



Laying the foundation  
for a **vibrant economy**  
and **healthy environment**

# 2022 CAPITAL PLAN

*Prepared in Support of the 2023-2024 Capital Budget*



Discovery Clean  
Water Alliance



## Core Values

1. *Ensure reliable, predictable service for all customers*
2. *Manage resources responsibly, efficiently and equitably*
3. *Protect public and environmental health*
4. *Optimize use of existing facilities*
5. *Be financially transparent*
6. *Use new technologies to achieve system efficiencies and environmental protection*
7. *Provide a fair, positive and secure work environment for utility employees*
8. *Ensure capacity to support regional land use and economic development decisions*
9. *Invest in improvements that create system-wide benefits*
10. *Make business decisions collaboratively with all partners*



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## **SECTION 1**

### **Alliance Overview and Capital Plan Introduction**





### 1.1 Alliance History and Formation

The Discovery Clean Water Alliance (Alliance) legally formed on January 4, 2013, representing the culmination of several years of evaluation to determine the optimum long-term framework for delivery of regional wastewater transmission and treatment services to the urban growth areas in the central portion of Clark County, Washington.

The overall Alliance service area represents the majority of the high-growth communities within Clark County. Residents and businesses served by the regional wastewater system value receiving reliable service at an affordable price from the Member agencies. The Alliance therefore is designed to provide a regional collaboration and decision making forum that fosters the ability for Member agencies to influence key policy determinations on how best to make needed capital investments and determine operational level-of-service, while also maintaining competitive rates and charges to the end users of the system.



Having managed the region's growth under other service delivery models prior to formation of the Alliance, the Members determined that regional decisions are best made when all stakeholders participate directly in decisions having a material impact to service levels or costs. To that end, the primary outcomes of the Alliance structure are to:

- provide a direct voice and a vote for agencies affected by regional infrastructure decisions
- align the authority to make decisions with the responsibility to pay for the resulting impacts of those decisions
- provide a forum to determine the appropriate balance between level-of-service and cost-of-service

As currently established, the Alliance serves four Member agencies – the City of Battle Ground, Clark County, Clark Regional Wastewater District and the City of Ridgefield. The Members jointly own and jointly manage regional wastewater assets under Alliance ownership through an interlocal framework established under the State of Washington Joint Municipal Utility Services Act (JMUSA) (RCW 39.106).

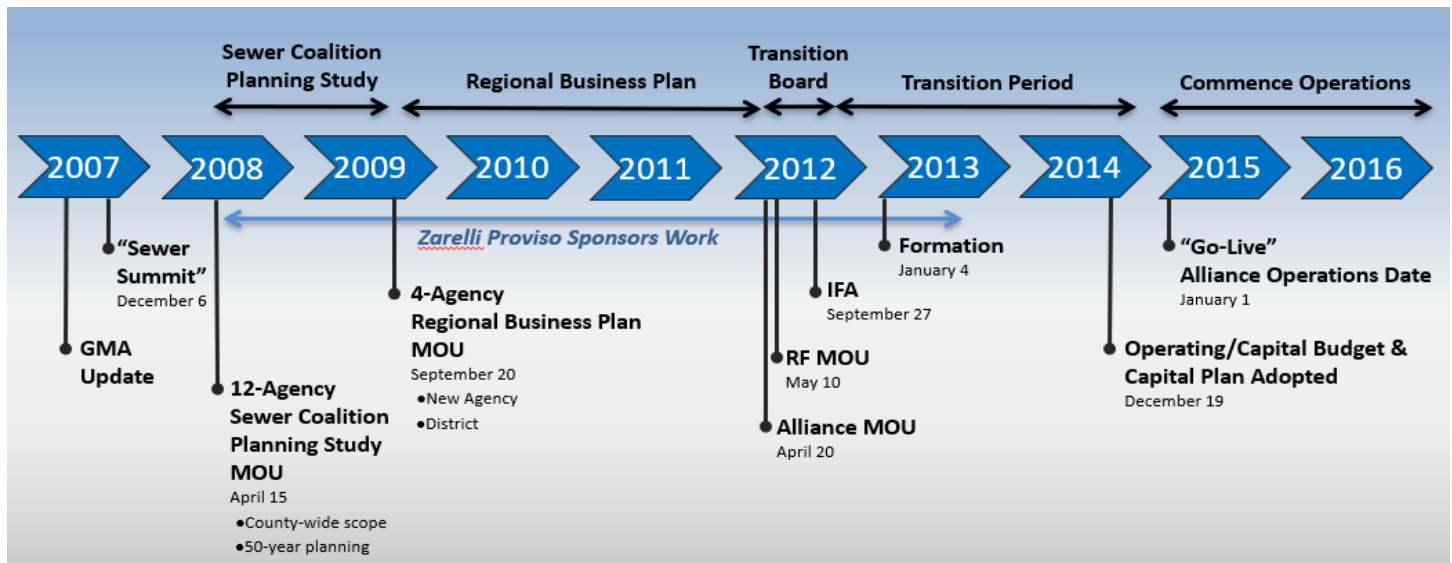
The JMUSA statute was passed by the Washington State Legislature and signed by the Governor in 2011. The Discovery Clean Water Alliance was the second agency in the state to form under this statute, after the Cascade Water Alliance. While the Alliance is a regional wastewater transmission and treatment utility today, the statute allows for any form of municipal water-related utility service to be



provided and supports any combination of municipal partner agencies as Members. This structure ensures the flexibility to accommodate changing needs of the regional service area over time.

A summary of the transition timeline and process that led to the formation of the Alliance is provided below.

**Figure 1.1 – Alliance Formation Timeline**



- **Sewer Summit.** In September 2007, Clark County adopted an updated *20-Year Comprehensive Growth Management Plan*, addressing the future needs of the community. This planning process identified the growth potential and related infrastructure needs of several of the urban growth areas within Clark County. As a result, wastewater service providers in Clark County began to discuss the concept of regionalizing wastewater services to support a healthy environment and to provide infrastructure needed to realize the area's economic development potential. These discussions culminated in a "Sewer Summit" on December 6, 2007, where the idea of studying various regional services delivery models was first endorsed by a broad coalition of local agencies.
- **Sewer Coalition Planning Study.** The Sewer Summit discussions resulted in the *Sewer Coalition Planning Study*, started in 2008 and published in November 2009, with twelve local agencies. This study considered a 50-year vision for growth and infrastructure needs in a county-wide context. The study resulted in a *Memorandum of Understanding (MOU) to Develop the Structure for a Regional Wastewater Entity*. Four of the twelve agencies (today, the Members of the Alliance) agreed in the MOU to move forward to form a new regional partnership. The remaining eight coordinating agencies would continue to coordinate with, and stay informed on, the process. A legislative proviso sponsored by State Senator Joseph Zarelli was utilized to provide for this and the subsequent planning and study work.





- **Regional Business Planning.** In 2010 and 2011, the four agencies conducted a regional business planning effort to explore specific options for how a new regional partnership might be structured, what services it might provide, what assets it might own, how it might be governed and how it might be funded.

This regional business planning effort resulted in a second MOU signed in April 2012, providing agreement-in-principle for the framework of the new partnership. Key elements of the MOU included formation of the new entity under JMUSA (RCW 39.106); use of an asset-based cost allocation model; oversight from a four-member Board of Directors composed of one elected official from each agency; and contracting key administrative and operational responsibilities to the Member agencies best suited to provide those services.



The asset-based cost allocation model consists of four primary types of costs:

- 1) operational costs shared by current actual flow contributions from the Members;
  - 2) capital costs related to existing facilities by current capacity allocation or capacity "ownership" in those facilities;
  - 3) capital costs related to new facilities by incremental purchase of capacity; and
  - 4) administrative costs not related to operations are shared by capacity allocation in the treatment facilities.
- **Alliance Formation.** Building on the April 2012 MOU, an Interlocal Formation Agreement (IFA) was completed in September 2012, providing the necessary framework elements for the Discovery Clean Water Alliance. The IFA was registered with the Washington State Office of Secretary of State on January 4, 2013, to legally form the Alliance. The Alliance Board of Directors





then met for the first time on January 18, 2013, where a series of initial resolutions were approved to establish the basic operating framework for the new regional authority. Also approved on that date was an initial two-year operating budget to support transition activities in 2013 and 2014. The individuals serving on the Board of Directors at the first official meeting of the Alliance were: Mayor Lisa Walters – City of Battle Ground; Commissioner Tom Mielke – Clark County; Commissioner Neil Kimsey – Clark Regional Wastewater District; and Mayor Ron Onslow – City of Ridgefield. The IFA was amended and restated by resolution on August 15, 2014, to further clarify policies and procedures. The Alliance assumed full operational responsibility for the Regional Assets on January 1, 2015 (the Alliance Operations Date).

The Alliance is one of several regional water and wastewater agencies providing service to large urban areas in western Oregon and Washington. In much the same way that the boundaries of a natural watershed are different than political boundaries of cities and counties, utility systems are often most efficiently managed on a regional scale serving multiple local jurisdictions. While the corporate structures and functional arrangements vary widely, the Alliance is a peer agency in many respects with the following Pacific Northwest regional water and wastewater agencies shown below.

**Figure 1.2 – Regional Utility Partnerships Located in Oregon and Washington**





### 1.2 Alliance Name and Organizational Structure

As the Alliance was in its formative stages, it was necessary to establish a clear identity for the new agency. The name **Discovery Clean Water Alliance** was chosen after a review of possible options. Historically, the name "discovery" is tied to the Lewis and Clark expedition which traversed Clark County over two hundred years ago and was officially called the "Corp of Discovery". "Discovery" also was the name of the lead ship in George Vancouver's exploration of the North American west coast. This moniker offered historical significance and represented a positive future direction for the modern-day explorers charting the future of utility service for Clark County.

A graphical identity was also developed to complement the new entity name. Battle Ground staff offered to coordinate design development utilizing the talents of a local graphic design student. Options were reviewed and a design incorporating a water droplet, leaf and fish graphic was selected. The logo concept was created to contain the following elements represented by the new entity:

- **water droplet** – represents clean water; the color is blue for water
- **leaf** – plants require clean water and help create oxygen, a primary element in water; the color is green for a leaf, and for the official wastewater color used in utility locate functions
- **salmon** – a fish represents the need for wildlife to have clean water, and ties into the local rivers protected by the regional wastewater system



The Alliance Board unanimously approved the logo in 2013, which has since become a recognizable representation of the regional agency. The Alliance Board also provided a Certificate of Appreciation to the Battle Ground art student responsible for the winning entry.

The Member agencies continued their collaborative efforts through the development of the Alliance organizational framework. The framework is structured to foster significant interaction among the Alliance Members in all major operational, financial and infrastructure decisions. A summary of key roles and responsibilities is provided below.

- **Board of Directors and Legal Counsel.** The Board of Directors is composed of one elected official from each of the Member agencies to form a four-person policy and oversight body. The Board then selects from among the four appointed Directors to fill positions for Chair, Vice-Chair and Secretary. The Board has selected Foster Garvey to serve as legal counsel to the Alliance. Board responsibilities and functions are further depicted in the IFA and in a separately adopted resolution of Board Rules and Operating Procedures.

A "House" and Senate" voting structure mandates a high level of regional consensus for "Significant Decisions" of the Alliance Board. This structure incorporates two voting mechanisms: (1) majority voting (Directors only) and (2) dual-majority voting (Directors and Treatment





Facilities Allocated Capacity). Routine votes per IFA Section IV.F.4 require only a majority vote of Directors present. Significant Decisions, on the other hand, require “dual majority” approval by both the number of Directors present (the “Senate test”) and the Directors representing the volume of Treatment Facilities Allocated Capacity (the “House test”).

Practically speaking under the current framework, regional consensus among 75% (3 out of 4) is required to form a simple majority for routine votes. 75% is also required to form a dual-majority for Significant Decisions, with the additional requirement that the agency representing the largest customer base (today, the District) must be one of the three approving members (stated another way, the District’s vote is required to meet the “House” portion of the test).

The following decisions related to capital planning for Regional Assets are classified as “Significant Decisions” in the IFA and require a Dual Majority Vote (passing 50% of both the Senate and House tests): the borrowing of money or issuance of Bonds, a change in the ownership of Regional Assets and the adoption of a Capital Budget.

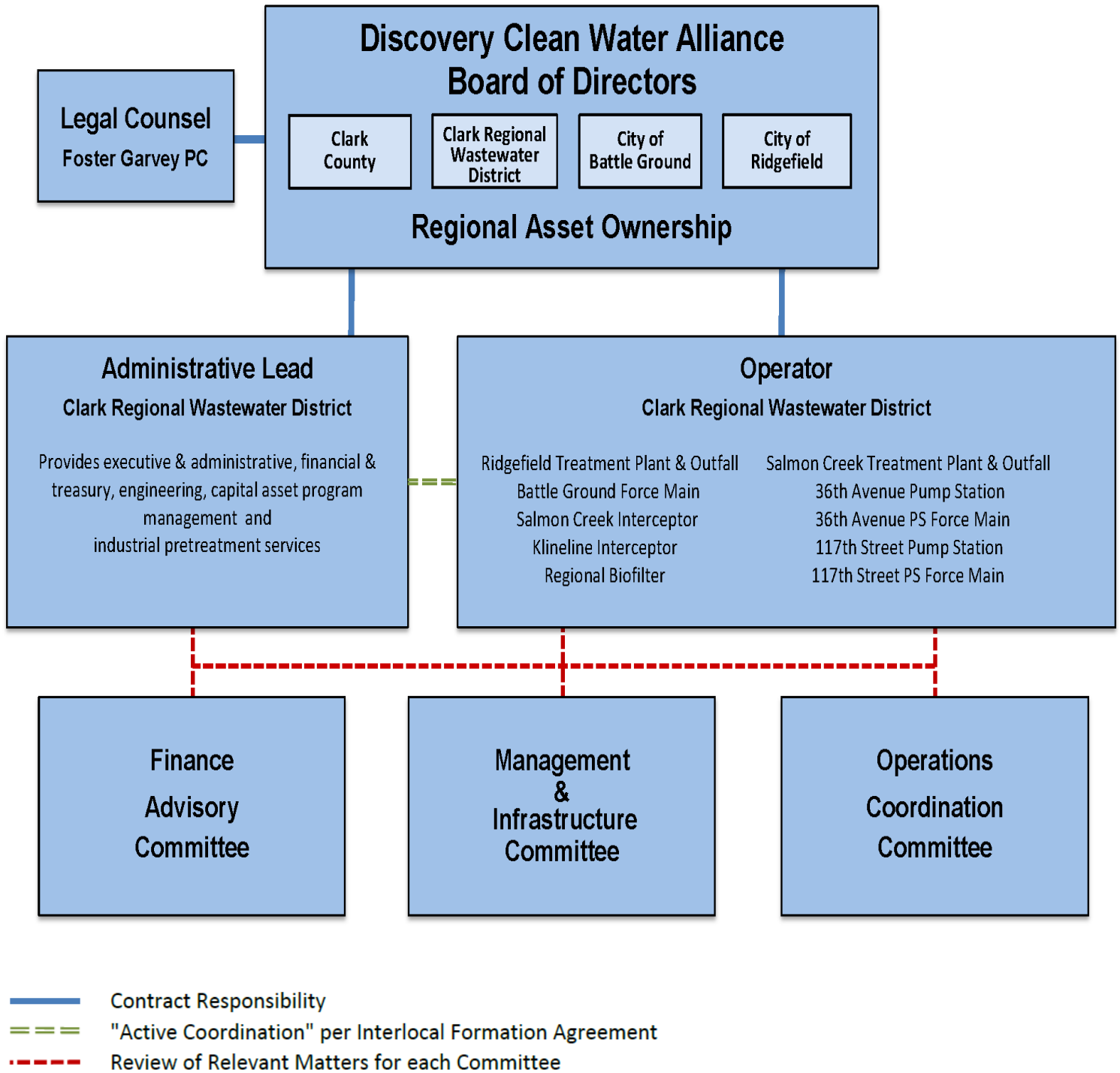
The following decisions related to capital planning for Regional Assets are classified as “Significant Decisions” in the IFA and require a Dual Super-Majority Vote (passing 60% of both the Senate and House tests): the adoption of a Capital Plan (including the allocation of costs pursuant to any such Capital Plan) and a change in Allocated Capacity.

- **Member Service Providers.** The Alliance structure relies on contracts with its Members to deliver the majority of services. Ridgefield and Clark County initially served as Operators for the Alliance at formation. The Ridgefield operational responsibilities were transferred to the District in 2018. Similarly, the Clark County operational responsibilities were transferred to the District in 2022. Today, the District serves as the Operator for all Alliance Regional Assets. The District is separately contracted with the Alliance as Administrative Lead to provide executive, administrative, financial, treasury, engineering, capital program management, and pretreatment services.
- **Standing Committees.** The Alliance has formed three Standing Committees to provide forums for vetting all Alliance issues. The Finance Advisory Committee (FAC) provides for Member input into financial matters for the Alliance. The Management and Infrastructure Committee (MIC) solicits guidance from the Members on management and infrastructure matters for the Alliance. An Operations Coordination Committee (OCC) allows for Member interaction and coordination on operations and maintenance matters for the Alliance.

The interaction among these groups is illustrated in Figure 1.3, Alliance Contractual and Communication Flow Chart. The Member Service Providers (today, the District) share information with the Standing Committees and have direct contractual responsibility to the Board of Directors. Legal Counsel works directly for the Board, also through a contractual relationship.



Figure 1.3 – Alliance Contractual and Communication Flow Chart





### 1.3 Alliance Core Values/Capital Planning Guiding Principles

As a regional wastewater transmission and treatment utility serving nearly 130,000 citizens today and with the potential to serve a population of 250,000 or more over time, it is critical that the Alliance decision making is aligned with the needs and expectations of the community it serves. In order to provide an appropriate context for Alliance decision making, community-supported core values were determined during the regional business planning process through a statistically valid telephone survey of residents in the Alliance service area.

The results of the survey are presented in the following table of the top ten core values along with the percent of residents indicating that they “agree” or “strongly agree” that these values should guide the formation and operation of the Alliance.



