

Ship Canal Water Quality Project Semiannual Report

January 2023



King County

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II. Ordinance Text

[Ordinance 18313](#), Section 2, Department of Natural Resources and Parks
The Ordinance is attached as Appendix A.

III. Executive Summary

King County and the City of Seattle each entered into a federal Consent Decree in 2013 with the Washington State Department of Ecology (Ecology), United States Environmental Protection Agency (EPA), and the United States Department of Justice related to their respective combined sewer overflows (CSOs).¹ During heavy rains, pipes that carry sewage and stormwater together can overflow into a single CSO outfall, or pipe, that discharges to a nearby water body. King County's CSO Consent Decree requires implementation of capital projects by December 31, 2030, to control each of its CSO outfalls such that an average of only one untreated discharge per outfall may occur per year based on a 20-year moving average.

The City of Seattle and King County collaborated on CSO control by executing a [Joint Project Agreement](#) (JPA) in 2016 that authorizes Seattle Public Utilities (SPU) to serve as the lead agency for the joint Ship Canal Water Quality Project (Ship Canal Project), which consists of a storage tunnel and associated facilities, to control four of SPU's and two of the County's CSOs. SPU is responsible for the design, construction, subsequent operation and maintenance, periodic repair, replacement, and permitting of the Ship Canal Project. King County will maintain ownership of its two CSO outfalls, or discharge pipes, and will pay for the portion of tunnel storage capacity that the County will own following construction.

As part of [Ordinance 18313](#), which authorizes King County's participation in the Ship Canal Project, the Department of Natural Resources and Parks (DNRP) is required to submit a semiannual report to the King County Council describing design and construction progress and changes to project costs and risks. This semiannual report shows that the Ship Canal Project continues to meet or exceed the milestones required under the County's federal Consent Decree.

The Project Review and Change Management Committee (PRCMC), a joint SPU and DNRP committee established in the JPA, continues to meet for regular scope, schedule, cost, and status updates. To date, the PRCMC has approved a total of twenty-four changes to the joint project budget, with four of those requiring an increase to the total project budget.

No changes were presented to the PRCMC between July and December 2022.

During this reporting period, work on the large diameter tunnel progressed to a total of 8,100-feet of the 13,946-foot-long tunnel. As reported in the July 2022 report, the tunnel boring machine (TBM) encountered a 12-foot diameter boulder in April 2022, that shut down mining operations while necessary repairs were made. In May 2022, the TBM successfully mined through the boulder and continued mining until a planned/contract required maintenance stop occurred in July 2022. In addition to performing the planned routine maintenance, inspection of the machine's cutterhead identified that

¹ Combined sewer overflows (CSOs) are relief points in older sewer systems that carry sewage and stormwater in the same pipe. When heavy rains fill the pipes, CSOs release sewage and stormwater into rivers, lakes, or Puget Sound.

additional and more permanent boulder related repairs were required before mining could be resumed. Cutterhead repairs were completed, and mining resumed in early September 2022.

As reported in both the January and July 2022 reports, work on the eight-foot diameter tunnel between Queen Anne and Fremont stopped after the discovery of quality issues with the precast concrete reinforced pipe sections that make up the 647-foot tunnel. Repairs to all affected pipe sections were made and work on the tunnel resumed in November 2022. As of December 9, 2022, approximately 32 of the 82 pipe segments are now installed. Installation of the remaining segments should be completed in January 2023. This work is not on the project's critical path and no schedule or financial implications to the project related to the pipe segment quality issues are expected.

In August 2022, Notice of Intent to Award was given on the Wallingford Conveyance contract.² This is the second to last construction contract to be issued on the project. The contractor's bid was within five percent of the engineer's estimate. The cost of this body of work is the sole responsibility of SPU.

There have been no financial changes to either King County or the project since the last report. King County's capital cost share for the joint project resulting from all approved changes has increased by \$39.2 million from the original JPA. The cost estimate for the project remains at \$570.1 million in total project costs with \$506.5 million in shared costs. The County's capital cost share of \$172.9 million represents no change since the last report.

However, it is anticipated that the budget will need to be increased and that the schedule will need to be extended. The budget and schedule for the Ship Canal Water Quality Project (SCWQP) were established in 2018, and since that time the project has experienced unprecedented escalation, pandemic related impacts, and risk events. The project team is performing a comprehensive project review and update so these events can be accurately reflected in the budget and schedule.

IV. Background

Department Overview: The DNRP works in support of sustainable and livable communities and a clean and healthy natural environment. Its mission is to foster environmental stewardship and strengthen communities by providing regional parks, protecting the region's water, air, land and natural habitats, and reducing, safely disposing of and creating resources from wastewater and solid waste.

The Wastewater Treatment Division (WTD) within DNRP protects public health and enhances the environment by collecting and treating wastewater while recycling valuable resources for the Puget Sound region.

² Notice of Intent generally the first formal step in the awarding process and comes after determining who is the lowest, most responsive and responsible bidder

Key Historical Context: King County entered into a federal Consent Decree on July 3, 2013 (Civil Action No. 2:13-cv-677) with the United States Department of Justice, EPA, and Ecology.^{3,4} The Consent Decree requires King County to control (i.e., reduce the discharges from) its CSOs by December 31, 2030, and contains specific interim milestones for capital projects necessary to achieve CSO control. The City of Seattle is also under a federal Consent Decree that requires control of its CSO's by December 31, 2025.

The legal basis for all work on this project was provided in the JPA approved by the City of Seattle and King County Councils in 2015 and 2016, respectively, and executed on July 27, 2016. This agreement codified the purpose of the joint project, cost share, executive oversight, and compliance with SPU's and King County's separate Consent Decrees, and specified project responsibilities and ownership.

The JPA established the PRCMC, composed of staff from SPU and DNRP. The PRCMC provides project oversight and reviews, and approves changes to project scope, schedule, and budget among other project governance responsibilities.

The joint Ship Canal Project is designed, and will be constructed, to control CSOs to the Lake Washington Ship Canal, as required by the respective Consent Decrees. SPU is responsible for completion of the construction, subsequent operation and maintenance, periodic repair, replacement, and permitting of the Ship Canal Project. To comply with the Consent Decree, King County will retain ownership of its 3rd Ave W outfall and 11th Ave NW outfall. King County will pay for the portion of tunnel storage capacity it will own.

The current budget and schedule were developed in 2018 using industry standard practices and norms. The cost estimate included construction costs, non-construction costs, property costs, escalation, and allowances for uncertainties and risk. The estimate was also based upon a 65 percent confidence level, meaning that there was a 65 percent chance that costs would be at or below the estimated \$570M. The 2018 estimate noted that it did not cover significant cost impacts, delays, major risk events, or escalation significantly beyond historical average.

Key Current Conditions: The Ship Canal Project report aids King County in ensuring this project is meeting required milestones in compliance with its federal Consent Decree to control CSOs. The Ship Canal Project furthers the King County Strategic Plan goal of safeguarding and enhancing King County's natural resources and environment by protecting water quality through significant reduction of pollution discharged to the Lake Washington Ship Canal during wet weather events.

Additionally, this project furthers the Strategic Plan goal of financial stewardship by exercising sound financial management and building King County's long-term fiscal strength by working with cities to identify opportunities to provide services more efficiently. Partnering with SPU to deliver this project helps ensure efficient use of limited regional financial resources for both agencies.

No changes to the project budget and scope have occurred since the July 2022 report. As of this report, King County's capital cost share for the joint project resulting from all approved changes

³ A Consent Decree is the settlement of a lawsuit in which the entity agrees to complete specific actions and the settlement is documented in a court order.

⁴ [Federal Consent Decree with EPA, 2013](#)

has increased by \$39.2 million from the original JPA. The total King County capital contribution is estimated at \$172.9 million, which represents no change since the last report.

On April 21, 2022, the boring machine encountered a large boulder, approximately 12-feet in diameter. Mining operations were paused to investigate the boulder and assess the damage to the boring machine. Temporary repairs to the cutterhead were made that allowed the machine to mine through the boulder and continue on until the machine reached a planned and accessible maintenance stop at the East Ballard site. Permanent repairs to the cutterhead were completed at this location and the machine has been tunneling without major incidences or downtime since August 2022.

The budget and schedule for the SCWQP were established in 2018 and, over the past four years, the project has experienced unprecedented escalation, pandemic related impacts, and risk events. Current budget assessments indicate that an eight to 14 percent increase in the current project budget to between \$615-\$650 million will be needed to complete the project. The Construction Completion date is now March 5, 2026. This date is beyond the completion date stated in the Consent Decree. Ecology and the EPA have been informed of the delay.

Report Methodology: This report was developed by DNRP staff who coordinate on the Ship Canal Project with SPU. The report incorporates material from the DNRP/WTD project and financial management system, SPU’s Project Control consultants, and monthly reports provided by the SPU project team.

V. Report Requirements

Ordinance 18313, Section 2 requires the King County Executive to transmit a report to the Council semiannually as a project status update on the Ship Canal Water Quality Project. This report covers the period of July 1 through December 31, 2022.

Specifically, the Ordinance requires the report to summarize:

- A. Project budget status and anticipated cash flow through construction phases;*
- B. Key upcoming activities that demonstrate progress on design and construction of county-focused elements;*
- C. Major schedule milestones and the project status in achieving those milestones; and*
- D. Potential uses of contingency and management reserve.*

This report addresses each requirement under a separate heading.

A. Project budget status and anticipated cash flow through construction phases

Table A provides an overview of budget and anticipated cash flow as of December 2022, including all changes approved to date by the PRCMC. A summary of approved changes between July and December 2022 follows Table A.

Table A: Budget Status

King County Budget Status (King County Capital Share only) (All figures in millions of dollars, escalated to year of expenditure)	Total JPA Planned Capital Cost, County Share (A)	Total Current Capital County Budget ^{5,6} (B)	Amount Expended (C) ⁷	Remaining Budget Balance (B-C)
	\$133.7	\$172.9	\$85.7	\$87.2

Cash flow information is provided on Appendix B.

Summary of Major Approved and Proposed Changes to the Ship Canal Project

No changes were presented to PRCMC between July to December 2022. However, total remaining available project reserves are significantly reduced from the last report, due in large part to the increased construction cost estimate for the Tunnel Effluent Pump Station (TEPS)/Ballard Conveyance project. Reserves are depleted when including the updated TEPS/Ballard Conveyance project cost. While the risk model will be updated in early 2023, the current confidence level of completing the project within the \$570M budget is estimated to be less than 10 percent.⁸ The project schedule is facing similar pressure and it now appears that construction will not be completed until 2026.

The current budget and schedule were developed in 2018 using industry standard practices and norms. The cost estimate included construction costs, non-construction costs, property costs, escalation, and allowances for uncertainties and risk. The estimate was also based upon a 65 percent confidence level, meaning that there was a 65 percent chance that costs would be at or below the estimated \$570M. The 2018 estimate noted that it did not cover significant cost impacts, delays, major risk events, or escalation significantly beyond historical average. Not only has the project faced many challenges that can occur during construction of such a large and complex project, but it has also incurred many unique challenges that fell outside the risks and uncertainties that were identified and built into the estimate and schedule. Some of the unique challenges include:

- Notice to Proceed on the tunnel contract was issued in December 2019, shortly before the COVID-19 pandemic closed much of the country. COVID-related challenges included travel restrictions for key personnel, supply chain and equipment delivery delays, and contractor labor issues related to City of Seattle contractor vaccine mandate issued in December 2021.
- Record high escalation with construction indices showing escalation being at 15-21 percent annually.

⁵ Includes changes approved by the PRCMC to date (through Change #24).

⁶ Note that SPU carries approximately \$3.6 M in additional King County cost contributions to commission the facilities, which the County budgets as operating costs for each of its facilities.

⁷ Value is reported actuals through October 2022.

⁸ A risk model aims to produce systematic risk assessments/estimates for the purpose of risk management.

- In April 2022, the drilling machine encountered a 12-foot diameter boulder, the largest boulder encountered in North America tunneling. The original budget and schedule identified encountering a boulder as a risk event with only a five percent probability of occurring. The contractor worked diligently to grind through this boulder and is assessing project impacts of \$16m in cost and about 3.5 months of schedule delay.
- Underground infrastructure that was not accurately reflected in 100-year-old historical as-built records. This differing site condition cost \$1.8 million.

In early 2023, advertising will begin for the TEPS/Ballard Conveyance construction contract. After accounting for escalation increases in 2021 and 2022, it is now anticipated that this portion of the project will cost approximately \$125 million which is \$30 million greater than originally estimated. It is also anticipated that construction of the TEPS/Ballard Conveyance project will take five months longer than anticipated due to supply chain and labor issues. This issue is critical as construction of the pump station cannot begin until after the tunnel contractor has vacated the Ballard shaft, as the Ballard shaft doubles as the wall or structure of the pump station and this work cannot run concurrently. The project team is working on an update that will provide new cost and schedule estimates, including a review of potential remaining risks and uncertainties. This work will aid in determining a more accurate Construction Completion date and confidence level. Initial efforts will be completed in early 2023. Final clarity on the overall project budget will come once the TEPS/Ballard Conveyance contract is bid in spring 2023. Various budget and schedule scenarios are being developed in advance of the receiving bids, which will allow the team to act quickly should anything unusual arise.

The project team continues to look for and implement cost saving measures, such as changing contract terms to help share risk for future escalation increases. The team is also managing scheduling impacts wherever possible, including optimizing some commissioning activities and incentives for accelerating work in the TEPS/Ballard Conveyance contract.

B. Key upcoming activities that demonstrate progress on design and construction of county-focused elements

Tunneling operations continue on the 18-foot 10-inch large diameter Ship Canal storage tunnel, and as of December 9, 2022, 8,100 feet of the 13,946-foot-long tunnel was complete.

Installation of the eight-foot diameter tunnel that will convey CSOs from King County's 3rd Avenue basin in lower Queen Anne to the tunnel in Fremont resumed in November 2022, and work is planned to be completed by mid-January 2023. Work was halted earlier in the year to address defects in pipe sections.

Work on SPU's Wallingford Conveyance contract will start in January 2023. This work will allow SPU's Wallingford combined sewer outfall to connect with the new storage tunnel and will require the closure of Stone Way North between N 34th St. and N 35th St. to vehicle traffic for up to one year and then traffic reductions will be required on N 35th St. for up to eight months.

All construction sites remain active with continued on-site ground and utility work, shaft, tunnel, and conveyance construction.

- West Site (Ballard) – The shaft is the entry and egress point for everything necessary

to construct the tunnel. All personnel, tunnel liner segments and materials necessary to continually extend the electrical, mechanical, and heating, ventilation, and air conditioning (HVAC) feeds enter and exit the shaft via rail car. Crews installed what is known as a California Switch platform. The switch sits on top of the regular track and allows the trains to switch track or bypass each other while traveling inside the storage tunnel. The switch should help speed up production for the duration of tunnel installation.

- Fremont Site – Construction of the diversion structure at 2nd Ave. NW is nearly complete. The diversion structure is the point at which the CSO flows from SPU’s basin 174 will enter the Ship Canal tunnel. Work resumed on installation of the eight-foot diameter tunnel that runs under the Ship Canal between Queen Anne and Fremont.
 - Queen Anne Site – Crews completed construction of three underground vaults and continue to install a 60-inch conveyance pipe between the diversion structure and the shaft.
 - East Ballard Site – Crews continue building the mechanical and electrical vault on NW 35th St. The lid has been poured and the structural component of the vault is almost complete. Work also is ongoing in the 11 Ave. NW excavation site around and under King County’s existing outfall pipe. This work will allow for construction of the diversion structure that will connect King County’s outfall to the tunnel.
 - Wallingford Site – Construction of the upper shaft walls and underground odor control facility walls on the east side of the shaft are complete and crews are removing the remaining contaminated soil in the southwest corner of the site. Crews have also been working inside the underground garage of the nearby Brooks Building to determine how to remove the tiebacks (steel wires) that run under N 35th St from construction of the building and are in the path of the last portion of the Ship Canal tunnel.
- Design work on the remaining elements is largely complete.
 - Work on the Wallingford Conveyance construction contract is expected to begin in January 2023. This work is not jointly funded and is the sole responsibility of SPU. The Wallingford Conveyance contractor will soon begin work on Stoneway N between N 34th St and N 35th St in preparation for conveyance pipe installation and other utility structures.
 - Efforts are ongoing by the project team to evaluate remaining risks and uncertainties, identify potential cost and schedule reduction opportunities and develop a revised project budget and schedule. The full extent of a budget increase will not be known until mid-2023 when bids for the last remaining construction project are received. The extent of the schedule extension should be known in early 2023.
 - Development continues on the joint TEPS operational strategy to coordinate effective communications, commissioning, system integration, and operations between agencies once the project is completed.
 - The SCWQP Monitoring and Modeling (M&M) plan continues to progress. The M&M plan is required by the JPA and outlines communication and coordination between SPU and King County during the period between 2019 and 2032. The plan outlines sewer system flow

monitoring to be conducted prior to the Ship Canal Project construction and monitoring to be conducted in the five-year period after the project is completed. The plan will be used to determine control status of outfalls and to determine impacts (if any) should flows differ from those anticipated. This effort is planned for completion during the next reporting period.

