King County

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

Meeting Agenda

Regional Water Quality Committee

Councilmembers: Jeanne Kohl-Welles, Chair; Rod Dembowski, Reagan Dunn
Alternate: Kathy Lambert

Sound Cities Association: Ed Prince, Renton;
Penny Sweet, Kirkland; Benson Wong, Mercer Island; John Wright, Lake Forest Park
Alternates: Leanne Guier, Pacific; Shari Winstead, Shoreline

Sewer Districts: Bill Tracy, Vice Chair; Walter Canter
Alternate: Arnold H. Lind

City of Seattle: Lisa Herbold, Kshama Sawant
Alternate: Sally Bagshaw

Staff: Mike Reed, Lead Staff (206-477-0888)
Erica Newman, Committee Assistant (206-477-7543)

3:00 PM **Wednesday, September 7, 2016** **Room 1001**

Pursuant to K.C.C. 1.24.035 A. and F., this meeting is also noticed as a meeting of the Metropolitan King County Council, whose agenda is limited to the committee business. In this meeting only the rules and procedures applicable to committees apply and not those applicable to full council meetings.

To show a PDF of the written materials for an agenda item, click on the agenda item below.

1. Call to Order

2. Roll Call

3. Approval of Minutes

June 01, 2016 meeting minutes pp. 3-6

4. Chair's Report

5. Metropolitan Water Pollution Abatement Advisory Committee (MWPAAC) Report

Pam Carter, Metropolitan Water Pollution Abatement Advisory Committee

6. Public Comment

Sign language and communication material in alternate formats can be arranged given sufficient notice (296-1000).
TDD Number 296-1024.
ASSISTIVE LISTENING DEVICES AVAILABLE IN THE COUNCIL CHAMBERS.

Briefing

7. Briefing No. 2016-B0164 pp. 7-12

Update on Conveyance System Improvement (CSI) Project

Mike Reed, Committee Staff
Steve Tolzman, Capital Projects Manager, Wastewater Treatment Division

8. Briefing No. 2016-B0166 pp. 13-84

Ship Canal (Combined Sewer Overflow Control) Project status update

Beth Mountsier, Committee Staff
Edward Mirabella, Ship Canal Water Quality Project Executive, Seattle Public Utilities

9. Briefing No. 2016-B0167 pp. 85-89

Capital Project Cost Estimating Work Group Update

Beth Mountsier, Committee Staff
Lisa Taylor, Project Control Unit Manager, Wastewater Treatment Division
Greg Brink, Value Management Strategies, Inc.

Other Business

Adjournment

King County

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Meeting Minutes

Regional Water Quality Committee

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3:00 PM **Wednesday, June 1, 2016** **Room 1001**

DRAFT MINUTES

Pursuant to K.C.C. 1.24.035 A. and F., this meeting is also noticed as a meeting of the Metropolitan King County Council, whose agenda is limited to the committee business. In this meeting only the rules and procedures applicable to committees apply and not those applicable to full council meetings.

1. Call to Order

Chair Kohl-Welles called the meeting to order at 3:06 PM.

2. Roll Call

Present: 11 - Mr. Canter, Mr. Dembowski, Mr. Dunn, Ms. Herbold, Ms. Kohl-Welles, Ms. Sweet, Mr. Tracy, Mr. Wong, Mr. Wright, Ms. Guier and Mr. Lind

Excused: 2 - Mr. Prince and Ms. Sawant

3. Approval of Minutes

Commissioner Tracy moved approval of the May 04, 2016 meeting minutes. Seeing no objections the minutes were approved.

4. Chair's Report

Chair Kohl-Welles reported the Budget and Fiscal Management Committee (BFM) held the first briefing on Wastewater rates. This topic will be on the BFM agenda for the June 08, 2016 meeting. Per contract, the King County Council is required to approve the Wastewater Rate increase by June 30, 2016. West Point Treatment Plant will be celebrating its 50th anniversay, the date of celebration is to be determined.

5. Metropolitan Water Pollution Abatement Advisory Committee (MWPAAC) Report

Pam Carter, Chair, Metropolitan Water Pollution Abatement Advisory Committee (MWPAAC), reported that MWPAAC has been integral to Wastewater Treatment Division (WTD) efforts since 1999 and looks forward to continue working with WTD. She also mentioned MWPAAC members will also be participating with their jurisdictions in the Cascadia Rising Exercise and MWPAAC wants to express support for the current sewer rate proposal.

6. Public Comment

There was one person available to offer public comment.

Alex Tsimerman

Briefing

7. Briefing No. 2016-B0116

"Cascadia Rising"- briefing on upcoming Disaster Preparedness Exercise

Mike Reed, Committee Staff, briefed the Committee and answered questions from the members. John Ufford, Preparedness Unit Manager, Washington State Emergency Management Division, addressed the Committee via PowerPoint presentation and answered questions from the members. Jim Faccone, Safety and Hazardous Materials Program Manager, Wastewater Treatment Division, addressed the Committee via PowerPoint presentation and answered questions from the members.

This matter was Presented

8. Briefing No. 2016-B0115

Stormwater Infiltration Inflow- Background and Update

Mike Reed, Committee Staff, briefed the Committee. Steve Tolzman, PMP, Conveyance System Improvement Program, Wastewater Treatment Division addressed the Committee via PowerPoint presentation and answered questions from the members.

This matter was Presented

9. Briefing No. 2016-B0114

Building Cities in the Rain"-Stormwater Management Options in Urban Context

Mike Reed, Committee Staff, introduced guest speakers. Heather Ballash, Senior Planner, Washington State Department of Commerce, addressed the Committee via PowerPoint presentation and answered questions from the members. Doug Navetski, Environmental Programs Manager, King County Department of Natural Resources and Parks, was present to answer questions.

This matter was Presented

Other Business

There was no other business to come before the Committee.

Adjournment

The meeting was adjourned at 4:46 PM.

Approved this _____ day of _____.

Clerk's Signature

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King County

Metropolitan King County Council
Regional Water Quality Committee

STAFF REPORT

Agenda Item:	7	**Name:**	Mike Reed
Proposed No.:	2016-B0164	**Date:**	September 7, 2016

SUBJECT

A briefing to provide a status report on the Conveyance System Improvement Project update.