**Table 1.1 – Alliance Core Values**

Core Values	% Who Agree or Strongly Agree
1. Ensure reliable, predictable service for all customers	89%
2. Manage financial resources in a responsible, efficient, equitable manner	86%
3. Operate utility to protect public and environmental health and safety	82%
4. Optimize the use of existing facilities	80%
5. Maintain financial transparency	79%
6. Use new technology to achieve system efficiency, environmental protection	77%
7. Provide fair, positive, secure work environment for future utility employees	71%
8. Ensure capacity to support regional land use, economic development	71%
9. Invest in capital improvements that create system-wide benefits	67%
10. Make business management decisions collaboratively with all partners	64%



The Alliance core values are applied to the Capital Plan work through the following capital planning guiding principles:

**Table 1.2 – Alliance Capital Planning Guiding Principles**

**Guiding Principles**

1. Existing Regional Assets will be maintained in good operating condition through an intentional asset management program.
2. New Regional Assets will be planned and constructed ahead of demand to provide adequate capacity for growth in Member service areas, to comply with emerging regulatory requirements and/or to deliver new levels of service where appropriate.
3. Long-range financial planning to support the capital programs will be provided to the Members for incorporation into local (retail) rate and charge planning.
4. Life cycle cost comparisons, considering both capital and operating costs, will be utilized in alternative comparisons for significant projects. Alternatives will also consider non-cost criteria topics such as regulatory compatibility, public and environmental health outcomes, regional (system-wide) benefits and operational characteristics.
5. Decisions related to the Capital Plan will be fully vetted with the Standing Committees, the Board of Directors and affected stakeholders.

### 1.4 Purpose and Scope of Capital Plan

The Capital Plan presents the plan for the Alliance to meet its infrastructure obligations to its Members for regional wastewater transmission and treatment services. These services are delivered by maintaining existing Regional Assets and through construction of new Regional Assets. In terms of existing Regional Assets, the Capital Plan will depict the repair and replacement (asset management) work needed to keep the assets in good working order. With respect to new Regional Assets, the Capital Plan will establish the infrastructure investments needed to address system capacity, new regulatory obligations or new level-of-service commitments.

The Capital Plan will present all known infrastructure project needs for the Alliance. These projects will be presented for both near-term and long-term. The specific definition of the term **Capital Plan** from the IFA is provided below, along with other relevant IFA definitions pertaining to capital planning work.

#### Definitions:

**Alliance Operations Date** – means the date on which the Board has determined that (1) Regional Assets have been transferred to or for the benefit of the Alliance, (2) outstanding wastewater obligations have been retired, defeased, or transferred as necessary, (3) the Alliance is undertaking responsibility for providing service under this Agreement, (4) the Members receiving service from the Alliance become responsible for paying Regional Service Charges. The Alliance Operations Date is January 1, 2015.



**Allocated Capacity** – The Maximum Monthly Flow of wastewater that a Member may discharge into the Regional Assets, as described in Exhibit B of the IFA and as supplemented or adjusted in a Capital Plan.

**Bonds** – Bonds, notes or other evidences of indebtedness issued by the Alliance or by another entity (e.g., by a Member) on behalf of the Alliance.

**Capital Plan** – One or more long-range capital improvement plans for the addition, replacement or improvement of Regional Assets, including an identification of Regional Assets and the allocation of transmission and treatment capacity as they may be supplemented or adjusted from the initial Regional Assets and allocations described in Exhibit B of the IFA.

**Capital Budget** – One or more capital budgets adopted in consistence with Section VI.A. of the IFA: A periodic Capital Budget will be prepared by Alliance staff or consultants (or, if there is a separate Administrative Lead, then by the staff of or consultants selected by that entity). Similarly, prior to Board action, comprehensive Capital Plans, including a renewal and replacement fund mechanism, will be periodically prepared by Alliance staff (or, if there is an Administrative Lead, by the staff of that entity in cooperation with staff of any Operator).

**Dual Majority Vote** – A Board vote requiring the affirmative vote of both (1) the Directors representing more than 50% of the Members, and (2) the Directors representing the Members comprising more than 50% of the Treatment Facilities Allocated Capacity for the year in which the vote is taken, as set forth in the then-current Capital Plan.

**Dual Super-Majority Vote** – Except as provided in section IV.F.3 of the IFA, a Board vote requiring the affirmative vote of both (1) the Directors representing more than 60% of the Members, and (2) the Directors representing the Members comprising more than 60% of the Treatment Facilities Allocated Capacity for the year in which the vote is taken, as set forth in the then-current Capital Plan.

**MGD** – Million gallons per day, referring to a rate of flow.

**Maximum Monthly Flow or MMF** – A measure of flow expressed in MGDs and representing the highest average monthly flow, taking into account the total flow of wastewater discharged into the Regional Assets, measured in millions of gallons for any calendar month divided by the total number of days in that month.

**Regional Assets** – The assets listed in Exhibit B of the IFA, and such additional assets as the Board may later determine to be Regional Assets under Section VII.B. of the IFA.

**Regional Service Charges** – Charges for service imposed by the Alliance under Section VI.B of the IFA.

**Transmission Infrastructure** – Transmission lines, force mains, interceptors, pump stations and other facilities required to transfer wastewater from a Member's collection system to a Treatment Facility.

**Treatment Facility or Facilities** – Treatment plants, outfalls and other facilities required to treat wastewater.

## 1.5 Alliance Regional Assets

Based on the 2021 Financial Statements, the Alliance owns, operates and manages 10 Regional Assets with an estimated book value (historical cost less depreciation) of approximately \$116 million. The Regional Assets are depicted in the following Regional Asset Descriptions and Regional Asset Overview Map.





**Table 1.3 – Alliance Regional Asset Descriptions**

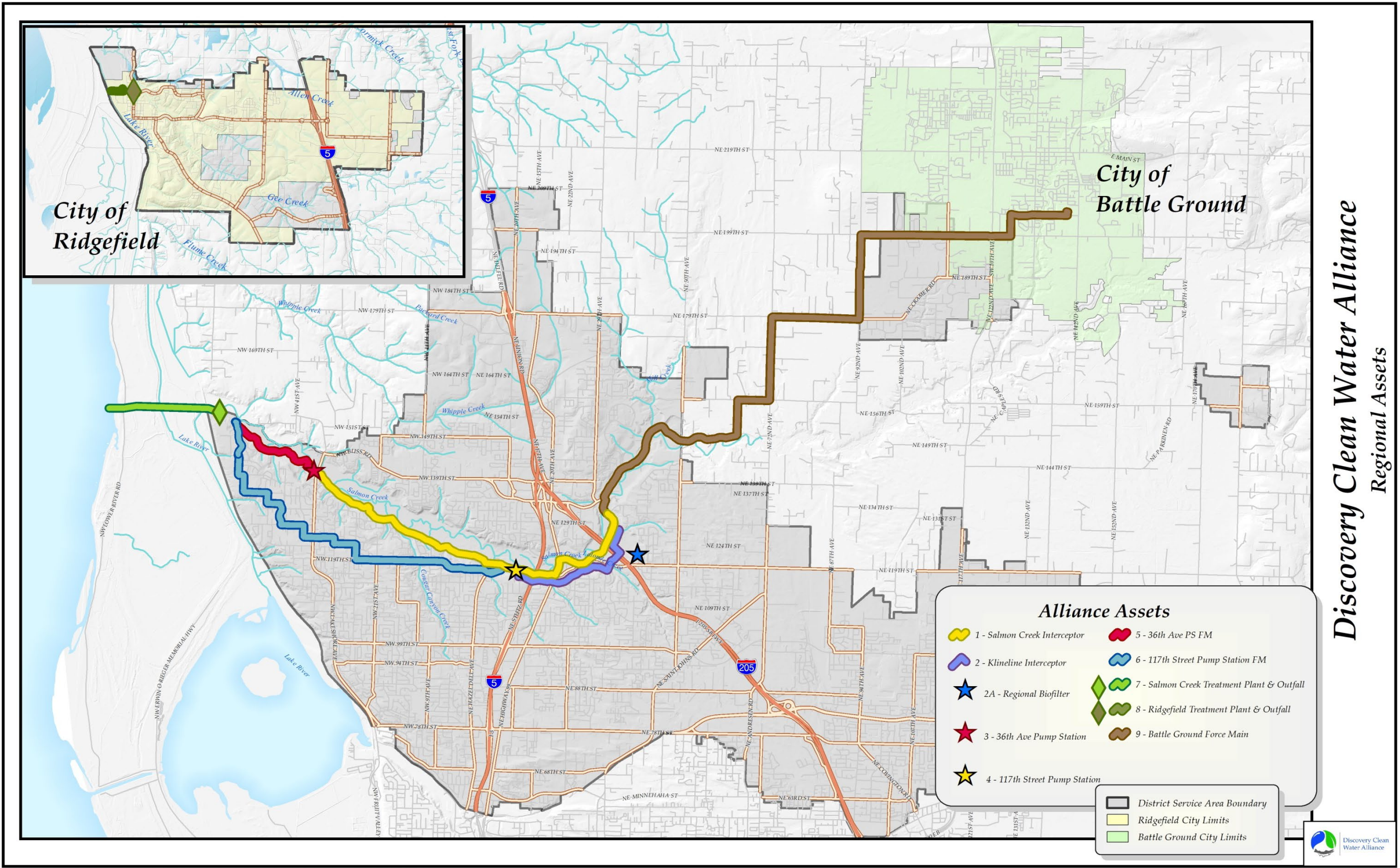
Regional Asset Name	Regional Asset Description
1. Salmon Creek Interceptor	4.6-mile long gravity pipeline located on the south side of the Salmon Creek drainage. The interceptor collects and conveys wastewater from partner agencies to regional pump stations. The pipeline was constructed in segments from the mid to late 1970's (21-42-inch diameter pipe routed from Betts Bridge to 36 Ave).
2. Kline Interceptor	1.8-mile long gravity pipeline located parallel to the Salmon Creek Interceptor. The pipeline was constructed in segments from 2002 to 2006 (48-inch diameter pipe routed from Salmon Creek Ave & NE 127 to 117 St PS).
2A. Regional Biofilter - Kline Interceptor	Regional biofilter directly adjacent to the property located at 12401 NE Salmon Creek Avenue in Vancouver WA. The biofilter was regionally sized to manage odors and control corrosion associated with the discharge of the Battle Ground FM and St. Johns Interceptor into the Kline Interceptor. The biofilter was constructed in 2017-2018.
3. 36 Avenue PS	Raw sewage PS located at 14014 NW 36 Ave in Vancouver, WA. The station pumps wastewater from the Salmon Creek interceptor to SCTP. The pump station was constructed in mid-1970's and remodeled in 1994 and 2005.
4. 117 Street PS (aka Kline PS)	Raw sewage PS located at 1110 NE 117 St in Vancouver, WA. The station pumps wastewater from Salmon Creek and Kline interceptors to SCTP. The pump station was constructed in 2008.
5. 36 Ave PS FM	24-inch diameter FM routed from 36 Ave PS to SCTP. The FM runs approximately 1.4 miles along the south side of the Salmon Creek and discharges to SCTP. The pipeline was constructed in mid-1970's.
6. 117 Street PS FM	Dual 30-inch diameter FM routed from 117 St PS to SCTP. The FM runs approximately 4.9 miles along public rights-of-way to SCTP. The pipeline was constructed in segments from 2004 to 2008.
7. Salmon Creek Treatment Plant & Outfall	Secondary treatment plant originally constructed in the mid 1970's, with four major expansion phases. The plant is located at 15100 NW McCann Rd, in Vancouver, WA. The plant outfall is a 30-inch diameter pipeline routed west of the plant 1.3 miles, terminating in the Columbia River between mile 95 and 96. The discharge location is latitude 46° 43' 58" N, longitude 122° 45' 23" W.
8. Ridgefield Treatment Plant & Outfall	Secondary treatment plant originally constructed in 1959 with several upgrades since then. The plant is located on West Cook St in Ridgefield, WA. The plant outfall is a 10-inch diameter pipeline routed west of the plant 0.2 miles, terminating in Lake River. The discharge location is latitude 45° 49' 18" N, longitude 122° 45' 09" W.
9. Battle Ground FM (including odor control system)	9-mile long 16-inch diameter FM (with bioxide chemical dosing/injection facility) routed southwesterly from Battle Ground PS to Kline interceptor at Salmon Creek Ave. The pipeline was constructed in the early 1990's.







Figure 1.4 – Regional Asset Overview Map









### 1.6 Governor's 2013 Smart Communities Award

Each of the Alliance Members was recognized by Washington Governor Jay Inslee with a Governor's 2013 Smart Communities Award. The award recognized the value the Alliance provides to its Members and the larger community served by the regional wastewater transmission and treatment system. Following is an excerpt from the official statement provided with the award:



*The Governor established these awards to recognize the accomplishments of community leaders to create smart, livable places. The awards are designed to recognize the good work being done in large and small communities across Washington State. The values and priorities of each community shine through each and every one of the projects nominated for these awards.*

*As Washington works to further strengthen its position in the global economy, the work of the local governments and their partners in creating vibrant, quality communities is vital to our success. The leadership of Discovery Clean Water Alliance's award-winning nomination helps make Washington a great state in which to live and do business.*

*Discovery Clean Water Alliance, (DCWA) is a partnership between Clark County, Clark Regional Wastewater District, and the Cities of Ridgefield and Battle Ground. DCWA pools the various agencies' resources, funds and talents. By connecting wastewater systems, the partners can meet future service demand without paying for repetitive facilities in each service area.*

In summary, at its most fundamental level, the Alliance provides a framework for the Members to jointly own and jointly manage regional wastewater transmission and treatment infrastructure critical to the environmental health and economic well-being of the region. Each Member has a voice and a vote in the decisions made by the Alliance, and together the Members will shape the future of the delivery of this critical urban service for the benefit of the community served.





## **SECTION 2**

### **2022 Capital Plan**







### 2.1 Capital Plan Introduction

The Alliance is an owner and operator of Regional Assets providing wastewater transmission and treatment services to its Members. As such, one of the most important business functions of the Alliance is to have a well-developed capital program for the management of its assets. This Capital Plan presents the Regional Asset management program for the Alliance, including the work required to repair or replace existing assets and to construct new assets to meet capacity, regulatory, or level-of-service requirements.

The formal definition of the Capital Plan as presented in the IFA is “**One or more long-range capital improvement plans** for the **addition, replacement, or improvement of Regional Assets**, and including an identification of Regional Assets and the **allocation of transmission and treatment capacity**, as they may be supplemented or adjusted from the initial Regional Assets and allocations described in Exhibit B of the IFA.” (emphasis added). This Capital Plan provides for these requirements in the following four sections:

- **One or More Long-Range Capital Improvement Plans.** As noted in Section 2.2, the Alliance has formally adopted the existing long-range capital plans of its Members. These plans have been updated through the regional study process and have been reviewed and approved by the Department of Ecology. The existing Member agency plans have been formally transferred to the Alliance through the asset transfer agreement process.
- **Replacement or Improvement of Regional Assets.** In Section 2.3, the Alliance presents its plan for replacement or improvement of the existing Regional Assets. These plans for existing assets are often called “repair and replacement” or “asset management” programs. These terms are used interchangeably in this document.
- **Addition of Regional Assets.** In Section 2.4, the Alliance presents its plan for addition or construction of new Regional Assets. The need for new Regional Assets is typically driven by the need to increase system capacity for growth in the service area, the requirement to address new regulatory obligations, or the policy decision to provide new level-of-service commitments.
- **Allocation of Transmission and Treatment Capacity.** In Section 2.5, the Alliance will address any changes to Allocated Capacity among its Members. Changes in capacity can result from agreements to transfer existing capacity allocations among Members or from new capacity allocations created through the construction of new Regional Assets.

The Capital Plan will depict the programs for existing and new Regional Assets by presenting near-term needs (two-year and six-year projects) as well as long-term needs (20-year projects). Individual Project Profiles for all projects are presented in the following appendices: Appendix A (Existing Regional Assets – Repair and Replacement Program Project Profiles) and Appendix B (New Regional Assets – Capital Improvement Program Project Profiles).



**Project Cost Threshold and Project Numbering.** Per the IFA and as further specified in the Alliance Operator and Administrative Lead agreements, only individual projects valued above a threshold (initially established by the Alliance at \$50,000) are presented in this Capital Plan. This threshold value is to be adjusted by a construction cost index over time. Based on the process established in Board Resolution 2014-05, fixing the base year as 2012 and using the Engineering News Record (ENR) Construction Cost Index for Seattle, the threshold value established for this Capital Plan is \$73,000. Projects below this amount are self-performed by the Operators and will be presented in the context of the Alliance Operating Budgets.

A project numbering convention has been established with the following three components: (1) Regional Asset number, (2) anticipated bid year and (3) sequential number. For example, project RA03–19–1 would be for a project for Regional Asset No. 3 (the 36<sup>th</sup> Avenue Pump Station) where the project was scheduled to bid in 2019 and this is the first project for that asset in that bid year.

**Cost Escalation and Estimate Classification.** The Capital Plan provides for all the projects defined over time and the corresponding cost estimates have been adjusted to 2022 dollars. A separate process to escalate the project costs from this baseline to the estimated bid year is determined in the Capital Budget (a separate document).

As specific capital projects are developed from a conceptual level through preliminary design and ultimately to bid-ready plans and specifications, the level of definition of the projects increase throughout the process. It is critical to understand the probable variability of the estimates and to carry appropriate project contingencies. The Alliance approach is summarized in Table 2.1, adapted (in part) from information published through AACE International.

**Table 2.1 – Alliance Cost Estimate Classification System**

Estimate Classification	Project Design Definition (% Complete)	Typical Purpose/ End Usage	Expected Accuracy Range (L=Low, H=High)	Contingency Level Embedded in Cost Estimate
Class 5	0-2%	Concept Screening	L: -50% H: +100%	40-50%
Class 4	1-15%	Study or Feasibility Review	L: -30% H: +50%	30-40%
Class 3	10-40%	Budget Authorization	L: -20% H: +30%	20-30%
Class 2	30-70%	Budget Control	L: -15% H: +20%	10-20%
Class 1	65-100%	Final Estimate/ Bid Review	L: -10% H: +15%	0-10%



### 2.2 Member Agency Planning Document Incorporation by Reference

Through the initial adoption of the Capital Plan in 2014, the Alliance also formally adopted the Member agency planning documents listed in Table 2.2. This suite of documents represents the formal planning basis for the Alliance Regional Assets until such time the Alliance prepares an updated and integrated planning document for the Regional Assets.