- Interagency, organizational, and regulatory briefings continue on a regular basis.
- The most recent risk model update report was completed in May 2022. An updated risk report is scheduled to be completed in January 2023.
- The project team continues to make progress completing the final remaining temporary and permanent easements required for the project's construction and operation:
 - Continuing to develop a Temporary Construction Easement needed from SPU for the 3rd Ave. site in lower Queen Anne in 2023 or 2024.
 - Completed a memorandum of agreement (MOA) with Holland Partner Group, a private developer, for construction coordination and communication requirements near the East Ballard Shaft.
 - Completed extension of Temporary Construction Easement from Fred Meyer.
 - Extended the Temporary Construction Easement at the Fremont site for an additional year.
 - Briefings to inform community stakeholders about project progress and upcoming work, including neighborhood district councils, will continue. The project team also continues to provide public notice and outreach for work in all affected neighborhoods including Ballard, Fremont, Wallingford, and lower Queen Anne. Over 2,000 people are subscribed to a project email that goes out every two weeks.
 - Continued contractor outreach to increase awareness of upcoming bid process.

Several budget items that may require PRCMC approval in 2023 include:

- Preliminary assessment indicates an 8 to 14 percent increase in the current project budget to between \$615-\$650 million.
- The TEPS/Ballard Conveyance contract is the final contract on the project to be bid (April/May 2023) and is the second largest contract on the project. Unprecedented escalation has increased the estimated cost of this contract by approximately \$30m to an estimated \$125m. This increase, along with other escalation related costs, will be incorporated into the above budget request.
- Once the immediate repercussions of the COVID-19 pandemic closures were realized in 2020, all but essential Ship Canal Project and contractor staff began working remotely. The portions of the Ship Canal Project under construction were deemed essential and allowed to continue work following proper state and local public health guidelines and restrictions. The full impact of the COVID-19 pandemic is continuously evolving, and the Ship Canal Project program management team is closely monitoring any schedule delays or cost impacts resulting from COVID-19 restrictions.
- The City of Seattle COVID-19 Vaccination Requirements for Contractors with

Employees/Subcontractors took effect on December 5, 2021. SPU SCWQP project managers are currently working with the effected contractors to determine levels of compliance. COVID-19 has resulted in staffing, labor, material, and supply chain disruptions. Potential impacts from escalation and these disruptions on the remaining portions of the project are being closely studied and monitored.

- The contractor has submitted a claim related to the boulder that impeded the path of the tunnel boring machine. This is a complex issue involving the Geotechnical Baseline Report and differing site conditions and will likely require a lengthy period to resolve.
- A claim related to jet grouting and a defective specification has been received by the project team. This claim is working its way through the construction change process.

C. Major schedule milestones and the project status in achieving those milestones

Table B highlights major schedule milestones and the status of the project in reaching those milestones. Ecology has approved SPU’s submittal of both draft and final plans for the tunnel portion of the project and noted that the plans meet the intent of the Consent Decree.

Note that in King County’s approved modified Consent Decree, which authorized the joint project, only the Construction Completion date of December 31, 2025, is required of King County. All other Consent Decree milestones listed are the responsibility of SPU, though King County staff and the PRCMC both regularly monitor them.

Table B: Project Schedule Milestones

Key Consent Decree (CD) Milestones	CD Compliance Date	Current Project Schedule	Variance from CD Schedule (years)
Draft Engineering Report (Facility Plan)	3/31/2017	1/22/2016 (actual)	(1.2)
Final Engineering Report for Approval	12/31/2017	3/21/2017 (actual)	(0.7)
Draft Plans and Specs to Ecology for Review	3/31/2020	12/5/2018 ⁹ (actual)	(1.3)

⁹ SPU has received acknowledgement and approval from Ecology that its submittal of both draft and final plans and specifications for the tunnel portion of the project meets the intent of the Consent Decree. Other portions of the project will have later submittals that are not on the critical path, such as the Ballard and Wallingford Conveyance packages.

Key Consent Decree (CD) Milestones	CD Compliance Date	Current Project Schedule	Variance from CD Schedule (years)
Final Plans and Specifications for Approval	12/31/2020	3/6/2019 (actual)	(1.8)
Construction Start (Notice to Proceed)	7/1/2021	12/26/2019 (actual)	(1.5)
Construction Completion	12/31/2025	3/5/2026	0.3
Achieve Controlled Status ¹⁰	12/31/2026	3/5/2027	0.3

The only outstanding Consent Decree milestone remaining is Construction Completion. It is now unlikely that either milestone will be achieved on-time. While both dates had remained unchanged since the beginning of the project, the most recent schedule indicates that Construction Completion will be approximately two and half months beyond the original milestone date with Achieve Controlled Status following one year later. It is likely that both these dates will be pushed back farther into 2026, although specific dates will not be known until the project team completes its risk and uncertainties analysis and risk model reviews. These efforts are expected to be completed in early 2023, and will incorporate COVID-related impacts, supply chain, and labor shortage issues, as well as known underground risk events that have impacted the project. King County has made a request to Ecology to establish new Consent Decree milestones for this project, due to project schedule impacts that are outside of the County’s control.

D. Potential uses of contingency and management reserve

No budget changes were approved by the PRCMC since the last report. As noted earlier in this report, total remaining available project reserves are significantly reduced from the summer 2022 report, due in large part to the increased construction cost estimate for the TEPS/Ballard Conveyance project. Reserves are greatly depleted when including the updated TEPS/Ballard Conveyance project cost. In addition to escalation, COVID impacts, and the underground events that materialized, are not covered by current project reserves. While the risk model will be updated in early 2023, the current confidence level of completing the project within the \$570 million budget is estimated to be less than 10 percent. Preliminary assessments indicate an eight to 14 percent increase in the current project budget to between \$615-\$650 million. King County’s share of this increase will be approximately 30 percent.

VI. Conclusion/Next Actions

Since the last report on the joint Ship Canal Project, no changes were brought forward to the PRCMC for review or approval. The cost estimate for the project remains at \$570.1 million in total project costs, with the County’s capital cost share at \$172.9 million, which represents no change

¹⁰ Achieve Controlled Status is not part of the Consent Decree but is tracked for this project.

since the last report. However, the budget will need to be increased and the schedule will need to be extended in order to complete the project. The full extent of the budget increase will not be known until mid-2023 when bids for the last remaining construction project are received. The extent of the schedule extension should be known in early 2023. Current assessments indicate that the budget will need to increase to between \$615-\$650 million. The long-standing Construction Complete Consent Decree milestone by December 31, 2025, will not be met. Current forecasts indicate construction will be completed on March 5, 2026, although it is expected that this date will be further extended into 2026 following completion of the current overall project risk and uncertainty evaluation. King County has made a request to Ecology to establish new Consent Decree milestones for this project, due to project schedule impacts that are outside of the County's control.

The Ship Canal Water Quality project is a large, complex underground infrastructure project. In addition to the difficulties and challenges that inevitably occur on such projects, the Ship Canal project has experienced unprecedented events that have partially contributed to the forthcoming yet necessary budget increase and schedule extension. These events include slower than expected tunnel mining rates; COVID and its resulting effects on escalation, supply chain, and labor availability; as well as realization of unlikely underground risks, including encountering the largest boulder in North America tunneling.

To combat these changes, the project team has undertaken a look at all cost and schedule issues, including remaining risks and uncertainties; ways to minimize remaining escalation impacts, including incentives for accelerating work in the last construction project; and opportunities to streamline and optimize construction schedules. Various budget scenarios are being prepared in anticipation of the forthcoming bid opening on the TEPS/Ballard Conveyance contract. These efforts will conclude in early 2023, with a new risk model that should help clarify a revised and most likely budget and schedule.

Significant progress continues on all construction activities, such as utility preparation, utility relocations, temporary water main relocations, shaft construction, underground structures, diversion structures and both the large and small diameter tunnels. The 18-foot 10-inch diameter storage tunnel is actively mining and has progressed to 8,100 feet of a total 13,946 feet. The eight-foot diameter tunnel has installed 32 of 82 total casing pipe segments and this work is expected to be completed in January 2023. The majority of non-construction work has been completed. Both SPU and King County are working on startup, commissioning, operations plans, and post construction modeling and monitoring.

Partnering with SPU to deliver this project helps ensure efficient use of limited regional financial resources for both agencies. The next semiannual report on this project is due to the Council on July 30, 2023.

VII. Appendices

Appendix A: Ordinance 18313

Appendix B: Ship Canal Water Quality Project Semiannual Report Annual Cash Flow Projections and Actual Expenses for King County Share of Ship Canal Water Quality Project



KING COUNTY

Appendix A
1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

Signature Report

July 5, 2016

Ordinance 18313

Proposed No. 2016-0016.2

Sponsors Dembowski and Kohl-Welles

1 AN ORDINANCE relating to King County's long-term
2 combined sewer overflow plan; approving a joint project
3 agreement with the city of Seattle for the ship canal water
4 quality project and authorizing the King County executive
5 to sign and fulfill the county's obligations in the agreement.

6 **STATEMENT OF FACTS:**

- 7 1. King County and the city of Seattle have entered into separate federal
8 court-ordered consent decrees with the United States Environmental
9 Protection Agency and the Washington state Department of Ecology
10 requiring control of combined sewer overflows to the Lake Washington
11 Ship Canal, Duwamish river and Elliott bay.
- 12 2. The 2012 combined sewer overflow long-term control plan, approved
13 by Ordinance 17413 and incorporated into the consent decree, notes the
14 potential for joint projects with the city.
- 15 3. The city of Seattle's Ballard and Fremont/Wallingford combined sewer
16 overflow basins are located in close proximity to the county's 3rd Avenue
17 West regulation and 11th Avenue Northwest regulation combined sewer
18 overflow sites.

19 4. The coordination efforts of the county and the city have resulted in the
20 proposed joint ship canal water quality project that will control four of the
21 city's and two of the county's combined sewer overflow sites in the ship
22 canal.

23 5. King County and Seattle agree that the joint ship canal water quality
24 project is a preferred alternative over independently-constructed combined
25 sewer overflow control projects by the county and the city.

26 6. The city of Seattle will serve as the lead agency for design and
27 construction of the proposed ship canal water quality project, a 2.7-mile,
28 approximately fourteen-foot diameter storage tunnel that will capture and
29 temporarily hold more than fifteen-million gallons of stormwater mixed
30 with sewage from seven combined sewer overflow sites during a storm
31 event.

32 7. The county is seeking approval from the United States Environmental
33 Protection Agency and the Washington state Department of Ecology of a
34 modified schedule for completion of the 3rd Avenue West regulation
35 combined sewer overflow control project and a change in the project
36 description for the county's 3rd Avenue West regulation and 11th Avenue
37 Northwest control projects consistent with the ship canal water quality
38 project schedule and description.

39 8. The proposed ship canal water quality project will provide operational
40 efficiencies based on the ability of the storage tunnel to control large flow
41 volumes from adjacent basins in a single facility.

42 9. Construction of a single project, rather than six independent projects,
43 will reduce environmental impacts and minimize neighborhood disruption.

44 10. King County and the city of Seattle have agreed to jointly cooperate
45 in, and share funding of, the planning, design, construction and
46 maintenance, as well as the long-term operation, repair, replacement,
47 alteration and improvement of the ship canal water quality project as
48 provided for in the proposed joint project agreement that is Attachment A
49 to this ordinance.

50 11. The regular reporting of project design and construction progress,
51 costs and risks is an important aspect of overall project accountability and
52 oversight in this jointly cooperative project management and delivery
53 system.

54 BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

55 SECTION 1. The King County council hereby approves the ship canal water
56 quality joint project agreement, substantially in the form of Attachment A to this
57 ordinance, and authorizes the King County executive to sign and fulfill the county's
58 obligations in the agreement.

59 SECTION 2. A. The executive shall submit semiannual project status reports
60 summarizing:

- 61 1. Project budget status and anticipated cash flow through construction phases;
- 62 2. Key upcoming activities that demonstrate progress on design and
63 construction of county-focused elements;

64 3. Major schedule milestones and the project status in achieve those milestones;

65 and

66 4. Potential uses of contingency and management reserve.

67 B. The reports shall be filed:

68 1. In the form of a paper original and an electronic copy with the clerk of the
69 council, who shall retain the original file and provide an electronic copy to all
70 councilmembers, the council chief of staff, the lead staff for the transportation, economy
71 and environment committee and the policy staff director.

72 2. By July 30 for the preceding period of January 1 through June 30 and by

- 73 January 31 for the preceding period of July 1 through December 31; and
- 74 3. Until closeout of the project is reported as complete in a project status report.
- 75

Ordinance 18313 was introduced on 1/19/2016 and passed by the Metropolitan King County Council on 7/5/2016, by the following vote:

Yes: 9 - Mr. von Reichbauer, Mr. Gossett, Ms. Lambert, Mr. Dunn,
 Mr. McDermott, Mr. Dembowski, Mr. Upthegrove, Ms. Kohl-Welles
 and Ms. Balducci
 No: 0
 Excused: 0

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

J. Joseph McDermott, Chair

ATTEST:

Anne Noris, Clerk of the Council

APPROVED this 13 day of JULY, 2016.

Dow Constantine, County Executive

RECEIVED
 2016 JUL 14 PM 3:58
 CLERK
 KING COUNTY COUNCIL

Attachments: A. City of Seattle and King County Water Quality Project Joint Project Agreement, dated May 31, 2016



City of Seattle and King County Ship Canal Water Quality Project Joint Project Agreement

May 31, 2016



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City of Seattle and King County
Ship Canal Water Quality
Joint Project Agreement

Article I - Agreement for Joint Project

- I.1** This City of Seattle and King County Ship Canal Water Quality Joint Project Agreement ("Joint Project Agreement" or "Agreement") is made by and between the City of Seattle, a municipal corporation of the State of Washington, operating through its Seattle Public Utilities ("SPU") department, and King County, a political subdivision of the State of Washington, operating through its Department of Natural Resources and Parks ("DNRP"), and collectively referred to as the "Parties."
- I.2** The effective date of this Joint Project Agreement is the date of last approval signature of this Agreement ("Effective Date").
- I.3** This Agreement between the Parties is for the purpose of jointly cooperating in, and sharing funding of, the planning, design, construction, operations, maintenance, repair, replacement, alteration, and improvement of The Ship Canal Water Quality Joint Project, hereinafter referred to as "The Ship Canal WQ Project" or "Project" as defined in Article III.18.
- I.4** This Agreement is pursuant to the Guiding Principles dated September 18, 2013 and incorporated into the Term Sheet between the Parties dated November 15, 2013, as amended, and the Ballard-Fremont-Wallingford 3rd Ave. West and 11th Ave. Northwest Storage Tunnel Option ("Joint Tunnel Project") Term Sheet between the Parties dated February 13, 2015, as amended.
- I.5** The term of this Joint Project Agreement shall begin on the Effective Date and continue, in perpetuity unless the Parties, their successors or assigns mutually agree in writing to amend or terminate this Joint Project Agreement.
- I.6** The Parties agree that if a conflict exists between this Agreement and prior agreements, including but not limited to term sheets, or other documents referenced in this Agreement or between this Agreement and any Exhibit to this Agreement, the terms of this Agreement shall control.