SUMMARY:

The Wastewater Treatment Division recently circulated a draft report on entitled Conceptual Projects to Meet Identified Capacity Needs, documenting progress on a key step in the Conveyance System Improvement Program, as provided for in the Regional Wastewater Services Plan. That draft report is in response to a Regional Needs Assessment issued in 2015, which identified the current and future capacity needs and constraints in the region's wastewater conveyance system. The Conceptual Projects draft report provides a refined list of potential projects identified to meet the wastewater conveyance system capacity needs. The report is being circulated among local sewer agencies for input, as part of the larger Conveyance System Improvement Program. Today's briefing will provide a progress update on the program.

BACKGROUND:

Wastewater that is collected by local utilities and delivered to the regional system, is moved from the point of delivery to regional treatment plants through a network of pipes and pumps that are distributed throughout the region. This conveyance network includes more than 390 miles of pipeline.

The conveyance system is addressed in the Regional Wastewater Services Plan by a number of policies, including the following:

CP-1: To protect public health and water quality, King County shall plan, design and construct county wastewater facilities to avoid sanitary sewer overflows.

1. The twenty-year peak flow storm shall be used as the design standard for the county's separated wastewater system.

CP-2: King County shall construct the necessary wastewater conveyance facilities, including, but not limited to pipelines, pumps and regulators, to convey wastewater

from component agencies to the treatment plants for treatment and to convey treated effluent to water bodies for discharge. Conveyance facilities shall be constructed during the planning period of this plan to ensure that all treatment plants can ultimately operate at their rated capacities.

CP-4: The executive shall update the conveyance system improvement program every five years beginning in 2013 to ensure the program remains current. The program updates shall provide information on growth patterns, rate of growth and flow projections and report on how this information affects previously identified conveyance needs. The program updates shall also provide information on changed or new conveyance needs identified since the previous update.

The Conveyance System Improvement Program Plan Update is designed to identify where additional conveyance capacity will be needed through 2060 in the portion of the conveyance system served by separated sewers. As noted above, the County has adopted a 20-year "peak flow capacity" standard for regional conveyance facilities, in order to prevent sewer overflows. Facilities must have the capacity to convey peak flows of a magnitude that can be expected to occur during a severe storm event which occurs on average once every 20 years.

Consistent with the RWSP requirement for an update of the Conveyance System Improvement Program, the Wastewater Treatment Division ("WTD") has been engaged in an assessment and update effort, coordinated with the Metropolitan Water Pollution Abatement Advisory Committee ("MWPAAC") and local sewer utilities. That process includes the following components:

- Update Planning Assumptions
- Complete Regional Conveyance System Needs Assessment
- Develop Conceptual Projects
- Conceptual Project Cost Estimating
- Prioritize Projects.

The Regional Needs Assessment ("RNA") was completed in May of 2015. The RNA identified capacity needs of the region, by regional planning area. It found that, over the 50-year planning period (2010-2060), 77 conveyance facilities will fall below the 20-year peak flow design standard, or that they are currently below the standard. Forty of the facilities do not currently meet the standard.

In August 2016, WTD prepared a draft report on Conceptual Projects to Meet Identified Capacity Needs, for review by local agencies (link attached at the end of the report). Comments on the Local Agency Review Draft of the report are sought through September 16, 2016. Comments may be made to Steve Tolzman at steve.tolzman@kingcounty.gov.

The draft report describes the project options considered for addressing the capacity needs identified above, as follows:

- Paralleling existing conveyance pipes with new pipes
- Upgrading pump stations
- Replacing undersized pipes or pump stations with larger ones

- Diverting flows to other conveyance facilities
- Building storage facilities that reduce peak flow volumes by storing wastewater during high flow periods, until it can be safely conveyed by the downstream system

For facilities that were assessed to have insufficient capacity to convey a 20-year peak flow without surcharging or overflowing under existing conditions, the condition, age and composition of pipes were considered in deciding to whether to parallel[1] or replace them. Replacement projects were developed for pipes greater than 50 years old and in poor condition. For relatively new pipes made of durable materials with sufficient capacity available, paralleling projects were recommended.

The size for each new parallel or replacement pipe was determined based on the projected 20-year peak flow for 2060 that would be conveyed through the pipe. Possible pipeline routes were developed based on GIS data, aerial photographs, and elevations of existing pipelines. Stream and wetland crossings were avoided if possible; major street crossing were minimized; and public rights-of-way were preferred to private properties. Flow diversion and storage were considered in those cases where paralleling or replacement were not feasible.