**Table 2.2 – Member Agency Planning Documents Adopted by Alliance**

Regional Assets (RA)	Planning Document	Ecology Approval Date	Portion of Plan Adopted by Alliance
Salmon Creek Wastewater Management System (SCWMS), RA 1-7	<i>Salmon Creek Wastewater Management System Wastewater Facilities Plan / General Sewer Plan Amendment, CH2M HILL, August 2013</i>	September 4, 2013	Entire plan
	<i>Salmon Creek Wastewater Management System Wastewater Facilities Plan / General Sewer Plan, CH2M HILL, July 2004</i>	March 10, 2005	Entire Plan
Ridgefield Treatment Plant and Outfall (RTPO), RA 8	<i>City of Ridgefield General Sewer Plan, Gray &amp; Osborne, March 2013</i>	June 18, 2013	Relevant portion of plan for RTPO
	<i>City of Ridgefield General Sewer and Wastewater Facility Plan, Gray &amp; Osborne, December 2007</i>	October 31, 2008	Relevant portion of plan for RTPO
Battle Ground Force Main (BGFm), RA 9	<i>City of Battle Ground General Sewer Plan, Wallis Engineering, March 2011.</i>	September 29, 2011	Relevant portion of plan for BGFm

### 2.3 Existing Regional Assets – Repair and Replacement (R&R) Program

The initial Alliance Capital Plan (adopted in 2014) and the updated 2016 plan incorporated the existing condition assessment reports and asset management programs from the Member agencies involved in the operation of the Regional Assets. That information informed prioritization of several initial repair and replacement projects and was based on a limited review of available information for the Regional Assets. Although not an exhaustive evaluation of every piece of equipment, the subsequent Capital Plans incorporate a more thorough and systematic review of major systems within the Regional Assets. This plan represents progress toward the ultimate goal to establish a fully sustaining asset management program for all Regional Assets.

The Capital Plan considers project needs greater in value than the Alliance capital project threshold (established above). Project needs below this threshold are referred to the Alliance Operators for consideration in the establishment of Alliance operating budgets.

**Condition and Criticality Assessment (CCA).** To inform the Capital Plan and related budget processes, the Alliance sponsored formal re-assessments for the regional pump stations, gravity



interceptors, and treatment plant assets. The intent of the re-assessments was to update the condition and criticality scores from the previous assessments. The work was facilitated by an independent consultant experienced in wastewater conveyance and treatment, with condition data provided by operations and maintenance staff with direct knowledge of the assets.

The CCA work also focused on areas that had not been fully assessed in the past or were updates to previous assessments. These areas included:

- Generator systems at treatment plants and pump stations
- Buildings and building systems at treatment plants and pump stations
- Control panel wiring, fusing, and interconnections at treatment plants
- Gates and actuators at treatment plants and pump stations
- Regional transmission systems (redundancy and spare parts assessment)
- Lower Salmon Creek Interceptor CCTV inspection
- Upper Salmon Creek Interceptor CCTV inspection
- Kline Interceptor CCTV inspection

The next Capital Plan update (anticipated for 2024) will be further expanded to include condition and criticality evaluation of additional components such as the following:

- Salmon Creek Treatment Plant detailed condition assessment and critical spare parts assessment
- Salmon Creek Treatment Plant transformers and power supply systems (every 4 years)
- Upper Salmon Creek Interceptor CCTV inspection
- Kline Interceptor CCTV inspection
- Other components as determined through the next condition and criticality assessment

**Project Prioritization Process.** After combining individual components into logical projects, each project was evaluated. Each project was then systematically scored for the following:

- Overall asset condition or “likelihood (risk) of failure” of the asset
- Overall asset criticality within the system or “consequence of failure” of the asset

The criteria for scoring condition and criticality are presented in Figure 2.1, Alliance Likelihood of Failure/Consequence of Failure Guidance. This provides for consistency across the various components and systems being considered using industry standards such as cost, staff time spent repairing an asset, obsolescence, safety, and the potential for permit violations. After condition and criticality are determined, those individual scores are multiplied together to determine the overall priority for that particular asset or system.



The condition, criticality, and resulting priorities were reviewed with the Alliance Standing Committees. All projects with a score of 25 or higher have been carried forward into this Capital Plan update. This represents the most important projects, due to either poor condition (or obsolescence), high criticality, or both. The remaining projects will continue to be monitored and may or may not rise to a level of action for the next update.

**Return on Investment (ROI) Projects.** Some projects are based on cost savings over time rather than condition and criticality priority. These types of projects are generally related to new technology or energy savings. They are commonly referred to as return on investment, or ROI projects. ROI criteria utilized in the programming process are based on a simple payback calculation (total project capital cost divided by projected annual operating cost savings). Where rebates were applied for documented energy saving programs, the credits were used to offset capital costs in the ROI calculations. Net ROI performance was then prioritized according to the following three tests:

1. Projects with a net ROI of less than five years are prioritized for early delivery, fitting within existing cash flow constraints as soon as practically possible, but generally within 2- or 6-year planning period.
2. Projects with a net ROI of less than ten years are programmed into the overall plan, considering practical factors such as bid packaging and other implementation efficiencies.
3. Projects with a net ROI of greater than ten years are not further prioritized from an efficiency standpoint but may still be considered based on the applicability of other criteria.

The current capital program considered ROI projects and includes projects with ROI aspects that are programmed according to priority, but no projects meet all the requirements for ROI solely.

**Project Programming.** The programming effort starts with the listing of projects according to priority, then factoring in other considerations such as available funding, corresponding capital projects, staff workload, and specific project design and permitting schedules. The Standing Committees review and endorse the program prior to presentation to the Alliance Board of Directors.

A total of 13 R&R projects were identified and prioritized through the CCA process for inclusion in the Capital Plan, of which two are newly identified scopes of work, one is a new program for building systems, and the remaining projects were previously identified with updated scoring. The new Building Systems R&R Program is based on a detailed condition assessment of the buildings (not the process equipment). The assessment demonstrated an approximate \$1 million per year need over the next 20 years to properly maintain building systems including roofing, paint, doors, HVAC, flooring, fixtures, furniture, electrical systems, and other replacements that are required now and into the future to maintain the buildings in good working condition.

The projects and funding Member cost responsibility are summarized in Table 2.3. Appendix A includes a Project Profile for each of these R&R projects, providing a comprehensive overview and describing the overall capital investments necessary to maintain the existing Regional Assets in good





working order. Each project profile form lists source documents supporting the project-specific recommendations.

**Figure 2.1 – Alliance Likelihood of Failure / Consequence of Failure Guidance**

<b>LIKELIHOOD OF ASSET FAILURE</b>				
Category	Negligible = 1	Low = 3	Moderate = 5	High = 7
<b>Physical Condition</b>	Condition Grade 1 (Very Good) AND No deficiencies AND Needs no corrective maintenance AND Presently not a safety hazard	Condition Grade 2 (Good) AND/OR Few minor deficiencies AND/OR Needs minimal amount of corrective maintenance BUT Presently not a safety hazard	Condition Grade 3 (Fair) AND/OR Several minor deficiencies AND/OR Needs moderate amount of corrective maintenance BUT Presently not a safety hazard	Condition Grade 4 (Poor) AND/OR Major deficiencies AND/OR Needs substantial amount of corrective maintenance or partial rehabilitation AND/OR Presently a potential safety hazard
<b>Performance</b>	Meets all functional requirements with normal O&M procedures under all demand conditions (e.g., avg and max day flow and peak hour flow; high and low temperatures) but occasionally requires increased attention from O&M staff during extreme conditions	Meets all functional requirements under all demand conditions (e.g., avg and max day flow and peak hour flow; high and low temperatures) but occasionally requires increased attention from O&M staff during extreme conditions	Meets functional requirements under most conditions (e.g., avg and max day but not peak hour) AND/OR Occasionally unstable or difficult to operate without increased attention from O&M staff AND/OR Some components are obsolete with spare parts difficult to obtain	Meets functional requirements only under normal conditions (e.g., avg day but not max day or peak hour) AND/OR Frequently unstable or difficult to operate without increased attention from O&M staff AND/OR Most or all components are obsolete with spare parts difficult to obtain
<b>Maintenance History</b>	Ratio of planned maintenance hours to total maintenance hours is $\geq 70\%$ AND Planned maintenance activities rarely find needed corrective maintenance AND Mean time between failure (MTBF) is acceptable and steady or trending higher	Ratio of planned maintenance hours to total maintenance hours is $< 70\%$ but $\geq 60\%$ AND Planned maintenance activities rarely find needed corrective maintenance AND MTBF is acceptable but trending lower	Ratio of planned maintenance hours to total maintenance hours is $< 60\%$ but $\geq 40\%$ AND/OR Planned maintenance activities frequently find needed corrective maintenance AND/OR MTBF is unacceptable but trending higher	Ratio of planned maintenance hours to total maintenance hours is $< 30\%$ AND/OR Planned maintenance activities always find needed corrective maintenance AND/OR MTBF is unacceptable and trending lower
<b>CONSEQUENCE OF ASSET FAILURE</b>				
	Negligible = 1	Low = 3	Moderate = 5	High = 7
<b>Regulatory Compliance and Environmental Impact</b>	Full compliance with regulatory requirements and permits	If not addressed, will create potential for permit or regulatory violation	Potential for permit or regulatory violation	Potential for exceedance of permit limits
<b>System Reliability</b>	No loss of treatment or system effectiveness Full automated redundancy	No loss of treatment or system effectiveness but need to use redundant systems Manual operation of equipment required Manual redundancy Deviation from standard process	Potentially result in loss of treatment or system effectiveness if action is not taken within the return to service time for the asset Additional staff time required Eventual damage to equipment	Will immediately result in loss of treatment or system effectiveness and cannot be easily reversed or mitigated No redundancy Flooding / overflow off site
<b>Health and Safety</b>	Routine work not requiring emergency response	Routine work requiring emergency response	Facility employees exposed to increased hazards (i.e. confined space, biohazard, heights $> 20$ ft above ground, $> 10$ ft deep trench)	Employee exposure to extreme adverse conditions or hazards requiring non-routine activities (i.e. energized power, explosive atmosphere, O <sub>2</sub> deficient atmosphere) Off site public safety hazard



As noted previously, the proposed plan does not evaluate every component or piece of equipment in the system and defers some evaluations to the next biennium. To account for those undefined needs and provide a complete 20-year Capital Plan, the following project allowances are established:

- \$150,000 per year for years 1-2
- \$175,000 per year for years 3-4
- \$200,000 per year for years 5-6
- \$1,500,000 per year for years 7-20

All projects related to existing Regional Assets will be carried forward into the Capital Budget to determine appropriate funding mechanisms and the resulting Regional Service Charges.



**Table 2.3 – Existing Regional Assets – Funding Member Cost Responsibility (all costs in 2022 dollars)**

R&R Project Name	PROJECT COST	Battle Ground Percentage Share	Clark Regional Percentage Share	Battle Ground Cost Allocation	Clark Regional Cost Allocation
1 SCTP SCADA System Replacement	\$ 500,000	23.2%	76.8%	\$ 116,000	\$ 384,000
2 SCTP Primary Sludge Pump Replacement	\$ 2,600,000	23.2%	76.8%	\$ 603,000	\$ 1,997,000
3 RTP PLC Replacement	\$ 250,000	0%	100%	\$ 0	\$ 250,000
4 36th Ave Pump Station Controls Replacement	\$ 230,000	24.8%	75.2%	\$ 57,000	\$ 173,000
5 Building Systems R&R Program	\$ 18,600,000	23.2%	76.8%	\$ 4,315,000	\$ 14,285,000
6 SCTP Primary Clarifier Mechanism Replacements	\$ 2,000,000	23.2%	76.8%	\$ 464,000	\$ 1,536,000
7 SCTP Sludge Blend Tank Slope Stabilization	\$ 180,000	23.2%	76.8%	\$ 42,000	\$ 138,000
8 SCTP Diesel Fuel Tank (Bldg. 83) Replacement	\$ 190,000	23.2%	76.8%	\$ 44,000	\$ 146,000
9 SCTP Access Road and Asphalt Repair	\$ 440,000	22.6%	77.4%	\$ 99,000	\$ 341,000
10 SCTP Waste Gas Burner Replacement	\$ 1,850,000	22.6%	77.4%	\$ 418,000	\$ 1,432,000
11 SCTP Dewatering Equipment Replacement	\$ 5,000,000	23.2%	76.8%	\$ 1,160,000	\$ 3,840,000
12 SCTP Influent Screen Replacement (Phase 6)	\$ 900,000	22.6%	77.4%	\$ 203,000	\$ 697,000
13 SCTP UV System Replacement (Phase 6)	\$ 3,800,000	22.6%	77.4%	\$ 860,000	\$ 2,940,000
Annual R&R Allowance	\$ 22,050,000	23.2%	76.8%	\$ 5,116,000	\$ 16,934,000
<b>R&amp;R PROGRAM TOTALS</b>	<b>\$ 58,590,000</b>			<b>\$ 13,497,000</b>	<b>\$ 45,093,000</b>





### 2.4 New Regional Assets – Capital Improvement Program

This section of the Capital Plan presents the infrastructure investments needed to address system capacity, new regulatory obligations, or new level-of-service commitments over time.

**Regional Asset Capacity Assessment - General.** The initial planning basis for individual projects has been established in the Member agency planning documents listed in Section 2.2. The timelines associated with the project recommendations in the planning documents have been updated in the Capital Plan to align with actual development trends and forecast growth based on best available economic information. As summary of the growth and capacity management approach is as follows:

- *Collection System Response.* Rainfall patterns and the resulting flows in the wastewater collection system are reviewed to determine the appropriate basis of forecast. Ecology assigns treatment capacity on a maximum monthly flow basis, or the average flow over a month during a sustained wet weather period. The Capital Plan uses the collection system response from December 2015 as the highest maximum monthly flow response in recent record. These flows are indexed to the size of the collection system at the time of the storm response in terms of flow per equivalent residential unit (ERU) for each of the service areas.
- *Historical Growth Trends.* The Alliance capacity management model is updated to reflect actual development trends since the last Capital Plan update. For this update, the development patterns in 2020 (2045 ERUs) and 2021 (2297 ERUs) were well above the longer-term growth trend for the region (1,325 ERUs/year). Stated another way, the Alliance experienced the equivalent of 3.3 years of average growth over the last two-year period. This update provides a new baseline schedule for future projections.
- *Basis of Growth Projections.* The managers of the wastewater collection systems for Battle Ground and the District are consulted and an updated forecast for years 0 to 5 is obtained from the Member agencies delivering flow into the Regional Assets. For years 6 to 20, a projected growth value near the long-term average is used. These long-term average values are normalized to reflect both recessionary periods and periods with above-trend economic growth.
- *Updated Capital Project Timing.* The capital project timing is then adjusted to align with the updated growth projections. The timing update includes a one-year contingency period where the completion of construction activities is set to be completed in the year before capacity limits are reached in the respective Regional Assets. Overall, the capacity-related capital projects have generally been accelerated 1-2 years in this Capital Plan update due to the above-trend growth over the last two years.



- *Shared Capacity Approach.* The project timelines depicted in the Capital Plan are derived from an assessment of total asset capacity, rather than the Allocated Capacity owned by a single Alliance Member. This approach effectively assumes that Members will work cooperatively together to share or lease capacity to maximize the use of a Regional Asset and defer future capital investments to the extent possible, in line with the Alliance Core Value to *Optimize use of existing facilities*.

**Regional Asset Capacity Assessment – Salmon Creek Treatment Plant.** To illustrate the updated capacity analysis, information is provided herein for the Salmon Creek Treatment Plant (SCTP). The SCTP is the primary Regional Asset in terms of overall size, complexity, and historical cost. In addition, it represents the limiting capacity element in the Alliance-owned Regional Assets.

The Department of Ecology (Ecology) requires the Alliance to submit a plan and schedule maintaining adequate capacity in the treatment facilities when one of the following two conditions is met:

- actual flow or actual wasteload reaches 85% of the rated capacity of the facility for three consecutive months; or
- projected flow or projected wasteload will reach the design capacity of the facility within five years

SCTP capacity has been assessed relative to these criteria for both flow and wasteload and the results are summarized herein.

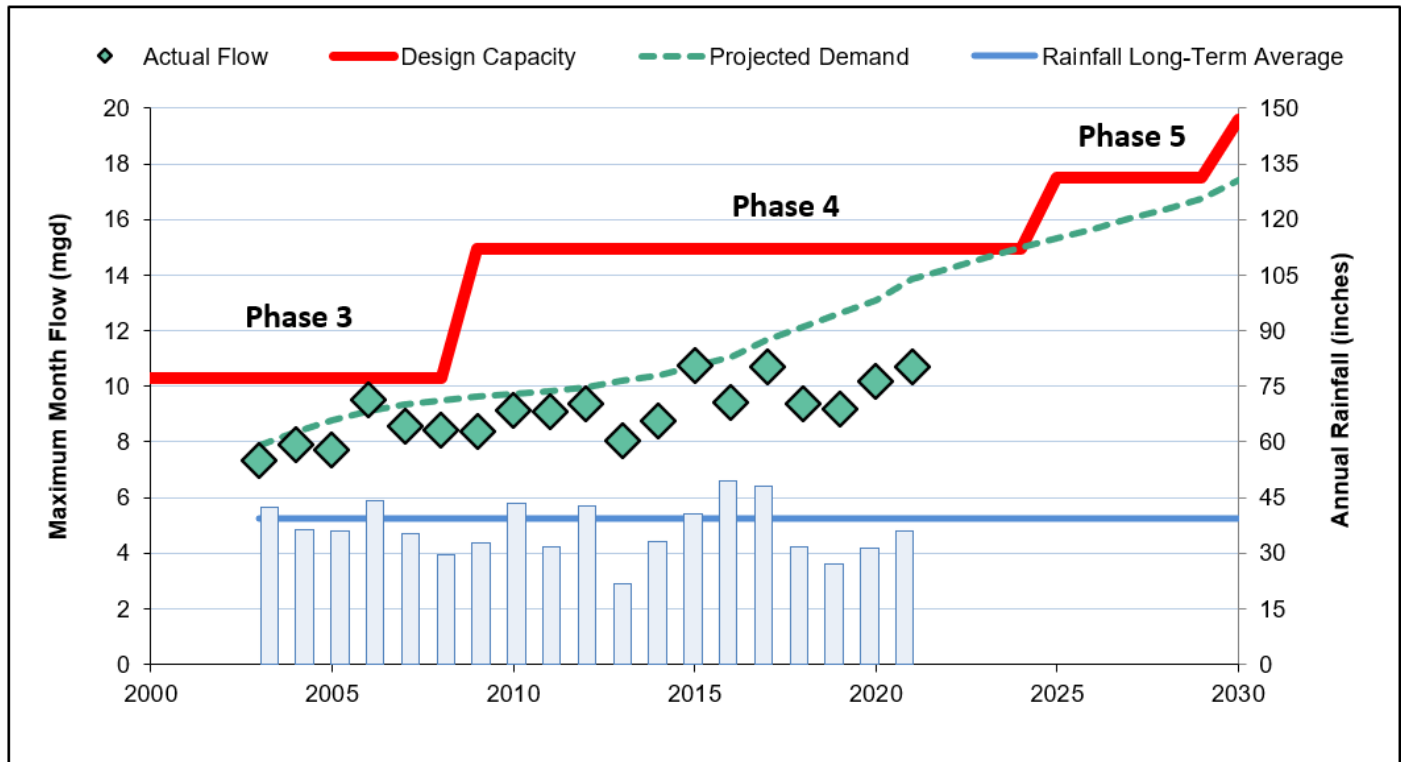
### Flow:

In terms of the flow-based assessment, SCTP influent flow is presented in Figure 2.2. As noted above, flow at a regional treatment plant is influenced by multiple factors such as (1) overall growth in the system, (2) general rainfall patterns that contribute extraneous flows to the plant, termed infiltration and inflow (I/I), and (3) changes in the water use patterns over time in the population represented by the service area.