Article II - Recitals

- II.1** The City of Seattle and the Municipality of Metropolitan Seattle (“METRO”) entered into a long term “Agreement for Sewage Disposal”, dated January 26, 1961, as amended (the “1961 Agreement”); and
- II.2** In 1994, METRO merged with and became part of King County, now known as the King County Department of Natural Resources and Parks, Wastewater Treatment Division; and
- II.3** The Parties have entered into separate federal court-ordered consent decrees with the U.S. Environmental Protection Agency (“EPA”), the Washington State Department of Ecology (“Ecology”), and the U.S. Department of Justice (“DOJ”) requiring control of combined sewer overflows (“CSO”s) to the Lake Washington Ship Canal, Duwamish River, and Elliott Bay (Civil Action No. 2:13-cv-678 (“City’s Consent Decree” dated July 3, 2013), and Civil Action No. 2:13-cv-677 (“King County’s Consent Decree” dated July 3, 2013); and
- II.4** The Parties entered into a set of Guiding Principles, dated September 18, 2013, incorporated into the Term Sheet dated November 15, 2013, (“Guiding Principles”), for the purpose of working together to deliver waste water and water pollution control services as efficiently and effectively as possible, including but not limited to partnering on CSO control projects; and
- II.5** The Parties have identified a wastewater storage tunnel option to be located at the west end and on the north side of the Seattle Ship Canal as a preferred joint solution to control CSOs from the City’s Ballard drainage basin outfalls 150, 151 and 152 and its Fremont/Wallingford drainage basin outfalls 174 and 147, and from DNRP’s 3rd Avenue West outfall 008 and 11th Avenue Northwest outfall 004, as memorialized in the Shared West Ship Canal Tunnel Description and Schedule in the Ballard-Fremont/Wallingford Combined Sewer Overflow Reduction Project: Final Project Definition Report Volume 1, December 2014, incorporated herein by reference; and
- II.6** The Parties entered into the Ballard-Fremont-Wallingford-3rd Avenue West and 11th Avenue Northwest CSO Control Storage Tunnel Option (Joint Tunnel Project) Term Sheet dated February 13, 2015, (the “2015 Term Sheet”) setting forth the terms for further consideration of proceeding with the planning, design, construction, operations, maintenance, and joint funding of The Ship Canal WQ Project, for the control of CSOs to the Lake Washington Ship Canal; and
- II.7** In accordance with the City’s Consent Decree, SPU has a 2015 CSO Long Term Control Plan (“LTCP”) approved by state and federal regulators, identifying Shared West Ship Canal Tunnel (which is the subject of this

Agreement, the Ship Canal WQ Project) as its preferred option to control CSOs at its Ballard, Fremont and Wallingford outfalls; and

- II.8** SPU has also published a final State Environmental Policy Act, Programmatic Environmental Impact Statement (“EIS”) dated December 4, 2014, for its CSO program and LTCP; and
- II.9** DNRP has a 2012 CSO Long Term Control Plan Amendment approved by state and federal regulators identifying options to control overflows at its 3rd Ave .W. outfall (008) and 11th Ave. NW outfall (004); and
- II.10** The Parties agree that The Ship Canal WQ Project is a preferred alternative over independently constructed wastewater control projects by the City or King County; and
- II.11** DNRP is seeking approval from EPA and Ecology to a modified schedule for completion of the 3rd Ave W. CSO control project and a change in the project description for the 11th Ave. NW CSO and 3rd Ave W CSO control projects consistent with The Ship Canal WQ Project schedule and description; and
- II.12** The Parties have mutually agreed to a “Seattle Public Utilities & King County Wastewater Treatment Division Coordination Plan” dated April 7, 2014 (The SPU/DNRP Project Coordination Plan) (“Coordination Plan”). The purpose of the Coordination Plan is to guide the Parties in executing both joint and individual CSO projects to efficiently and effectively achieve CSO control to comply with their respective Consent Decrees and other regulatory requirements; and
- II.13** The Parties have agreed to use the Coordination Plan, as appropriate, for the purpose of ensuring coordination between SPU and DNRP and achieving efficient administration of The Ship Canal Project; and
- II.14** The Parties have agreed to a Joint King County/Seattle CSO Initiative Work Plan Item 4: Cost-Sharing Method for Joint Capital Projects, dated March 26, 2012 (Technical Memorandum No. 4”) for the purpose of determining each Party’s proportionate share of the total cost of The Ship Canal WQ Project; and
- II.15** The Parties have agreed in Joint King County/Seattle Initiatives Item 7: Incremental Costs and Credits Associated with Combined Sewer Overflow Return Flows and Other Seattle Flow-Changing Initiatives (“Technical Memorandum No. 7”), dated January 7, 2013, to a compensation methodology for incremental changes to SPU wastewater flows that directly affect the operation and maintenance costs of DNRP facilities downstream of SPU facilities; and
- II.16** The Parties have agreed that The Ship Canal WQ Project will be designed, constructed, operated, and maintained to manage CSOs from the

seven basins described herein. Minimum Baseline control volumes (per Article III.6) for The Ship Canal WQ Project are:

A) King County CSO Outfalls:

- | | |
|--|---------------------------|
| • 11th Avenue Northwest Outfall number 004 | 1.85 million gallons (MG) |
| • 3rd Avenue West Outfall number 008 | <u>4.18 MG</u> |
| | 6.03 MG |

B) SPU CSO Outfalls:

- | | |
|--|----------------|
| • Ballard Outfall numbers 150/151 | 0.62 MG |
| • Ballard Outfall number 152 | 5.38 MG |
| • Wallingford Outfall number 147 | 2.15 MG |
| • Fremont drainage basin: Outfall number 174 | <u>1.06 MG</u> |
| | 9.21 MG |

The storage volume of the tunnel may increase due to design and/or other considerations. The Ship Canal WQ Project will not be used for any other basins or purpose unless mutually agreed by both Parties in accordance with Change Management as defined in Article III.2 of this Agreement and described in Exhibit B; and

- II.17** The Parties have agreed in the 2015 Term Sheet to No Impact Release Rates (“NIRR”) for The Ship Canal Project as described in SPUs LTCP, CSO Control Measures Performance Modeling Report, January 2015, (Appendix L of the Final LTCP Volume 2, dated May 29, 2015); and
- II.18** Both Parties have already expended funds on technical analyses and on preliminary design work (the “Preliminary Expenditures”) in order to determine that The Ship Canal WQ Project is the preferred approach to managing DNRP and SPU CSOs in the West Ship Canal area. The Parties agree that the Preliminary Expenditures are a cost of the Project and are subject to the cost sharing percentages set forth in Section IX.1 through IX.3.
- II.19** The Parties acknowledge that this Joint Project Agreement is intended to be binding on the City and the County in perpetuity unless and until it is mutually terminated in accordance with Article XXII.2. The Parties also acknowledge that The Ship Canal WQ Project will require budget appropriations beyond the respective current approved budget ordinances passed by the Seattle City Council and the King County Council, and thus will be subject to subsequent budget ordinance approvals by both Councils, as appropriate, to adequately fund The Ship Canal WQ Project; and
- II.20** The Parties agree that the Recitals in this Article II are incorporated into and constitute a vital part of this Joint Project Agreement.

Article III - Definitions

- III.1 Capital Project Budget** means the budget of The Ship Canal WQ Project, as described in the Project Description attached to this Agreement as Exhibit A. The baseline project budget is defined in the Shared West Ship Canal Tunnel Description and Schedule in the Ballard-Fremont/Wallingford Combined Sewer Overflow Reduction Project: Final Project Definition Report Volume 1, December 2014.
- III.2 Change Management** means the process for evaluation, approval and oversight of changes to The Ship Canal Project attached to this Agreement as Exhibit B.
- III.3 Consent Decree(s)** means the federal court ordered consent decree(s) that the City of Seattle and King County have each entered into with the U.S. Environmental Protection Agency (“EPA”), the Washington State Department of Ecology (“Ecology”), and the U.S. Department of Justice (“DOJ”) requiring control of combined sewer overflows (CSOs) to Lake Washington, the Lake Washington Ship Canal, Duwamish River, and Elliott Bay (Civil Action No. 2:13-cv-678 (“City’s Consent Decree” dated July 3, 2013), and Civil Action No. 2:13-cv-677 (“King County’s Consent Decree” dated July 3, 2013).
- III.4 Consent Decree Extension** means an extension of the construction completion date to achieve the regulatory standard for CSO control at any one or group of outfalls.
- III.5 Control Status** means control of a CSO Outfall in accordance with WAC 173-245-020(22) over a Twenty Year Moving Average as defined in the Consent Decrees.
- III.6 Control Volume** means the volume of combined sewage overflow, as determined by each Party in their respective Long Term Control Plans and/or CSO control plans, required to be controlled through storage in The Ship Canal Project, to achieve Control Status of the seven CSO outfalls within The Ship Canal WQ Project, as identified in Article II.16.
- III.7 Cost Share(s)** means each Party’s proportionate share of The Ship Canal Project’s costs, as defined in Articles IX.1 through IX.3 of this Agreement.
- III.8 Flow Attribute Data** means measurements of flow volume and flow rate related to the operation of the Ship Canal WQ Project including but not limited to:
- Water elevation upstream of each diversion point (City and Metro Datums)
 - Water elevation downstream of gate at each diversion point (City and Metro Datums)
 - Gate position at each diversion point to the tunnel
 - Measured flowrate of any flow diverted to the tunnel
 - Calculated flowrate of any flow diverted to the tunnel

- Cumulative flow diverted to the tunnel from each basin for the current event
- Total flow diverted to the tunnel for the current event
- Cumulative flow diverted to the tunnel from each basin for historic events
- Total flow diverted to the tunnel for the current event
- Water elevations in tunnel (City and Metro Datums) – upstream and downstream ends (plus any in the middle)
- Calculated volume of tunnel storage used
- Calculated volume of tunnel storage remaining
- Calculated available tunnel volume for each inflow location
- Metered pumped flow from the tunnel – from each pump and total flow
- Pump on-off indicators
- Pump speeds
- Volume pumped out of tunnel during current event

III.9 No Impact Release Rate ("NIRR"): are a set of time series data obtained from models, identifying available capacity at a specific point in the DNRP system after DNRP's future CSO control projects are on-line. The NIRR estimates when and how SPU can drain a storage facility or transfer captured CSO to a specific point in the DNRP system without adversely impacting DNRP facilities. Predicted performance of The Ship Canal WQ Project was analyzed using NIRRs in SPU's Long Term Control Plan, CSO Control Measures Performance Modeling Report, January 2015, (Appendix L of the Final LTCP Volume 2 dated May 29, 2015).

III.10 Operation and Maintenance means the activities performed on all The Ship Canal WQ Project equipment, facilities, systems and structures to assure they achieve their useful life and operate reliably and efficiently in accordance with the principles and guidelines of the Operations and Maintenance Plan.

III.11 Operations & Maintenance Plan means the plan setting forth the operating and maintenance principles, and protocols for coordination and communication between SPU and DNRP, and the control strategy and means for monitoring, controlling and regulating the functions of The Ship Canal WQ Project.

III.12 Peak Flow Event means any storm event that causes a CSO at any outfall served by The Ship Canal WQ Project, when operated in accordance with the Operations and Maintenance Plan.

III.13 Post-Construction Monitoring means the monitoring required by an approved Post Construction Monitoring Plan (PCMP) in accordance with City's and King County's Consent Decrees as well as any additional post-construction monitoring or modeling activities included in any Supplemental Compliance Plan, if needed.

- III.14 Preliminary Expenditures** means costs incurred for, but not limited to, planning, technical analyses, and preliminary design work associated with evaluating the feasibility of The Ship Canal WQ Project.
- III.15 Project Management Plan (PMP)** defines the basis of all work, and describes the processes to be used to plan and deliver The Ship Canal WQ Project through design, construction, and commissioning.
- III.16 Soft Costs** means the fully burdened labor and administrative costs for the planning, design, construction, and commissioning of The Ship Canal WQ Project. Soft Costs include both consultant and agency costs, but excludes costs for materials testing during construction, land survey, and SPU and/or DNRP crew construction costs.
- III.17 Storage Volume** means the total internal volume of The Ship Canal WQ Project available to store wastewater, estimated to be a minimum of 15.4 million gallons.
- III.18 The Ship Canal WQ Project** means the Ship Canal Water Quality Project (SPU Project Number C314056) as described in the Project Description, attached to this Agreement as Exhibit A.

Article IV - Project Design & Construction

- IV.1** SPU shall be the lead agency and will be responsible for the planning, design, construction, delivery, operation, maintenance, repair, alteration, monitoring, improvement and support of The Ship Canal WQ Project in accordance with the terms and conditions of this Joint Project Agreement and its Exhibits, and the prior agreements or other documents referenced in this Agreement.
- IV.2** SPU will deliver The Ship Canal WQ Project utilizing the Project Management Plan ("PMP"), as described in Article VI, or as otherwise modified and approved through the Change Management process in accordance with Exhibit B, or by mutual agreement of the Parties.
- IV.3** SPU will design The Ship Canal WQ Project for the following:
- Provide Storage Volume, as defined in Article III.17., which is, at a minimum, the aggregate of the seven contributory basin Control Volumes. Any increase in storage volume above and beyond the minimum Control Volume shall be evaluated through Change Management process (Exhibit B) and Cost Share provisions in accordance with Article IX.

- Ensure each CSO served by the Project is able to use its assigned volume when needed during Peak Flow Events through the use of active controls.
- Preserve existing outfall flow path capacity to retain existing upstream water levels during Peak Flow Events.
- Meet the parameters of the No Impact Release Rates (“NIRR”) in accordance with Article III.9. Any changes to the NIRR must be evaluated in accordance with the Change Management process (Exhibit B) and the Cost Share provisions of Article IX.

IV.4 DNRP and SPU will communicate with Ecology and EPA in a coordinated and collaborative manner and work together to address any subsequent actions that may be needed to keep each Party in compliance with their respective Consent Decrees. This will include but is not limited to the following:

- Jointly develop a written regulatory strategy to gain approvals from Ecology and EPA for The Ship Canal WQ Project for design, construction, operation and maintenance.
- The regulatory strategy will include communication concerning impacts to up or down stream DNRP or SPU facilities, a process for independent and joint submittals, and regularly scheduled briefings with regulators on their respective Consent Decrees.
- Consistent with the Joint Operations and System Optimization Plan required in both Parties Consent Decrees, each Party will review language pertaining to The Ship Canal WQ Project in each other’s annual CSO and Consent Decree reports or other regulatory documents to ensure that each Party is aware of and in agreement with the language.
- DNRP and SPU will work together to prepare summaries of the meetings with Ecology and EPA and conduct follow-up as appropriate.

IV.5 Each Party will be responsible for reporting to EPA and Ecology milestone completions of The Ship Canal WQ Project in compliance with the reporting requirements of the Parties’ respective Consent Decrees and applicable NPDES permits, Long-Term Control Plans and Post Construction Monitoring Plans.

IV.6 SPU will notify DNRP, within thirty (30) calendar days, of substantial and relevant milestones during the construction of The Ship Canal WQ Project. Prior to completion of the Project, SPU will provide DNRP sixty (60) calendar days written notice of the start-up of operations of each particular facility that comprises part of the Project and that SPU will begin delivery of increased flows from that facility to the Ballard Siphon, pursuant to the terms and conditions of this agreement. DNRP will provide to SPU sixty (60) calendar days written notice of the transfer of flows from 3rd Ave. W and 11th Ave. NW to The Ship Canal WQ Project pursuant to the terms and conditions of this agreement. Prior to commissioning of the Project, SPU and DNRP will document operating assumptions, agreed upon release rates, and any other relevant agreements concerning upstream and downstream flow impacts.

- IV.7** SPU will follow DNRP's Local Public Agency project review process as described in the SPU/DNRP Project Coordination Plan as amended, including providing DNRP with as-built drawings for the facilities that make up The Ship Canal WQ Project upon project completion and/or any future modifications. SPU will submit draft as-built drawings to DNRP prior to commissioning of The Ship Canal WQ Project facilities and final as-built drawings to DNRP within 6 months after Construction Completion as defined in the Consent Decree.
- IV.8** DNRP will follow a similar review process as outlined in Article IV.7 to inform SPU of future changes to DNRP's upstream facilities that may impact The Ship Canal WQ Project.

Article V - Roles & Responsibilities

- V.1** SPU, in consultation with DNRP, shall develop a schedule for implementation of this Agreement including all deliverables. The schedule will be developed within sixty (60) calendar days of the Effective Date of this Agreement.
- V.2** SPU shall be the lead agency responsible for compliance with the State Environmental Policy Act (SEPA), and be responsible for designing, constructing, commissioning, and operating and maintaining The Ship Canal WQ Project. DNRP shall coordinate and cooperate with SPU on all phases of The Ship Canal WQ Project and shall review and provide timely input to SPU, in accordance with the provisions of Articles V.3, V.4, V.5 and V.6, on its facility design, permitting, construction, commissioning, and operations plans, details and specifications. Both Parties are responsible for working together for the benefit of The Ship Canal WQ Project to reach agreement on any outstanding issues or disputes that may arise during all phases of the Project.
- V.3** SPU shall execute and administer all design contracts for The Ship Canal WQ Project and shall be responsible for the preparation of all design drawings and specifications and any other pertinent documentation relating to the design, construction, and operation of The Ship Canal WQ Project. DNRP shall be responsible for coordinating with SPU and providing review and input on those design drawings and specifications throughout the design process. SPU's responsibility and authority is as follows:
- Engage DNRP in continuous and unrestricted participation in design process through Task Forces, workshops, value engineering sessions, and reviews, etc.
 - Actively seek DNRP Subject Matter Expert (SME) involvement in the design process.
 - Provide DNRP with work in progress/design-submittals including but not limited to 30%, 60%, and 90% design phases. Also provide information requests as required for SMEs to follow and review design progress.

- Provide designers of record with comments at 30%, 60%, and 90% design phases within twenty (20) working days of receipt. SPU comments to the designer will include all DNRP comments and recommendations.
- Any and all comments and recommendations made by either Party that are inconsistent with each other shall be resolved in accordance with the One Team Decision Making Guidelines (Exhibit C), attached to this Agreement, to both Parties' mutual satisfaction. Comments that require more than twenty (20) working days to resolve shall be addressed within the succeeding design phase package.
- Any changes that affect the Project Description (project scope, schedule or budget) as defined in Exhibit A of this Agreement shall be resolved in accordance with the Change Management process (Exhibit B) attached to this Agreement.
- SPU shall give DNRP the opportunity to review and comment on all design elements of the Project. SPU recognizes and understands that DNRP has high interest in the Project and DNRP will focus its review and participation in the design process, including but not limited to the following elements:
 - CSO flow management to limit Control Volume allocations as specified in Article II.16
 - Tunnel drain rate to ensure the NIRR will be met
 - Tunnel flow control strategies and associated instrumentation and controls (I&C) to ensure compatibility w/DNRP operations, including solids flushing through the Ballard Siphon
 - Areas of interface with DNRP facilities
 - Areas to reduce project lifecycle costs, improve reliability and/or function.

V.4 SPU shall execute and administer all construction contracts for The Ship Canal WQ Project in accordance with scope, schedule, budget and approved plans and specifications including and subject to the following:

- Prior to issuance of notice to proceed, SPU will meet with project team members including DNRP. DNRP shall identify construction documents to be reviewed by DNRP.
- SPU will provide construction documentation including, but not limited to, Submittals, Requests for Information (RFIs), and Change Requests that involve DNRP's system components to DNRP for review and comment via SPU's electronic document management system.
- SPU will provide all progress and schedule updates to DNRP via SPU's electronic document management system.