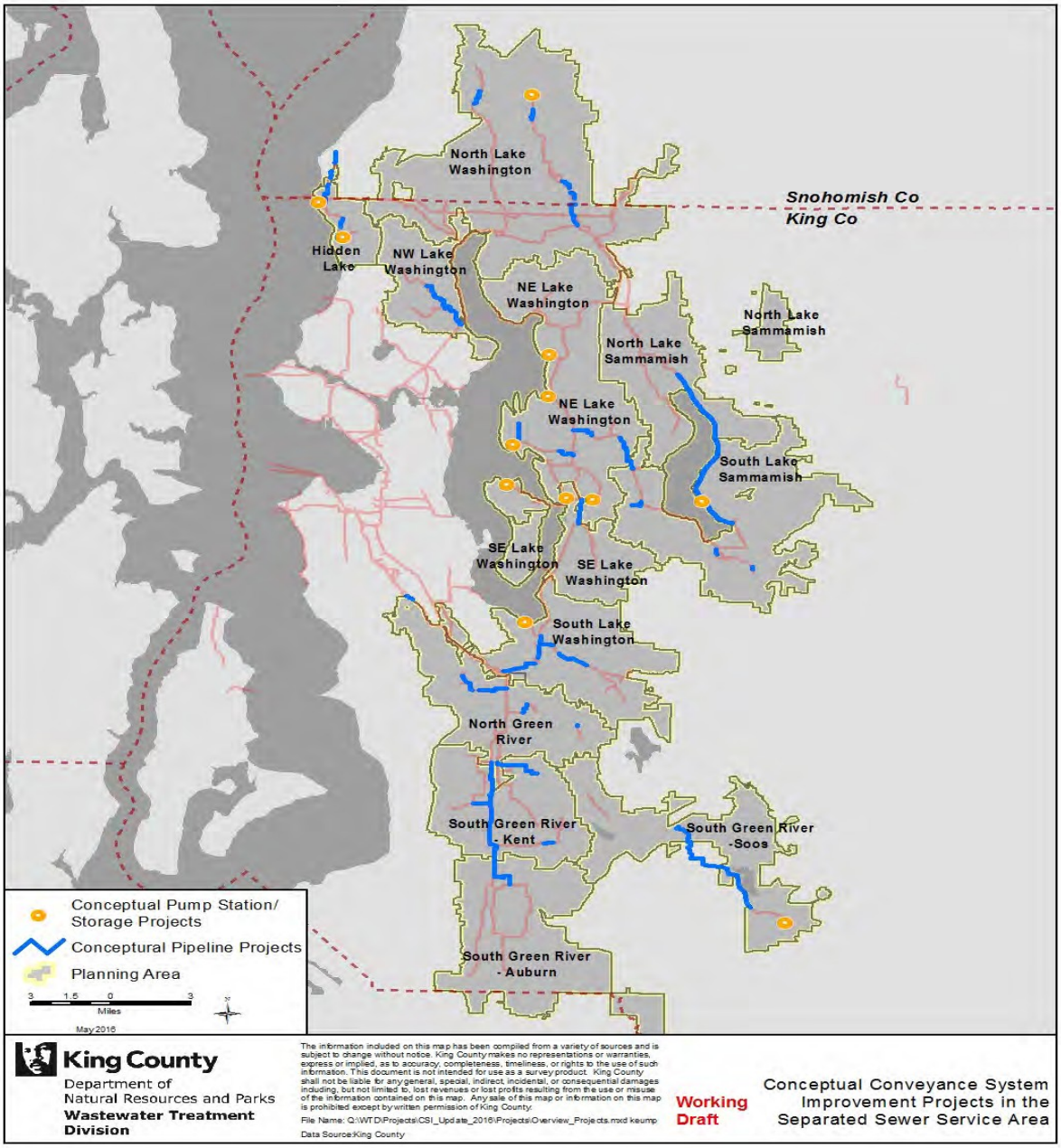
A resulting list of proposed projects and cost estimates was reviewed with local sewer agency representatives, and modified as necessary based on topographic or permitting issues, as well as opportunities to coordinate with planned road and utility projects.

Infiltration/Inflow considerations will be incorporated into the project development process. The feasibility of reducing, delaying or eliminating the need for a given project through reduction of infiltration and inflow (known as I/I), as well as opportunities for including reclaimed water conveyance, will be considered in initial stages of each project.

The map below depicts the draft Conceptual Conveyance System Improvement project locations included in the August 2016 draft report.

The Wastewater Treatment Division has recently updated the Metropolitan Water Pollution Abatement Advisory Committee on progress on the CSI. Today's briefing is intended to provide the RWQC a progress update, as well as to highlight the anticipated Committee review upon completion of the planning effort.

[1] Whether to build a second 'parallel' pipe or replace the existing pipe



ATTACHMENTS

None

INVITED

1. Steve Tolzman, Capital Projects Manager, Wastewater Treatment Division, Department of Natural Resources and Parks

LINKS

Draft Conceptual Projects to Meet Identified Capacity Needs report, August 2016

http://www.kingcounty.gov/~/media/services/environment/wastewater/mwpaac/docs/2016/2016_08_04_EandP_Conceptual-Projects-to-Meet-Identified-Capacity-Needs.ashx?la=en

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King County

Metropolitan King County Council
Regional Water Quality Committee

STAFF REPORT

Agenda Item:	8	**Name:**	Beth Mountsier
Proposed No.:	2016-B0166	**Date:**	September 7, 2016

SUBJECT

A briefing on the status of the Ship Canal Water Quality Project and the recently approved Joint Project Agreement (JPA) which authorized the Executive to enter into the agreement to have Seattle Public Utilities design, construct, own and manage the combined sewer overflow (CSO) control project for both Seattle and King County wastewater influent in north Seattle.

SUMMARY

King County entered into a federal consent decree with the Washington State Department of Ecology (Ecology) and the U.S. Environmental Protection Agency (EPA) on July 3, 2013, which requires control of the County's CSO basins by December 31, 2030. The City of Seattle also entered into a Consent Decree to control its CSO basins by 2030.

After considering separate CSO storage facilities and combinations of shared facilities, the Ship Canal Water Quality (WQ) Project was proposed as a coordinated effort between King County's Department of Natural Resources and Parks (DNRP) and Seattle Public Utilities (SPU) to construct a 15-million gallon CSO storage facility to control five of SPU's CSO basins in Ballard and Fremont/Wallingford, and the County's 3rd Avenue West and 11th Avenue Northwest CSO basins. The project would be constructed by tunneling below publicly owned right-of-ways between Ballard and Highway 99.

King County Council[1] and Seattle City Council[2] approved DNRP and SPU's provisional terms for the Ship Canal Water Quality Project and the JPA that specifies the funding of the planning, design, construction, maintenance, operation, repair, replacement, alteration, and improvement of the facility. The JPA defines King County's role in the execution and management of this project including decision-making and dispute resolution processes during design and construction and after the facility begins operating to control overflows. SPU will pay for portions of the project that solely relate to its delivery of influent to the storage facility. Otherwise, most costs of the facility will be split with Seattle paying 65 percent and King County 35 percent of the costs. King County's share is currently estimated to be $134 million.

[1] King County Council approved the JPA via Ordinance 18313 in June 2016
[2] Seattle approved the JPA in December 2015 (Ordinance124966)

BACKGROUND

Combined Sewer Overflows

Combined sewer overflows are discharges of untreated or partially treated sewage and stormwater released directly into marine waters, lakes and rivers during heavy rainfall, when the sewers have reached their capacity. Although the sewage in CSOs is greatly diluted by stormwater, both CSOs and stormwater may be harmful to public health and aquatic life because they carry chemicals and disease-causing pathogens.

Both King County and the City of Seattle manage CSOs within Seattle. SPU manages more than 90 CSO discharge outfalls. King County's WTD manages 38 locations, including four CSO "wet weather" treatment facilities. A fifth treatment facility, the Georgetown wet weather treatment station (to control discharges from the Brandon and Michigan CSO basins) is currently being designed.

King County's Consent Decree with Ecology and EPA

Ecology and EPA alleged that the County violated Sections 301 and 402 of the Clean Water Act and the conditions and limitations of the County's National Pollutant Discharge Elimination system (NPDES) permit issued to the County by Ecology. These are violations related to the quality of the effluent released from wet weather CSO treatment plants essentially satellite treatment plants to West Point Treatment Plant. In response, King County, without admitting any liability related to the alleged violations, negotiated a consent decree that the Council approved via adoption of Ordinance 17514 in 2013.

