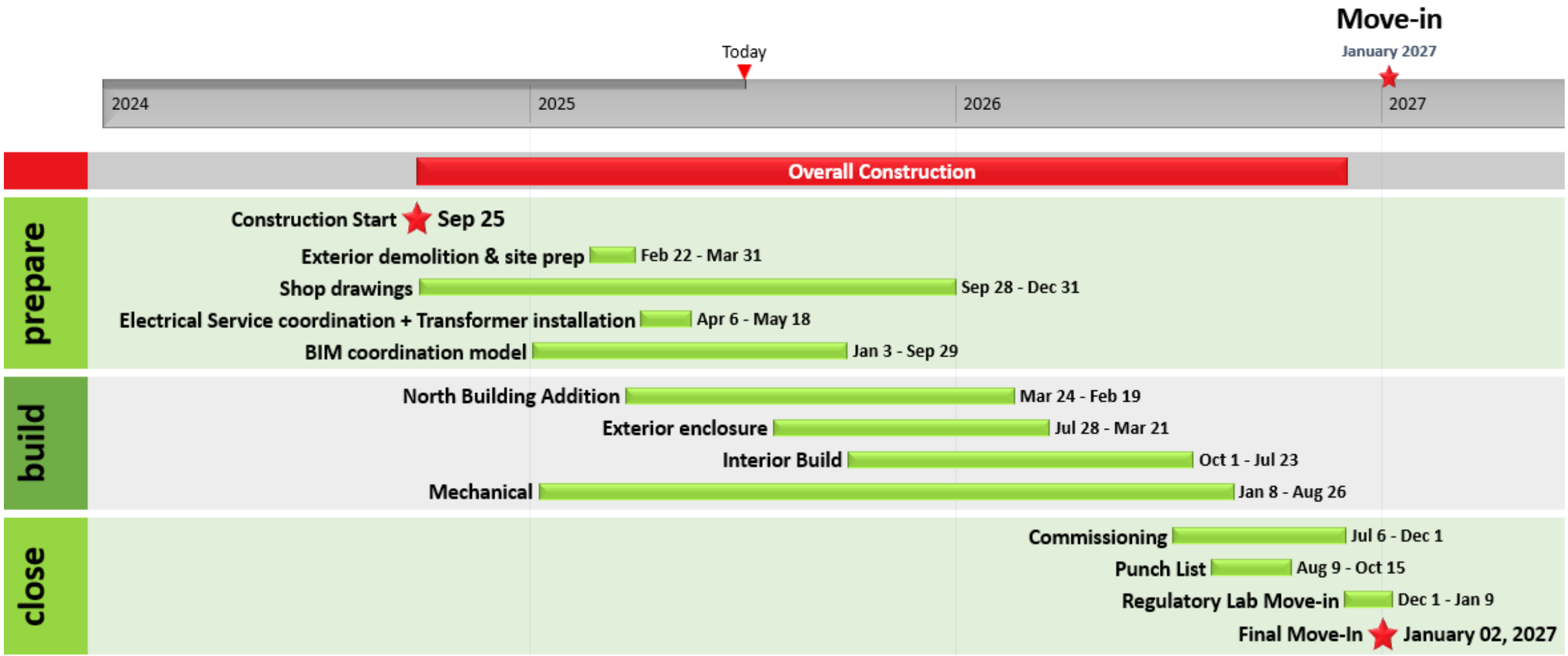


RIPL

- Project update
  - Total project cost: $65 million
    - Includes $55,094,502 construction contract
  - Substantial completion: September 2026
  - Final completion: November 2026
  - Final CWS move-in: January 2027