Taking these factors into consideration, this assessment indicates that capacity in the system needs to be increased approximately by the year 2024 or 2025. The “Projected Demand” curve is based on the updated Alliance capacity management model, described above.



Figure 2.2 – Salmon Creek Treatment Plant Capacity Assessment – Influent Flow

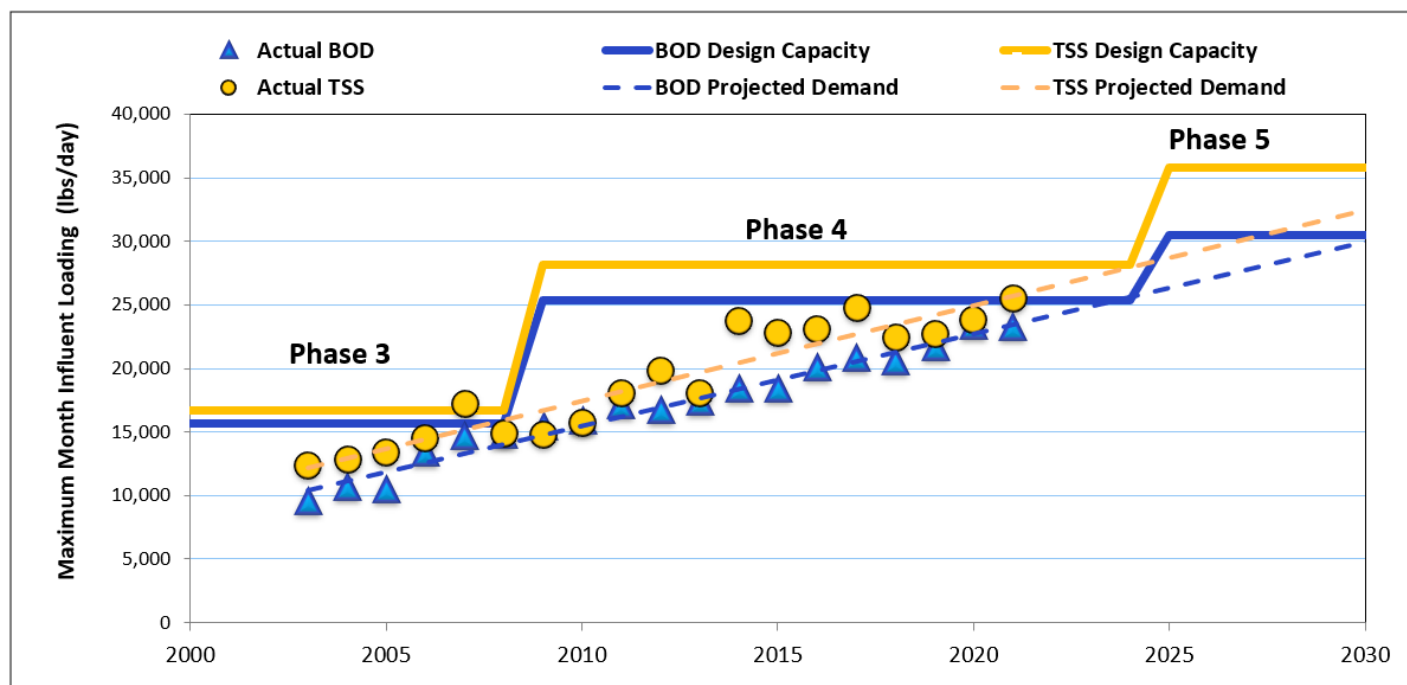


### Wasteload:

In terms of wasteload assessment, SCTP influent wasteload is presented in Figure 2.3. Wasteload is presented for two parameters used by Ecology to track plant capacity: (1) total suspended solids (TSS), and (2) biochemical oxygen demand (BOD). TSS is a measure of particulate solids in the wastewater. BOD is a measure of the wastewater strength based on how biological activity responds to the "food" sources in the wastewater. Taking these factors into consideration, this assessment indicates capacity in the system also needs to be increased by the year 2024 or 2025 for both TSS and BOD.



**Figure 2.3 – Salmon Creek Treatment Plant Capacity Assessment – Influent Wasteload**



The results of the SCTP capacity assessment are summarized as follows:

**Table 2.4 – Summary of Salmon Creek Treatment Plant Capacity Assessments**

Parameter	Flow (mgd, MMF)	TSS (ppd, maximum month)	BOD (ppd, maximum month)
Design Capacity	14.95	28,200	25,400
Year Design Capacity Reached (projected)	2024/2025	2024/2025	2024/2025
Ecology Approval of Plans for Maintaining Capacity			
<ul style="list-style-type: none"> <li>Phase 5A Project (Outfall/Effluent Pipeline)</li> </ul>	Engineering Report Approved February 2019		
<ul style="list-style-type: none"> <li>Phase 5B Project (SCTP Improvements)</li> </ul>	Engineering Report Approved July 2021		

As Table 2.4 indicates, the plans for maintaining adequate capacity for the SCTP have been approved by Ecology. The focus is now on delivering these projects to meet the capacity needs of the Alliance.



This 20-year Capital Plan also includes a project to provide an updated General Sewer Plan/Wastewater Facilities Plan to appropriately plan for and meet the long-term regional wastewater program needs of the Alliance. The capacity management approach will be evaluated in additional detail within this planning document to confirm the project scope, cost, and timing for future investments in the Regional Assets.

The projects and funding Member cost responsibility are summarized in Table 2.5. The individual capital projects are profiled in detail in Appendix B.

All capital projects currently represented will be carried forward into the Capital Budget to determine appropriate funding mechanisms for the projects and the resulting Regional Service Charges to the Alliance Members.

**New Projects Identified for 2022 Capital Plan.** The following projects were identified in the process of developing the 2022 Capital Plan:

**SCTP Chemically Enhanced Primary Treatment Pilot Project:**

The delivery of the Phase 5A and 5B projects has been impacted by marketplace disruptions and complex regulatory issues. All available schedule contingency has been utilized, and the anticipated construction timing is now aligned with the projected need for capacity in the regional system, with no schedule contingency. To further mitigate schedule risk, a new project has been added to the program: SCTP Chemically Enhanced Primary Treatment (CEPT) Pilot Project. If successful at the pilot stage, this new treatment process is intended to provide a pathway for incremental additional capacity at SCTP that could be implemented quickly, if needed, to manage regional system capacity.

**SCTP Phase 8 Expansion:**

In the previous (2020) Capital Plan, the SCTP Phase 8 Expansion Project was scheduled to start in year 21 of the planning period, just beyond the official 20-year framework for the plan. With two additional years having elapsed, and with higher-than-average growth during that two-year period, the Phase 8 project is now scheduled to start toward the end of the 20-year planning period, specifically in years 18-19-20. The work depicted within the 20-year plan is related to the official planning process/approvals for the project, as well as the start of the engineering design and permitting for the project. Most of the costs for the project are still outside of the official 20-year planning period.

**RTP Secondary Treatment Process Improvements:**

Engineering work over the last two years has identified an imbalance at the RTP between the official hydraulic (flow-based) rating for the facility and the organic loading (wasteload) for the facility. The regional capacity management model is based on the flow-based rating for the facility. This project proposes improvements to the secondary treatment process that will allow the facility wasteload capacity to be increased to match the flow-based rating for the facility.



Table 2.5 – New Regional Assets – Funding Member Cost Responsibility (all costs in 2022 dollars)

CIP Project Name	PROJECT COST	Battle Ground Percentage Share	Clark Regional Percentage Share	Battle Ground Cost Allocation	Clark Regional Cost Allocation
1 117th Street Pump Station Capacity Upgrade	\$ 13,700,000	23.4%	76.6%	\$ 3,200,000	\$ 10,500,000
2 SCTP Phase 5A (Outfall/Effluent Pipeline) Expansion	\$ 37,000,000	25.9%	74.1%	\$ 9,600,000	\$ 27,400,000
3 SCTP Phase 5B (Treatment Plant) Expansion	\$ 34,600,000	19.2%	80.8%	\$ 6,600,000	\$ 28,000,000
4 SCTP Chemically Enhanced Primary Treatment Pilot Project	\$ 500,000	0.0%	100.0%	\$ 0	\$ 500,000
5 SCTP Phase 6 Expansion	\$ 44,900,000	10.5%	89.5%	\$ 4,700,000	\$ 40,200,000
6 SCTP Class A Biosolids Upgrade	\$ 15,000,000	21.3%	78.7%	\$ 3,200,000	\$ 11,800,000
7 SCTP Phase 7 Expansion	\$ 43,500,000	20.5%	79.5%	\$ 8,900,000	\$ 34,600,000
8 SCTP Phase 8 Expansion**	\$ 6,000,000	20.6%	79.4%	\$ 1,200,000	\$ 4,800,000
9 RTP Secondary Treatment Process Improvements	\$ 700,000	0%	100%	\$ 0	\$ 700,000
10 RTP Decommissioning	\$ 4,600,000	0%	100%	\$ 0	\$ 4,600,000
11 BGFMD Parallel Force Main	\$ 42,700,000	100%	0%	\$ 42,700,000	\$ 0
12a General Sewer Plan/Wastewater Facilities Plan - Phase 6/7	\$ 2,000,000	21.8%	78.2%	\$ 400,000	\$ 1,600,000
12b General Sewer Plan/Wastewater Facilities Plan - Phase 8	\$ 2,000,000	21.2%	78.8%	\$ 400,000	\$ 1,600,000
<b>CIP PROGRAM TOTALS</b>	<b>\$ 247,200,000</b>			<b>\$ 80,900,000</b>	<b>\$ 166,300,000</b>

\*\* Phase 8 project costs only include the costs planned to incur within the current planning period (2023-2042). The total cost of the Phase 8 project is estimated to be \$38,800,000, with most of the costs incurred after the 20-year planning period.



### 2.5 Change in Allocated Capacity

Allocated Capacity may be changed among Members through a Capital Plan (IFA, Section IV). Allocated Capacity is a critical parameter for Alliance Members because it is the fundamental basis upon which Alliance costs are determined for individual Alliance Members.

Both the Phase 5A and Phase 5B projects are currently planned to be completed in the following three years. Pending completion of construction, the Allocated Capacity will be updated as follows through adoption of a future Capital Plan:

**Table 2.6 – Future Change in Allocated Capacity**

Basis of Allocated Capacity Change	Battle Ground	Clark Regional Wastewater District	Total
Phase 5A Project (Outfall/Effluent Pipeline)	10.10 MGD	28.08 MGD	38.18 MGD
Phase 5B Project (SCTP Improvements)	3.96 MGD	13.54 MGD	17.50 MGD

A brief description of each Regional Asset and the current Capacity Allocation is shown in Table 2.7 on the following page.



**Table 2.7 – Regional Assets and Current Capacity Allocations**

System Name	No.	Regional Asset Name	Regional Asset Description	Initial Capacity Allocations (MGD, MMF)		
				Existing Allocated Capacity		
				BG	CRWWD	Total
Salmon Creek Wastewater Management System (SCWMS)		<b>Interceptor System</b>		<b>10.10</b>	<b>28.08</b>	<b>38.18</b>
	1	Salmon Creek Interceptor	4.6 mile long gravity pipeline located on the south side of the Salmon Creek drainage. The interceptor collects and conveys wastewater from partner agencies to regional pump stations. The pipeline was constructed in segments from the mid to late 1970's (21-42-inch diameter pipe routed from Betts Bridge to 36 Ave).	1780*	1620*	3400*
	2	Klineline Interceptor	1.8 mile long gravity pipeline located parallel to the Salmon Creek Interceptor. The pipeline was constructed in segments from 2002 to 2006 (48-inch diameter pipe routed from Salmon Creek Ave & NE 127 St to 117 St PS).			
	2A	Regional Biofilter - Klineline Interceptor	Regional biofilter providing odor and control corrosion associated with the combined discharges of the St. John's Interceptor and Battle Ground Force Main. The biofilter utilized a two-cell engineered media configuration to treat the air phase odors prior to discharge. The facility capacity is expressed in CFM because the system is treating air flows rather than wastewater flows.			
		<b>Pump Station (PS) System</b>		<b>4.47</b>	<b>13.57</b>	<b>18.04</b>
	3	36 Avenue PS	Raw sewage PS located at 14014 NW 36 Ave in Vancouver, WA. The station pumps wastewater from the Salmon Creek interceptor to SCTP. The pump station was constructed in mid 1970's and remodeled in 1994 and 2005.			
	4	117 Street PS (aka Klineline PS)	Raw sewage PS located at 1110 NE 117 St in Vancouver, WA. The station pumps wastewater from Salmon Creek and Klineline interceptors to SCTP. The pump station was constructed in 2008.			
		<b>Force Mains (FM) System</b>		<b>6.30</b>	<b>20.06</b>	<b>26.36</b>
Ridgefield Treatment System	5	36 Avenue PS FM	24-inch diameter FM routed from 36 Ave PS to SCTP. The FM runs approximately 1.4 miles along the south side of the Salmon Creek and discharges to SCTP. The pipeline was constructed in mid 1970's.	3.47	11.48	14.95
	6	117 Street PS FM	30-inch diameter FM routed from 117 St PS to SCTP. The FM runs approximately 4.9 miles along public rights-of-way to the SCTP. The pipeline was constructed in segments from 2004 to 2008.			
	7	<b>Salmon Creek Treatment Plant (SCTP) &amp; Outfall</b>				
Battle Ground Force Main System		<b>Ridgefield Treatment Plant (RTP) &amp; Outfall</b>		<b>0.00</b>	<b>0.70</b>	<b>0.70</b>
	8		Secondary treatment plant originally constructed in 1959 with several upgrades since then. The plant is located on West Cook St in Ridgefield, WA. The plant outfall is an 8-inch diameter pipeline routed west of the plant 0.2 miles, terminating in Lake River. The discharge location is latitude 45° 49' 18" N, longitude 122° 45' 09" W.			
Battle Ground Force Main System		<b>Battle Ground FM</b>		<b>3.44</b>	<b>0.96</b>	<b>4.40</b>
	9	(Including odor control system for FM)	9 mile long 16-inch diameter FM with biocide chemical injection facility routed southwesterly from Battle Ground PS to Klineline interceptor at Salmon Creek Ave. The pipeline was constructed in 1993.			

\* Values are in CFM (air flow rate in cubic feet per minute) for this Regional Asset





### 2.6 Capital Plan Summary – Project Funding

The two-, six- and 20-year capital projects, related to existing Regional Assets and new capacity infrastructure, will be carried forward into the Capital Budget to determine appropriate funding mechanisms and the resulting Regional Service Charges to the Alliance Members.

Tables 2.8 and 2.9, found on the following pages, present cash flow summaries for the capital investments necessary to maintain the existing Regional Assets in good working order (R&R projects) and to construct new Regional Assets over time (CIP projects) to adequately meet capacity demand, anticipated regulatory requirements, and community-appropriate levels of service.