- SPU will make all contract change documents available for DNRP review.
- SPU will follow the approval guidelines set forth in Change Management, Exhibit B.
- DNRP will have the right but not the obligation to provide construction management staff to observe construction at its own cost. All DNRP comments concerning the progress and quality of construction will be given only to SPU Construction Management staff.
- SPU and DNRP will each make their respective requests to the other agency using Exhibits B and C when either agency proposes a change to the project that will affect the terms of the construction contract.

V.5 SPU shall be responsible for commissioning The Ship Canal WQ Project. DNRP shall coordinate and cooperate with SPU and shall review and provide input on plans and specifications for commissioning and for coordinating commissioning activities between SPU staff and staff at the West Point Treatment Plant. Roles and responsibilities for the commissioning process shall be as follows:

- SPU shall be responsible to produce the startup and commissioning plan as part of the design and construction phase for The Ship Canal WQ Project.
- DNRP shall be responsible for providing review and input throughout development of the specifications and implementation of the startup and commissioning plan. The review and input process shall consist of the following:
 - SPU will include DNRP in the development of specifications for the startup and commissioning process through planning workshops and task forces that include both SPU and DNRP staff, and through direct engagement of SMEs from both Parties.
 - The Ship Canal WQ Project contractor will be required to provide to SPU a Commissioning Plan a minimum one hundred eighty (180) calendar days prior the start-up of any major component.
 - Upon receipt from the contractor, SPU shall forward the draft Startup and Commissioning Plan to DNRP for review at least one hundred twenty (120) calendar days prior to the startup of any major component of The Ship Canal WQ Project.
- DNRP shall complete its review and provide input to SPU within thirty (30) calendar days of receipt of the draft Startup and Commissioning Plan.
- During commissioning and startup, SPU shall notify DNRP at least sixty (60) calendar days prior to conveying initial flows from The Ship Canal WQ Project into DNRP's regional system.
 - Flows of wastewater from The Ship Canal WQ Project shall be coordinated with designated DNRP staff regarding operations and monitoring of the West Point Treatment Plant.

- DNRP shall provide a construction management or operations staff member(s) on site for testing during the commissioning process of The Ship Canal WQ Project to ensure agreed-to specifications are being met; and, to coordinate with designated DNRP staff regarding operations and monitoring of the West Point Treatment Plant.

V.6 SPU shall be responsible for operating the completed Project and associated equipment to control CSOs to meet the Consent Decree Performance Standards in accordance with WAC 173-245-020(22) and the Control Volumes specified in Article II.16 of this Agreement. Roles and responsibilities for operations and maintenance of The Ship Canal WQ Project will be as follows:

- SPU is responsible to develop an Operations and Maintenance Plan that includes, at a minimum, the Standard Operating Procedures (SOPs) described in Article VIII.1 of this Agreement.
- DNRP shall be responsible for providing review and input for developing the Operations Plan.
- SPU shall include DNRP in development of the Operations and Maintenance Plan through workshops and task forces as may be appropriate that include both SPU and DNRP staff, and through direct engagement of SMEs from both Parties. SPU shall forward an Operations and Maintenance Plan to DNRP for review and input at least one hundred twenty (120) calendar days prior to the startup of any major system of The Ship Canal Water Quality Project.
- SPU will provide at least sixty (60) calendar days for DNRP to review and provide input and comment to the Operations and Maintenance Plan; and for both Parties to reach agreement on input received.
 - SPU shall incorporate DNRP's input and comment(s) or provide written explanation as to why DNRP comments cannot be incorporated.
 - Any disputes will be resolved in accordance to the One Team Decision Making Guidelines (Exhibit C) to both Parties' mutual satisfaction.
 - SPU will finalize the Operations and Maintenance Plan prior to construction completion.
- Both Parties shall utilize the Change Management process specified in Exhibit B to this Agreement to modify or amend the completed and approved Operations and Maintenance Plan.
- SPU will provide DNRP opportunity to review and comment within thirty (30) calendar days of receiving draft and final operations and maintenance plans, comments from regulatory agencies, final plans, specifications, agreements, and scopes of work for any consultants and contractors to be retained, and any other pertinent documentation relating to the operation and maintenance of The Ship Canal WQ Project.
- Upon request by either Party, SPU and DNRP shall conduct joint post-storm event debriefs following commencement of operations of the

Ship Canal WQ Project to control CSOs in accordance with the Post Construction Monitoring Plan pursuant to Article VIII.8

- SPU and DNRP will work jointly to optimize The Ship Canal Water Quality Project operations and maintenance, and will meet annually to assess and document performance of The Ship Canal WQ Project in accordance with Article VIII of this Agreement.
- SPU will operate and maintain the Ship Canal WQ Project and associated equipment according to the final Operations and Maintenance Plan per Article VIII of this Agreement.
- SPU to the best of its ability will notify DNRP in writing of maintenance activities on The Ship Canal WQ Project facilities so that DNRP can coordinate such maintenance activities with the operations of its West Point Treatment Plant.
- SPU shall provide DNRP an annually updated list of maintenance activities and equipment changes as described in Article VII.7 of this Agreement.

Article VI - Project Management

VI.1 SPU will prepare and implement the PMP for The Ship Canal WQ Project. The PMP shall describe the processes that will be used to plan and deliver The Ship Canal WQ Project to completion. The Parties agree that the PMP when finalized and as amended from time to time will be incorporated into the Agreement by reference. SPU will make available to DNRP all progress and status reports required as a part of the PMP. The PMP will include, but will not be limited to the elements described in Articles VI.2 through VI.8 below.

VI.2 NOT USED

VI.3 SPU will be responsible for the production of the facility plan, control strategy, final plans and specifications, scopes of work for design consultants and construction contractors to be retained, and any other pertinent documentation relating to the design, construction, and operation of The Ship Canal WQ Project. Review and comment of all documentation relating to the design, construction, and operation of The Ship Canal WQ Project shall follow the process contained in Articles V.3 through V.6.

VI.4 The Parties will jointly develop and coordinate the implementation of a public outreach and communication plan for impacted communities, regulators, media, neighborhoods and businesses affected by implementation of The Ship Canal WQ Project. During design and construction, the joint media and communications task force will oversee and direct this effort. Post construction, the Parties will each appoint a media and communications representative to work together on developing an operations and maintenance communication strategy that will include community outreach for operations, maintenance and emergency response activities.

- VI.5** The Parties jointly agree to utilize and comply with the Change Management process as provided in Exhibit B which provides processes and procedures for changing the scope, schedule, or Capital Project Budget, as well as thresholds and required approvals for each type of change to The Ship Canal WQ Project.
- VI.6** In consultation with DNRP, SPU may create Task Forces, defined as committees of SMEs that are assigned a specific responsibility to assist in the planning, design, construction, delivery, operation, maintenance, repair, alteration, monitoring, improvement and/or support of The Ship Canal WQ Project. Each Task Force will be composed of SPU or DNRP staff, or both, and will have a written charter addressing, including but not limited to, staff roles and responsibilities, a defined purpose, identified deliverables, set of tasks, who the task force reports to, and a schedule to complete their specific tasks and objectives.
- VI.7** The Parties agree that The Ship Canal WQ Project shall be bid, contracted for, designed, and constructed in accordance with State and local law applicable to City of Seattle public works projects.
- VI.8** Because a portion of the Project will be conducted on County-owned property and/or for the benefit of the County, the contracts between SPU and its contractors, consultants and designers will include the following requirements:
- With respect to any and all of the County's interests, SPU, and the consultants/contractors will acknowledge that the County is an intended third party beneficiary of the design, construction management and construction contracts;
 - SPU and the contractor will include the County as a named third party beneficiary of the SPU design, construction and construction management contracts; and
 - SPU and the consultants/contractor will include the County in the indemnification and insurance provisions contained in the SPU contracts. SPU and the County do not intend that this paragraph be interpreted to create any obligation, liability, or benefit to any third party, other than SPU and the County for purposes of the design and construction of the Project.

Article VII - Ownership and Use of the Ship Canal WQ Project

- VII.1** SPU will own the completed Ship Canal WQ Project, and shall be responsible for operation, maintenance, permitting, monitoring, replacement, repair, alteration, and improvement of The Ship Canal WQ Project, with the Parties sharing all costs and expenses related to such operation, maintenance, permitting, monitoring, replacement, repair, alteration, and improvement of The

Ship Canal WQ Project in accordance with the cost share terms of Article IX of this Joint Project Agreement.

VII.2 In consideration for and subject to fully and continually meeting its cost share obligations as defined under Articles IX.1 through IX.3, DNRP shall have the right to use 6.03 MG gallons of the Storage Volume of The Ship Canal WQ Project in accordance with Article II.16. SPU shall have the right to use 9.21 MG of the Storage Volume of The Ship Canal WQ Project in accordance with Article II.16.

VII.3 Ownership of the outfall structures for the seven outfalls to The Ship Canal WQ Project as listed below will be retained by the Party to this Agreement that owns each outfall as of the Effective Date of this Agreement:

A) King County Outfalls by NPDES number:

- 004: 11th Ave N.W
- 008: 3rd Ave West

B) SPU Outfalls by NPDES number:

- Ballard drainage basin: Outfall numbers 150,151 and 152
- Fremont drainage basin: Outfall number 174
- Wallingford drainage basin: Outfall number 147

VII.4 DNRP shall work with SPU to secure necessary permissions and permits to access County-owned land, rights-of-way and facilities for the purpose of planning, design, construction, operation, maintenance, repair, replacement, alteration, and improvement of The Ship Canal WQ Project, including but not limited to all Ship Canal WQ Project-related conveyance facilities, devices, structures, and any flow monitoring required to convey, measure and control combined flows to The Ship Canal WQ Project and from The Ship Canal WQ Project to the DNRP's regional wastewater system as long as this Agreement remains in effect.

VII.5 In the event that any County-owned property interest becomes subject to any claims for mechanics', artisan's, materialmen's liens or other encumbrances chargeable to or through the City for work related to The Ship Canal WQ Project, the City shall cause such a lien, claim or encumbrance to be discharged or released of record (by payment, posting of bond, court deposit or other appropriate means) without cost to the County and shall indemnify the County against all costs and expenses (including attorney's fees) incurred in discharging and releasing such claim, lien or encumbrance prior to completion of The Ship Canal WQ Project.

Notwithstanding any language herein to the contrary, SPU's Contractors retained for The Ship Canal WQ Project work shall be responsible for any damage done to County-owned property and shall promptly repair such damage.

- VII.6** Once constructed, SPU shall retain ownership and title to all storage and conveyance facilities, devices, connections, structures, equipment and flow monitoring equipment, as well as all real property required for the operation, support, maintenance, repair, improvement, and administration of The Ship Canal WQ Project as defined in the Project Description (Exhibit A), unless otherwise agreed to in writing by the Parties. Notwithstanding anything in this section or in this Agreement, the County shall retain ownership of any property or property interests it owned as of the Effective Date of this Agreement.
- VII.7** SPU will provide DNRP an annual, updated list of all storage and conveyance facilities, devices, connections, structures, flow monitoring equipment and other equipment required for the operation of The Ship Canal WQ Project. The updated list will include facility location information and any anticipated changes, including maintenance, to the facilities, devices, connections, structure, flow monitoring or other equipment anticipated in the next 5 years.
- VII.8** DNRP will provide SPU with an annual, updated list of all storage and conveyance facilities, devices, connections, structures, flow monitoring equipment or other equipment related to DNRP facilities upstream of or connected to The Ship Canal WQ Project. The updated list will include facility location information and any anticipated changes, including maintenance, to the facilities, devices, connections, structure, flow monitoring or other equipment anticipated in the next 5 years.

Article VIII - Operations & Maintenance

- VIII.1** In consultation with DNRP, SPU will complete development of an Operations and Maintenance (O&M) Plan as defined in Articles III.10 and III.11, simultaneously with the completion of project design.

The Final O&M Plan shall address how the Project will limit the inflow to the Ship Canal WQ Project from each outfall to each outfall's Control Volume per event, specify processes and procedures for the monitoring, control and regulation of the completed Ship Canal WQ Project that will control CSO basins identified in Article II.16. The O&M Plan should include methods to minimize life-cycle costs and achieve the goals and requirements of the Parties' respective LTCP/CSO Control Plans, their respective Consent Decrees and NPDES permits.

SPU shall engage DNRP in continuous and unrestricted participation throughout development of the O&M Plan. DNRP shall be responsible for providing SPU with timely review comments and recommendations of all materials. All comments and recommendations made by either agency that are inconsistent with each other, shall be resolved to both Parties' mutual satisfaction

through the One Team Decision Making Guidelines (Exhibit C) and Change Management (Exhibit B).

The O&M Plan shall include operation and maintenance elements contained in Ecology's "Criteria for Sewerage Works Design" (Publication No. 98-37 WQ) or its successor and WAC 173-240-080 or its successor. Additionally, the operation and maintenance elements listed below are to be used as guidance during development of the O&M Plan:

- Monitoring requirements, quality control, and responsibilities
- Monitoring and Modeling Plan
- Staffing Plan, that requires certified operators with collection system endorsement and confined space entry certification
- Real-time sharing of Flow Attribute Data, as defined in Article III.8, from the Project's tunnel and from each basin connected to the Project's tunnel
- Operating control strategy and change process
- Real-time control and reporting strategy
- Process to evaluate facility performance
- Decision making strategy and protocols for facility changes over time
- Start-up and commissioning plan
- Emergency response protocols
- Optimization plan
- Inter-agency Communication protocol
- Change management process
- Detailed Standard Operating Procedures (SOPs)

The O&M Plan should include a Maintenance staffing plan that includes number of staff with mechanical, electrical and instrumentation and controls (I&C) disciplines, and confined space entry certification.

Development of the O&M Plan shall occur during the design and construction phases for the Project to ensure that operation and maintenance are considered during those phases. Progress on the O&M Plan should proceed at the following pace in relation to design and construction:

60% Design	O&M Plan at 30%
90% Design	O&M Plan at 60%
80% Construction	O&M Plan at 85%
Operational Testing	O&M Plan at 95%
Construction Completion	O&M Plan Finalized

The Final O&M Plan shall be approved by SPU and DNRP and will be incorporated into this Agreement by this reference.

- VIII.2** DNRP and SPU agree to cooperate in the implementation and optimization of the O&M Plan and to work cooperatively on any update, modification, or amendment to the O&M Plan as may be necessary or desirable, as experience is gained with the operation of The Ship Canal WQ Project.
- VIII.3** DNRP and SPU agree to meet annually to assess and document performance of the Ship Canal WQ Project and up and downstream impacts during the first five years following Project start-up, or more frequently if necessary due to operational and regulatory compliance issues. Annual meeting topics may include but are not limited to the following:
- Monitoring and overflow results from the current and previous years
 - Comparison of the modeled and monitored data for the current and previous years, if appropriate
 - Facility performance and operations adjustments
 - Impacts to SPU's and DNRP's up and downstream systems, including discussion of thresholds for developing and executing action plans
 - Potential improvements to communications and/or operations coordination
 - Short-term operational adjustments or capital improvements to mitigate impacts, if necessary
 - Flow monitoring changes, if necessary
 - Regulatory compliance issues and response plans, if necessary.
- VIII.4** The Parties agree that The Ship Canal WQ Project will be designed and operated to control the flow of grit, settleable solids and debris so as not to impair the capacity of the Ballard Siphon. If it is jointly determined grit, settleable solids or debris from The Ship Canal WQ Project is adversely affecting the Ballard siphon, SPU will work with DNRP to draft an alternatives analysis to diagnose the problems and propose solutions, evaluating both independent and joint control, maintenance, or repair measures. The proposed solutions will be reviewed by the Joint Oversight Committee as defined in Article XIV.2; and the cost share for the solution(s) implemented shall be negotiated by the Joint Oversight Committee.
- VIII.5** SPU will operate The Ship Canal WQ Project within the parameters of the No Impact Release Rates ("NIRRs") in accordance with Article III.9. SPU will also develop NIRRs for The Ship Canal WQ Project to assess potential impacts from flows entering the tunnel. Optimization of these NIRRs will occur jointly and will be described in the O&M Plan.

- VIII.6** Prior to commissioning The Ship Canal WQ Project, SPU and DNRP will jointly document all operating assumptions, and any relevant agreements concerning upstream and downstream flow impacts.
- VIII.7** Start-up and commissioning of The Ship Canal WQ Project will be conducted jointly as defined in the 2015 Joint Tunnel Project Term Sheet and the SPU/DNRP Project Coordination Plan as amended.
- VIII.8** SPU and DNRP will prepare a joint draft and final Monitoring and Modeling Plan for The Ship Canal WQ Project, and a five-year Post-Construction Monitoring Plan (PCMP), as defined in Article III.13.
- VIII.9** SPU and DNRP shall jointly prepare a draft and final Monitoring and Modeling Report that summarize the results of the baseline period prior to the increased flows from SPU's Ship Canal WQ Project and five-year post-construction monitoring effort. The specific tasks involved in preparing the report will include but not be limited to:
- Description of the baseline monitored peak flows and volumes at the monitoring locations
 - Comparison of baseline monitored peak flows and volumes to monitored post-construction peak flows and volumes and the NIRRs
 - Comparison of the monitored flows to the modeled flows
 - Description of the total increase in flow volume from SPU Basins (150, 151, 152, 147, 174) to relevant DNRP facilities for calculation of the incremental O&M charges
 - Description of any hydrologic/hydraulic modeling work
 - Description of the impacts of the increased flows on any DNRP facility including treatment effectiveness at the West Point Treatment Plant and all other related regulatory compliance or operational issues.
 - Description of impacts of increased flows and storage volume impacts to The Ship Canal WQ Project above and beyond those identified in Article II.16.
- VIII.10** In the event it is necessary to meet the Parties' Consent Decree requirements and/or other regulatory requirements, following the issuance of the Final Monitoring and Modeling Report, the Parties shall work together in preparing a draft and final Post-Monitoring Action Plan to summarize regional and local impacts and recommend actions to mitigate any adverse impacts. The Post-Monitoring Action Plan will include but is not limited to the following:

- Short-term operational adjustments to mitigate impacts
- Long-term operational/capital improvements to mitigate impacts
- Recommended actions necessary to meet regulatory requirements
- Costs and schedules for implementation
- Adaptive management approaches or strategies appropriate to mitigate impacts

Article IX - Cost Sharing

IX.1 DNRP will pay to SPU 35.0% of all costs of The Ship Canal WQ Project as defined in Article III.18 and in accordance with Article IX.3 and Exhibit A, including all costs associated with design, construction, commissioning and operations and maintenance, in accordance with the final O&M Plan.