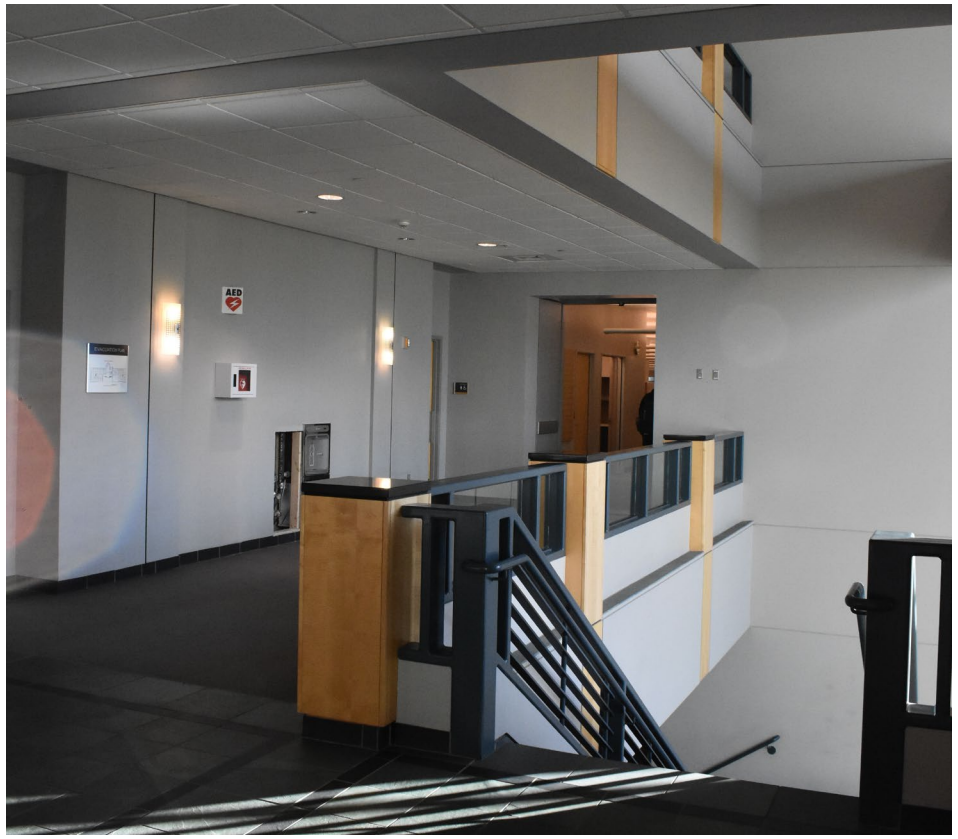
RIPL: Project Schedule



CENTRAL

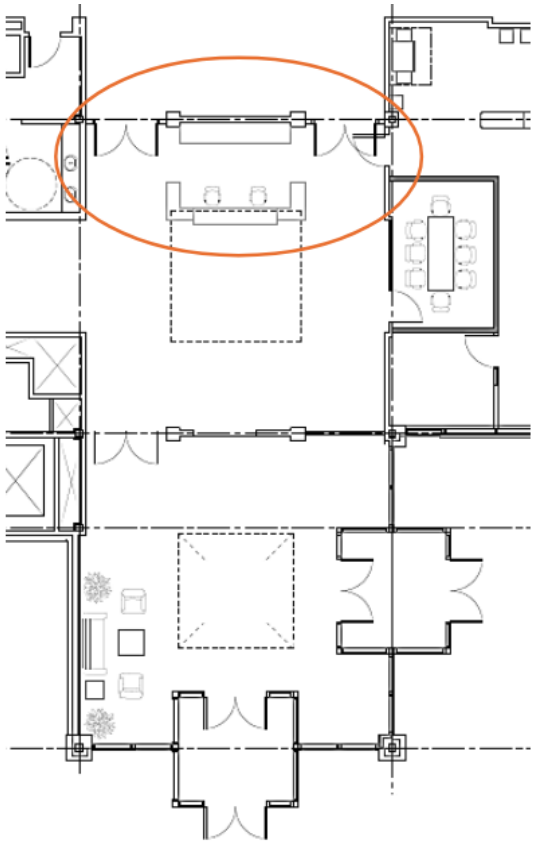
Central

- Tenant improvements
  - 30% schematic design complete
  - Construction cost estimate: $6.7 million
  - Implementing value engineering to meet Capital Improvement Program budget of $5.3 million
  - Project phasing



Central: Value Engineering

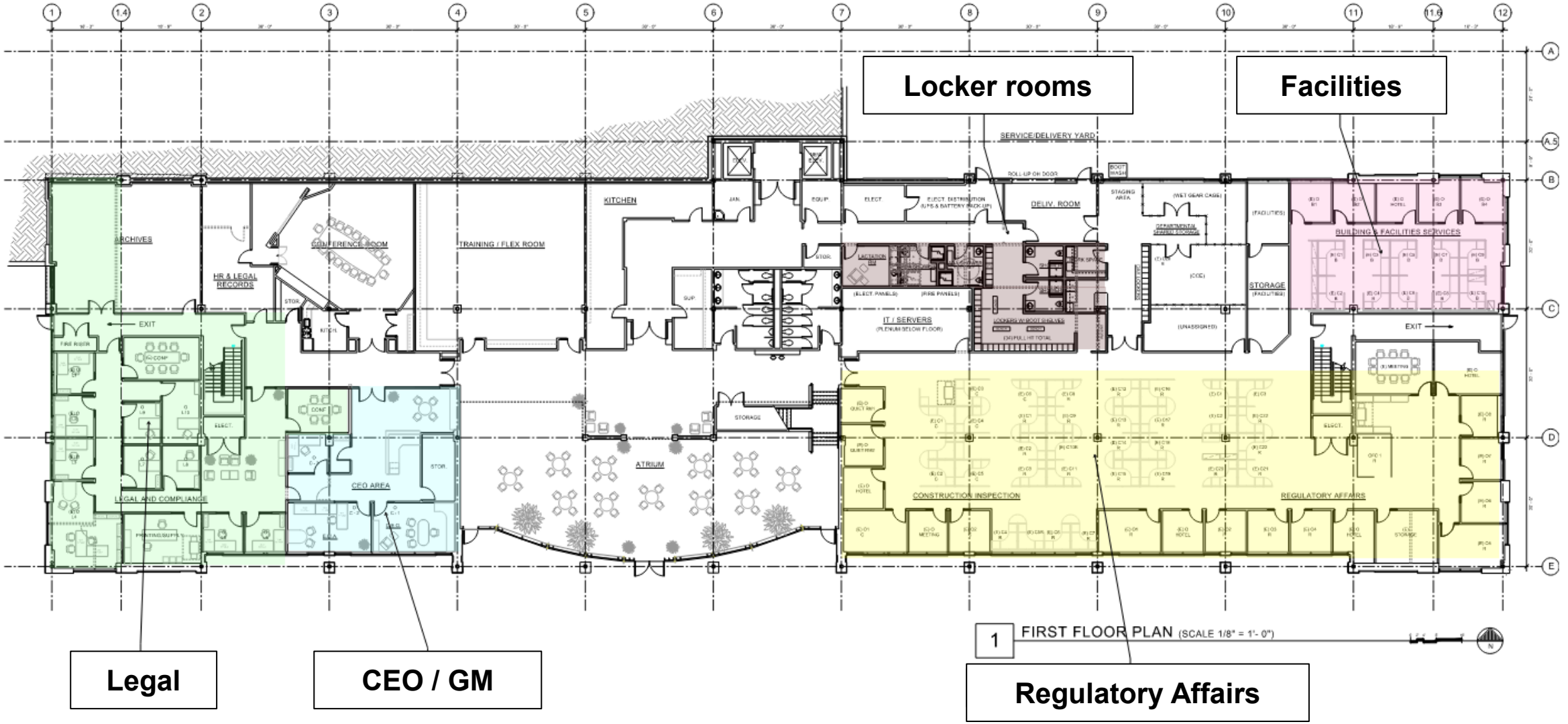
- Removed the additional elevator
- Removed upgrades to locker rooms on first floor
- Simplified plan for public meeting space on second floor
- Limited HVAC improvements
- Reduced lobby modifications
- Targeted acoustical improvements
- Reduced mechanical and plumbing changes for washrooms
- Limiting new furniture by repurposing, relocating existing furniture