Table 2.8 – Project Funding – Repair and Replacement Program (all costs are in 2022 dollars &amp; shown in \$1,000's)

Year	0		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20-Year Period Total	Project Total
Project Name	Actual Through 2021	2022 Estimate	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042		
Expenditures																								
R&R Projects																								
#1-70 SCTP SCADA System Replacement	-	200	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	300	500
#2-50 SCTP Primary Sludge Pump Replacement	-	240	2,360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,360	2,600
#3-49 RTP PLC Replacement	-	30	220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	220	250
#4-49 36th Ave Pump Station Controls Replacement	-	20	210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	210	230
#5-49 Building Systems R&R Program	-	-	400	800	800	800	800	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	18,600	18,600
#6-45 SCTP Primary Clarifier Mechanism Replacements	-	-	650	450	450	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,000	2,000
#7-35 SCTP Sludge Blend Tank Slope Stabilization	-	40	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	140	180
#8-35 SCTP Diesel Fuel Tank (Building 83) Replacement	-	-	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	190	190
#9-30 SCTP Access Road and Asphalt Repair	-	-	-	80	360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	440	440
#10-30 SCTP Waste Gas Burner Replacement	-	-	-	-	-	335	1,515	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,850	1,850
#11-27 SCTP Dewatering Equipment Replacement	50	50	750	4,000	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,900	5,000
#12-P6 SCTP Influent Screen Replacement (Phase 6)	-	-	-	-	50	50	50	230	450	70	-	-	-	-	-	-	-	-	-	-	-	-	900	900
#13-P6 SCTP UV System Replacement (Phase 6)	-	-	-	190	190	190	950	1,900	380	-	-	-	-	-	-	-	-	-	-	-	-	-	3,800	3,800
Annual R&R Allowance	-	-	150	150	175	175	200	200	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	22,050	22,050
Total Annual R&R Projects Expenditures	50	580	5,370	5,670	2,175	2,000	3,515	3,330	3,330	2,570	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	2,500	57,960	58,590

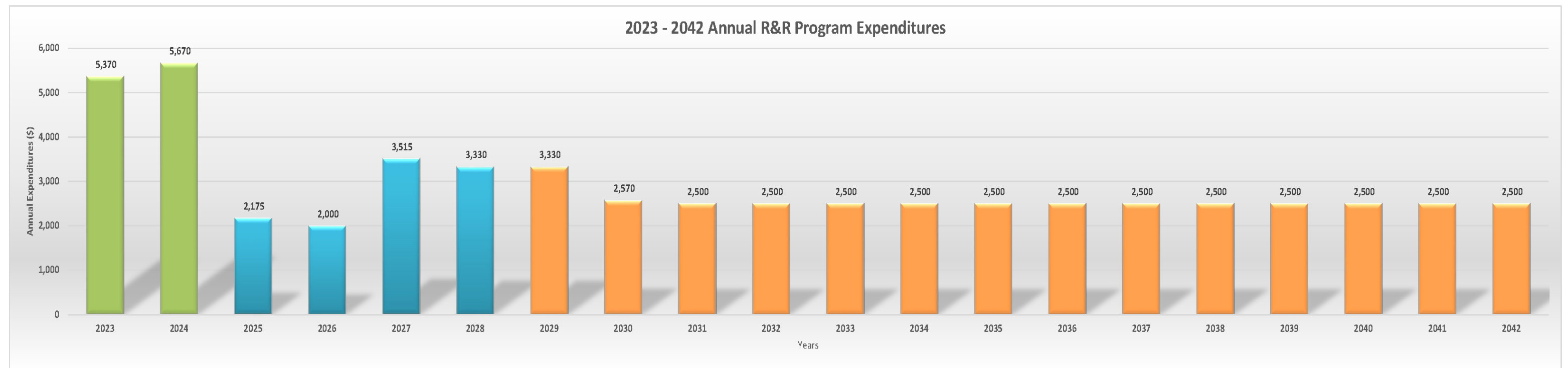
**3** New Projects Identified Through 2022 CCA Process





Table 2.9 – Project Funding – Capital Improvement Program (all costs are in 2022 dollars & shown in \$1,000's)

Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	20-Year Period Total	Project Total	
Project Name	Actual Through 2021	2022 Estimate	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041			2042
Expenditures																								
CIP Projects																								
117th Street Pump Station Capacity Upgrade	-	-	-	-	-	685	685	685	6,165	5,480	-	-	-	-	-	-	-	-	-	-	-	-	13,700	13,700
SCTP Phase 5A (Outfall/Effluent Pipeline) Expansion	11,100	10,000	8,600	7,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15,900	37,000
SCTP Phase 5B (Treatment Plant) Expansion	11,650	6,820	7,700	7,700	730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16,130	34,600
SCTP Chemically Enhanced Primary Treatment Pilot Project	-	150	300	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	350	500
SCTP Phase 6 Expansion	-	-	-	-	2,245	2,245	2,245	11,225	22,450	4,490	-	-	-	-	-	-	-	-	-	-	-	-	44,900	44,900
SCTP Class A Biosolids Upgrade	-	-	-	-	-	-	-	750	3,000	6,750	4,500	-	-	-	-	-	-	-	-	-	-	-	15,000	15,000
SCTP Phase 7 Expansion	-	-	-	-	-	-	-	2,175	2,175	2,175	10,875	21,750	4,350	-	-	-	-	-	-	-	-	-	43,500	43,500
SCTP Phase 8 Expansion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,000	2,000	2,000	6,000	6,000
RTP Secondary Treatment Process Improvements	-	100	550	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	600	700
RTP Decommissioning	-	-	-	-	-	-	-	-	-	-	230	920	2,070	1,380	-	-	-	-	-	-	-	-	4,600	4,600
BGFM Parallel Force Main	-	-	-	-	-	2,135	2,135	4,270	8,540	17,080	8,540	-	-	-	-	-	-	-	-	-	-	-	42,700	42,700
Alliance General Sewer Plan/Wastewater Facilities Plan	-	-	500	500	500	500	-	-	-	-	-	-	-	-	-	-	500	500	500	500	-	-	4,000	4,000
Total Annual CIP Projects Expenditures	22,750	17,070	17,650	15,600	3,475	5,565	5,065	19,105	42,330	35,975	24,145	22,670	6,420	1,380	-	-	500	500	500	2,500	2,000	2,000	207,380	247,200

3 New Projects Identified for 2022 Capital Plan









**APPENDIX A**

**EXISTING REGIONAL ASSETS**

**REPAIR AND REPLACEMENT PROGRAM  
PROJECT PROFILES**



# Discovery Clean Water Alliance CAPITAL PROJECT PROFILE

#1

**Project Name:** SCTP SCADA System Replacement

**Project Number:** RA07-22-1

**Project Priority Score:** 70

**Form Prepared/Updated:** October 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☒

New Asset – Capacity ☐

New Asset – Regulatory ☐

New Asset – Level of Service ☐

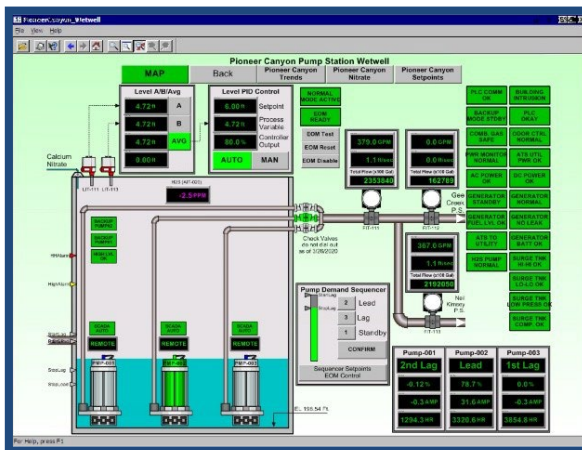
## Project Definition:

**Objective.** The project will replace the existing Supervisory Control and Data Acquisition (SCADA) software, which is currently used for control system graphical interface and local alarm notifications, with new integrated software to alleviate issues related to alarm notifications, software support, and I/O communications.

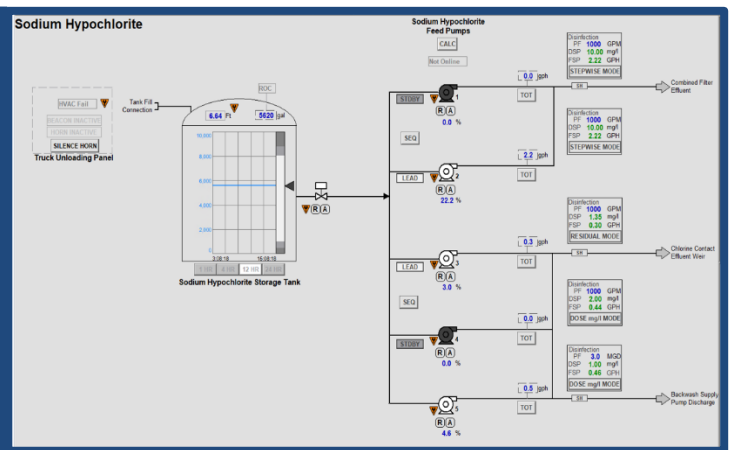
**Scope of Work.** The project will replace the existing SCADA and alarming software system at the Salmon Creek Treatment Plant (SCTP) and 117<sup>th</sup> Street Pump Station with Inductive Automation's Ignition Software. HMI functions, including tags and graphics, will be reconfigured to current standards, and Ignition's integrated software alarm dialer will be applied to provide reliable system operation and management. Four new workstations will be installed at the SCTP, and two new workstations will be installed at the 117<sup>th</sup> Street Pump Station.

**Cost Allocation.** Project cost allocations are based on the date of project initiation. Costs will be apportioned to Battle Ground and the District according to the Salmon Creek Treatment Plant and Outfall Phase 4 allocated capacity of 3.47 mgd (23.2%) for Battle Ground, and 11.48 mgd (76.8%) for the District.

## Photos (if available):



Existing SCADA Interface on Tablet



Existing Facility 85 Workstation

## Budget Information:

### Project Cost Estimate

Total Project Cost:	\$500,000
Basis of Estimate -	
Year Completed:	2022
Project Definition:	Class 5

### Project Cost Allocation

Battle Ground:	23.2%	\$116,000
District:	76.8%	\$384,000

## Schedule Information:

Activity	Year
Planning	2022
Permitting	NA
Real Property/ROW	NA
Design	2022-2023
Bid	NA
Construction	NA



# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

#2

**Project Name:** SCTP Primary Sludge Pump Replacement

**Project Number:** RA07-23-1

**Project Priority Score:** 50

**Form Prepared/Updated:** February 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☒

New Asset – Capacity ☐

New Asset – Regulatory ☐

New Asset – Level of Service ☐

### Project Definition:

**Objective.** The project will increase the overall performance of sludge processing while reducing operating and maintenance costs by replacing the primary sludge pumps to a more efficient pump type.

**Scope of Work.** The existing Salmon Creek Treatment Plant (SCTP) primary sludge diaphragm pumps are air powered and inefficient. The project will replace the existing eight primary sludge pumps and associated air compressors, installed in 1998 as part of the Phase 3 Expansion, with six progressing cavity pumps with variable frequency drives (VFDs). The existing 60-hp screw compressors will also be replaced with a new, smaller reciprocating compressor. In addition to the pump replacement, new flow meters and Total Suspended Solids (TSS) probes will be installed and the existing air dryers that serve the diaphragm pumps will be replaced with new, smaller air dryers. This project qualifies for an incentive of \$67,601 from Clark Public Utilities and Bonneville Power Administration.

**Cost Allocation.** Project cost allocations are based on the date of project initiation. Costs will be apportioned to Battle Ground and the District according to the Salmon Creek Treatment Plant and Outfall Phase 4 allocated capacity of 3.47 mgd (23.2%) for Battle Ground, and 11.48 mgd (76.8%) for the District. For additional information related to this project, please refer to *Project Assessment Report – Salmon Creek WWTP – New Aeration Diffusers and Sludge Pumps, EMP2 Inc., January 2018.*

### Photos (if available):



*Existing Diaphragm Style Pump*



*Proposed Progressing Cavity Style Pump*

### Budget Information:

#### Project Cost Estimate

Total Project Cost: \$2,600,000

Basis of Estimate -

Year Completed: 2022

Project Definition: Class 3

#### Project Cost Allocation

Battle Ground: 23.2% \$603,000

District: 76.8% \$1,997,000

### Schedule Information:

#### Activity

#### Year

Planning 2022

Permitting NA

Real Property/ROW NA

Design 2022-2023

Bid 2023

Construction 2023





# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

#3

**Project Name:** RTP PLC Replacement

**Project Number:** RA08-23-1

**Project Priority Score:** 49

**Form Prepared/Updated:** October 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☒

New Asset – Capacity ☐

New Asset – Regulatory ☐

New Asset – Level of Service ☐

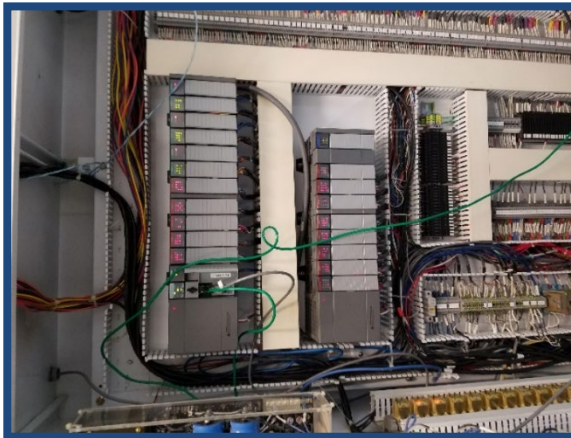
### Project Definition:

**Objective.** This project will replace the obsolete programmable logic controller (PLC), which controls the Ridgefield Treatment Plant (RTP), add new PLC to control the influent pump station and provide for resiliency, and replace the plant SCADA software to be consistent with Salmon Creek Treatment Plant.

**Scope of Work.** This project will replace the existing, obsolete SLC 500 PLC that controls the plant with a current PLC system and replace the existing SCADA software and server to match Salmon Creek Treatment Plant. The existing PLC system is no longer supported by the manufacturer, and replacement parts are no longer available unless obtained through surplus. A common SCADA platform will provide for integration of data management and reduce overall staff training and administrative costs.

**Cost Allocation.** This project replaces an existing asset serving only the District service area; therefore, 100% of the costs are allocated to the District.

### Photos (if available):



Existing PLC



Existing PLC

### Budget Information:

#### Project Cost Estimate

Total Project Cost:	\$250,000
Basis of Estimate -	
Year Completed:	2022
Project Definition:	Class 5

#### Project Cost Allocation

Battle Ground:	0.0%	\$0
District:	100.0%	\$250,000

### Schedule Information:

Activity	Year
Planning	2020
Permitting	NA
Real Property/ROW	NA
Design	2022
Bid	2023
Construction	2023



# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

#4

**Project Name:** 36<sup>th</sup> Avenue Pump Station Controls Replacement

**Project Number:** RA03-23-1

**Project Priority Score:** 49

**Form Prepared/Updated:** February 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☒

New Asset – Capacity ☐

New Asset – Regulatory ☐

New Asset – Level of Service ☐

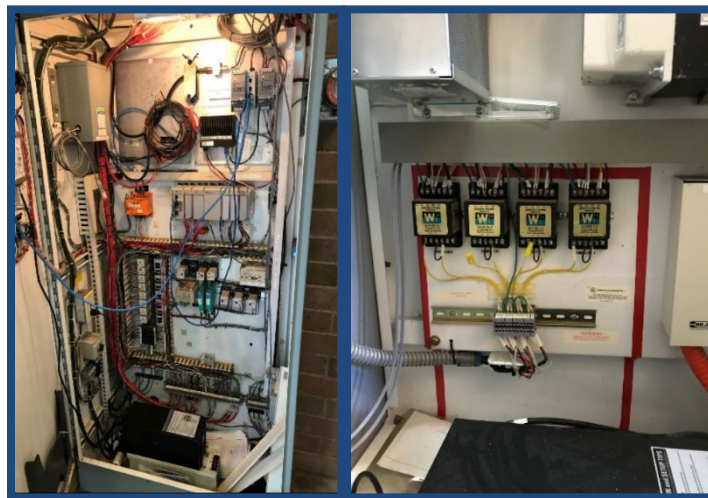
### Project Definition:

Objective. This project will upgrade components and controls of the 36<sup>th</sup> Avenue Pump Station to address intermittent communications issues.

Scope of Work. The project will rewire the existing pump station control panel, replace the existing controller and display module with a new module, and reprogram the pump controls.

Cost Allocation. Project cost allocations are based on the date of project initiation. Costs will be apportioned to Battle Ground and the District according to the pump station allocated capacity of 4.47 mgd (24.8%) for Battle Ground and 13.57 mgd (75.2%) for the District. For additional information related to this project, please refer to *Salmon Creek WWTP Clark County – Vancouver, WA, Installed Base Evaluation, Rockwell Automation, September 2019.*

**Photos** (if available):



*Existing Control Panel*

*Example of Updated Panel*

### Budget Information:

#### Project Cost Estimate

Total Project Cost: \$230,000

Basis of Estimate -

Year Completed: 2020

Project Definition: Class 5

#### Project Cost Allocation

Battle Ground: 24.8% \$57,000

District: 75.2% \$173,000

### Schedule Information:

<u>Activity</u>	<u>Year</u>
Planning	2020
Permitting	NA
Real Property/ROW	NA
Design	2022
Bid	2023
Construction	2023



# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

#5

**Project Name:** Building Systems R&R Program

**Project Number:** BLDG-RR-22

**Project Priority Score:** 49

**Form Prepared/Updated:** October 2022

**Project Type:** Existing Asset – Repair ☒

Existing Asset – Replacement ☒

New Asset – Capacity ☐

New Asset – Regulatory ☐

New Asset – Level of Service ☐

### Project Definition:

Objective. This program consists of several projects to repair or replace existing building systems including roofing, structural, interior, exterior, mechanical, lighting, electrical, plumbing, fire and life safety, technology, conveyances, and other specialties.

Scope of Work. A facility condition assessment was performed to evaluate the overall condition of each building on the Salmon Creek Treatment Plant (SCTP), Ridgefield Treatment Plant (RTP), 36<sup>th</sup> Avenue Pump Station, and 117<sup>th</sup> Street Pump Station campuses. Current deficiencies and life cycle forecasts were used to determine the total cost to address the needs of each facility. The condition assessments identified several projects to address current deficiencies and maintain the condition of existing buildings. Specific projects will be developed and approved by the Management and Infrastructure Committee based on the most urgent needs and overall budget allocation. A program summary by Regional Asset for the first ten years of the program and a detailed list of projects for the current biennium is shown under Supplemental Information.

Cost Allocation. Costs will be apportioned to Battle Ground and the District according to the tables included in the Supplemental Information section. Costs associated with the Ridgefield Treatment Plant will be allocated completely to the District.

For additional information related to this project, please refer to the four *Facility Condition Assessment* reports: *Salmon Creek Treatment Plant, Ridgefield Treatment Plant, 36<sup>th</sup> Avenue Pump Station, and 117<sup>th</sup> Street Pump Station, Jacobs, March 2021.*

### Photos (if available):



*SCTP Corroded Supply Fan*



*Deteriorated Handrail*

### Budget Information:

#### Project Cost Estimate

Total Project Cost: \$18,600,000

Basis of Estimate -

Year Completed: 2022

Project Definition: Class 5

#### Project Cost Allocation

Battle Ground: 23.2% \$4,315,000

District: 76.8% \$14,285,000

### Schedule Information:

#### Activity

#### Year

Planning 2021-2022

Permitting NA

Real Property/ROW NA

Design Ongoing

Bid Ongoing

Construction Ongoing

## Supplemental Information:

### Building Systems R&R Program Cost Summary By Asset

Regional Asset	10-Year Cost	Percentage Cost Allocation	
		Battle Ground	District
Salmon Creek Treatment Plant	\$7,200,000	23.2%	76.8%
117 <sup>th</sup> Street Pump Station	\$600,000	24.8%	75.2%
36 <sup>th</sup> Avenue Pump Station	\$300,000	24.8%	75.2%
Ridgefield Treatment Plant	\$500,000	0.0%	100.0%
<hr/>			
<b>Total 10-Year Program</b>		<b>\$8,600,000</b>	

Note: Cost Allocation will change over time with plant or pump station expansion projects. The allocations listed above apply for the 2023-2024 budget period.