The consent decree obligates King County to implement the long-term CSO control plan that the Council approved in September 2012 (Ordinance 17413) for future projects per the proposed design criteria/specifications and schedule in the plan, including final completion of all projects by 2030. In addition, the consent decree provides direction for:

1) Implementation of CSO control projects currently in design;
2) Improvements in operations of existing CSO treatment plants to meet effluent standards;
3) Reporting requirements regarding progress towards the goals of the long-term CSO control plan, post-construction monitoring, etc.;
4) Dispute resolution procedures; and
5) Penalties.

The overall goal of the consent decree and EPA's compliance action is to ensure that combined sewer overflows at King County's outfalls occur on average only once per year based on a rolling 20-year average and that the effluent discharged from CSO control treatment plants meet certain standards.

The consent decree contains some provisions for flexibility with regard to the implementation of King County's long-term CSO control plan. King County may propose changes to the design specifications for projects and the priority and sequencing of projects; the County may also propose a supplemental "integrated plan" that includes additional activities or refines the proposed CSO control projects to address other water pollution issues and thereby results in better water quality in the receiving waters where CSOs currently discharge.

King County's Long-Term CSO Control Plan
As noted, King County adopted the 2012 CSO Control Plan Update (Ordinance 17413) as an amendment to its long-term combined sewer overflow control plan (LTCP) and submitted it to Ecology as a component of the County's NPDES permit renewal for West Point. It provides the blueprint and schedule/milestones for construction of projects to address the remaining CSO outfalls that did/do not meet state standards.

In 2012, out of the 38 CSO sites in the regional wastewater system, 16 were controlled to Ecology's standard of no more than one overflow per year and three were being refined and adjusted to meet the control standard. This represented significant progress with approximately $389 million spent to reduce untreated wastewater and CSO volumes from over two billion gallons per year in 1980 to 800 million gallons per year in 2012. At the time, King County was also designing five CSO control projects (the "Beach" projects) that are now constructed or nearing completion at a total cost of approximately $100 million.

The remaining 14 sites that were uncontrolled were addressed in the LTCP through nine proposed projects (two treatment plants and seven storage facilities, with some green stormwater infrastructure proposed as part of some projects) and incorporated into the consent decree as Appendix B. The nine projects had a very preliminary total cost estimate (Class 5, meaning costs could vary from 50 percent less to 100 percent more) of $711 million in 2010 dollars.

Consideration of Joint Projects
King County's long-term CSO control plan as proposed and approved by the Council envisioned the possibility of joint projects with Seattle. Seattle was also interested in shared projects. Additionally both King County's and Seattle's consent decrees required them to coordinate their efforts and future operation of new CSO facilities since each would have impacts upon the other's facilities (and their ability to control overflows) and the West Point Treatment Plant.

With this backdrop, King County and Seattle developed and provisionally agreed to a series of technical memos and plans about (1) cost-sharing and working together on any projects; and (2) a shared project for the CSOs in northwest Seattle. Many of these agreements date back to 2012 and overlap with the time period when King County's long-term CSO control plan and Consent Decree were being approved.

The provisional agreements reflected each agency's acceptance of the technical aspects, assumptions and parameters of a shared storage project addressing:

- existing and future wastewater flows in the basins;
- amounts of combined wastewater and stormwater that would need to be stored;
- conceptual design of a facility to provide the storage;
- division of potential capital costs for the project (based on the avoided costs of separate projects) and future cost-sharing of operations and maintenance;
- parameters for operation of storage facilities and discharge to the West Point Treatment Plant; and
- a potential management structure of a shared project from design through operation.

In April 2014, both SPU and WTD agreed to a "Seattle Public Utilities & King County Wastewater Treatment Division Coordination Plan." Its purpose was to guide each agency 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.

By the end of that year both WTD and SPU concluded that a joint project would be the best means of controlling overflows and would reduce environmental impacts and minimize neighborhood disruptions compared to building separate CSO control facilities for that group of drainage/CSO basins. The agencies proceeded to develop a proposed Joint Project Agreement (JPA) in 2015 based on and citing their previous work and provisional agreements.

The adopted JPA would legally and perpetually bind SPU and DNRP to execute the project, unless they mutually agree to terminate the JPA. These terms were negotiated because each agency is required to meet certain milestones and completion of facilities to comply with terms of their consent decrees. If either agency proceeded any further without a commitment to either a shared project or separate projects, it would be far more challenging for either agency to meet its current milestones.

The JPA designates Seattle/SPU as the lead agency during design and construction of the project. Upon completion, SPU will be the owner and manager of the facility. The JPA also defines King County's role throughout the project design, construction and future operation of the facility.

Project Description

The Ship Canal WQ Project would provide storage of combined wastewater in a deep storage tunnel constructed between the Ballard and Wallingford CSO areas, on the north side of the Seattle Ship Canal that connects Lake Union and Elliott Bay. The Project would control SPU's Ballard CSO basins (Outfalls 150,151 and 152), Fremont (Outfall 174) and Wallingford CSO basins (Outfall 147), King County's DNRP 3rd Avenue West Regulator (DSN008), and 11th Avenue NW Regulator (DSN004) by the end of year 2025.

The Ship Canal WQ Project would 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. A detailed description of the project (including Figure 1 showing a plan view of the Ship Canal WQ Project location and components) can be found in Exhibit A to the JPA. The following is a summary of the key components of the project:

The storage tunnel and appurtenances, as proposed, would include:

- A minimum 15.24 million gallon (MG) offline[3] storage tunnel. The tunnel is expected to have a 14-foot inside diameter and be approximately 14,000 feet long[4] (2.7 miles).
  - 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.

[3] "Offline" meaning the storage isn't in a conveyance pipe

[4] These dimensions could be changed during the design phase of the project.

- Seven diversion structures for diverting influent CSO flow away from existing CSO outfalls to the tunnel.
- Four drop structures (each with odor control) to convey influent CSO flow into the storage tunnel.
- A pump station would 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 would include a:

- Gravity sewer line to convey flows from SPUs diversion structure at Fremont Outfall 174 to the tunnel drop shaft;
- Gravity sewer line to convey flows from DNRPs diversion structure at 3rd Ave. W (under the Ship Canal) to the tunnel drop shaft;
- Gravity sewer line to convey flows from DNRPs diversion structure at 11th Ave. NW to the tunnel drop shaft; and a
- Force main to convey flows from the tunnel pump station to DNRPs existing Ballard Siphon wet-weather barrel forebay.