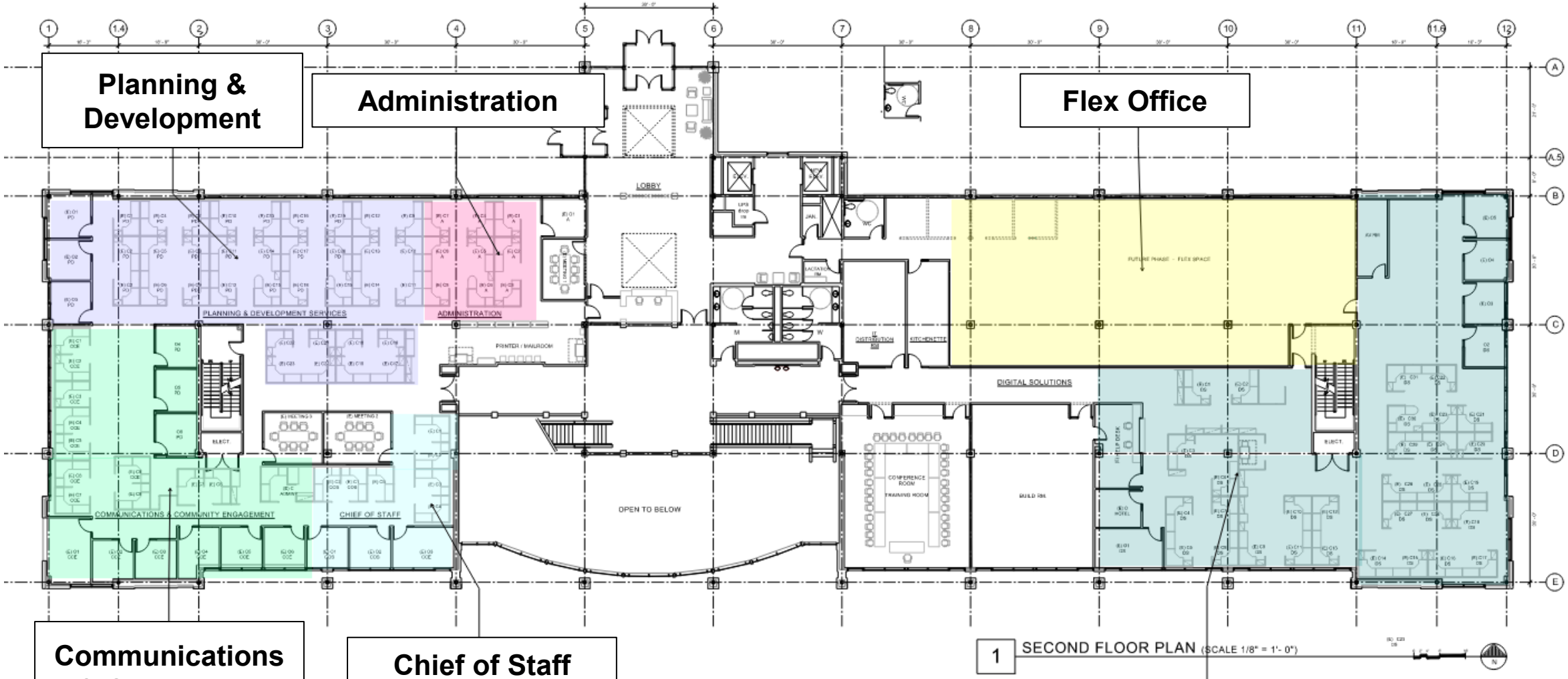
CWS – CENTRAL LOBBY
Idea 2 - view b 6.11.25