### Building Systems R&R Program Cost Summary By Asset for 2023-2024 Budget

Regional Asset	Project Name	Cost Estimate	Cost Allocation			
			Battle Ground	District	Design	Construction
Salmon Creek Treatment Plant	Exterior Roofing	\$400,000	23.2%	76.8%	2023	2023
Salmon Creek Treatment Plant	Exterior (Doors/Paint)	\$430,000	23.2%	76.8%	2023	2024
Salmon Creek Treatment Plant	Building 85 HVAC	\$320,000	23.2%	76.8%	2023	2024
Salmon Creek Treatment Plant	Allowance	\$50,000	23.2%	76.8%	2023	2024
<hr/>						
<b>Total 2-Year Program</b>		<b>\$1,200,000</b>				



# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

#6

**Project Name:** SCTP Primary Clarifier Mechanism Replacements

**Project Number:** RA07-23-2

**Project Priority Score:** 45

**Form Prepared/Updated:** February 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☒

New Asset – Capacity ☐

New Asset – Regulatory ☐

New Asset – Level of Service ☐

### Project Definition:

**Objective.** This project replaces the Salmon Creek Treatment Plant (SCTP) primary clarifier mechanisms for all four of the SCTP Primary Clarifiers and adds baffling and additional monitoring controls.

**Scope of Work.** An assessment of primary clarifiers 2 and 3 performed by Polychem Solutions identified significant wear of existing SCTP primary clarifier mechanisms. Mechanisms for primary clarifiers 1 and 4 are in similar condition. This project will rebuild the existing mechanisms in all four existing primary clarifiers, add baffling to improve performance, and add monitoring needed to ensure proper operation.

**Cost Allocation.** Project cost allocations are based on the date of project initiation. Costs will be apportioned to Battle Ground and the District according to the Salmon Creek Treatment Plant and Outfall Phase 4 allocated capacity of 3.47 mgd (23.2%) for Battle Ground and 11.48 mgd (76.8%) for the District. Work completed in 2025 or later is assumed to utilize the Phase 5 Capacity Allocation for SCTP.

For additional information related to this project, please refer to *Salmon Creek, WA WWTP Polychem Solutions Inspection Report, Polychem Solutions, February 2021.*

### Photos (if available):



*SCTP Primary Clarifiers*



*Tooth Wear on Existing NCS-720S Idler Sprockets*

### Budget Information:

#### Project Cost Estimate

Total Project Cost:	\$2,000,000
Basis of Estimate -	
Year Completed:	2022
Project Definition:	Class 5

#### Project Cost Allocation

Battle Ground:	23.2%	\$464,000
District:	76.8%	\$1,536,000

### Schedule Information:

<u>Activity</u>	<u>Year</u>
Planning	2022
Permitting	NA
Real Property/ROW	NA
Design	2023
Bid	2023-2026
Construction	2023-2026



# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

#7

**Project Name:** SCTP Sludge Blend Tank Slope Stabilization

**Project Number:** RA07-23-3

**Project Priority Score:** 35

**Form Prepared/Updated:** February 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☒

New Asset – Capacity ☐

New Asset – Regulatory ☐

New Asset – Level of Service ☐

### Project Definition:

**Objective.** The project will engage a geotechnical engineer to evaluate slope stability and drainage issues around the sludge blend tank and install a retaining wall to stabilize the slope and control runoff.

**Scope of Work.** The area around the Salmon Creek Treatment Plant (SCTP) sludge blend tank is highly saturated for much or the year. The project will evaluate slope stability and drainage issues around the sludge blend tank. The project will remove the existing small block wall on the slope south of the sludge blend tank and replace it with a larger, more functional retaining wall. The project will include a more complete drainage system at the base of the wall with perforated pipe that connects to the onsite storm drain.

**Cost Allocation.** Project cost allocations are based on the date of project initiation. Costs will be apportioned to Battle Ground and the District according to the Salmon Creek Treatment Plant and Outfall Phase 4 allocated capacity of 3.47 mgd (23.2%) for Battle Ground, and 11.48 mgd (76.8%) for the District.

### Photos (if available):



*Slope South of Sludge Blend Tank*



*Saturated Ground At Foundation*

### Budget Information:

#### Project Cost Estimate

Total Project Cost: \$180,000

Basis of Estimate -

Year Completed: 2022

Project Definition: Class 5

#### Project Cost Allocation

Battle Ground: 23.2% \$42,000

District: 76.8% \$138,000

### Schedule Information:

#### Activity

#### Year

Planning NA

Permitting NA

Real Property/ROW NA

Design 2022

Bid 2023

Construction 2023



# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

#8

**Project Name:** SCTP Diesel Fuel Tank (Building 83) Replacement

**Project Number:** RA07-23-4

**Project Priority Score:** 35

**Form Prepared/Updated:** February 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☒

New Asset – Capacity ☐

New Asset – Regulatory ☐

New Asset – Level of Service ☐

### Project Definition:

Objective. This project will replace the aged diesel tank for the backup generator at the electrical building (Building 83) at SCTP.

Scope of Work. The existing diesel tank was installed as part of the Salmon Creek Treatment Plant (SCTP) Phase 3 expansion in 1998 to serve the backup generator in Building 83. The tank's interior has deteriorated, and plant staff has reported flaking of material on the tank interior. This project will replace the tank entirely. All other generator components will remain in service.

Cost Allocation. Project cost allocations are based on the date of project initiation. Costs will be apportioned to Battle Ground and the District according to the Salmon Creek Treatment Plant and Outfall Phase 4 allocated capacity of 3.47 mgd (23.2%) for Battle Ground, and 11.48 mgd (76.8%) for the District.

### Photos (if available):



*Building 83 Diesel Fuel Tank*

### Budget Information:

#### Project Cost Estimate

Total Project Cost: \$190,000

Basis of Estimate -

Year Completed: 2022

Project Definition: Class 5

#### Project Cost Allocation

Battle Ground: 23.2% \$44,000

District: 76.8% \$146,000

### Schedule Information:

#### Activity

#### Year

Planning 2020

Permitting 2023

Real Property/ROW NA

Design 2023

Bid 2023

Construction 2023





# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

#9

**Project Name:** SCTP Access Road and Asphalt Repair

**Project Number:** RA07-25-1

**Project Priority Score:** 30

**Form Prepared/Updated:** February 2022

**Project Type:** Existing Asset – Repair ☒

Existing Asset – Replacement ☐

New Asset – Capacity ☐

New Asset – Regulatory ☐

New Asset – Level of Service ☐

### Project Definition:

**Objective.** The project repairs the paved surfaces at Salmon Creek Treatment Plant (SCTP), including the plant access road. Maintaining existing asphalt surfaces will prevent the need for full replacement in the future.

**Scope of Work.** The project will apply a single-layer chip seal treatment to asphalt that is in fair condition and a double-layer chip seal treatment to areas of asphalt in a deteriorated condition. Chip sealing is done by evenly distributing a thin base of hot asphalt onto existing pavement and then embedding finely graded aggregate into it. The approximate area to be sealed is 19,200 square yards. Paving and asphalt repair work should be programmed every five to ten years. This project will be scheduled after projects included in the SCTP Phase 5 Improvements Program are completed.

**Cost Allocation.** Project cost allocations are based on the date of project initiation. Costs will be apportioned to Battle Ground and the District according to the Salmon Creek Treatment Plant and Outfall Phase 5 allocated capacity of 3.96 mgd (22.6%) for Battle Ground, and 13.54 mgd (77.4%) for the District. Work completed in 2025 or later is assumed to utilize the Phase 5 Capacity Allocation for SCTP.

### Photos (if available):



*Paved Area Near the Headworks Building*



*Paved Area Near the Solids Building*

### Budget Information:

#### Project Cost Estimate

Total Project Cost:	\$440,000
Basis of Estimate -	
Year Completed:	2022
Project Definition:	Class 4

#### Project Cost Allocation

Battle Ground:	22.6%	\$99,000
District:	77.4%	\$341,000

### Schedule Information:

<u>Activity</u>	<u>Year</u>
Planning	NA
Permitting	NA
Real Property/ROW	NA
Design	2024
Bid	2025
Construction	2025



# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

#10

**Project Name:** SCTP Waste Gas Burner Replacement

**Project Number:** RA07-27-1

**Project Priority Score:** 30

**Form Prepared/Updated:** February 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☒

New Asset – Capacity ☐

New Asset – Regulatory ☐

New Asset – Level of Service ☐

### Project Definition:

Objective. The project will provide redundancy and increase capacity of the Salmon Creek Treatment Plant (SCTP) waste gas burner system by replacing the old Sur-lite waste gas incinerator with a new enclosed waste gas burner.

Scope of Work. The project will demolish the existing Sur-Lite waste gas incinerator, model SDF200, and replace it with a new enclosed waste gas burner. The new burner will be installed in the same location as the existing Sur-Lite incinerator. The Sur-Lite incinerator has a capacity ranging from 2,960 to 11,840 standard cubic feet per hour. The unit was intended to act as a backup to the newer waste gas burner but has not operated in several years. Further, Sur-lite is no longer in business, thus rehabilitation of that unit is not financially or logistically feasible. The new burner will provide redundancy for the other waste gas burner and ensure sufficient capacity for future waste gas flows. The new enclosed waste gas burner was assumed to have a design capacity of 14,700 standard cubic feet per hour of digester gas. A new burner enclosure will also be provided. The enclosure will be similar to the waste gas burner enclosure provided for the existing Varec burner.

Cost Allocation. Project cost allocations are based on the date of project initiation. Costs will be apportioned to Battle Ground and the District according to the Salmon Creek Treatment Plant and Outfall Phase 5 allocated capacity of 3.96 mgd (22.6%) for Battle Ground, and 13.54 mgd (77.4%) for the District. Work completed in 2025 or later is assumed to utilize the Phase 5 Capacity Allocation for SCTP.

### Photos (if available):



*Older Sur-Lite Flare*



*Newer Varec Flare*

### Budget Information:

#### Project Cost Estimate

Total Project Cost: \$1,850,000

Basis of Estimate -

Year Completed: 2022

Project Definition: Class 4

#### Project Cost Allocation

Battle Ground: 22.6% \$418,000

District: 77.4% \$1,432,000

### Schedule Information:

#### Activity

#### Year

Planning 2020

Permitting 2026

Real Property/ROW NA

Design 2026

Bid 2027

Construction 2027



# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

#11

**Project Name:** SCTP Dewatering Equipment Replacement

**Project Number:** RA07-24-1

**Project Priority Score:** 27

**Form Prepared/Updated:** February 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☒

New Asset – Capacity ☐

New Asset – Regulatory ☐

New Asset – Level of Service ☐

### Project Definition:

**Objective.** This project will improve the biosolids dewatering performance and improve dewatering system reliability by replacing existing belt filter presses with screw presses at the Salmon Creek Treatment Plant (SCTP). Based on pilot testing, the dewatering performance is anticipated to increase from 13% solids currently to approximately 18% solids.

**Scope of Work.** The project will replace two belt filter presses with screw presses of similar capacity. The current belt filter presses were procured in 1996 as part of the Interim Biosolids Dewatering Project and are approaching the end of their useful life.

**Cost Allocation.** Project cost allocations are based on the date of project initiation. Costs will be apportioned to Battle Ground and the District according to the Salmon Creek Treatment Plant and Outfall Phase 4 allocated capacity of 3.47 mgd (23.2%) for Battle Ground, and 11.48 mgd (76.8%) for the District. For additional information related to this project, see the *Salmon Creek Treatment Plant Dewatering Equipment Replacement Project Engineering Report, Brown & Caldwell, July 2011*.

### Photos (if available):



Existing SCTP Belt Filter Press



New Screw Press



SCTP Solids Processing Center

### Budget Information:

#### Project Cost Estimate

Total Project Cost:	\$5,000,000
Basis of Estimate -	
Year Completed:	2022
Project Definition:	Class 4

#### Project Cost Allocation

Battle Ground:	23.2%	\$1,160,000
District:	76.8%	\$3,840,000

### Schedule Information:

Activity	Year
Planning	2022-2023
Permitting	2023
Real Property/ROW	NA
Design	2023
Bid	2024
Construction	2024-2025





# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

#12  
Phase 6-1

**Project Name:** SCTP Influent Screen Replacement

**Project Number:** RA07-27-2

**Project Priority Score:** Component of Phase 6 Expansion

**Form Prepared/Updated:** October 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☒

New Asset – Capacity ☐

New Asset – Regulatory ☐

New Asset – Level of Service ☐

### Project Definition:

**Objective.** The project will replace the two existing mechanically cleaned influent screens and compactors to reduce the labor hours required to maintain the operation of the aging screens.

**Scope of Work.** The project will install two new mechanically cleaned influent screens to replace the existing units, which were installed in 1998 as part of the Salmon Creek Treatment Plant (SCTP) Phase 3 Expansion. The equipment is aging, and a rebuild project was performed in 2017 to extend the life of the equipment until replacement. In addition to the screens, new screening compactors are required. The current schedule is based on coupling the replacement with the addition of a third bar screen, programmed as part of the Phase 6 Expansion program for efficiency and system compatibility.

**Cost Allocation.** Project cost allocations are based on the date of project initiation. Costs will be apportioned to Battle Ground and the District according to the Salmon Creek Treatment Plant and Outfall Phase 5 allocated capacity of 3.96 mgd (22.6%) for Battle Ground, and 13.54 mgd (77.4%) for the District. For additional information related to this project, see the *Salmon Creek Wastewater Treatment Plant Maintenance Assessment*, CH2M HILL, March, 2016

### Photos (if available):



*Existing Influent Screens Rebuilt in 2017*

### Budget Information:

#### Project Cost Estimate

Total Project Cost: \$900,000

Basis of Estimate -

Year Completed: 2022

Project Definition: Class 5

#### Project Cost Allocation

Battle Ground: 22.6% \$203,000

District: 77.4% \$697,000

### Schedule Information:

#### Activity

Planning 2025

Permitting 2026-2027

Real Property/ROW NA

Design 2026-2027

Bid 2028

Construction 2028-2030





# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

**#13**  
**Phase 6-2**

**Project Name:** SCTP UV System Replacement

**Project Number:** RA07-27-3

**Project Priority Score:** Component of Phase 6 Expansion

**Form Prepared/Updated:** October 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☒

New Asset – Capacity ☐

New Asset – Level of Service ☐

### Project Definition:

**Objective.** The project will improve performance and energy efficiency in the Salmon Creek Treatment Plant (SCTP) Ultraviolet (UV) system by replacing the existing, obsolete Trojan UV4000 system with newer technology.

**Scope of Work.** The project will demolish the existing UV system and replace it with a new, more energy-efficient system. The system was originally installed in 1998 with the Phase 3 SCTP Expansion and completely rebuilt in 2008 with the Phase 4 SCTP Expansion. System bulb life associated with current technology is now more than twice the existing and repair parts are no longer being manufactured. Coupled with energy savings, the total potential annual savings is approximately \$100,000 to \$150,000. The new system would be designed to replace the existing system capacity. The project may be completed earlier than the Phase 6 SCTP Expansion program, depending on final project schedules and potential Federal or State funding.

**Cost Allocation.** Project cost allocations are based on the date of project initiation. Costs will be apportioned to Battle Ground and the District according to the Salmon Creek Treatment Plant and Outfall Phase 5 allocated capacity of 3.96 mgd (22.6%) for Battle Ground, and 13.54 mgd (77.4%) for the District. For additional information related to this project, see the *Salmon Creek Wastewater Management System Repair and Replacement Needs Assessment Update, CH2M HILL, February 11, 2014.*

### Photos (if available):



*Existing UV System*



*Existing UV System Expansion During Phase 4*

### Budget Information:

#### Project Cost Estimate

Total Project Cost: \$3,800,000

Basis of Estimate -

Year Completed: 2022

Project Definition: Class 3

#### Project Cost Allocation

Battle Ground: 22.6% \$860,000

District: 77.4% \$2,940,000

### Schedule Information:

#### Activity

#### Year

Planning 2024

Permitting 2025-2026

Real Property/ROW NA

Design 2025-2026

Bid 2027

Construction 2027-2029





**APPENDIX B**

**NEW REGIONAL ASSETS**

**CAPITAL IMPROVEMENT PROGRAM  
PROJECT PROFILES**



# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

**Project Name:** 117<sup>th</sup> Street PS Capacity Upgrade

**Project Number:** RA04-29-1

**Form Prepared/Updated:** February 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☒

New Asset – Capacity ☒

New Asset – Regulatory ☐

New Asset – Level of Service ☐

### Project Definition:

**Objective.** This project will increase the pumping capacity of the 117<sup>th</sup> Street Pump Station to meet the projected future capacity needs of the regional wastewater management system.

**Scope of Work.** The project will replace the five existing 250-HP raw sewage pumps, motors, and variable frequency drives with new equipment of larger size and capacity. The project will also install a second engine-generator to provide backup power service as required by Ecology. The pump station's structure and site are designed to accommodate this future upgrade. As a result, there is limited site or structure work required. The project is required to be complete before the system flows reach 34 mgd peak hour flow.

**Cost Allocation.** A project-specific cost allocation structure is being utilized for this project based on the purchase of additional capacity in the system (see analysis on reverse side). For additional information related to this project, see the *Klineline Pump Station and Force Main Project, Preliminary Design Report, Brown & Caldwell, April 2005*.

### Photos (if available):



Existing Pump Assembly



Pump Station Structure



Existing Engine Generator

### Budget Information:

#### Project Cost Estimate

Total Project Cost:	\$13,700,000
Basis of Estimate -	
Year Completed:	2022
Project Definition:	5% design (Class 4)

#### Project Cost Allocation

Battle Ground:	23.4%	\$3,200,000
District:	76.6%	\$10,500,000

### Schedule Information:

Activity	Year
Planning	2026
Permitting	2027-2028
Real Property/ROW	N/A
Design	2027-2028
Bid	2029
Construction	2029-2030

## Supplemental Information:

### 117<sup>th</sup> Street Pump Station Pumping Capacity Upgrade

#### Project-Specific Cost Allocation Based on Responsibility for Contributing Factors

Contributing Factor			RESPONSIBILITY ALLOCATION			COST ALLOCATION	
			Contributing Factor (percent)	Battle Ground Share (percent)	District Share (percent)	Battle Ground Share (percent)	District Share (percent)
1.	Existing Capacity – Replacement of Existing Pumping Capacity	(Existing)	50.0%	24.8%	75.2%	12.4%	37.6%
	<i>Battle Ground Capacity (mgd)</i>	<i>4.47</i>					
	<i>District Capacity (mgd)</i>	<i>13.57</i>					
	<i>Total Capacity (mgd)</i>	<i>18.04</i>					
2.	New Capacity – Construction of New Pumping Capacity	(Total) (Increment)	50.0%	22.0%	78.0%	11.0%	39.0%
	<i>Battle Ground Capacity (mgd)</i>	<i>6.30 1.83</i>					
	<i>District Capacity (mgd)</i>	<i>20.06 6.49</i>					
	<i>Total Capacity (mgd)</i>	<i>26.36 8.32</i>					
TOTAL			100.0%			23.4%	76.6%



# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

**Project Name:** SCTP Phase 5A (Outfall/Effluent Pipeline) Expansion **Project Type:** Existing Asset – Repair ☐

**Project Number:** RA07-21-1

Existing Asset – Replacement ☒

**Form Prepared/Updated:** October 2022

New Asset – Capacity ☒

New Asset – Regulatory ☐

New Asset – Level of Service ☐

### Project Definition:

**Objective.** The outfall replacement will ensure adequate mixing and dilution of treated wastewater discharged into the Columbia River and address streambank erosion affecting the existing pipeline. This project will also provide an increase to Alliance Members' Allocated Capacity of the Salmon Creek Treatment Plant Outfall with installation of a new effluent pipeline and replacement of the in-water and on-shore segments of the outfall pipeline.