SPU would be solely responsible for the design, construction, management and cost of 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.[5]

Project Design Assumptions and Parameters
The control strategy will limit the inflow to the storage tunnel from each outfall basin for each storm 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 agencies, SPU and DNRP agree that these are the minimum volumes to be controlled and provided for by The Ship Canal WQ Project.

Ownership and Operation of the Facility
SPU will own and operate the storage tunnel and all of the related components listed in the project description above, including all new structures and pipes appended to each existing DNRP outfall pipe and all real estate previously owned or acquired for the project. However, ownership of the current outfall pipes will remain unchanged. Prior to commissioning of the

[5] These are components and costs of the project are referred to as “excluded” in the JPA

project, SPU is compelled by the JPA to develop an Operations and Maintenance Plan that must be agreed to by DNRP. The JPA also stipulates a “No Impact Release Rate” to ensure pumping out of the storage facility does not impact the function of the West Point Treatment Plant or cause King County to not meet its regulatory standards for discharges from West Point.

Project Costs and Cost Sharing

SPU and WTD aimed to define a method for sharing capital and operating costs in the joint project, in which associated risks and rewards are apportioned equitably. The cost sharing methods incorporated into the JPA are based on three principles:

1. Controlling CSO’s through joint multi-basin efforts may be less costly (or otherwise beneficial) than controlling the same CSOs individually;
2. Both SPU and WTD should share in the potential savings of such joint action; and
3. Projects or facilities within SPU’s or WTD’s independent long-term control plan responsibilities that are unaffected by the choice of a joint project should remain the responsibility of that agency.

SPU and WTD 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 agency's proportionate share of the total cost of the Ship Canal WQ Project. They also agreed to a Technical Memorandum 7, dated January 7, 2013, addressing a compensation methodology (costs and credits) for incremental changes to SPU wastewater flows that directly affect the operation and maintenance costs of DNRP facilities downstream of SPU facilities.

Cost estimates at a Class 4 level (with a range of minus 20 percent to plus 30 percent) were developed and cross-verified for each agency’s separate, individual projects. The Parties also agreed on a total cost of a shared Ship Canal WQ Project. A proportionate share of the costs was allocated based on the avoided costs of what otherwise would have been individual projects divided by the cost of the shared project (excluding costs solely the responsibility of SPU). This methodology arrived at the proposed split of costs with King County paying 35 percent of the shared costs and Seattle paying 65 percent. However, as proposed, King County would be entitled to 40 percent of the shared storage with Seattle using the remaining 60 percent.

The total cost estimate (Class 4) for the Ship Canal WQ Project is approximately $423 million. This includes approximately $41 million in land acquisition costs and conveyance pipes that are solely the responsibility of SPU (referred to as excluded costs). Based on the agreed cost-sharing methodology, the cost for WTD is estimated to be $134 million and the cost for SPU is estimated to be $289 million ($41 million for SPU's sole responsibility + $248 million for its proportionate share).

The JPA also spells out which Party will be responsible for fines or other costs related to discharges from outfalls that do not meet the regulatory standards and consent decree requirements.

Joint Project Agreement (JPA) – Section Descriptions
The following major elements are contained in the JPA:

Recitals (Article II):

- The Ship Canal WQ Project will not be used for any other basins or purpose than those defined in the JPA

Project Design & Construction (Article IV):

- SPU shall be the lead agency and will be responsible for the planning, design, construction, delivery, operation, maintenance
- SPU will notify DNRP in advance of project milestones
- DNRP and SPU will communicate collaboratively with the Department of Ecology and EPA
- SPU will follow DNRP's Local Public Agency project review process

Roles & Responsibilities (Article V):

- SPU will lead Project design, construction, commissioning, and operations; DNRP has a defined participation, review and inspection role at each stage of the Project
- Any changes that affect the Project Description (project scope, schedule or budget) will be resolved via the Change Management process

Project Management (Article VI):

- SPU will develop and implement the Project Management Plan
- Any changes to scope, schedule or budget will be resolved via the Change Management process (Exhibit B)
- The parties will undertake joint public outreach and communications

Ownership & Use (Article VII):

- SPU will own the Project
- The specific CSOs to be controlled by the Project, and the control volumes to be achieved are contained in this Article

Operations & Maintenance (Article VIII):

- SPU will develop an O&M Plan in consultation with DNRP
- Content requirements for the O&M Plan are defined in this Article
- The O&M Plan is to be finalized at the end of construction; The Article contains a general schedule for completion in relation to Project design and construction

Cost Sharing (Article IX):

- The Article contains the 65 percent/35 percent cost share split for non-excluded costs; SPU has a right to 60 percent of the volume, DNRP has a right to 40 percent of the volume
- Provisions for managing higher costs, allocating excess volumes, and addressing regular and continuous excess use capacity are contained in this Article

Insurance & Indemnification Articles XI & XII):

- Requires City and County risk managers to cooperate in the development of an insurance program for design and construction of the Project

- Insurance and Indemnification Requirements developed with the County's Risk Management Office and County's legal counsel in the Civil Division of the PAO are provided

Project Description (Exhibit A)

- This Exhibit describes the Project Purpose, Scope, Capital Cost Estimate (including the excluded costs) and a Schedule Summary
- Change to the project scope would need to be negotiated and agreed to by both SPU and DNRP through the "Change Management Process" (see below)

Change Management (Exhibit B)

- Addresses potential risks to the project by utilizing senior level management from each agency as a Project Review and Change Management Committee (PRCMC) to provide oversight, support and direction should issues arise affecting project scope, schedule and/or budget.
- PRCMC decisions intended to be made by consensus – and otherwise relies on Paragraph 12 of the "One Team Decision Making Guidelines" (Exhibit C)
- SPU leadership will convene meetings with a "Direction and Action Log" maintained and shared for each meeting in addition to meeting minutes.
- Includes direction for PRCMC involvement in Consultant Contract Amendments and Construction Contract Changes

One Team Decision Making Guidelines (Exhibit C)

- Outlines the goals of a Project Team during phases of the project with regard to decision making, team member interactions, responsibilities and what to do if a team member disagrees with the decisions of the team or Team Lead.
- Paragraph 12 calls for the Team Lead to make a project decision in the absence of consensus.