RESOLVE
ARCHITECTURE + PLANNING

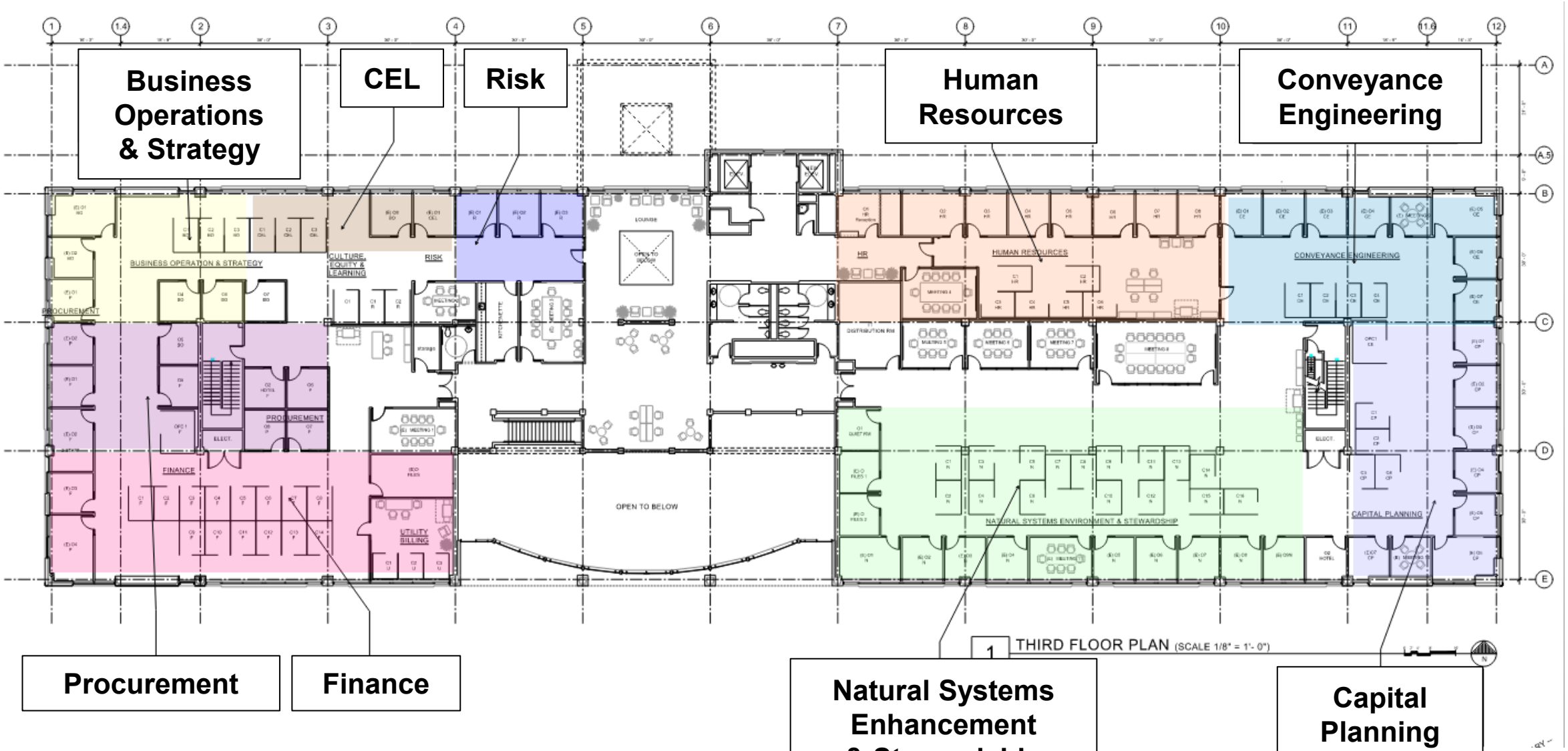
Central: First Floor



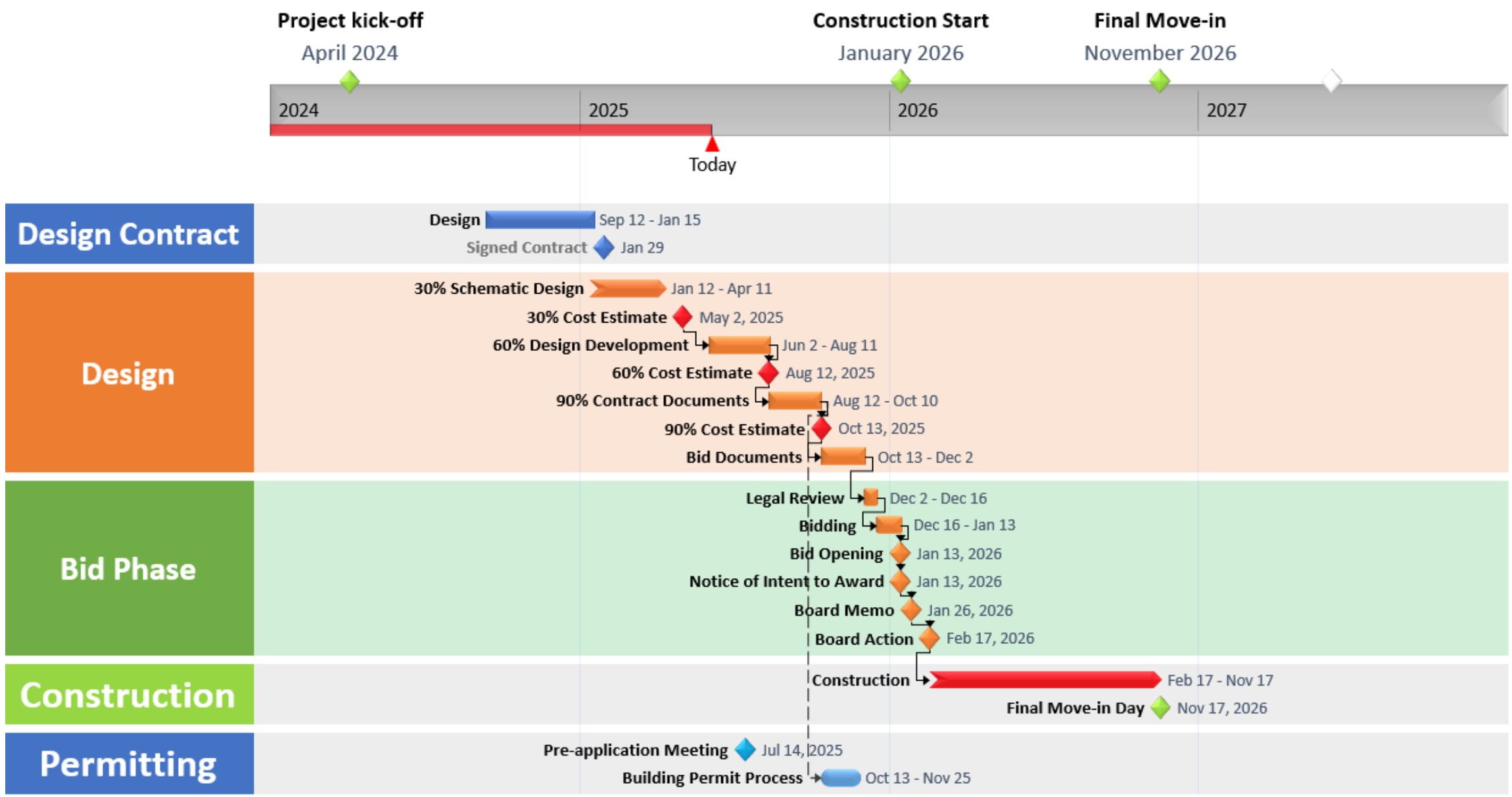
Central: Second Floor



Central: Third Floor



Central: Project Schedule



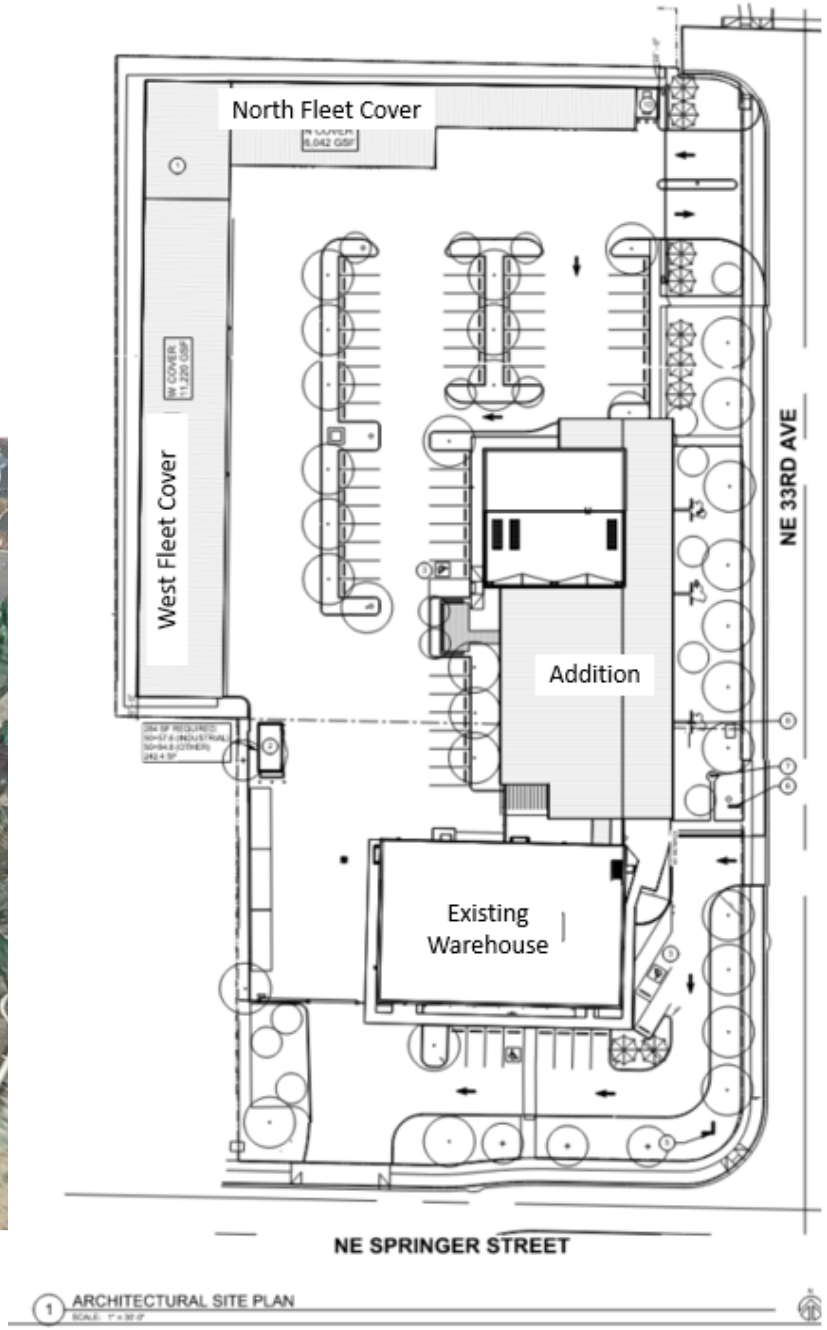
SPRINGER

Why Springer

- Support Construction Field Operations and Pump Station maintenance groups
- Establish location for CWS emergency operations

Springer

- 60% detailed design completed



Kennedy Jenks · Holmes Structures · Interface Engineering · Urban Lens Planning · mwa architects · Acoustic Design Studio · Juncus Studio · ACC Cost Consultants

Springer

- Simplified exterior roofline and interior ceiling

Springer

- Refined interior floor plan

OPERATIONS BUILDING

Operations Building: ~16,000sf
- 65 crew area seats
- 9 private offices

Warehouse: ~10,000sf
- Exterior modifications/thermal envelope/seismic
- Restroom, data, and compressor only