**Scope of Work.** Construct a new effluent pipeline approximately 6,100 feet long and 48 inches in diameter from the treatment plant to the west side of Lower River Road. The route will cross the BNSF railroad, Salmon Creek, Lake River, and Lower River Road, requiring significant permitting and real property coordination to prepare the project for bid and construction. The project will also install approximately 1,200 feet of new outfall pipeline from Lower River Road to a new in-water diffuser assembly in the Columbia River. The new pipeline will parallel and replace the in-water portion of the outfall pipeline installed in 1975.

**Cost Allocation.** The replacement portion of the project costs are apportioned to Battle Ground and the District according to current treatment plant allocated capacity. The new capacity portion of the project costs are allocated based on the incremental capacity purchases by Battle Ground and the District. See supplemental information section (reverse side) for additional detail. For additional information related to this project, see the *Engineering Report for the Phase 5A Project – Columbia River Outfall and Effluent Pipeline, Phase 5 Expansion Program, CH2M, April 2018.*

### Photos (if available):



*Existing (red) and Future (blue) Salmon Creek Treatment Plant Effluent Pipeline/ Outfall in Columbia River*

### Budget Information:

#### Project Cost Estimate

Total Project Cost: \$37,000,000  
Basis of Estimate -  
Year Completed: 2022  
Project Definition: Bid

#### Project Cost Allocation

Battle Ground: 25.9% \$9,600,000  
District: 74.1% \$27,400,000

### Schedule Information:

<u>Activity</u>	<u>Year</u>
Planning	2015-2018
Permitting	2016-2021
Real Property/ROW	2017-2021
Design	2016-2021
Bid	2021, 2022
Construction	2021-2024

## Supplemental Information:

### Phase 5A (Outfall/Effluent Pipeline) Expansion Cost Allocation Based on Allocated Capacity

Allocated Capacity Summary (MGD, MMF)				INCREMENTAL CAPACITY PURCHASED			COST ALLOCATION	
Expansion Phase	Outfall Capacity	Battle Ground	District	Outfall Capacity (mgd)	Battle Ground Capacity (mgd)	District Capacity (mgd)	Battle Ground Share (percent)	District Share (percent)
Phase 4 (Existing)	14.95	3.47	11.48				23.2%	76.8%
Phase 5A (New)	38.18	10.10	28.08	23.23	6.63	16.60	28.5%	71.5%
TOTAL				23.23	6.63	16.60		

### Phase 5A (Outfall/Effluent Pipeline) Expansion Project-Specific Cost Allocation Based on Responsibility for Contributing Factors

Contributing Factor		RESPONSIBILITY ALLOCATION			COST ALLOCATION	
		Contributing Factor (percent)	Battle Ground Share (percent)	District Share (percent)	Battle Ground Share (percent)	District Share (percent)
1.	Existing Capacity – Replacement of Existing Outfall	50.0%	23.2%	76.8%	11.6%	38.4%
2.	New Capacity – Construction of Larger Outfall	50.0%	28.5%	71.5%	14.3%	35.7%
TOTAL		100.0%			25.9%	74.1%

## Scope of Work

## Project Cost Information

	Battle Ground	District	Total
<b>Phase 5A – “Package 1” Columbia River Outfall</b>	\$2,600,000	\$7,300,000	\$9,900,000
<ul style="list-style-type: none"> <li>New 48-inch Diffuser</li> <li>Connection to Existing 30-inch Pipeline</li> <li>Revetment Mat for Erosion Protection</li> <li>Removal of Existing Diffuser Section</li> </ul>			
<b>Phase 5A – “Package 2” Effluent Pipeline</b>	\$7,000,000	\$20,100,000	\$27,100,000
<ul style="list-style-type: none"> <li>New 48-inch Effluent Pipeline</li> <li>Salmon Creek and Lake River Crossings</li> <li>BNSF Railroad Crossing</li> <li>Connection at Effluent Pump Station</li> </ul>			
<b>Total Phase 5A (Outfall/Effluent Pipeline) Expansion</b>	<b>\$9,600,000</b>	<b>\$27,400,000</b>	<b>\$37,000,000</b>

# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

**Project Name:** SCTP Phase 5B (Treatment Plant) Expansion

**Project Number:** RA07-22-1

**Form Prepared/Updated:** May 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☐

New Asset – Capacity ☒

New Asset – Regulatory ☒

New Asset – Level of Service ☒

### Project Definition:

**Objective.** This project will provide an increase to Alliance Members' Allocated Capacity in the Salmon Creek Treatment Plant (SCTP) and address applicable regulatory and level of service requirements for the facility.

**Scope of Work.** The Phase 5B (Treatment Plant) Expansion project will be delivered in two separate construction contracts, referred to as 5B "Package 1" (5BP1) and 5B "Package 2" (5BP2). These contracts are summarized below, and a detailed scope of work is provided on the reverse side of this form.

- The 5BP1 contract will construct new odor control systems for the Preliminary/Primary Treatment processes and the Solids Handling processes. In addition, this contract will make improvements to existing facilities throughout the site to enhance process reliability, plant staff safety and site security. The contract includes a new oil and lubricant storage building and demolition of an aging building as needed for new treatment processes associated with the long-term master plan for the site.
- The 5BP2 contract constructs new secondary treatment facilities to provide increased overall plant capacity. The project also completes planned work for site security to comply with industry standard guidance, including *Guidelines for the Physical Security of Wastewater/Stormwater Utilities, ASCE/AWWA/ WEF, published December 2011 (WEF Security Guidance)*. Digester gas treatment system improvements will optimize performance and ensure permit compliance for this portion of the facility.

**Cost Allocation.** The SCTP expansion costs will be allocated based on capacity purchased in the system (see reverse side for supplemental capacity allocation information).

### Photos (if available):



*Existing Primary Clarifiers*



*Primary Clarifier Covers*



*Bio Trickling Filter Tower*

### Budget Information:

#### Project Cost Estimate

Total Project Cost:	\$34,600,000
Basis of Estimate -	
Year Completed:	2022
Project Definition:	Bid (Class 1)

#### Project Cost Allocation

Battle Ground:	19.2%	\$6,600,000
District:	80.8%	\$28,000,000

### Schedule Information ("Package 2" Shown):

<u>Activity</u>	<u>Year</u>
Planning	2020-2021
Permitting	2021-2022
Real Property/ROW	N/A
Design	2021-2022
Bid	2022
Construction	2022-2025

## Supplemental Information:

### Salmon Creek Treatment Plant Expansion Program Cost Allocation Based on Allocated Capacity

Allocated Capacity Summary (MGD, MMF) (SCWMS Wastewater Facilities Plan Table 3-1)				INCREMENTAL CAPACITY PURCHASED			COST ALLOCATION	
Expansion Phase	Plant Capacity	Battle Ground	District	Plant Capacity (mgd)	Battle Ground Capacity (mgd)	District Capacity (mgd)	Battle Ground Share (percent)	District Share (percent)
Phase 4 (Existing)	14.95	3.47	11.48					
	100.0%	23.2%	76.8%	2.55	0.49	2.06	19.2%	80.8%
Phase 5B (Plant)	17.50	3.96	13.54					
	100.0%	22.6%	77.4%					

### Scope of Work

### Project Cost Information

	Battle Ground	District	Total
<b>Phase 5B – “Package 1” Odor Control/Existing Facilities Improvements</b>	\$1,800,000	\$7,800,000	\$9,600,000
<ul style="list-style-type: none"> <li>New Primary Clarifier Covers</li> <li>New Preliminary and Primary Treatment Odor Control System</li> <li>Existing Aeration Basins 5 &amp; 6 Improvements</li> <li>Existing Return Activated Sludge (RAS) Piping Improvements</li> <li>New RAS Chlorination System</li> <li>New Secondary Clarifier Effluent Launder Covers</li> <li>Updated Solids Processing Center Pipe Supports</li> <li>Updated UV System Disinfection System Cover</li> <li>New Solids Handling Odor Control System</li> <li>Updated Waste Gas Incinerator Controls Cover</li> <li>Demolition of Existing Building 87</li> <li>Entrance Gate Security Improvements</li> <li>New Oil &amp; Lubricant Storage Building</li> </ul>			
<b>Phase 5B – “Package 2” Secondary Treatment Process Improvements</b>	\$4,800,000	\$20,200,000	\$25,000,000
<ul style="list-style-type: none"> <li>New Aeration Basin 7</li> <li>Blower Building Modifications/New Blower 8</li> <li>Demolition of Secondary Clarifier 2</li> <li>New Secondary Clarifier 5</li> <li>Perimeter Fence Security Improvements</li> <li>Surveillance Cameras Security Improvements</li> <li>RAS System Pumping Improvements (7 New Pumps)</li> <li>New Digester Gas Treatment System</li> </ul>			
<b>Total Phase 5B (Treatment Plant) Expansion</b>	<b>\$6,600,000</b>	<b>\$28,000,000</b>	<b>\$34,600,000</b>

# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

**Project Name:** SCTP Chemically Enhanced Primary Treatment (CEPT) Pilot Project **Project Type:** Existing Asset – Repair ☐  
Existing Asset – Replacement ☐

**Project Number:** RA07-23-1

New Asset – Capacity ☒

**Form Prepared/Updated:** October 2022

New Asset – Regulatory ☐

New Asset – Level of Service ☐

### Project Definition:

**Objective.** This project will conduct a full-scale pilot test on one Primary Clarifier to evaluate the effectiveness of adding a coagulating/flocculating chemical to the primary clarifiers to remove more of the wasteload early in the treatment process. This process has the potential to increase the overall capacity of the Salmon Creek Treatment Plant, pending the outcome of the pilot test and confirmation with Ecology. The project is being developed as a strategic opportunity to mitigate the impacts of any further schedule delays in completing the Phase 5 Expansion Program or as an early Phase 6 capacity optimization opportunity.

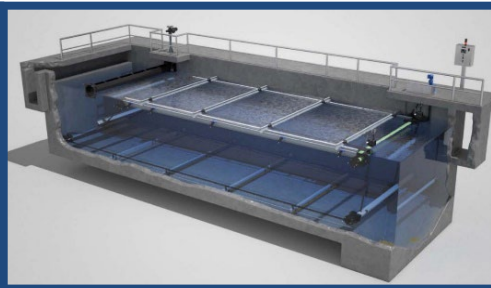
**Scope of Work.** The project will develop a plan for the pilot test, provide a desktop evaluation of the anticipated process performance, perform jar testing of various chemicals used in the industry, design and construct the required temporary improvements to support the pilot test, perform the pilot test, and prepare a final report to Ecology documenting performance and the capacity that can be achieved with the process.

**Cost Allocation.** The project is being developed as a backup plan to mitigate potential delays for the Phase 5B Package 2 Secondary Process Improvements Project. The District will sponsor this project, and any capacity increase recognized by Ecology will be allocated to the District. Due to current growth patterns, Battle Ground is projected to have adequate capacity reserves until the Phase 5B Package 2 Project is completed.

### Photos (if available):



*Existing Primary Clarifier*



*Primary Clarifier Mechanism*



*Tanker Truck*

### Budget Information:

#### Project Cost Estimate

Total Project Cost:	\$500,000
Basis of Estimate -	
Year Completed:	2022
Project Definition:	Placeholder (Class 5)

#### Project Cost Allocation

Battle Ground:	0%	\$0
District:	100%	\$500,000

### Schedule Information:

<u>Activity</u>	<u>Year</u>
Planning	2022
Permitting	2022
Real Property/ROW	N/A
Design	2022
Bid	2023
Construction	2023-2024





# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

**Project Name:** SCTP Phase 6 Expansion  
**Project Number:** RA07-28-1  
**Form Prepared/Updated:** October 2022

**Project Type:** Existing Asset – Repair ☐  
Existing Asset – Replacement ☐  
New Asset – Capacity ☒  
New Asset – Regulatory ☐  
New Asset – Level of Service ☐

### Project Definition:

**Objective.** This project will provide an increase to Alliance Members' Allocated Capacity in the Salmon Creek Treatment Plant (SCTP), in order to meet the needs of a growing service area.

**Scope of Work.** The Phase 6 Expansion project will construct a new Influent Screen 3 and a new Primary Clarifier 5. Aeration Basin 8 will be constructed, and the blower building (Facility 37) will be expanded to provide additional blower capacity for the future, including one additional blower with this project. A second Ultraviolet (UV) Disinfection channel and UV treatment unit will be constructed, and a building will be erected to cover the UV and effluent pump station (EPS) facility. New effluent pumps are required at this phase of expansion, with modifications also required for the structure to accommodate system hydraulics. Anaerobic Digester 3 will be constructed along with the supporting mechanical mixing and heating systems for this new digester.

**Cost Allocation.** The SCTP expansion costs will be allocated based on capacity purchased in the system (see reverse side for supplemental capacity allocation information).

### Photos (if available):



*Existing Influent Screen*



*Existing RAS/WAS Pump Station*



*Existing UV Disinfection*

### Budget Information:

#### Project Cost Estimate

Total Project Cost:	\$44,900,000
Basis of Estimate -	
Year Completed:	2022
Project Definition:	Placeholder (Class 5)

#### Project Cost Allocation

Battle Ground:	10.5%	\$4,700,000
District:	89.5%	\$40,200,000

### Schedule Information:

<u>Activity</u>	<u>Year</u>
Planning	2025
Permitting	2026-2027
Real Property/ROW	N/A
Design	2026-2027
Bid	2028
Construction	2028-2030



## Supplemental Information:

### Salmon Creek Treatment Plant Expansion Program Cost Allocation Based on Allocated Capacity

INCREMENTAL CAPACITY PURCHASED			COST ALLOCATION	
Plant Capacity (mgd)	Battle Ground Capacity (mgd)	District Capacity (mgd)	Battle Ground Share (percent)	District Share (percent)

#### Allocated Capacity Summary (MGD, MMF) (SCWMS Wastewater Facilities Plan Table 3-1)

Expansion Phase	Plant Capacity	Battle Ground	District					
<i>Phase 4 (Existing)</i>	<i>14.95</i>	<i>3.47</i>	<i>11.48</i>					
	<i>100.0%</i>	<i>23.2%</i>	<i>76.8%</i>	<i>2.55</i>	<i>0.49</i>	<i>2.06</i>	<i>19.2%</i>	<i>80.8%</i>
<i>Phase 5B (Plant)</i>	<i>17.50</i>	<i>3.96</i>	<i>13.54</i>					
	<i>100.0%</i>	<i>22.6%</i>	<i>77.4%</i>	<i>2.10</i>	<i>0.22</i>	<i>1.88</i>	<i>10.5%</i>	<i>89.5%</i>
<i>Phase 6</i>	<i>19.60</i>	<i>4.18</i>	<i>15.42</i>					
	<i>100.0%</i>	<i>21.3%</i>	<i>78.7%</i>	<i>4.20</i>	<i>0.86</i>	<i>3.34</i>	<i>20.5%</i>	<i>79.5%</i>
<i>Phase 7</i>	<i>23.80</i>	<i>5.04</i>	<i>18.76</i>					
	<i>100.0%</i>	<i>21.2%</i>	<i>78.8%</i>	<i>3.20</i>	<i>0.66</i>	<i>2.54</i>	<i>20.6%</i>	<i>79.4%</i>
<i>Phase 8</i>	<i>27.00</i>	<i>5.70</i>	<i>21.30</i>					
	<i>100.0%</i>	<i>21.1%</i>	<i>78.9%</i>	<i>3.70</i>	<i>0.76</i>	<i>2.94</i>	<i>20.5%</i>	<i>79.5%</i>
<i>Phase 9</i>	<i>30.70</i>	<i>6.46</i>	<i>24.24</i>					
	<i>100.0%</i>	<i>21.0%</i>	<i>79.0%</i>					
<b>TOTAL</b>				<b>15.75</b>	<b>2.99</b>	<b>12.76</b>		

# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

**Project Name:** SCTP Class A Biosolids Upgrade

**Project Number:** RA07-30-1

**Form Prepared/Updated:** February 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☐

New Asset – Capacity ☐

New Asset – Regulatory ☒

New Asset – Level of Service ☒

### Project Definition:

**Objective.** This project proposes to install a biosolids dryer at the SCTP site that will result in the production of a Class A biosolids material, upgrading the current Class B biosolids program. The upgrade provides several benefits to the Alliance biosolids program including (1) reduced program risk related to legislative, regulatory and political challenges to Class B programs, (2) increased program flexibility, reliability and control, including the ability to reuse the biosolids material within the local community, (3) substantially reduced truck traffic volume (by approximately a 6:1 ratio) with the residential community near the SCTP. A variety of different markets have been evaluated on a preliminary basis to ensure there are multiple end uses for the type and quantity of material that would be available within Clark County.

**Scope of Work.** The project will construct the biosolids dryer and related material handling and odor control systems, primarily in two of the existing four bays of the existing Biosolids Storage facility. This allows the remaining two bays to continue to serve in a biosolids storage capacity for the finished Class A material. Miscellaneous site improvements would also be required to support the equipment installation.

**Cost Allocation.** The project is scheduled to be completed between the Phase 6 and Phase 7 Expansion projects. Therefore, the overall Phase 6 Allocated Capacity is used as the basis of cost allocation. See the *Technical Memorandum – Class A Biosolids Cost Update, Brown and Caldwell, May 2017* for additional information. The overall Class A and Class B program costs are similar, with the Class A program being incrementally higher cost through year 18 of the study period. After that point, the Class A program is more cost effective overall.