IX.2 SPU will pay 65.0% of all costs of The Ship Canal WQ Project, as defined in Article III.18 and in accordance with Article IX.3, including all costs associated with operations and maintenance in accordance with the final O&M Plan, except as specifically otherwise provided by this Agreement.

IX.3 Except as provided in this Article IX.3., the cost share percentages in Article IX.1 and IX.2 will apply to the allocation of all costs of The Ship Canal WQ Project. These costs include but are not limited to project planning, design, land acquisition, permitting, construction, mitigation required by SEPA, commissioning, operation, maintenance, repairs, replacements, alterations, improvements, monitoring and modeling, and 1% for the arts as applicable, except as excluded by King County Ordinance No. 12089.

The cost share percentages in Article IX.1 and IX.2 shall not apply to the components associated with SPU's CSO control solution in the Ballard and Wallingford basins that are being constructed by SPU and that, consistent with Technical Memorandum No. 4, are to be funded in their entirety by SPU. No costs associated with the proposed Gravity Sewer Lines from SPU's diversion structures at the Ballard outfalls 150, 151 and 152 and Wallingford outfall 147 to the Project tunnel's drop shafts shall be borne by DNRP, including but not limited to project planning, design, land acquisition, permitting, construction, mitigation commissioning, operation, maintenance, repairs, replacements, alterations, improvements, monitoring and modeling, and 1% for the arts. Additionally, no costs associated with SPU's purchase of parcel numbers 046700-0423 and 046700-0431 (former Yankee Grill site) in Ballard shall be borne by DNRP.

IX.4 Any alteration or improvement to The Ship Canal WQ Project following completion that is required by regulation or a Consent Decree, or as may be

mutually agreed upon by the Parties through the Change Management process, Exhibit B, shall require an options analysis, and include consideration of both independent and joint control measures.

- IX.5** The Parties agree that Soft Costs, as defined in Article III.16., shall be subject to the following:
- At the beginning of each year and continuing through the construction and commissioning of The Ship Canal WQ Project, SPU and DNRP will agree to an annual Soft Costs budget.
 - The annual Soft Costs budget will be the Parties' annual limit of Soft Costs charges for The Ship Canal WQ Project.
 - The Soft Costs budget will be a part of the total cost of The Ship Canal WQ Project, and will be subject to the Cost Share provisions of Article IX.1 through IX.3 of this Agreement and consistent with the Change Management process established in Exhibit B.
 - If a Capital Cost Increase is solely due to an increase in Soft Costs, the Change Management process will be utilized.
- IX.6** Proceeds or monies received by SPU or DNRP, either individually or jointly, for the benefit of The Ship Canal WQ Project, including but not limited to the award of grants or loans, any insurance proceeds, recovery of any damages, judgments, settlements, or tax adjustments or deferrals, shall benefit SPU and DNRP in proportion to their contributed share of payments for The Ship Canal WQ Project as defined by the cost share percentages in Article IX.1, IX.2 and IX.3 above. If land purchased, in whole or in part, for The Ship Canal WQ Project and paid for by the Parties in accordance with the cost share percentages in Article IX.1, IX.2, and IX.3 is subsequently sold or declared surplus as no longer needed for construction or operation of The Ship Canal WQ Project, then the proceeds of the sale shall be credited to each Party in proportion to their contributed share of The Ship Canal WQ Project in accordance with the cost share percentages in Article IX.1, IX.2 and IX.3, above.
- IX.7** Capital Cost Increases, which are costs of planning, design, permitting, construction, mitigation, completing, and commissioning The Ship Canal WQ Project that exceed the Capital Project Budget, will be paid for by the Parties using the cost share percentages in Articles IX.1 and IX.2, subject to Articles IX.9, and IX.10 below.
- IX.8** SPU will implement a cost monitoring and reporting system as part of the PMP, which shall document costs incurred and progress to date on The Ship Canal WQ Project, along with any reporting in accordance with the PMP and Article X of this Agreement.
- IX.9** The Parties will share Capital Cost Increases exceeding the Capital Project Budget that would have occurred regardless of which Party is in the lead,

in proportion to their shares of The Ship Canal WQ Project costs as defined by the cost share percentages in Article IX.1, IX.2, and IX.3 above.

IX.10 As a guide for determining whether a Capital Cost Increase exceeding the baseline Ship Canal WQ Project Budget, as defined in Article III.1, is to be a shared cost, or exclusively a cost to SPU or DNRP, SPU will refer to the "List of Potential Causes for Capital Cost Increases" contained in Exhibit D.

IX.11 The Project shall be designed and constructed to meet the aggregate of the minimum Control Volumes stated in Article II.16 and in the Project Description. Storage volume in excess of the stated minimum Control Volumes may come from one or both of the following:

- Tunnel system components, refinements, non-discretionary changes, and contractors' means and methods ("Excess Volume")
- Discretionary changes to the Project Description ("Discretionary Excess Volume")

Allocation of Excess Volume is defined in Article IX.12. Allocation of Discretionary Excess Volume is defined in Article IX.13.

IX.12 Excess Volume, excluding Discretionary Excess Volume, is volume obtained incidentally during design and construction of the Project, in accordance with the Project Description, and is anticipated from one or more of the following:

- Portals and down-shafts
- The pump station wet well
- Non-discretionary Project revisions and refinements (adjustments to the tunnel alignment, portal diameters, etc.)
- Contractor means and methods that meet the requirements of the bid documents and result in the lowest bid amount
- Other means

The Parties agree that Excess Volume, excluding Discretionary Excess Volume, shall be allocated such that SPU has rights to 60 percent and DNRP 40 percent of the Excess Volume. These proportions are consistent with the Control Volume allocations in Article II.16 and the Project Description, Exhibit A. To ensure appropriate allocation of Excess Volume, The Ship Canal Project Excess Volume shall be estimated at construction substantial completion and allocated between SPU and DNRP in the proportions of 60 and 40 percent respectively. The Ship Canal Project Excess Volume shall only be used exclusively for CSO storage from the basins identified in Article II.16 and the Project Description, Exhibit A. Excess Volume is incidental to the Project and is included in the shared project costs in accordance with Articles IX.1 through IX.3.

IX.13 Discretionary changes to the Project Description that result in Discretionary Excess Volume (e.g., construction of a tunnel diameter greater than 14 feet diameter) shall go through the change management process. Unless

otherwise modified by agreement: 1) the cost share between the Parties for the Discretionary Excess Volume shall be proportionate to the agreed upon allocation of the Discretionary Excess Volume; 2) the Parties have the right to, but are not obligated to purchase 65 percent to SPU and 35 percent to DNRP of the Discretionary Excess Volume.

IX.14 Both Parties acknowledge there is a possibility that: 1) a Party may on a regular or continuous basis need to use a portion of the Storage Volume greater than its right to use as defined in Article VII.2, or 2) regulatory compliance may not be obtained by one or both Parties through implementation and operation of the Project in accordance with the final O&M Plan, and will require one or both Parties to develop a supplemental compliance plan under the terms of each Party's Consent Decree. Project commissioning and the 5-year post construction monitoring period will inform both Parties on project performance, possible excess use and compliance with regulations. In the event that regular or continuous use of excess volume or a supplemental compliance plan is needed by either Party, as determined by annual monitoring following the 5-year post construction monitoring period, consideration will be given to purchasing or leasing available capacity from the other Party. Neither Party shall be obligated to sell or lease their available capacity to the other Party. Requests to purchase or lease volume from the other Party shall be made through the Project Review and Change Management Committee (Exhibit B).

When such regular or continuous excess use is determined after the 5-year post construction monitoring period, if required, the responsible Party will produce a supplemental compliance plan in accordance with that Party's Consent Decree. Annual payment obligations by that Party will be incurred from the time the regular or continuous excess use is determined until the new control measure is implemented. These payment obligations will accrue with interest until they are paid.

The Parties agree that the annual payments for regular or continuous excess use will be equal to a fraction, the numerator of which is the responsible Party's additional control volume and the denominator of which is the Project's total Storage Volume, multiplied by the sum of:

- the estimated annual operating cost of the Project, plus
- three percent (3%) times all capital cost of the Project to reflect for the time value of money.

For example, the following demonstrates how this calculation would work if there were to be regular or continuous excess use of a hypothetical 1 million gallons:

1,000,000 gallons excess use/15.24 million gallons total storage volume = 6.56%

$6.56\% \times \$300,000$ (hypothetical annual operating cost) = \$19,685

$6.56\% \times \$11,415,000$ (hypothetical annual capital cost) = \$749,016 (incremental share of annual capital cost for excess use)

$\$19,685 + \$749,016 = \$768,701$ (annual payment for excess use based on 1 million gallons and these hypothetical estimates of annual operating and capital costs)

Article X - Project Budget and Funding

- X.1** The Ship Canal WQ Project as defined in Article III.18, or as modified through written agreement of the Parties, is based on the Capital Project Budget, which shall be used as the basis for calculating each Party's financial contribution to plan, design, construct, and complete The Ship Canal WQ Project, and establishing a schedule of payments for planning, design, construction and completion of The Ship Canal WQ Project.
- X.2** SPU and DNRP agree that SPU will invoice DNRP each month for DNRP's share of the costs to date of The Ship Canal WQ Project and DNRP shall invoice SPU on a quarterly basis for SPU's share of DNRP costs on The Ship Canal WQ Project. The Parties shall provide each other with invoices showing expenditures during the previous month (or previous quarter for DNRP's expenditures) on The Ship Canal WQ Project. Invoices shall itemize the consultants' and contractors' payments, equipment, materials and labor expended on the Project, plus SPU's and DNRP's expenditures in support of The Ship Canal WQ Project. Invoices seeking payment or reimbursement for contractor and consultant expenditures shall not include any Party mark-up. Invoices seeking payment or reimbursement for a Party's employee labor charges shall state the number of labor hours expended on the Project by such employees, along with their names, job titles, and fully burdened labor rates. Any direct non-salary charges shall be itemized by category, i.e. mileage, reproduction, postage and shipping, telephone, etc. Supporting documentation will accompany each invoice submitted. Copies of receipts for expenses for which reimbursement is sought shall be attached. Properly documented invoices shall be paid by the receiving Party within thirty (30) calendar days of receipt, unless otherwise agreed to in writing by the billing Party. Notice of any potential dispute regarding current invoices shall be made in writing within the same time-period. Payment by a Party shall not constitute agreement as to the appropriateness of any item or acceptance of the work so represented. At the time of final audit, all required adjustments related to any potential dispute for

which notice has been timely given shall be made and reflected in a final payment.

- X.3** SPU will provide DNRP a progress report on work completed on The Ship Canal WQ Project to-date, along with a cost report, with each invoice in a format as shown in Exhibit E. SPU will submit the cost report with each monthly invoice.
- X.4** SPU's first invoice shall be submitted to DNRP thirty (30) calendar days after the mutual execution of this Agreement or January 30, 2016, whichever is later. SPU's first invoice to DNRP for The Ship Canal WQ Project costs shall include both \$463,080, which represents DNRP's share of costs that SPU incurred in 2014, and DNRP's proportionate share of costs, as defined in Article IX.1, IX.2 and IX.3, incurred for The Ship Canal WQ Project including costs and expenses accrued since January 1, 2015, excluding costs associated with negotiating and drafting of this Joint Project Agreement.
- X.5** The Parties agree to pay simple interest at the rate of one percent (1%) per month on any undisputed amounts that are more than thirty (30) calendar days overdue under this Agreement, unless otherwise agreed to in writing by the Parties.
- X.6** In accordance with the cost share provisions of Article of IX.1 through IX.3, SPU and DNRP will jointly fund an independent audit of costs for The Ship Canal WQ Project for the purpose of reconciling actual costs for each Party in accordance with this Joint Project Agreement within one year of The Ship Canal WQ Project achieving Control Status on all outfalls identified in Article II.16.
- X.7** Within one year of completion of the independent audit described in Article X.6 above, the Parties will reconcile their contributions made in comparison to the audited actual cost to deliver The Ship Canal WQ Project to completion.
- X.8** SPU will invoice DNRP annually for Operation and Maintenance (O&M) costs, during the first five (5) years of operation of The Ship Canal WQ Project, based on a mutually agreed O&M estimate, to be developed at completion of project construction, and incorporated herein by reference. Prior to the end of the sixth year of operation of The Ship Canal WQ Project, SPU will reconcile actual costs against the O&M estimate, and invoice/credit DNRP for the difference between actual O&M costs and estimated O&M costs. SPU will invoice DNRP annually thereafter for DNRP's share of O&M costs incurred, and DNRP will pay to SPU the amount due within ninety (90) calendar days of receipt of an annual O&M invoice.
- X.9** The Parties acknowledge and agree that this Joint Project Agreement will require budget appropriations beyond the respective current approved budget ordinances passed by the Seattle City Council and the King County Council, and thus will be subject to subsequent annual or biennial budget ordinance approvals

by both Councils, in accordance with the City of Seattle and King County Charters and applicable state law.

Article XI - Insurance

XI.1 Prior to the contract solicitation for the Construction contract(s) and execution of any Design contract(s) for The Ship Canal WQ Project the Risk Managers from the City of Seattle and King County will co-operate in the development of an insurance program for the design and construction of The Ship Canal WQ Project. Both Parties shall agree on the scope and content of the insurance programs.

Coverages and limits shall be in accordance with prudent risk management practices and shall be consistent with those insurance coverages routinely requested and obtained by the Parties for projects of similar size and scope.

XI.2 The Design Contract at a minimum shall require the following coverages and limits:

- a) Commercial General Liability: Coverage shall be at least as broad as: Insurance Services Office Form No. CG 00 01, covering Commercial General Liability no less than \$1,000,000 combined single limit per occurrence and, for those policies with an aggregate limit, a \$2,000,000 aggregate limit.
- b) Automobile Liability: Insurance Services Office form number CA 00 01, covering BUSINESS AUTO COVERAGE, symbol 1 "any auto"; or the combination of symbols 2, 8, and 9. \$1,000,000 Combined Single limit Bodily Injury and Property Damage.
- c) Umbrella or Excess Liability Insurance: The Contractor shall provide minimum Excess or Umbrella Liability coverage limits of \$5,000,000 each occurrence in excess of the primary CGL and Automobile liability insurance limits.
- d) Professional Liability, Errors and Omissions (PLI): \$20,000,000 per Claim and in the Aggregate. SPU and DNRP agree that the minimum coverage specified in this paragraph will be met through any combination of the following, to be mutually agreed upon by the Parties prior to the design contract being executed with the selected design consultant: 1) the Design Consultant's Professional Liability/E&O standard practice policy; 2) Project Specific PLI Policy; and/or 3) SPU and DNRP jointly-purchased Owner's Protective Professional Liability Indemnity (OPPI) insurance policy. Coverage shall be maintained for a period of six years subsequent to project completion.

- e) Contractor's Pollution Liability Coverage: Contractor shall provide Contractor's Pollution Liability coverage in the amount of \$1,000,000 per occurrence and in the aggregate to cover sudden and non-sudden bodily injury and/or property damage to include the destruction of tangible property, loss of use, clean-up costs and the loss of use of tangible property that has not been physically injured or destroyed.
- f) Workers' Compensation: Workers' Compensation coverage, as required by the Industrial Insurance Act of the State of Washington.
- g) Employers Liability or "Stop-Gap": The protection provided by the Workers Compensation policy Part 2 (Employers Liability) or, in states with monopolistic state funds, the protection provided by the "Stop Gap" endorsement to the General Liability policy. Limit: \$1,000,000.