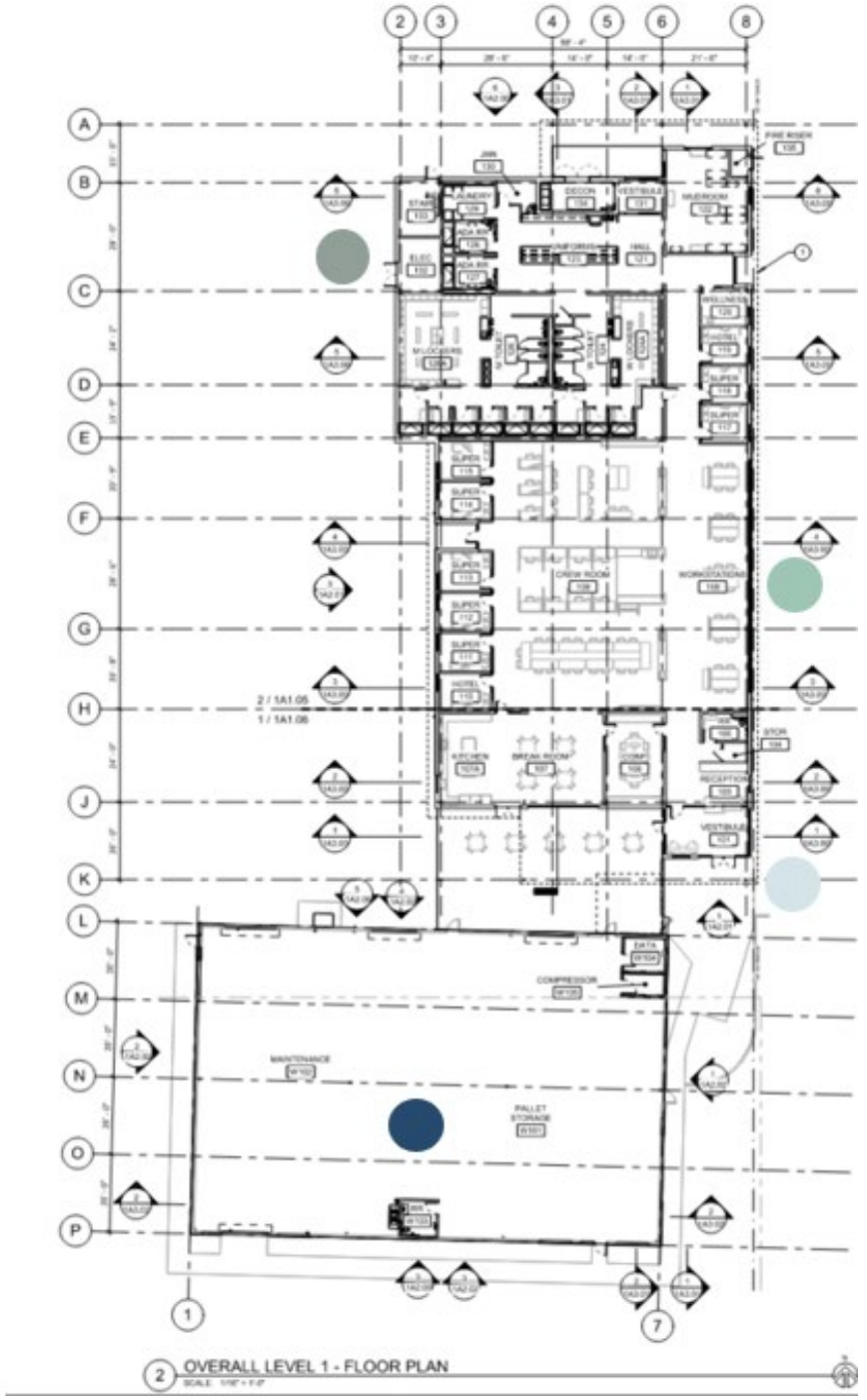
Design Updates

Simplified building geometry

Optimized locker room/uniform area layout

Simplified entry vestibule/reception layout

Phased approach to warehouse buildout

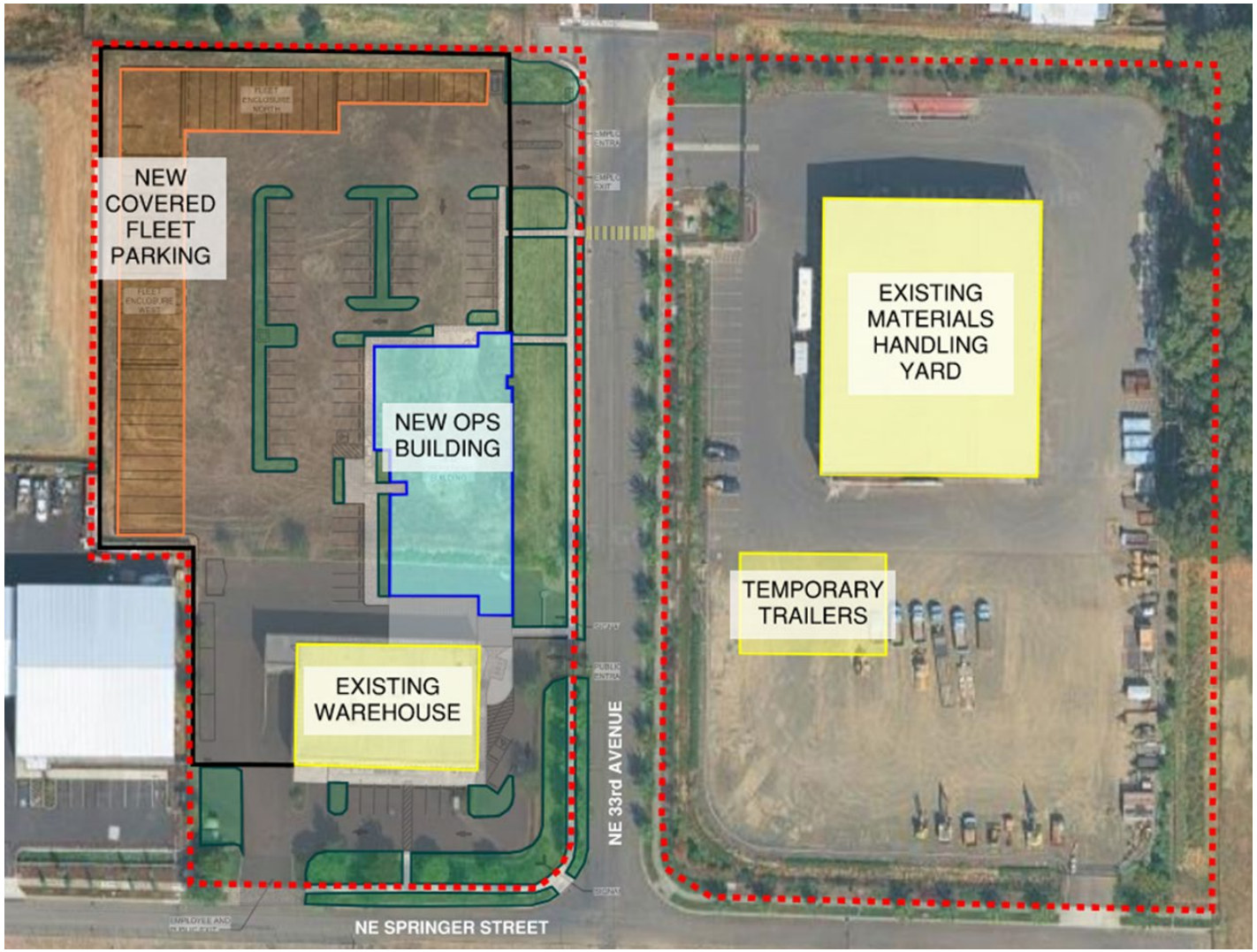


Springer

- Refined interior floor plan

Springer

- Next steps
  - Stormwater analysis
  - Stormwater detention design
  - Tree canopy requirements from City of Hillsboro
  - Land use
  - Environmental review – wetland designation
  - Crosswalk addition from City of Hillsboro Public Works



Springer

- 60% updated project cost

Item	30%	60%	Notes
Total Direct Const Cost	$20.2 mil	**$18.5 mil**	
Owner's Contingency	$1.5 mil	$1.3 mil	7.5% construction contingency
Owner Provideds	$0.5 mil	$0.5 mil	Furniture, fixtures, and equipment
Permits	$0.5 mil	$0.5 mil	Need to verify with CoH
Subtotal	$22.7 mil	**$20.8 mil**	