### Photos (if available):



*Paddle Dryer - Exterior View*



*Paddle Dryer - Interior View*



*Class A Biosolids Product*

### Budget Information:

#### Project Cost Estimate

Total Project Cost:	\$15,000,000
Basis of Estimate -	
Year Completed:	2022
Project Definition:	Placeholder (Class 5)

#### Project Cost Allocation

Battle Ground:	21.3%	\$3,200,000
District:	78.7%	\$11,800,000

### Schedule Information:

<u>Activity</u>	<u>Year</u>
Planning	2028
Permitting	2029
Real Property/ROW	N/A
Design	2029
Bid	2030
Construction	2030-2031



# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

**Project Name:** SCTP Phase 7 Expansion  
**Project Number:** RA07-31-1  
**Form Prepared/Updated:** February 2022

**Project Type:** Existing Asset – Repair ☐  
 Existing Asset – Replacement ☐  
 New Asset – Capacity ☒  
 New Asset – Regulatory ☐  
 New Asset – Level of Service ☐

### Project Definition:

**Objective.** This project will provide an increase to Alliance Members' Allocated Capacity in the Salmon Creek Treatment Plant, in order to meet the needs of a growing service area.

**Scope of Work.** The Phase 7 Expansion project will construct a new Primary Clarifier 6 and a new Aeration Basin 9. An additional blower is added with this project to support the new basin. A new Mixed Liquor splitter box is required to direct flow to new Secondary Clarifier 6. A new RAS/WAS pump station facility is also required to support the new secondary clarifier. Two new effluent pumps are required to convey peak flow rates to the Columbia River. Anaerobic Digester 4 will be constructed along with the supporting mechanical mixing and heating systems for this new digester. To provide space for the new secondary clarifier and RAS/WAS pump station, the plant's original aerobic digester and a maintenance storage facility must be demolished, per the long-term site master plan. A replacement maintenance storage facility is also provided elsewhere on the site with this project.

**Cost Allocation.** The SCTP expansion costs will be allocated based on capacity purchased in the system (see reverse side for supplemental capacity allocation information).

### Photos (if available):



*Salmon Creek Treatment Plant Aerial*



*Existing Primary Clarifier*



*Existing Anaerobic Digester*

### Budget Information:

#### Project Cost Estimate

Total Project Cost:	\$43,500,000
Basis of Estimate -	
Year Completed:	2022
Project Definition:	Placeholder (Class 5)

#### Project Cost Allocation

Battle Ground:	20.5%	\$8,900,000
District:	79.5%	\$34,600,000

### Schedule Information:

<u>Activity</u>	<u>Year</u>
Planning	2028
Permitting	2029-2030
Real Property/ROW	N/A
Design	2029-2030
Bid	2031
Construction	2031-2033

## Supplemental Information:

### Salmon Creek Treatment Plant Expansion Program Cost Allocation Based on Allocated Capacity

INCREMENTAL CAPACITY PURCHASED			COST ALLOCATION	
Plant Capacity (mgd)	Battle Ground Capacity (mgd)	District Capacity (mgd)	Battle Ground Share (percent)	District Share (percent)

#### Allocated Capacity Summary (MGD, MMF) (SCWMS Wastewater Facilities Plan Table 3-1)

Expansion Phase	Plant Capacity	Battle Ground	District					
<i>Phase 4 (Existing)</i>	<i>14.95</i>	<i>3.47</i>	<i>11.48</i>					
	<i>100.0%</i>	<i>23.2%</i>	<i>76.8%</i>	<i>2.55</i>	<i>0.49</i>	<i>2.06</i>	<i>19.2%</i>	<i>80.8%</i>
<i>Phase 5B (Plant)</i>	<i>17.50</i>	<i>3.96</i>	<i>13.54</i>					
	<i>100.0%</i>	<i>22.6%</i>	<i>77.4%</i>	<i>2.10</i>	<i>0.22</i>	<i>1.88</i>	<i>10.5%</i>	<i>89.5%</i>
<i>Phase 6</i>	<i>19.60</i>	<i>4.18</i>	<i>15.42</i>					
	<i>100.0%</i>	<i>21.3%</i>	<i>78.7%</i>	<i>4.20</i>	<i>0.86</i>	<i>3.34</i>	<i>20.5%</i>	<i>79.5%</i>
<i>Phase 7</i>	<i>23.80</i>	<i>5.04</i>	<i>18.76</i>					
	<i>100.0%</i>	<i>21.2%</i>	<i>78.8%</i>	<i>3.20</i>	<i>0.66</i>	<i>2.54</i>	<i>20.6%</i>	<i>79.4%</i>
<i>Phase 8</i>	<i>27.00</i>	<i>5.70</i>	<i>21.30</i>					
	<i>100.0%</i>	<i>21.1%</i>	<i>78.9%</i>	<i>3.70</i>	<i>0.76</i>	<i>2.94</i>	<i>20.5%</i>	<i>79.5%</i>
<i>Phase 9</i>	<i>30.70</i>	<i>6.46</i>	<i>24.24</i>					
	<i>100.0%</i>	<i>21.0%</i>	<i>79.0%</i>					
<b>TOTAL</b>				<b>15.75</b>	<b>2.99</b>	<b>12.76</b>		

# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

**Project Name:** SCTP Phase 8 Expansion

**Project Number:** RA07-43-1

**Form Prepared/Updated:** March 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☐

New Asset – Capacity ☒

New Asset – Regulatory ☐

New Asset – Level of Service ☐

### Project Definition:

Objective. This project will provide an increase to Alliance Members' Allocated Capacity in the Salmon Creek Treatment Plant, to meet the needs of a growing service area.

Scope of Work. The Phase 8 Expansion project will construct a new Aeration Basin 10, Aeration Blower, Secondary Clarifier 7, RAS Pumps, Effluent Pumps (3A/4A), and an Effluent Cooling System (per 2021 EPA TMDL).

Cost Allocation. The Salmon Creek Treatment Plant expansion costs will be allocated based on capacity purchased in the system (see reverse side for supplemental capacity allocation information). Please note that the Phase 8 Expansion project costs only include the costs planned to incur within the current planning period (2023-2042). The majority of the project costs are beyond the Capital Plan 20-year planning period.

### Photos (if available):



*Existing Effluent Pump Station*



*Existing Aeration Basins 5 & 6*



*Existing Secondary Clarifiers 3 & 4*

### Budget Information:

#### Project Cost Estimate

Total Project Cost:	\$6,000,000
Basis of Estimate -	
Year Completed:	2022
Project Definition:	Placeholder (Class 5)

#### Project Cost Allocation

Battle Ground:	20.6%	\$1,200,000
District:	79.4%	\$4,800,000

### Schedule Information:

<u>Activity</u>	<u>Year</u>
Planning	2040
Permitting	2041-2042
Real Property/ROW	N/A
Design	2041-2042
Bid	2043
Construction	2043-2045



Supplemental Information:

Salmon Creek Treatment Plant Expansion Program  
Cost Allocation Based on Allocated Capacity

Allocated Capacity Summary (MGD, MMF) (SCWMS Wastewater Facilities Plan Table 3-1)				INCREMENTAL CAPACITY PURCHASED			COST ALLOCATION	
Expansion Phase	Plant Capacity	Battle Ground	District	Plant Capacity (mgd)	Battle Ground Capacity (mgd)	District Capacity (mgd)	Battle Ground Share (percent)	District Share (percent)
Phase 4 (Existing)	14.95	3.47	11.48					
	100.0%	23.2%	76.8%	2.55	0.49	2.06	19.2%	80.8%
Phase 5B (Plant)	17.50	3.96	13.54					
	100.0%	22.6%	77.4%	2.10	0.22	1.88	10.5%	89.5%
Phase 6	19.60	4.18	15.42					
	100.0%	21.3%	78.7%	4.20	0.86	3.34	20.5%	79.5%
Phase 7	23.80	5.04	18.76					
	100.0%	21.2%	78.8%	3.20	0.66	2.54	20.6%	79.4%
Phase 8	27.00	5.70	21.30					
	100.0%	21.1%	78.9%	3.70	0.76	2.94	20.5%	79.5%
Phase 9	30.70	6.46	24.24					
	100.0%	21.0%	79.0%					
TOTAL				15.75	2.99	12.76		



# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

**Project Name:** RTP Secondary Treatment Process Improvements

**Project Number:** RA08-23-1

**Form Prepared/Updated:** April 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☐

New Asset – Capacity ☒

New Asset – Regulatory ☐

New Asset – Level of Service ☐

### Project Definition:

Objective. This project will address increased wasteload concentrations by optimizing the processing capability for the existing facility and maintaining the existing rated hydraulic capacity of 0.7 mgd. The increased wasteload concentrations stem from reduced water usage over time (more load per gallon of flow). This work maintains regional capacity during a period of high growth and investment in the community.

Scope of Work. This project will make improvements to the secondary treatment process by installing baffles in the aeration basin, updating the mixed liquor recycle pumping system, and adding additional instrumentation to optimize the plant tankage available at the site. This work is estimated to raise the permitted wasteload capacity of the system from 2,480 lbs/day to approximately 3,900 lbs/day, maximum month average. The process analysis supporting these outcomes will be provided to Ecology in 2022 to ensure alignment with regulatory expectations.

Cost Allocation. All capacity related to the Ridgefield Treatment Plant and Outfall is allocated to the District; therefore, 100% of costs of this project are the responsibility of the District.

### Photos (if available):



*Ridgefield Treatment Plant Site*

### Budget Information:

#### Project Cost Estimate

Total Project Cost:	\$700,000
Basis of Estimate -	
Year Completed:	2022
Project Definition:	Placeholder (Class 5)

#### Project Cost Allocation

Battle Ground:	0%	\$0
District:	100%	\$700,000

### Schedule Information:

<u>Activity</u>	<u>Year</u>
Planning	2022
Permitting	2022
Real Property/ROW	N/A
Design	2022-2023
Bid	2023
Construction	2023-2024



# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

**Project Name:** Ridgefield Treatment Plant Decommissioning

**Project Number:** RA08-33-1

**Form Prepared/Updated:** February 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☒

New Asset – Capacity ☐

New Asset – Regulatory ☐

New Asset – Level of Service ☐

### Project Definition:

Objective. This project provides for the proper decommissioning of the Ridgefield Treatment Plant and Outfall at the end of the facility's useful life.

Scope of Work. This project will demolish all WWTP structures to three feet below ground level. Above ground waste from this demolition will be disposed of at a construction landfill. Below grade waste will be kept onsite and used as back fill material for the empty basins. All below-grade piping, including the outfall, will be filled with low strength concrete and abandoned in place. All structures more than three feet below grade will remain. Basins will be filled with sand to bring them to existing ground level. Due to the hazardous soils on site, a HAZWOPER supervisor will be required to witness all excavation and material handling. It is assumed that no material will be excavated and hauled offsite. Upon completion of demolition work, placement of a geotextile on top of contaminated soils, along with a two-foot cap of clean fill material will be required to complete the decommissioning. The site will then be reclaimed for other uses by the City of Ridgefield. The work will be completed in accordance with the consent decree terms and conditions required for excavating on the Pacific Wood Treating Corporation Site (Ecology Site No. 1019).

Cost Allocation. All capacity related to the Ridgefield Treatment Plant and Outfall is allocated to the District, therefore 100% of costs of this project are the responsibility of the District.

### Photos (if available):



*Ridgefield Treatment Plant Site*

### Budget Information:

#### Project Cost Estimate

Total Project Cost:	\$4,600,000
Basis of Estimate -	
Year Completed:	2022
Project Definition:	Placeholder (Class 5)

#### Project Cost Allocation

Battle Ground:	0%	\$0
District:	100%	\$4,600,000

### Schedule Information:

<u>Activity</u>	<u>Year</u>
Planning	2031
Permitting	2032
Real Property/ROW	N/A
Design	2031-2032
Bid	2033
Construction	2033-2034



# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

**Project Name:** BGFM Parallel Force Main  
**Project Number:** RA09-29-1  
**Form Prepared/Updated:** February 2022

**Project Type:** Existing Asset – Repair ☐  
 Existing Asset – Replacement ☐  
 New Asset – Capacity ☒  
 New Asset – Regulatory ☐  
 New Asset – Level of Service ☐

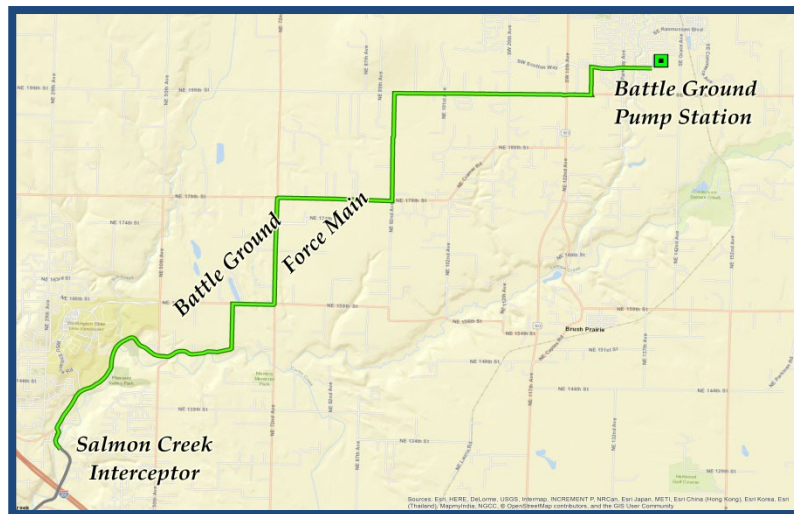
### Project Definition:

**Objective.** The project will increase capacity in the Battle Ground Force Main system to support continued growth in the Battle Ground service area.

**Scope of Work.** The project will construct a second, parallel force main pipeline from Battle Ground to a point of connection with the Klineline Interceptor. The new pipeline is estimated to be 24 inches in diameter and is anticipated to largely follow the route of the current force main. Additional planning and engineering work will be completed in advance of construction to confirm pipe sizing and specific route.

**Cost Allocation.** The project provides capacity only for the Battle Ground service area and therefore 100% of costs are allocated to Battle Ground. For additional information related to this project, see the *City of Battle Ground General Sewer Plan, Wallis Engineering, March 2011*.

**Photos** (if available):



*Battle Ground Force Main Route*

### Budget Information:

#### Project Cost Estimate

Total Project Cost:	\$42,700,000
Basis of Estimate -	
Year Completed:	2022
Project Definition:	Placeholder (Class 5)

#### Project Cost Allocation

Battle Ground:	100%	\$42,700,000
District:	0%	\$0

### Schedule Information:

<u>Activity</u>	<u>Year</u>
Planning	2026
Permitting	2027
Real Property/ROW	2028-2029
Design	2027-2029
Bid	2029
Construction	2029-2031



# Discovery Clean Water Alliance

## CAPITAL PROJECT PROFILE

**Project Name:** General Sewer Plan/Wastewater Facilities Plan

**Project Number:** GSP-WFP-22

**Form Prepared/Updated:** October 2022

**Project Type:** Existing Asset – Repair ☐

Existing Asset – Replacement ☐

New Asset – Capacity ☒

New Asset – Regulatory ☒

New Asset – Level of Service ☒

### Project Definition:

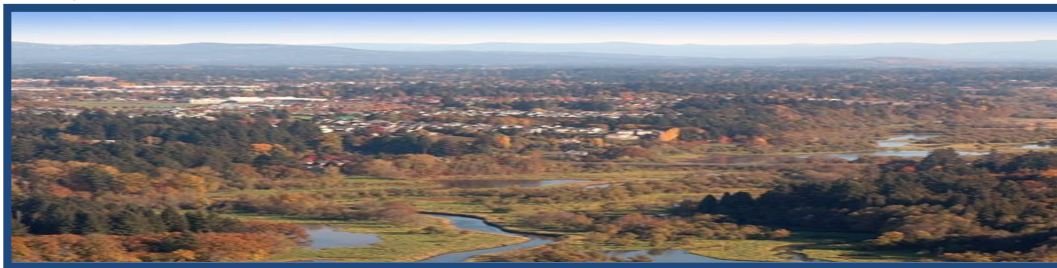
Objective. This project will develop the first Alliance regulatory planning document for Alliance-owned infrastructure, providing a report meeting the Ecology definition for a General Sewer Plan (GSP) and the EPA definition for a Wastewater Facilities Plan (WFP). To-date, the Alliance has relied on planning documents inherited from Member agencies at formation. Those documents are sufficiently dated that a new plan for Alliance infrastructure is needed at this time to guide future capital investments.

Scope of Work. The plan will provide a recommended program for future investments that meets the growth demands on the system, is consistent with regulatory requirements and reflects Alliance values. The plan will provide updated flow and loading assessments, considering current and future regulatory requirements, and explore alternatives in these areas:

- Regional wastewater transmission options associated with routing future Battle Ground area flows and future upgrades for the 117<sup>th</sup> Street Pump Station.
- Regional wastewater treatment options including use of City of Vancouver facilities and Ridgefield Treatment Plant decommissioning.
- Reclaimed water alternatives and cost effectiveness (per RCW 90.48.112).
- Residuals and resource recovery options including Class A biosolids and digester gas utilization.
- Stormwater master plan/regulatory review update for Salmon Creek Treatment Plant site.
- Support facility evaluation and program update (maintenance needs, chemical storage, vehicle storage, etc.).

Cost Allocation. Administrative costs are determined by total Treatment Facilities Allocated Capacity. After Phase 5 capacity is recognized, costs would be allocated based on District Allocated Capacity of 14.24 mgd (78.2%) and Battle Ground Allocated Capacity of 3.96 mgd (21.8%). A similar planning effort will be required for the Phase 8 Expansion. After Phase 7 capacity is recognized, costs would be allocated based on District Allocated Capacity of 18.76 mgd (78.8%) and Battle Ground Allocated Capacity of 5.04 mgd (21.2%).

**Photos** (if available):



*Alliance Regional Assets Service Area*

### Budget Information:

#### Project Cost Estimate

Total Project Cost:	\$2,000,000	
Basis of Estimate -		
Year Completed:	2022	
Project Definition:	Placeholder	(Class 5)

#### Project Cost Allocation

Battle Ground:	21.8%	\$400,000
District:	78.2%	\$1,600,000

### Schedule Information:

<u>Activity</u>	<u>Year</u>
Planning	2023-2026
Permitting	NA
Real Property/ROW	NA
Design	NA
Bid	NA
Construction	NA