List of Potential Causes for Capital Cost Increases (Exhibit D)

- Assigns financial responsibility for potential capital cost increases to the Lead Agency (SPU) or Partner Agency (DNRP) or where the cost increase would be shared.

DNRP-WTD Invoice Format (Exhibit E)

- Titled to be the invoice format, but is actually intended to provide the format for reporting of SPU costs (to accompany monthly invoices) ranging from staffing to mitigation[6].

ANALYSIS

The Regional Water Quality Committee was briefed on the proposed project in December 2015. King County's Transportation, Economy and Environment Committee (TrEE) was briefed on legislation regarding approval of the JPA (PO 2016-0016) on February 2, April 5 and June 21 2016 (when TrEE gave the legislation a 'do pass', as amended recommendation). The Budget and Fiscal Management Committee (BFM) was briefed on companion legislation, PO 2016-0017[7] regarding a supplemental appropriation for the project on February 24, 2016. BFM

[6] The transmittal of PO 2016-0016 did not include Exhibit E.

[7] In addition to PO 2016-0016 approving the Ship Canal Water Quality Joint Project Agreement, the Executive also transmitted PO 2016-0017 approving a supplemental appropriation for the Ship Canal WQ Project for approximately

subsequently approved the appropriation legislation on July 13, 2016. The Council approved both pieces of the legislation July 18, 2016.

At the request of several TrEE committee members, independent legal counsel was retained to review and advise King County regarding the terms of the proposed Joint Project Agreement. Based on council staff and the outside legal advice, the Council amended the JPA to:

- Effectuate a number of technical clarifications and changes;
- Modified Section XVII.1 to clarify the role of Exhibit D and dispute resolution related to both construction and operational costs;
- Modified Exhibit D to clarify construction costs methodology; and
- Added twice yearly reporting to the Council regarding progress on the project.

The King County Auditor's Office Capital Projects Oversight team is also monitoring the project, though providing the same type of oversight as would be conducted for a WTD-constructed project because the project is the responsibility of SPU.

Further discussion and analysis of the joint Ship Canal WQ project compared to the impacts, risks and financials of separate projects are contained in the April 5, 2016 staff report for TrEE.

Control over scope, schedule and budget

The JPA calls for SPU to assume the role of project lead for design and construction of the project and to take on day-to-day project management responsibilities. However, King County, through DNRP, will have an ongoing and defined role in decision-making, especially where it concerns any proposal to amend the scope or address issues affecting schedule and budget (referred to as "Change Management").

The Change Management process is intended to address potential risks to the project by utilizing senior level management from each agency as a Project Review and Change Management Committee (PRCMC) to provide oversight, support and direction should issues arise affecting project scope, schedule and/or budget. PRCMC decisions are intended to be made by consensus. All discussions and decisions of the PRCMC are to be memorialized in a "Direction and Action Log" maintained and shared, in addition to meeting minutes. Additionally, at the project management level, SPU and WTD are to adopt a "One Team" goal with interactions and cooperation based on "One Team Decision Making Guidelines" (Exhibit C of the JPA) intended to ensure WTD's interests and expertise are factored into the project design/construction and operation phases.

The JPA and attached exhibits address decision-making and anticipated cost assignments where costs might escalate due to one Party or the other not meeting deadlines or project conditions that cannot be known at this time.

Outside legal counsel's review of the JPA was requested in part to focus on these concerns to ensure that King County ratepayers' interests are best served by structure of decision making and the fact that the JPA as structured commits the parties to the JPA in perpetuity unless the parties mutually agree to terminate the agreement.

$14.2 million. This appropriation was requested to cover DNRP's portion of the costs for the preliminary analysis and design work, including costs from the years 2014-2015 and anticipated costs in 2016.

Operations and Maintenance Costs
The JPA calls for sharing the operations and maintenance (O&M) costs based on the same 35 percent / 65 percent split between King County and Seattle as agreed upon in Technical Memorandum No. 4. SPU will invoice DNRP annually for O&M costs during the first five years of operation of the Ship Canal WQ Project, based on a mutually agreed upon O&M estimate, to be developed prior to commissioning of the project. Prior to the end of the sixth year of operation of the project, SPU would reconcile actual costs against the O&M estimate and invoice/credit King County for the difference between actual and estimated O&M costs.

The storage facilities are expected to operate an estimated five to six times per year. Seattle, in addition to the shared costs for operations and maintenance, will compensate King County for the additional flows to be treated at West Point. These would be modest by comparison to the regular flows to West Point. Staff is requesting more information regarding anticipated operations and maintenance costs.

Conclusion
King County is required to complete the control of its CSOs under the terms of the consent decree. With the approval of the Ship Canal WQ Project and JPA the County should be able to satisfy the consent decree obligations for two of its outfalls in north Seattle.

Briefing
SPU staff will brief the committee on the project status and progress towards completion. WTD staff will be available to answer questions.

ATTACHMENTS

1. Ordinance 18313

INVITED

1. Edward Mirabella, Ship Canal Water Quality Project Executive, Seattle Public Utilities (SPU)
2. Madeline Fong Goddard, P.E., Deputy Director, SPU
3. Henry Chen, Deputy Director Project Delivery and Engineering, SPU
4. Gunars Sreibers, Acting Director, Wastewater Treatment Division (WTD), Department of Natural Resources and Parks
5. Kathy Loland, Director, Project Planning and Delivery, WTD
6. Sharman Herrin, Governmental Relations Director, WTD

King County

KING COUNTY

Signature Report

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

July 5, 2016

Ordinance 18313

Proposed No. 2016-0016.2 **Sponsors** Dembowski and Kohl-Welles

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

STATEMENT OF FACTS:

1. King County and the city of Seattle have entered into separate federal court-ordered consent decrees with the United States Environmental Protection Agency and the Washington state Department of Ecology requiring control of combined sewer overflows to the Lake Washington Ship Canal, Duwamish river and Elliott bay.

2. The 2012 combined sewer overflow long-term control plan, approved by Ordinance 17413 and incorporated into the consent decree, notes the potential for joint projects with the city.

3. The city of Seattle's Ballard and Fremont/Wallingford combined sewer overflow basins are located in close proximity to the county's 3rd Avenue West regulation and 11th Avenue Northwest regulation combined sewer overflow sites.