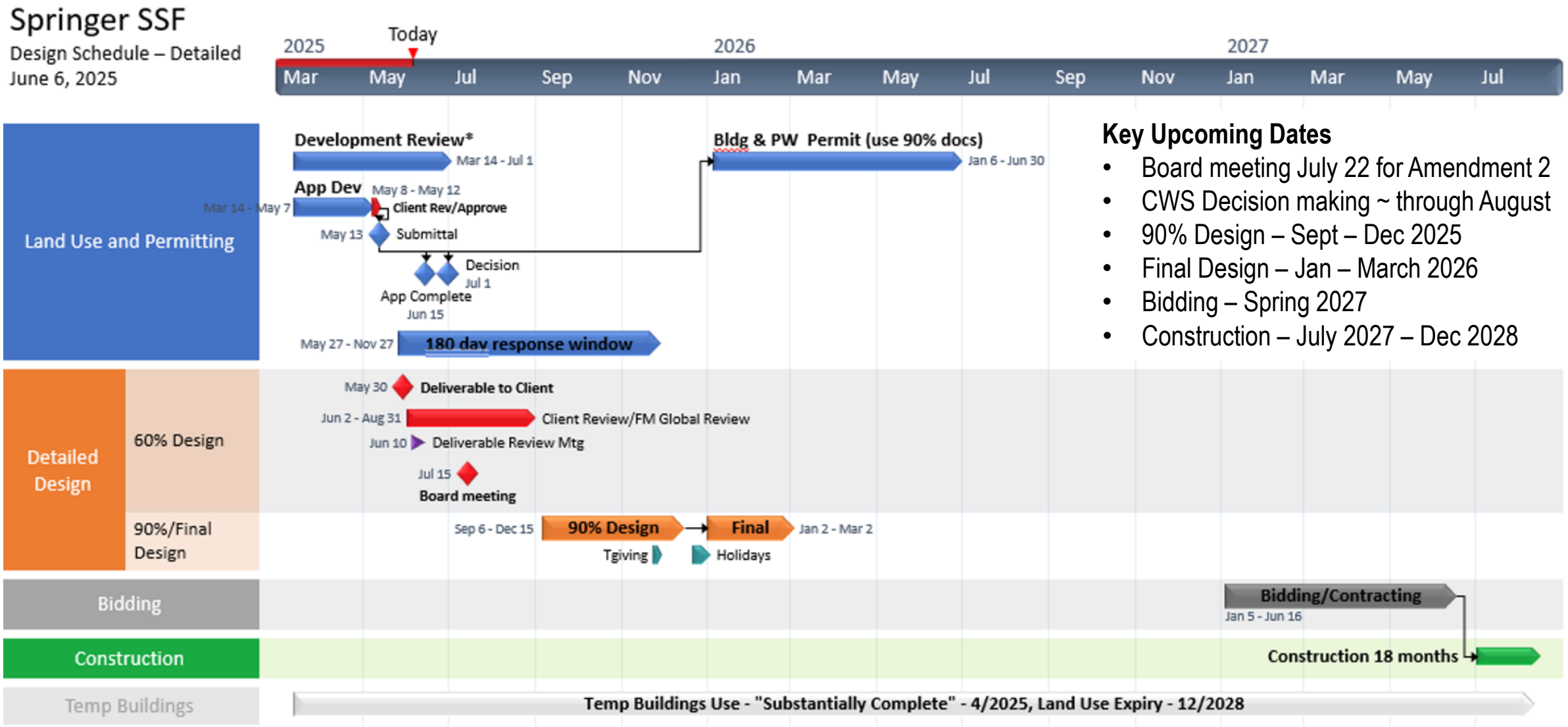
TOTAL PROJECT COST

Design Fees

Original Contract:	$1.2 mil
Amendment 2:	$0.6 mil
Total Design Fees:	$1.8 mil

TOTAL PROJECT COST = $23.6 mil

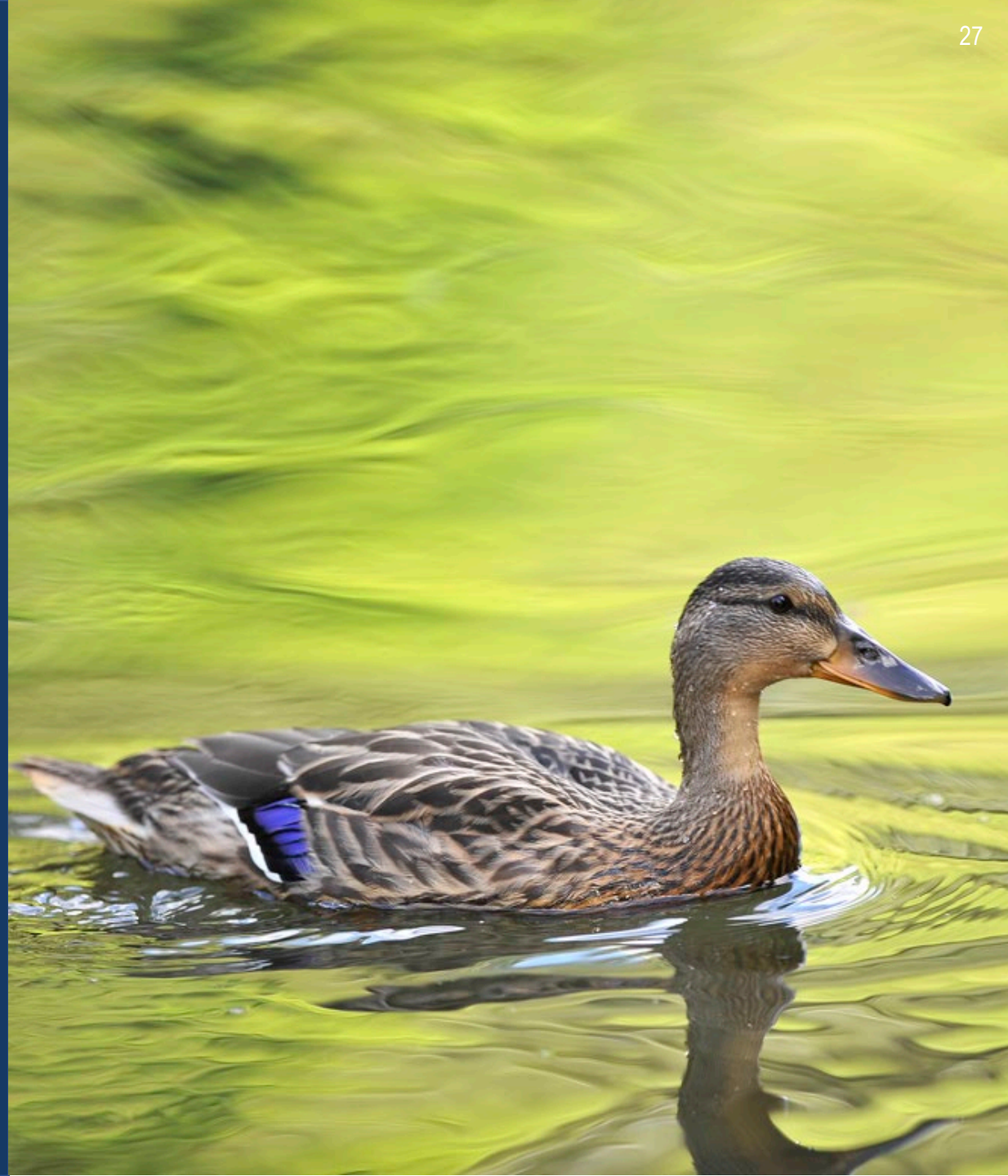
Springer: Project Schedule



Key Upcoming Dates

- Board meeting July 22 for Amendment 2
- CWS Decision making ~ through August
- 90% Design – Sept – Dec 2025
- Final Design – Jan – March 2026
- Bidding – Spring 2027
- Construction – July 2027 – Dec 2028

Questions?



Break

Board Planning and Discussion

Board Planning and Discussion

- Kathryn Harrington, Chair
- Rick Shanley,
  Acting Chief Executive Officer /
  General Manager
- Elizabeth Edwards, Chief of Staff

CWS Board Work Session Days Planning Document: Discussion Draft

	2025			2026			
Topic	**July**	**September**	**November**	**February**	**May**	**July**	**November**
BUDGET/ FINANCE	**CWS Billing: Current State** Overview of the history of billing, how collection works for residential and industrial customers, challenges, and opportunities.	**CWS Billing: Potential Future States** Present options for potential changes and a process to evaluate next steps with partners. Receive Board direction.	**Cost of Service Study (COSS) 2.0** Provide background and purpose of COSS. Discuss cost allocation experience based on actual year-end history for sewer/storm and regional/local. Make recommendations.	**Rate Development Discussion**	**Budget**		
		Annual Comprehensive Financial Report (ACFR) 101 The ACFR is a set of financial statements prepared according to the Governmental Accounting Standards Board that provides information on the financial condition of the organization. Share foundational knowledge on the purpose of ACFR and how to read.	**Year-End Financial Report**	**Quarterly Financial Report**		**Quarterly Financial Report**	**Year-End Financial Report**
				Audit Report Share first report and findings from CWS Audit Committee.			
PERMIT		**Intergovernmental Agreement (IGA) Update** Update status of co-implementer IGA negotiations, and the timeline for completion.	**Permit Cycle Update** Provide status of where we are in the permit cycle and the steps necessary for renewal.			**IGA Update** Update status of co-implementer IGA negotiations, and the timeline for completion.	

	2025			2026			
Topic	**July**	**September**	**November**	**February**	**May**	**July**	**November**