XI.3

The Parties expect that construction contracts for The Ship Canal Project will be solicited and entered into in the years 2017 and 2018. Prior to solicitation the Parties shall meet and consider the potential insurance programs suitable for a project of this size and scope. This can include but not be limited to: contractor provided insurance, OCIP or CCIP coverage. Construction contract coverages to be included:

- a) Commercial General Liability: Coverage shall be at least as broad as: Insurance Services Office Form No. CG 00 01, covering Commercial General Liability no less than \$1,000,000 combined single limit per occurrence and, for those policies with an aggregate limit, a \$2,000,000 aggregate limit.
- b) Automobile Liability: Insurance Services Office form number CA 00 01, covering BUSINESS AUTO COVERAGE, symbol 1 "any auto"; or the combination of symbols 2, 8, and 9. \$1,000,000 Combined Single limit Bodily Injury and Property Damage.
- c) Umbrella or Excess Liability Insurance: The Contractor shall provide minimum Excess or Umbrella Liability coverage limits of \$50,000,000 each occurrence in excess of the primary CGL and Automobile liability insurance limits.
- d) Contractor's Pollution Liability Coverage: Contractor shall provide Contractor's Pollution Liability coverage in the amount of \$15,000,000 per occurrence and in the aggregate to cover sudden and non-sudden bodily injury and/or property damage to include the destruction of tangible property, loss of use, clean-up costs and the loss of use of tangible property that has not been physically injured or destroyed.
- e) Workers' Compensation: Workers' Compensation coverage, as required by the Industrial Insurance Act of the State of Washington.
- f) Employers Liability or "Stop-Gap": The protection provided by the Workers Compensation policy Part 2 (Employers Liability) or, in states

- with monopolistic state funds, the protection provided by the "Stop Gap" endorsement to the General Liability policy. Limit: \$1,000,000.
- g) Contractor's Professional Liability: The Contractor shall provide evidence of Professional Liability insurance covering professional errors and omissions for construction management, value engineering, or any other non-construction professional services. Such insurance must provide a minimum limit of liability of \$2,000,000 million each claim and may be evidenced as an extension of a CGL policy or by a separate Professional Liability policy.
 - h) Inland Marine Coverage: Contractor shall procure and maintain Inland Marine coverage to include coverage for the Full Replacement Value of the Tunnel Boring Machine(s). Coverage shall include "All risk" perils to include Earthquake and Flood.
 - i) Builder's Risk/Installation Floater: "All Risk" Builders Risk including coverage for collapse, theft, off-site storage, soft costs, delay and property in transit. The coverage shall insure for direct physical loss to property of the entire construction project, for 100% of the replacement value thereof and include earthquake.
 - j) Other coverages to be considered upon determination of the contract means and methods may include (but not be limited to) Marine and Railroad Protective.

XI.4 Other Insurance Provisions

- a) Insurance limits and coverage provisions in this Article XI are meant to provide guidance but may be altered, enhanced and finalized by the City and King County using prudent risk management practices, and shall be consistent with those insurance coverages routinely requested and obtained for projects of this size and scope.
- b) Each insurance policy shall be written on an "Occurrence" basis, except Professional Liability.
- c) If insurance is on a claims-made form, its retroactive date, and that of all subsequent renewals, shall be no later than the Notice to Proceed Date. Coverage shall be effective for a period of six years subsequent to project completion.
- d) XCU and Subsidence Perils Not Excluded on General Liability coverages.
- e) Any deductibles or self-insured retentions in excess of \$25,000 must be declared to and approved by the City of Seattle and King County.
- f) For all liability policies except Professional Liability, Workers Compensation, and Employers' Liability, the City of Seattle and King County, its officers, officials, employees, and agents are to be covered as additional insureds as respects liability arising out of activities performed by or on behalf of SPU or DNRP in connection with this

Agreement. Additional Insured status shall include both Ongoing Operations and Products-Completed Operation and extend for a period of six years subsequent to the expiration or termination of this Agreement or substantial completion of construction. Such coverage shall be Primary.

- g) Acceptability of Insurers. Insurance is to be placed with insurers with a Bests' rating of no less than A: VIII, or if not rated with Bests' with minimum surpluses, the equivalent of Bests' surplus size VIII.
- h) Failure on the part of the Consultant or Contractor to maintain insurance as required shall constitute a material breach of contract
- i) Consultant or Contractor shall contractually require that each subcontractor of every tier include the City of Seattle and King County as additional insureds for primary and non-contributory limits of liability.
- j) Except as may be agreed upon by the Parties for the design contract PLI, the Consultant's and Contractor's insurance coverage shall be primary insurance as respects the City and County, its officers, officials, employees, and agents. Any insurance and/or self-insurance maintained by the City or County, its officers, officials, employees, or agents shall not contribute with the Consultant's or Contractor's in any way.
- k) The Consultant's and Contractor's insurance shall apply separately to each insured against whom a claim is made and or lawsuit is brought, except with respect to the limits of the insurer's liability.
- l) For all insurance policies, coverage shall not be suspended, voided, canceled, reduced in coverage or in limits, until after thirty (30) days prior notice - return receipt requested, has been given to the City and County.
- m) Substitution of insurance: if project work under XI.2.E and/or XI.3.D is subcontracted, applicable minimum coverages and limits of liability may be evidenced by any subcontractor, instead of the prime contractor; provided that such insurance fully meets the applicable requirements set forth herein and must include the City of Seattle and King County as Additional Insureds.

XI.5 For SPU Project contracts, SPU and the consultant or contractor will include the King County as a named third party beneficiary of the SPU design, construction, construction management, and operations and maintenance contracts for the Project, and SPU and the consultants/contractor will include King County in the indemnification and insurance provisions contained in the SPU contracts.

For DNRP Project contracts, DNRP and the consultant or contractor will include The City of Seattle as a named third party beneficiary of the DNRP design, construction, construction management, and operations and

maintenance contracts for the Project, and DNRP and the consultants/contractors will include The City of Seattle in the indemnification and insurance provisions contained in the DNRP contracts.

SPU and DNRP do not intend that this Article XI.5 be interpreted to create any obligation, liability, or benefit to any third party, other than SPU and DNRP for purposes of the design and construction of the Project.

Article XII - Indemnification

XII.1 As between the Parties, each Party shall protect, defend, indemnify and save harmless the other Party, its officers, officials, employees and agents while acting within the scope of their employment as such, from any and all suits, costs, claims, actions, losses, penalties, judgments, and/or awards of damages, of whatsoever kind arising out of, or in connection with, or incident to the obligations assumed under this Agreement caused by or resulting from each Party's own negligent acts or omissions. Each Party agrees that it is fully responsible for the acts and omissions of its own contractors, subcontractors, their employees and agents, acting within the scope of their employment as such, as it is for the acts and omissions of its own employees and agents.

Each Party agrees that its obligations under this provision extend to any claim, demand, and/or cause of action brought by or on behalf of any of its employees, or agents. The foregoing indemnity is specifically and expressly intended to constitute a waiver of each Party's immunity under Washington's Industrial Insurance act, RCW Title 51, as respects the other Party only, and only to the extent necessary to provide the indemnified Party with a full and complete indemnity of claims made by the indemnitor's employees. The Parties acknowledge that these provisions were specifically and mutually negotiated.

In the event it is determined that R.C.W. 4.24.115 applies to this Agreement, then each Party agrees to defend, hold harmless, and indemnify the other to the maximum extent permitted thereunder, and specifically for its' negligence concurrent with the other Party to the full extent of the indemnifying Parties, ' it's employees', agents', contractors' and consultants' negligence.

The Parties agree that the provisions of this Article XII shall survive the termination of this Agreement.

Article XIII - Change in Project Purpose

XIII.1 The Parties agree that the purpose of this Joint Project Agreement is to implement The Ship Canal WQ Project as defined in Exhibit A, and through such implementation, achieve the control of combined sewer overflows as required by the Parties' respective Consent Decrees for the seven outfalls identified and described Article VII.3. Any change in the purpose of The Ship Canal WQ Project may be made only through mutual agreement of the Parties and written amendment of this Joint Project Agreement.

Article XIV - Governance

XIV.1 The Parties acknowledge that while The Ship Canal WQ Project represents a preferred means to control CSOs, it is unique and will present challenges to both Parties during its design, construction, and operating life. Therefore, the governing structure in Article XIV.2 through Article XIV.4 below is established to provide the Parties with a means of managing and achieving mutual compliance with the terms of this Joint Project Agreement.

XIV.2 The Parties may agree to form a Joint Oversight Committee the members of which shall be SPU's Deputy Director of Corporate Policy and the Deputy Director of Drainage and Wastewater, Deputy Director of Project Delivery and Engineering, and DNRP's Deputy Director and Director of the Wastewater Treatment Division, or otherwise as may be designated by the Directors of DNRP and SPU. The Joint Oversight Committee shall provide policy guidance in the implementation and administration of the Ship Canal WQ Project. The Joint Oversight Committee will meet not less than two times per year until Control Status is achieved or unless an alternative meeting schedule is mutually agreed upon by the Oversight Committee Members. Once Control Status has been achieved, the Joint Oversight Committee will be disbanded, unless the Parties agree in writing that the Committee shall continue. Additionally, if the Parties agree, the disbanded Joint Oversight Committee may be reconstituted at any time for purposes to be specified.

XIV.3 Project Principals, defined as the Manager of SPU's Project Delivery and Engineering Branch and DNRP's Wastewater Treatment Division, Project Planning and Delivery Section Manager, or as may be designated by the Parties' respective agency Directors, shall serve to provide timely oversight and coordination between the Parties and provide direction to the Project Manager as needed to manage changes not otherwise subject to the Change Management process, Exhibit B, and requirements of Article VI.5.

- XIV.4** SPU may form Task Forces, in accordance with Article VI.6., in consultation with the Project Principals to provide advice and support through completion, and through the operating life of The Ship Canal WQ Project.

Article XV - Incremental Flow Charges

- XV.1** SPU will pay DNRP for SPU's incremental increases in flows to DNRP's sewer system from The Ship Canal Project as follows: 1) in accordance with Technical Memorandum No. 7 methodology; 2) in accordance with the final monitoring and modeling report described in Article VIII.9; 3) based on data produced from actual monitoring of SPU's and DNRP's combined sewage inflows to The Ship Canal WQ Project conveyance and storage system; and 4) based on data produced from actual monitoring of effluent discharged from The Ship Canal WQ Project to the regional sewer system. During the first 5 years of operation of The Ship Canal WQ Project, such payments may be based on an estimate of flows, based on modeled information prepared by each Party for their respective LTCP/CSO Control Plan. Within one year following the end of the 5th year of operation of The Ship Canal WQ Project, DNRP and SPU will reconcile payments based on actual monitoring of the first five years of flows to The Ship Canal WQ Project storage system, and actual SPU flows discharged to DNRP's sewer system.
- XV.2** DNRP and SPU acknowledge and agree that the payments made by SPU for incremental flows under Article XV.1 satisfy the obligation for payment under Section 5.3(c) of the Agreement for Sewage Disposal, as amended in 1992, for the flows resulting from The Ship Canal WQ Project.

Article XVI - Miscellaneous

- XVI.1** SPU will pay 100 percent of applicable fines or penalties to EPA or Ecology that are imposed for not meeting Control Status) for each of the seven CSO outfalls within The Ship Canal WQ Project identified in Article II.16, including DNRP's 11th Avenue Northwest outfall (004) and 3rd Avenue West outfall (008)), except when the Parties determine through modeling of flows from each basin that the tunnel design Control Volume has been exceeded, in which case SPU and DNRP will pay their proportionate share of the fines and penalties in accordance with the cost share provisions of Article IX.1 and IX.2 of this Agreement.

- XVI.2** DNRP and SPU agree that flows from The Ship Canal WQ Project shall be released into DNRP's regional system based on the NIRR as described in SPU's Long Term Control Plan, CSO Control Measures Performance Modeling Report, January 2015 (Appendix L of the Final LTCP Volume 2 dated May 29, 2015).
- XVI.3** The Ship Canal WQ Project shall not be considered a regional facility as defined in the 1961 Agreement.

Article XVII - Dispute Resolution

- XVII.1** If a dispute arises between the Parties regarding the interpretation of this Joint Project Agreement, a Party's performance under this Agreement, the accounting of costs incurred under this Agreement, or the allocations of costs as reflected in Exhibit D, the Parties agree to first attempt resolution of the issues through One Team Decision Making Guidelines (Exhibit C). In the event the Parties do not reach prompt resolution through One Team Decision Making Guidelines, the Parties agree to engage in mediation to attempt to resolve the dispute prior to initiating any lawsuit arising under this Agreement. Unless otherwise agreed to by the Parties, "prompt resolution" shall mean for this Article XVII.1, 90 days after an "appeal" has been initiated in accordance with paragraph numbered 13 in Exhibit C of this Agreement. The Parties shall jointly select a neutral third party mediator, and agree to share the costs of mediation equally.
- XVII.2** This Joint Project Agreement is made pursuant to, and shall be construed according to the laws of the State of Washington. In the event that mediation is unsuccessful and either Party finds it necessary to initiate legal proceedings to enforce any provision of this Agreement, both Parties agree and consent to the exclusive jurisdiction of the courts of the State of Washington, and that the venue of any action shall be Seattle, King County, Washington.

Article XVIII - Authority to Sign

- XVIII.1** The individual signing this Joint Project Agreement on behalf of SPU represents and warrants that he or she has the authority to enter into this Agreement on behalf of The City of Seattle and to bind the City to the terms and conditions contained herein.
- XVIII.2** The individual signing this Joint Project Agreement on behalf of DNRP represents and warrants that he or she has the authority to enter into this

Agreement on behalf of King County and to bind King County to the terms and conditions contained herein.

Article XIX - Modifications and Amendments

XIX.1 Either Party may request changes, amendments, or additions to any portion of this Joint Project Agreement; however, except as otherwise provided in this Agreement, no such change, amendment, or addition to any portion of this Agreement shall be valid or binding upon either Party unless it is in writing and signed by personnel authorized to bind each of the Parties. All amendments shall be made part of this Agreement.

Article XX - Entire Agreement

XX.1 These provisions represent the entire agreement of the Parties and may not be modified or amended except as provided herein. Any understanding, whether oral or written, past, concurrent or future, which is not expressly referenced herein, is expressly excluded.

Article XXI - Notices

XXI.1 Unless otherwise directed in writing, notices, reports and payments shall be delivered to each party as follows:

The City of Seattle
Seattle Public Utilities
Attn: Ship Canal WQ Project
Administrator
701 Fifth Ave., Ste. 4900
Seattle, WA 98120

King County Dept. of Natural Resources
Wastewater Treatment Division
Attn: Project Control and Contract
Management Unit Manager
201 South Jackson Street
Mailstop: 512
Seattle, WA 98104

XXI.2 Notices mailed by either Party shall be deemed effective on the date mailed. Either Party may change its address for receipt of reports, notices, or payments by giving the other written notice of not less than five days prior to the effective date.

Article XXII - Termination

XXII.1 The intent of this Joint Project Agreement is to establish a permanent cooperative partnership between the Parties to efficiently execute, construct, and operate The Ship Canal WQ Project, meet the Parties' respective Consent Decree requirements, and avoid either Party experiencing a significant schedule and/or cost performance variance on The Ship Canal Project or other joint or independent water quality projects.

XXII.2 This Agreement may be terminated only upon the mutual written agreement of the Parties.

Article XXIII - Counterparts

XXIII.1 This Agreement may be executed simultaneously in two counterparts, each of which shall be an original and all of which shall constitute but one instrument.

Article XXIV - No Third Party Beneficiaries

XXIV.1 This Agreement is entered into solely for the mutual benefit of the City of Seattle and King County. This Agreement is not entered into with the intent that it shall benefit any other person and no other such person shall be entitled to be treated as a third party beneficiary of this Agreement.

Article XXV - Successors and Assigns

XXV.1 SPU or DNRP may not assign this Agreement without the other's prior written approval.

Article XXVI - Severability

XXVI.1 If any provision of this Agreement or any provision of any law, rule or document incorporated by reference into this Agreement shall be held invalid, such invalidity shall not affect the other provisions of this Agreement which legally can be given effect without the invalid provision, unless to do so would frustrate the purpose of the provision.

Article XXVII - Headings

XXVII.1 Section titles or other headings contained in this Agreement are for convenience only and shall not be part of this Agreement, nor be considered in its interpretation.

Article XXVIII - No Waiver

XXVIII.1 Neither payment nor performance by a Party shall be construed as a waiver of the other Party's rights or remedies against the Party. Failure to require full and timely performance of any provision at any time shall not waive or reduce the right to insist upon complete and timely performance of such provision thereafter.

Article XXIX - Project Records

XXIX.1 Upon request by a Party, the other Party will provide within fourteen (14) calendar days of any request, or if the request is voluminous or is for documents in several locations then in a reasonable time, any Project-related documentation in its possession or in the possession of its agents, contractors and consultants (except documents that are not subject to the Washington State Public Records Act, Ch. 42.56 RCW), including but not limited to environmental analyses, geotechnical reports, engineers estimates, bid tabulations, contractor submittals, and contract payment records relating to the Project. In addition, the Consent Decrees require that the Parties retain and instruct their respective contractors and agents to preserve all non-identical copies of all documents, records or other information (including documents, records or other information in electronic form) in their or their respective contractor's or agent's possession or control or that come into their or their respective contractor's or agent's possession or control regarding this Project until five (5) years after the termination of the Consent Decrees. Therefore the Parties shall retain all such documents until the latter of (1) 2035, (2) five years after the termination of the City's Consent Decree or (3) five years after the termination of the County's Consent Decree. During such time all such records, accounts, documents or other data pertaining to The Ship Canal Project shall be made available for inspection and/or copies of such shall be furnished upon request.

Article XXX - Publication

XXX.1 Each party may publish information, findings, reports and results of The Ship Canal WQ Project, and may acknowledge its respective role in and support of The Ship Canal WQ Project.

IN WITNESS WHEREOF, in consideration of the terms, conditions and covenants contained herein, or attached and incorporated and made a part hereof, the Parties have executed this Joint Project Agreement by having their authorized representatives affix their signatures below.