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

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

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

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

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

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

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

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

BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

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

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

1. Project budget status and anticipated cash flow through construction phases;

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

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

4. Potential uses of contingency and management reserve.

B. The reports shall be filed:

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

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

January 31 for the preceding period of July 1 through December 31; and

3. Until closeout of the project is reported as complete in a project status report.

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

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

APPROVED this 13 day of JULY, 2016.

Dow Constantine, County Executive

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

Seattle Public Utilities | King County

Protecting Seattle's Waterways

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

May 31, 2016

Table of Contents

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	4.18 MG
	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	1.06 MG
	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% x $300,000 (hypothetical annual operating cost) = $19,685

6.56% x $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

By_____
Signature Date

_____
Type or Print Name

Dow Constantine
King County Executive

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

By_____
Signature Date

_____
Type or Print Name

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

Seattle Public Utilities

King County

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:

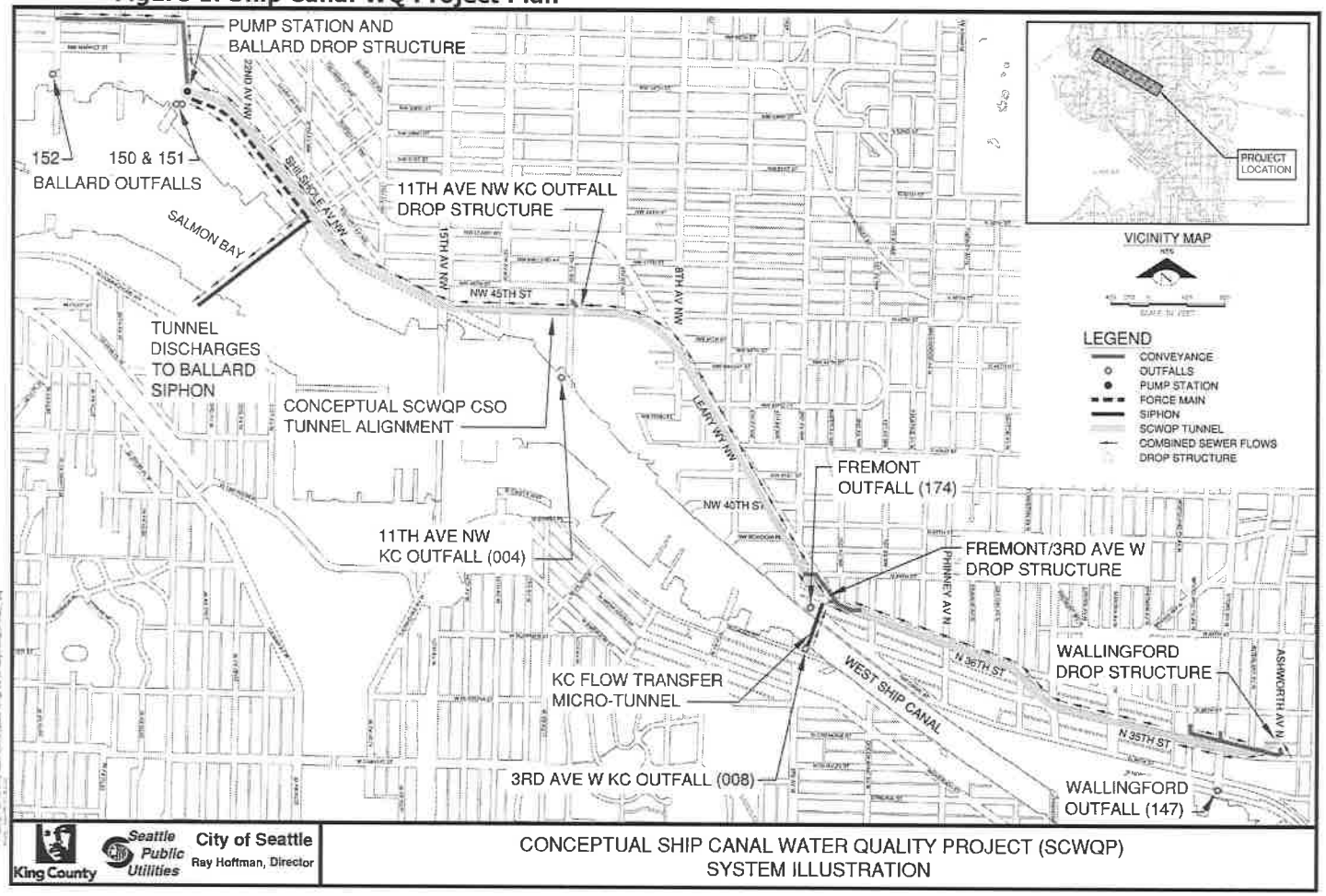
- The tunnel in its entirety, including the East and West Portals;
- The pump station and force main;
- All diversion structures, including DNRP's 3rd Avenue West and 11th Ave NW structures, SPU diversion structures for Ballard outfalls 150,151 and 152, Fremont outfall 174 and Wallingford outfall 147;
- 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.

Seattle Public Utilities

King County

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

Seattle Public Utilities

King County

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 PRCRC 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.

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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 SPUs 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.

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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.

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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 3rd 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	
Construction Contracting	
Mitigation Construction Contracts	
Owner Furnished Equipment	
Outside Agency Construction	
Other Capital Charges	
NON-CONSTRUCTION	
Engineering Services	
Planning & Management Services	
Permitting & Other Agency Support	
Right-of-Way	
Land Purchases/Easements	
Local Agency Mitigation	
Misc. Service & Materials	
Internal Staff Labor (need to understand their Org Structure to identify categories)	
Overhead (Need to understand if tracked separately)	
Other	
Sustainability	
Art	
PROJECT TOTAL	

King County

Metropolitan King County Council
Regional Water Quality Committee

STAFF REPORT

Agenda Item:	9	**Name:**	Beth Mountsier
Proposed No.:	2016-B0167	**Date:**	September 7, 2016

SUBJECT

A briefing on the recommendations being developed and refined in the Cost Estimating Technical Working Group, established in response to Proviso P1, Section 110 of the Biennial Budget Ordinance 17941, improving Wastewater Treatment Division (WTD) capital projects cost estimating.