			Design and Construction (D&C) Standards D&C Standards are the administrative and technical requirements for development and construction activities. Provide foundation on D&C and steps needed to update before the next permit renewal.			**Design and Construction Standards** Present recommended revisions to D&C Standards and receive Board direction.	
TRUST & CREDIBILITY	**Plan to Rebuild Trust; R&O 25-5** Continue discussion of Plan to Rebuild Trust: • Leadership update. • Feedback from employees and city partners. • Communications • Status of R&O 25-5 implementation, including forensic investigation and CWIC domicile review. • Customer assistance timeline.	**Clean Water Insurance Company (CWIC) Domicile Discussion** Update on CWIC domicile.	**Low-Income Assistance Program** • Review existing programs of partner cities and agencies. • Discuss initial technical feasibility and costs. • Provide recommendations and seek direction.				
		Ratepayer Values Focus Groups Understand benchmarked ratepayer values for CWS services as part of the biennial Customer Awareness & Satisfaction Survey. • Values last updated in 2014.	**Customer Awareness and Satisfaction Survey** Biennial survey (since 1988) to understand ratepayer satisfaction and CWS' performance against ratepayer values.				
LEADERSHIP		**Recruitment Discussion**					

	2025			2026			
Topic	**July**	**September**	**November**	**February**	**May**	**July**	**November**
WORKFORCE/ HR				**Workforce Development Update** Update on workforce culture, learning, and development.			
CONSTRUCTION	**CWS Buildings Update** Update on status and schedule for Central, ripl, ABC, and Springer.						
MASTER PLANNING	**West Basin Master Plan (WBMP)** Receive WBMP summary. • CWAC unanimously recommended adoption at June 2025 meeting.						
ROADMAPS			**Update on Strategic Roadmaps**				
CWIC	*(see Trust & Credibility)*	*(see Trust & Credibility)*				**Annual Risk Report**	
BOARD PLANNING	**Review and Discuss Plan**	**Review and Discuss Plan**	**Review and Discuss Plan**	**Review and Discuss Plan**		**Review and Discuss Plan**	**Review and Discuss Plan**
TOURS	~~**RC Clarifiers**~~						**RIPL**

OTHER KEY DATES

CWS Essentials

- Thursday, September 11: 9 am – Noon at Durham facility (target audience is staff from our various cities)
- Thursday, September 18: 5 - 8 pm at ABC facility (with lab tour) (target audience is elected officials and CWAC members)
- Saturday, September 20: 10 am - 1 pm at Durham facility (with tour) (target audience is elected officials and CWAC members)

WEFTEC: September 27 – October 1 in Chicago

Wrap Up

Thank You