Christie True
Director
King County Dept. of Natural Resources & Parks
King Street Center
201 S Jackson St; Suite 700
Seattle, WA 98104-3855

Ray Hoffman
Director
Seattle Public Utilities
P. O. Box 34108
Seattle, WA 98124-4018

By _____
Signature Date

By _____
Signature Date

Type or Print Name

Type or Print Name

Dow Constantine
King County Executive

Director
Seattle Public Utilities
City of Seattle

EXHIBITS:

- Exhibit A: SPU/DNRP Ship Canal Water Quality Project – Project Description
- Exhibit B: SPU/DNRP Ship Canal Water Quality Project – Change Management
- Exhibit C: SPU/DNRP Ship Canal Water Quality Project – One Team Decision Making Guidelines
- Exhibit D: SPU/DNRP Ship Canal Water Quality Project – List of Potential Causes for Capital Cost Increases
- Exhibit E: DNRP-WTD Invoice Template



Exhibit A

SPU/DNRP Ship Canal Water Quality Project Project Description

Project Purpose

The purpose of The Ship Canal Water Quality (WQ) Project is to provide offline storage of combined sewer overflows (CSOs) for five Seattle Public Utilities (SPU) and two King County Department of Natural Resources and Parks (DNRP) CSO basins to meet regulatory control standards which limits CSOs to an average of no more than one untreated discharge per year per outfall on a twenty year moving average. The specific basins and CSO outfalls to be controlled by the Project, include the SPU Ballard CSO basins (Outfalls 150, 151, and 152), Fremont CSO basin (Outfall 174) and Wallingford CSO basins (Outfall 147), DNRP 3rd Avenue West Regulator (DSN008), and DNRP 11th Avenue NW Regulator (DSN004). The total minimum control volume to be achieved for these SPU and DNRP CSO basins combined is 15.24 million gallons (MG). The Project's facilities must also meet water quality standards and protection of designated uses, and must be verified by post construction monitoring (frequency of overflow and sediment sampling).

Project Scope

The Ship Canal WQ Project will provide offline storage of combined wastewater in a deep storage tunnel constructed between the Ballard and Wallingford CSO areas, on the north side of the Ship Canal. The Project will control the Ballard CSO basins (Outfalls 150, 151 and 152), Fremont (Outfall 174) and Wallingford CSO basins (Outfall 147), DNRP 3rd Avenue West Regulator (DSN008), and 11th Avenue NW Regulator (DSN004). Figure 1 provides a plan view of the Ship Canal WQ Project location and components.

The main components of The Ship Canal WQ Project include the storage tunnel and appurtenances, conveyance facilities to convey SPU and DNRP CSO flows into the tunnel, and a pump station and force main to drain flows from the tunnel.

The storage tunnel and appurtenances will include:

- A minimum 15.24-MG offline storage tunnel with a nominal 14-foot inside diameter and approximately 14,000 feet long or as defined during the design phase of the Project.
 - The stored combined sewage in the storage tunnel will flow from the Wallingford CSO Outfalls westward to an effluent pump station located near the Ballard CSO Outfalls 150 and 151.
 - The tunnel route is planned to be generally in street right-of-way along the north side of the Ship Canal.
- Seven diversion structures for diverting influent CSO flow away from existing CSO outfalls to the tunnel.
- Four drop structures to convey influent CSO flow into the storage tunnel.
- All four drop structures will have odor control.

- A pump station will be located at the West tunnel Portal as defined during the design phase of the Project, with a minimum peak capacity of 32 MGD to empty the storage tunnel in approximately 12 hours.

Conveyance facilities will include:

- Gravity sewer line to convey flows from SPU's diversion structure at Fremont Outfall 174 to the tunnel drop shaft (approximately 100 lineal feet (lf) of 36-inch diameter pipe);
- Gravity sewer line to convey flows from DNRP's diversion structure at 3rd Ave. W (under the Ship Canal) to the tunnel drop shaft (approximately 800 lf of 60 and 48-inch diameter pipe);
- Gravity sewer line to convey flows from DNRP's diversion structure at 11th Ave. NW to the tunnel drop shaft (approximately 100 lf of 72 and 60-inch diameter pipe);
- Force main to convey flows from the tunnel pump station to DNRP's existing Ballard Siphon wet-weather barrel forebay (approximately 1900 lf of 24-inch diameter pipe).

All conveyance sizing and quantities are estimates based on conceptual planning to date. Actual diameters and lengths of conveyance facilities will be determined during the design phase of the Project.

Gravity sewer lines to convey flows from SPU's diversion structures at Ballard outfalls 150, 151 and 152, and Wallingford outfall 147 to the tunnel drop shafts have been excluded from shared costs of The Ship Canal WQ Project in accordance with the Joint King County/Seattle CSO Initiative Work Plan Item 4: Cost-Sharing Method for Joint Capital Projects.

The control strategy will limit the inflow to the tunnel from each outfall to each outfall's control volume per event. The minimum control volume for each outfall is:

SPU Outfalls

- Fremont (Outfall 174): 1.06 MG
- Wallingford (Outfall 147): 2.15 MG
- Ballard (Outfall 152): 5.38 MG
- Ballard (Outfall 150/151): 0.62 MG

DNRP Outfalls

- 3rd Avenue West (DSN008): 4.18 MG
- 11th Avenue Northwest (DSN004): 1.85 MG

Each Party has calculated the control volumes required to meet their independent needs. Although calculation methods vary between the Parties, SPU and DNRP agree that these are the minimum volumes to be controlled to and provided for by The Ship Canal WQ Project.

SPU will own and operate the tunnel components listed below, and all new structures and pipes appended to each existing DNRP outfall pipe. Ownership of outfall pipes will remain unchanged. The Ship Canal WQ Project components include:

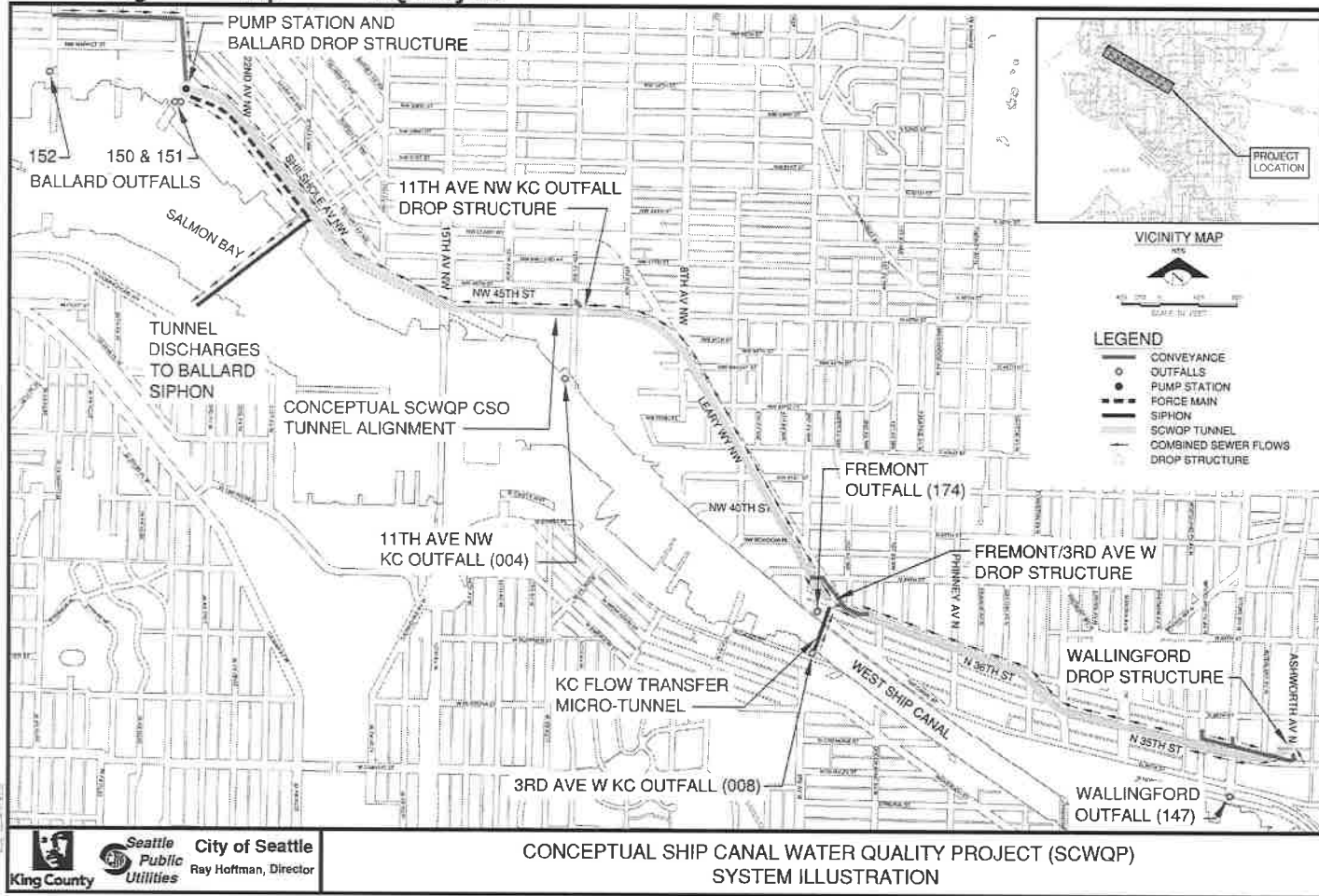
- The tunnel in its entirety, including the East and West Portals;
- The pump station and force main;
- All diversion structures, including DNRP's 3rd Avenue West and 11th Ave NW structures, SPU diversion structures for Ballard outfalls 150,151 and 152, Fremont outfall 174 and Wallingford outfall 147;
- All of the conveyance system associated with SPU's outfalls and downstream of the 3rd Avenue West and 11th Ave NW diversion structures;
- All control gates and associated structures and control systems;
- All odor control systems;
- All appurtenances associated with the above; and
- All real property associated with the Project

Any changes to this project scope need to be negotiated and agreed to by both Parties through the Change Management process, attached to the Joint Project Agreement as Exhibit B.

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Figure 1: Ship Canal WQ Project Plan





Project Capital Cost Estimate

Total project capital costs for the Ship Canal Water Quality (WQ) Project are estimated at \$423.4 million, including an estimated \$381.8 million in shared project costs. Shared costs do not include any costs relating to the proposed Gravity Sewer Lines from SPU's diversion structures at the Ballard outfalls 150, 151 and 152 and Wallingford outfall 147 to the tunnel drop shafts. The shared costs also do not include SPU's purchase of parcel numbers 046700-0423 and 046700-0431 (former Yankee Grill site) in Ballard. These cost estimates are from SPU's Final Project Definition Report Volume 1, December 2014, with sales tax and escalation adjustments. They are escalated to the mid-point of construction assuming 2% escalation. The estimates are AACE Class 4, which has level of accuracy of minus 20%, plus 30% (\$338.7 to \$550.4 million cost range).

Project Schedule Summary

The compliance schedule for the Ship Canal WQ Project (pursuant to the City's approved Plan to Protect Seattle's Waterways) is summarized below. A detailed project schedule shall be included in the Project Management Plan.

Task	Compliance Date
Submit Draft Engineering Report (Facility Plan) for review and comment	3/31/2017
Submit Final Engineering Report (Facility Plan) for approval	12/31/2017
Submit Draft Plans and Specifications for review	3/31/2020
Submit Final Plans and Specifications for approval	12/31/2020
Construction Start (notice to proceed)	7/1/2021
Construction Completion	12/31/2025
Achieve Controlled Status	12/31/2026



Exhibit B**SPU/DNRP Ship Canal Water Quality Project
CHANGE MANAGEMENT****Background**

SPU and DNRP are committed to work together to implement the Joint Ship Canal Water Quality Project (Project), to control both agencies' CSOs into the Ship Canal. The Project is under a Consent Decree mandated schedule (both agencies have separate consent decree schedules that this project must comply with,) and like many large scale municipal projects, is expected to be technically challenging and complex. The Project must meet all required milestones as it progresses through design and construction. Potential cost increases are to be managed and/or avoided and require management oversight, review and guidance through project design and construction.

To address the potential risks to the project, a Change Management process with a Project Review and Change Management Committee (PRCMC) is established through this document and the Joint Project Agreement to provide senior level management oversight, support, and direction to the project. The PRCMC will focus on project issues that can affect project scope, schedule and/or budget, and serve as the forum to discuss major issues and concerns as they arise and make recommendations to keep the project on schedule and within budget. The PRCMC will provide support and guidance throughout the project design and construction phases. Decisions will be made by consensus of the Committee. If consensus cannot be reached, the decision will be elevated to follow Paragraph 12 of the One Team Decision Making Guidelines (Exhibit C).

In addition, the PRCMC will provide support and guidance throughout the project commissioning, operations and maintenance. Changes to the final Operations and Maintenance Plan are to be managed and require management oversight, review and guidance. Decisions will be made by consensus of the Committee. If consensus cannot be reached, the decision will be elevated to follow Paragraph 12 of the One Team Decision Making Guidelines (Exhibit C).

If the Parties agree to change the Project scope, schedule or budget, as described in Exhibit A, then the joint project cost share for the agreed upon change will be negotiated by the Parties. For example, the Parties may agree to a scope change that benefits only one Party and further agree that the Party seeking the scope change will pay 100 percent of the costs. Alternatively, the Parties may agree on a scope change that benefits both Parties and the cost shares will be recalculated in accordance with Technical Memorandum No. 4. These negotiated modifications to cost shares will then be used to assign costs to the Parties for both the larger Ship Canal Project and any consequently modified CSO control project in other basins.

Project Review and Change Management Committee Objectives and Membership

SPU is responsible for the implementation of PRCMC decisions for the Project. However both agencies' compliance with their approved mandated Consent Decrees, NPDES Permits and Post Construction Monitoring Plans are dependent in part on the Project's success in controlling CSOs. SPU will use the PRCMC to leverage the experiences, expertise, and insights of the committee members to effectively progress the Project. The PRCMC will be responsible for the following:

- Understand the commitments inherent in the Project Description and the Joint Project Agreement. Provide the bigger picture and look-ahead view;
- Reach agreement on what the required goals of the Project are versus the desired goals,
- Maintain an awareness of risks through regular project briefings;
- Engage in high level problem solving to ensure effective management of project risks,
- Monitor and conduct formal reviews of project scope, costs, schedules, refinements and adjustments during project design through construction;
- Meet every other month or more frequently as determined by the PRCMC or requested by the Project team to provide management-level oversight by both SPU and DNRP,
- Review status reports and monitor project progress;
- Review and validate prior to SPU's formal Stage Gates 2 (preferred option, funding for design, placeholder for total cost projection and O&M), Stage Gate 3 (final design plans, contract specifications and engineer's estimate of construction costs) and Stage Gate 5 (project close out) to ensure approved project objectives, as documented in the Project Description, are met or that new/modified objectives are justified and documented;
- Make decisions and provide direction to the Project team on course of action for key project elements;
- Make decisions on design or construction contract changes as defined in Table B-1, Table B-2 and Table B-3, attached;
- Authorize Project Description and budget changes consistent with the Joint Project Agreement;
- Recommend amendments to the Joint Project Agreement; and
- Prepare a charter for the Project Review and Change Management Committee pursuant to Article VI.6, including expressly providing for DNRP representatives and/or King County Council Staff to attend those portions of SPU's Asset Management Committee meetings concerning the Ship Canal Water Quality Project.

PRCMC meetings will be structured to fully inform the committee members and provide up to date status reports on the following:

- Cost and schedule;
- Understanding of the risks identified for the Project, and the cost and schedule implications of the risks;
- Permitting challenges that affect the Project's scope, schedule or budget;
- Alternatives analysis, and approach for on-going success of the project;
- Analysis of consultant and construction contract changes essential for project delivery as defined in the Project Description, Exhibit A; and
- The plan for stakeholder involvement, stakeholder input and expectations, and proposed strategy to respond to stakeholder expectations.

Meetings

Meetings will be scheduled by SPU as the lead agency. The SPU Project Delivery and Engineering Deputy Director will chair the PRCMC. The WTD Division Director will attend the meetings and the SPU Project Administrator will staff the meetings. Meeting agendas will be provided at least two days in advance of all meetings. Minutes will be taken and retained on an accessible site for all committee members using either dedicated project or SharePoint. An electronic "Direction and Action Log" will be developed, maintained and retained on an accessible site for reference by the project team and the PRCMC members.

PRCMC Membership

The PRCMC shall be composed of SPU and DNRP management with specific areas of expertise and experience considering the nature of the project and its potential challenges. The PRCMC Chair ensures the board fulfills its role. The Project Administrator organizes, schedules and staffs the meetings, develops agendas, coordinates with PRCMC Chair and DNRP's Project Representative on agenda items, materials and presentations as they are needed for the PRCMC meetings; records and maintains records for the PRCMC proceedings. Committee members will bring their experience and expertise to bear on the review, analysis and decisions made and directions given by the PRCMC.