SUMMARY

The 2015-2016 Biennial Budget for the Wastewater Treatment Division included a proviso requiring a work plan to address planning-level cost estimating:

P1 PROVIDED THAT:

Of this appropriation, $450,000 shall not be expended or encumbered until the executive transmits a motion approving a detailed work plan for a technical working group regarding wastewater treatment division ("WTD") capital projects, and the motion is passed by the council. The motion shall reference the subject matter, the proviso's ordinance, ordinance section and proviso number in both the title and body of the motion.

A. The technical working group shall be charged with reviewing and making technical recommendations to the executive and council regarding:

1. The processes to establish and update planning level cost estimates for WTD capital projects from the time that a project is identified through the preliminary design process until the project reaches the thirty percent design completion; and

2. The processes WTD uses to consider or reconsider projects as they move from project identification to thirty percent design and the establishment of a baseline budget.

B. The work plan shall identify:

1. Participants in the technical working group, including, at a minimum, council staff, executive staff and interested stakeholders representing the regional water quality committee, and the metropolitan water pollution abatement advisory committee;

2. The proposed schedule of meetings and deliverable dates for recommendations; and

3. A description of third-party facilitation, if any, to support the technical working group.

The proviso was based on recommendations in a report by the County Auditor, which noted the need for strengthening cost estimating processes for planning-level cost estimates for WTD capital projects. The RWQC and Council have approved the transmitted work plan, and WTD has retained a consultant and coordinated the first meeting of the Technical Working Group. Today's briefing will provide an update on project status.

BACKGROUND

WTD Capital Cost Estimating

The 2015-2016 County Budget for the Wastewater Treatment Division included a proviso requiring the formation of a Technical Working Group on Capital Cost Estimating. The proviso was developed based on the September 2014 Performance Audit of the Georgetown Combined Sewer Overflow Project. While noting that the Wastewater Treatment Division "is experienced in managing large capital projects and follows some best practices", the Audit also indicated that "WTD's planning-level cost estimation process needs improvement and King County faces potentially significant increases on projects in its CSO program, including the Georgetown project." The Audit included a Recommendation 2:

"The Wastewater Treatment Division should continue to take steps to improve the quality of its planning-level cost estimates, including:

a) Continuing to apply changes to WTD's contingency policy in its cost estimates
b) Continuing to work with a consultant to identify and implement methods to improve planning level cost estimates
c) Developing planning-level cost estimation guidelines
d) Developing techniques to use historical information to inform estimates of likely costs of projects
e) Employing independent validation of early cost estimates"

As noted, the Audit was dated September 9, 2014, shortly prior to the Council's consideration of the 2015-2016 County Budget. The Council included the proviso language noted above in the approved Biennial Budget, requiring the transmittal of a work plan for a technical working group to make recommendations on planning level cost estimates on WTD capital projects, through the 30% design level.

Work Plan and Technical Working Group
On May 28, 2015, the Executive transmitted Proposed Motion 2015-0181, providing a work plan to establish a Technical Working Group on Cost Estimating. The Work Plan noted that WTD would procure a cost-estimating consultant to assist the Technical Working Group in its review and development of technical recommendations, and

- improvements to the quality of long-range planning level and early capital design cost estimates
- development of a trend analysis program to document decisions and track costs and changes
- development of metrics for cost estimates
- development of training materials and staff training; and
- preparation of alternative planning level, design level and construction cost estimates.

Membership of the Technical Working Group was proposed and does include:

- Council Staff
- RWQC
- Director's Office, DNRP
- Director's Office, WTD
- Project Planning and Delivery Section, WTD
- Finance Section, WTD
- Peer Public Agency
- MWPAAC

The work plan noted that most of the work would take place in the remainder of 2015 and throughout 2016. The cost-estimating consultant is anticipated to be available to WTD on an as-needed basis for up to five years. The Technical Working Group will review the progress and work products of WTD and its consultant pertaining to planning-level cost estimate processes, and processes for considering or reconsidering projects as they move from project identification to thirty-percent design and establishment of a baseline budget.

Technical Working Group Consulting Support
For consulting support, WTD negotiated a Project Control and Project Cost Estimating Services Contract with Value Management Strategies (VMS). The contract outlines a variety of work to assist in improving the quality of its total project life cycle cost estimating processes, including planning-level and early design cost estimates, methods, tools data sources and assumptions; recommend contingency standards for total project cost estimates; recommend a process to implement independent validation of early design cost estimates; recommend a trend analysis program to document decisions, costs and changes over time.

VMS is also expected to provide staff training on accepted recommendations; as well as assisting , supporting and making presentations to various county management stakeholders, technical work groups and council members.

The original timeline anticipated that the Technical Working Group would finalize technical recommendations by November 15, 2016, for presentation to the RWQC on December 7, 2016. Although discussion of the best timing for presentation to the Council and it's committees is on-going.

Workshops, work sessions, and associated activities have continued throughout 2016, facilitated by the VMS consultant team. WTD participants have included key Project Planning and Delivery (PPD) Section staff from the Planning, Engineering, Project Management and Project Control Units, and the Finance Section. Pilot testing of the recommendations is being conducted through more than 85 projects.

The following recommendations were developed through this extensive work effort with the consultant and as TWG apprised, updated and solicited for input for each subject area. These recommendations will result in more cost effective and efficient long-term system planning and conceptual estimating processes. VMS used the following phased approach:

1. Identifying Areas of Opportunity
    a. Strengths, Weaknesses, Opportunities & Threats – SWOT Analysis
    b. Organizational Analysis
    c. Staff and stakeholder interviews and surveys
2. Solution Identification
    a. Proof of Concept
    b. Pilot Projects and Concept Testing
    c. Plan, Do, Check, Adjust – PDCA Continuous Improvement Cycle
3. TWG Collaboration
    a. Facilitation and coordination
    b. Conceptual discussion
    c. Incorporate feedback
    d. Intra-agency lessons-learned
4. Implementation (to follow recommendations)
    a. Staff education and training
    b. PDCA Refinements
    c. Lessons-learned

Improvements to WTD's long-term system planning and conceptual estimating practices will address:

1. Estimating (and basis of estimates and documentation)
2. Trend Analysis
3. Contingency
4. Risk Management
5. Work Breakdown Structure & Coding

Today's briefing will describe progress to date and draft recommendations that are being refined at this time.

INVITED

1. Lisa Taylor, Project Control Unit Manager, Wastewater Treatment Division
2. Greg Brink, Value Management Strategies, Inc.

ATTACHMENTS none