The PRCMC members include the following:

- DNRP WTD Director
- DNRP WTD Project Planning & Delivery Section Manager
- DNRP WTD Engineering Unit Manager
- DNRP WTD Construction Unit Manager
- DNRP WTD Plant Operations Manager
- DNRP WTD Assistant Plant Manager
- SPU DWW LOB Deputy Director
- SPU Project Delivery and Engineering Branch Deputy Director (Chair)
- SPU Construction Management Director
- SPU Engineering Director
- SPU Systems Operation Assessment and Monitoring Division Director
- SPU Utility Operations and Maintenance Division Director
- SPU Systems Operation Planning and Analysis Manager
- SPU Utility Operations Manager

Participation by the members is dependent upon the phase of the Project and the PRCMC agenda. Project team subject matter experts will be requested to attend the meetings on an as-needed basis.



Table B-1. Required Approvals for Consultant Contract Amendments					
Type of Change JPA = Joint Project Agreement	Required Approval	Dollar Threshold	Aggregate Overall PROJECT Schedule Extension Threshold**	Reporting	Notes
Amendment required to deliver per JPA project description (Scope, Schedule and Budget) and is within consultant contract scope	SPU PM SPU Division Director	(Less than \$250K) Per SPU change management policies and procedures	Up to 2 months impact on the required Project delivery date in the JPA	Reporting to PRCMC Reporting to DNRP on any and all contract changes (cost or schedule) on the monthly basis and at 30/60/90 submittals.	Changes essential for project delivery as defined in the baseline project description
	Approval by both PDEB and LOB Directors and concurrence of WTD PPD Section Manager	For changes exceeding \$250K but under \$500K	Up to 4 months impact on the required Project delivery date in the JPA		
	Approval by both SPU PDEB, LOB and concurrence of WTD Deputy Directors	For changes exceeding \$500K but under \$1M	Up to 6 months impact on the required Project delivery date in the JPA		
Any change to the project description and Amendments exceeding \$1M	Approval by SPU Director and concurrence of DNRP Director or Delegated to PRCMC	All changes that are outside the JPA project description. All changes above \$1M	Greater than 6 months impact on the required Project delivery date in the JPA		Financial participation will be per the cost sharing agreement



Table B-2
Required Review and Approval Responsibility for
Construction Contract Changes Per Individual Contract GREATER THAN \$10M

Construction Contract Change Threshold	Approval Level
Change requiring usage of budgeted project contingency reserve up to \$500,000	Follows SPU project approval authority matrix
Change requiring usage of budgeted project contingency reserve over \$500,000	Follows SPU project approval authority matrix and WTD PPD Section Manager
Changes requiring usage of budgeted management reserve and aggregate changes of <\$500,000	SPU Project Manager/ Construction Manager/Director
Changes requiring usage of budgeted management reserve and between \$500K - \$1M	SPU Project Delivery and Engineering Director with WTD PPD Section Manager
Changes requiring usage of budgeted management reserve and between \$1M - \$2M or >10% and <15% of contract award amount	Project Review and Change Management Committee (PRCMC)
Changes requiring usage of budgeted management reserves > \$2M or >15% of contract award amount	SPU and DNRP Division Level Directors
Changes desired by stakeholders but not included in JPA project description < \$2 M	Project Review and Change Management Committee (PRCMC)
Changes desired by stakeholders but not included in JPA project description > \$2 M	SPU and DNRP Department Level Directors

Table B-3
Required Review and Approval Responsibility for
Construction Contract Changes Per Individual Contract LESS THAN \$10M

Construction Contract Change Threshold	Approval Level
Change requiring usage of budgeted project contingency reserve up to \$250,000	Follows SPU project approval authority matrix
Change requiring usage of budgeted project contingency reserve over \$250,000	Follows SPU project approval authority matrix and WTD PPD Section Manager
Changes requiring usage of budgeted management reserve and aggregate changes of <\$250,000	SPU Project Manager/ Construction Manager/Director
Changes requiring usage of budgeted management reserve and between \$250K - \$500K	SPU Project Delivery and Engineering Director with WTD PPD Section Manager
Changes requiring usage of budgeted management reserve and between \$500K - \$1M or >10% and <15% of contract award amount	Project Review and Change Management Committee (PRCMC)
Changes requiring usage of budgeted management reserves > \$1M or >15% of contract award amount	SPU and DNRP Division Level Directors
Changes desired by stakeholders but not included in JPA project description < \$1 M	Project Review and Change Management Committee (PRCMC)
Changes desired by stakeholders but not included in JPA project description > \$1 M	SPU and DNRP Department Level Directors

- **Project Contingency Reserves:** The amount of funds allocated to the project to cover identified risk events identified in the risk register that occur on the project, excluding changes to project scope.
- **Project Management Reserves:** The amount of funds allocated to the project to cover unidentified and unquantifiable risk events that occur on the project.
- **Project Reserve:** Sum of Project Contingency Reserves and Project Management Reserves. Project Reserves are part of the cost estimate and approved project budget.
- **Project will have major milestones:** Submission of Draft Facility Plan for review, Submission of Final Facility Plan for Approval, Submission of Draft Plans and Specifications for Review (90%), Submission of Final Plans and Specification for Approval (100%). Construction start (Notice to Proceed) and Construction Completion are SPU's Consent Decree/LTCP milestone requirements. Any delay to any of the milestones is subject to the Change Management process.
- The project reserve threshold levels may be revised upon mutual written agreement of the Parties, executed by the Department Directors or their designees.



Exhibit C

SPU/DNRP Ship Canal Water Quality Project One Team Decision Making Guidelines

1. The Ship Canal WQ Project Team (Team) is empowered and encouraged to make relevant decisions to carry out projects in a way that is efficient, adds value, and maximizes the prospects of a successful project. However, there are boundaries to the Team's authority. The Team is responsible for understanding project assignment consistent with the Joint Project Agreement, including its purpose, scope, schedule and budget; and for seeking timely approval by governance decision-makers for changes that exceed authorized levels.
2. At each stage of the Project, the active members of the Team at the time, should be solicited for their point of view. It is the responsibility of the Lead for the Project and other members of the Team to listen to the other's view and consider it in the context of each decision being made and with the ultimate goal of achieving the best outcome for the Project, SPU and DNRP.
3. A deliberate transition meeting should occur whenever the Project progresses to the next phase and when/if the Lead for the Project changes to help ensure that the members of the Project Review and Change Management Committee understand the issues and risks.
4. If a particular member has an opinion about something that strictly resides in their area of expertise or concern and does not significantly affect the interests of the other members, and it is not inconsistent with asset management guidelines or standards, the Team should give some amount of deference to that particular member on that topic. For example, if the operator has a preference for equipment that does not affect NPV, schedule, Project functionality, environmental impact, department standards, or community expectations, then they would normally be the one to make that decision. Another example might be Project Delivery and Engineering Branch (PDEB) deciding between DBB and GCCM project delivery methods. However, if a Team member wants to pursue an option for their personal preference, but the option would affect the NPV or impair the functionality or operability of the Project, they should not normally be deferred to.
5. While each Team member is expected to pay particular attention to the interests that they have selected to represent in the process, they should at the same time temper that by also considering what is best from an overall Project or customers' interest. It is expected that any Team member should speak up and raise concerns within the Team about proposed Project decisions or changes that, in the view of that Team member, may negatively affect scope, schedule or budget, or potentially undermine Project success.
6. Previous decisions should not be revisited unless there is compelling new information. A modification of a Team's membership is usually not a sufficient reason to revisit a previous decision. New members to the Team should be brought up to speed by the current Team lead (or someone designated by the lead) at the stage they begin engaging with the Project Team.
7. If choices can be easily and clearly analyzed by asset management techniques, then these should be used to make a decision.
8. The Team should work hard and creatively to openly discuss and propose alternatives in order to find the best solution or reach the best decision that can achieve as many Project objectives as

possible. This is an obligation of all Team members, but especially that of the current lead which, at the particular phase, is most responsible for keeping the Project and Team moving forward.

9. The Team should strive for general agreement and clear commitment among Team members when making decisions. That is to say that each of the Team's members should at least be able to live with the decision that is being proposed, even if it is not their preferred outcome. Silence is your concurrence. It is also worth considering including other mitigating aspects of a decision that can move Team members from the most grudging acceptance to more enthusiastic support.

10. Notes should always be taken and decisions will be documented in a Decision Log.

11. All Team members are responsible for supporting Team decisions in word and action.

12. If general agreement among members is not possible, then the Lead for the Project is responsible for making a final decision (including any compromise aspect). This action will be the direction of the Team, subject to #13, below.

13. If a member cannot live with the direction of the Team; the following "appeal" process should be used:

- Members should notify the Team and/or Team leader (Project Administrator) of their lack of agreement/support and will seek further guidance with his/her division management.
- The member should promptly talk to the following First Level Decision Makers:

Project Phase	SPU	DNRP
Planning or Design	Engineering Director	WTD Engineering Unit Manager
Construction	Construction Management Director	WTD Construction Unit Manager
Commissioning	Systems Operation, and Planning Analysis Manager	WTD Assistant Plant Manager
Operations and Maintenance	Utility Operations Manager	WTD Assistant Plant Manager

Team members will present issues of concern in order of precedence, to the First Level Decision Makers to determine whether or not to take the dispute forward with their counterpart for resolution.

- If First Level Decision Makers choose not to pursue the issues of concern, then this is the end of the "appeal" and the Team direction stands;
 - If First Level Decision Makers choose to address the issues of concern with their counterpart, and agreement is made, their decision is final; or
 - If First Level Decision Makers choose to address the issues of concern with their counterpart, and no decision is made, then the issue must be promptly elevated to the Second Level Decision Makers.
- Elevate the issues of concern to the following Second Level Decision Makers:

Project Phase	SPU	DNRP
Planning, Design or Construction	Project Delivery and Engineering Branch Deputy Director	WTD Project Planning and Delivery Section Manager
Commissioning	Systems Assessment Operations and Maintenance Division Director	WTD Plant Operations Manager
Operations and Maintenance	Utility Operations and Maintenance Division Director	WTD Plant Operations Manager

- If agreement is made by the Second Level Decision Makers, their decision is final;

- If no decision is made, then the issue must be promptly elevated to the SPU DWW LOB Deputy Director and WTD Director; their decision is final.



Exhibit D

SPU/DNRP Ship Canal Water Quality Project

List of Potential Causes for Capital Cost Increases

The following table provides guidance regarding each Party's responsibility for capital costs that exceed the Capital Project Budget (as that budget may be amended by agreement). In accordance with Article IX.10 of the Agreement, the Parties agree that this Exhibit D shall allocate capital cost increases either solely to SPU or DNRP, or to both as "Shared," in which case the costs shall be allocated normally (65% to SPU and 35% to DNRP). With regard to those capital cost increases for which the Parties agree to jointly determine the allocation based on the cause(s) of the capital cost increases, the allocation will not be constrained by the normal allocation of costs. In the instances of "Joint determination," if the Parties cannot agree on the allocation, they shall engage in dispute resolution under Article XVII. If the matter is decided by litigation, the decision-maker shall allocate cost based on the reasons for the cost increase, and each Party's responsibility for the cost increase, and shall not be limited to normal allocation (65% to SPU and 35% to DNRP). Parties also agree that if they cannot agree what "potential cause" category applies to an increase in capital costs, that dispute shall also be resolved under the provisions of Article XVII.

Potential Causes for Capital Cost Increases		Financially Responsible Agency		
		Lead Agency (SPU)	Shared	Partner Agency (DNRP)
Lead Agency Responsibility				
1.	Delays in obtaining land use and development permits.	X		
2.	Delays in acquiring needed sites.	X		
3.	Delays in obtaining SPU sole source materials or equipment.	X		
Shared Responsibility				
1.	Unanticipated permit conditions.		X	
2.	Higher than estimated street-use fees by the City.		X	
3.	Unanticipated environmental mitigation costs.		X	
4.	Unanticipated changes to design and construction policies and codes.		X	
5.	Higher than estimated site acquisition costs.		X	
6.	Unanticipated demands by local utility managers/owners.		X	
7.	Unanticipated demands by local property owners.		X	
8.	Unknown existing utility conflicts.		X	
9.	Costs to investigate and clean up unanticipated contaminated groundwater or soils.		X	

Potential Causes for Capital Cost Increases		Financially Responsible Agency		
		Lead Agency (SPU)	Shared	Partner Agency (DNRP)
10.	Costs to investigate, remove and dispose of hazardous waste		X	
11.	Costs to investigate, evaluate and respond to archaeological discoveries.		X	
12.	Higher than anticipated requirements for storm water or dewatering treatment and disposal during construction.		X	
13.	Chosen site requires extension of conveyance pipelines and outfall over assumed planning level estimates.		X	
14.	Unanticipated costs for demolition of existing structures, property acquisition, or relocation.		X	
15.	Changed market conditions for labor, materials, equipment, fuel, etc.		X	
16.	Changed bidding climate.		X	
17.	Delays caused by material or equipment unavailability (not including SPU sole sourced materials and equipment).		X	
18.	Costs increases caused by material or equipment costs due to inflation.		X	
19.	Unanticipated sales tax increases.		X	
20.	Correction of construction defects not covered by insurance.		X	
21.	Correction of design errors and omissions not covered by insurance.		X	
22.	Labor issues such as strikes.		X	
23.	Project delays caused by force majeure events.		X	
Partner Agency Responsibility				
1.	Delays in obtaining DNRP sole source materials or equipment.			X
2.	DNRP delay in providing concurrence on use of project contingency reserve per Table B-2 and Table B-3 of Exhibit B, provided that DNRP has been provided information requested and has had the opportunity to consider through the One Team Decision Making process.			X

To Be Jointly Determined		
1.	Project delays caused by delays in obtaining environmental permits.	To be determined by joint agreement of the Parties based on the cause of the delays
2.	Increased costs due to unanticipated geotechnical considerations discovered during design or during construction (differing site conditions).	To be determined by joint agreement of the Parties based on the cause of the increased costs
3.	Costs due to bid protests.	To be determined by joint agreement of the Parties based on the cause of the bid protest
4.	Overrun due to changes that resulted from reliance on data provided by either Party and proved to be inaccurate.	To be determined by joint agreement of the Parties based on the cause of the overrun
5.	Compressed design schedule requires additional internal and consultant staff after baseline schedule and budget is set.	To be determined by joint agreement of the Parties based on the cause of the compressed design schedule
6.	Increased oversight of high profile projects, cost for additional management staff or third party oversight.	To be determined by joint agreement of the Parties based on the cause for increased oversight
7.	Design/construction claims.	To be determined by joint agreement of the Parties based on the cause of any claims
8.	Failure to achieve start-up and commissioning of project within agreed budget and time frame.	To be determined by joint agreement of the Parties based on the cause of additional expenses and/or delays
9.	Legal costs for 3 rd Party Claims	To be determined by joint agreement of the Parties based on the cause of additional legal expenses
10.	Costs that are not otherwise included in this table	To be determined by joint agreement of the Parties based on the cause of additional expenses and/or delays

Exhibit E
DNRP-WTD Invoice Format
May 31, 2016

SPU will provide DNRP with a progress report on work completed on The Ship Canal WQ Project to-date, along with a cost report that includes costs to date for the items identified below. SPU will submit the cost report with each monthly invoice.

WTD Cost Template	Costs
CONSTRUCTION	
<i>Construction Contracting</i>	
Mitigation Construction Contracts	
<i>Owner Furnished Equipment</i>	
<i>Outside Agency Construction</i>	
<i>Other Capital Charges</i>	
NON-CONSTRUCTION	
<i>Engineering Services</i>	
<i>Planning & Management Services</i>	
<i>Permitting & Other Agency Support</i>	
<i>Right-of-Way</i>	
Land Purchases/Easements	
Local Agency Mitigation	
<i>Misc. Service & Materials</i>	
<i>Internal Staff Labor (need to understand their Org Structure to identify categories)</i>	
<i>Overhead (Need to understand if tracked separately)</i>	
<i>Other</i>	
Sustainability	
Art	
PROJECT TOTAL	

Ship Canal Water Quality Project Semiannual Report

Annual Cash Flow Projections and Actual Expenses for King County Share of Ship Canal Water Quality Project

Note: All Figures are in millions of dollars (except percentages).

Total Project Cost per Joint Project Agreement	423.4
Total Current Approved Budget	570.1
Total Current Joint Shared Cost	506.5
Total Current Approved King County Share	176.5¹
King County % of Total Project Cost	34.9%
King County % of Total Shared Cost	31.0%

King County WTD Share (escalated):	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total²
Annual Forecast/Actuals	0.5	5.0	5.4	4.0	6.6	6.8	22.7	28.1	38.9	32.7	19.1	6.7	176.5
Cumulative Forecast	0.5	5.5	10.9	14.9	21.5	28.3	51.0	79.1	118.0	150.7	169.8	176.5	176.5
% of King County Total Share	0.3%	2.8%	3.1%	2.3%	3.7%	3.9%	12.9%	15.9%	22.0%	18.5%	10.8%	3.8%	100%
Cumulative % of King County Total Share	0.3%	3.1%	6.2%	8.4%	12.2%	16.0%	28.9%	44.8%	66.9%	85.4%	96.2%	100.0%	100%

The Total Current Approved King County Share and Total Shared Cost Percentage reflect the most recent changes that have been approved by the Project Management and Change Review Committee (through 24 approved changes) and is based on the portion of required storage tunnel volume for King County, which is slightly less than a 35 percent share as currently being constructed (18'10" Tunnel Diameter). No changes to the overall project budget or King County's cost share were realized during this reporting period.

¹ King County's cost share and cost share percentage have not changed since the last report.

² The official King County budget and cashflow are shown in the rows below.