

CITY OF PORTLAND | BUREAU OF ENVIRONMENTAL SERVICES

# CIP ANNUAL REPORT

## FISCAL YEAR 2016-17

DECEMBER 2017



ENVIRONMENTAL SERVICES  
CITY OF PORTLAND

working for clean rivers

Nick Fish, Commissioner  
Michael Jordan, Director



# CITY OF PORTLAND ENVIRONMENTAL SERVICES



1120 SW Fifth Avenue, Room 1000, Portland, Oregon 97204 ■ Nick Fish, Commissioner ■ Michael Jordan, Director

December 2017

Attached is the Bureau of Environmental Services Capital Improvement Program (CIP) Annual Report for Fiscal Year 2016-17 (FY17). This report provides information on the status of major projects (those with a Fiscal Year budget of \$500,000 or more) and a summary of the entire FY17 CIP.

Much of the work in FY17 reflects the bureau's renewed focus on its aging sewage and stormwater collection system. A significant percentage of total CIP is for projects that address pipe condition and/or capacity. Several major projects support the bureau's requirement to comply with a variety of regulations including the Clean Water Act, the Safe Drinking Water Act, and the Endangered Species Act (ESA). At Columbia Boulevard Wastewater Treatment Plant, a number of projects are ongoing related to compliance with the National Pollutant Discharge Elimination System (NPDES) permit. Several projects in the Surface Water Program area are in response to ESA requirements. Other Surface Water projects address the 10-year nuisance flood and have an added benefit of reducing flood insurance requirements for residents and property owners.

The bureau continues to refine its Asset Management program, prioritizing investments based on risk. Risk considers the likelihood of an asset failing and the consequences of that failure. The goal is to re-invest "just in time" to get the most useful life out of any asset – but not too late so that we have a catastrophic failure.

Information for major projects includes the project scope, schedule, budget, key identifying information, expenditures by fiscal year, a Gantt chart view of the schedule, and a project location map. Some profiles include pictures of current project activities. A few projects, such as land acquisition, do not fit this format and are summarized in an alternative format more appropriate to the project type.

The report that follows provides information on the expenditures by program and comparisons of projected budgeted amounts to actual spending.

If you have any questions about this document, please contact Steve Hansen, CIP Program Manager, 503-823-7236.

Sincerely,

William F. Ryan  
Chief Engineer

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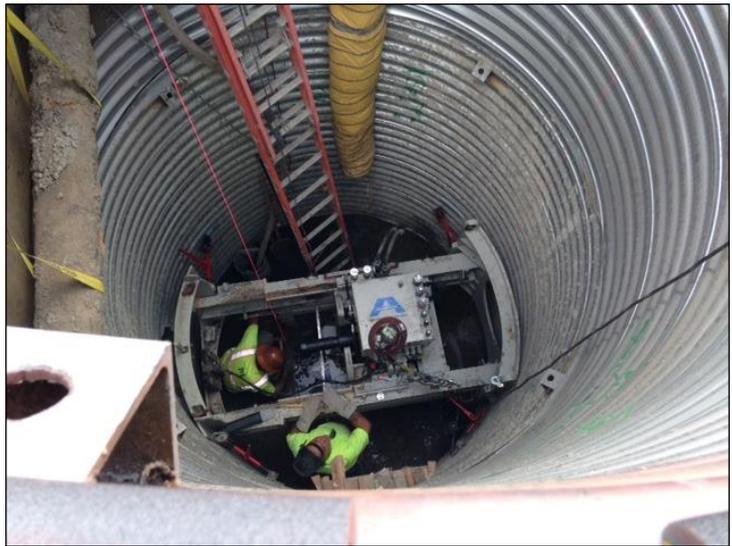
## Bureau Mission

The Bureau of Environmental Services (BES) serves the Portland community by protecting public health, water quality, and the environment. We provide sewage and stormwater collection and treatment services to accommodate Portland's current and future needs. We protect the quality of surface and ground waters and conduct activities that plan and promote healthy ecosystems in our watersheds.

## Capital Improvement Program (CIP) Highlights

The majority of FY 2016-17 expenditures were in the Maintenance and Reliability Program Area (62%). The major projects (by dollars expended) were in the pipe rehabilitation program. Much of the collection system pipe in the older, close-in neighborhoods is more than 100 years old. BES has a regular inspection program to determine pipe condition. Capital projects and operational activities rehabilitate or replace failing or high risk pipe.

The Sewage Treatment Program Area includes projects and programs that maintain and upgrade the two wastewater treatment plants (Columbia Boulevard and Tryon Creek) and nearly 100 pump stations located throughout the collection system. Expenditures in this program area represented 16% of the CIP. The largest projects in the program were the improvements at Schmeer and Skidmore pump stations. Several other pump station upgrades are currently in progress under the Pump Station Improvement Program. In the coming years, expenditures in this program area will increase significantly due to major investments at the two treatment plants.



*Maintenance on system pipe*



*Tryon Creek Wastewater Treatment Plant*





*SW 86<sup>th</sup> Avenue Pump Station*

The Surface Water Management Program Area addresses stormwater management, flood management, and overall watershed health including projects for compliance with the Endangered Species Act (primarily migratory fish). FY 2016-17 expenditures in this program area represented approximately 12% of the CIP.

The Systems Development Program Area is for projects that expand the bureau's systems or for projects in response to other development, generally streets and transit. In FY 2016-17, this program area represented 3% of expenditures.

## **Capital Programs and Major Projects**

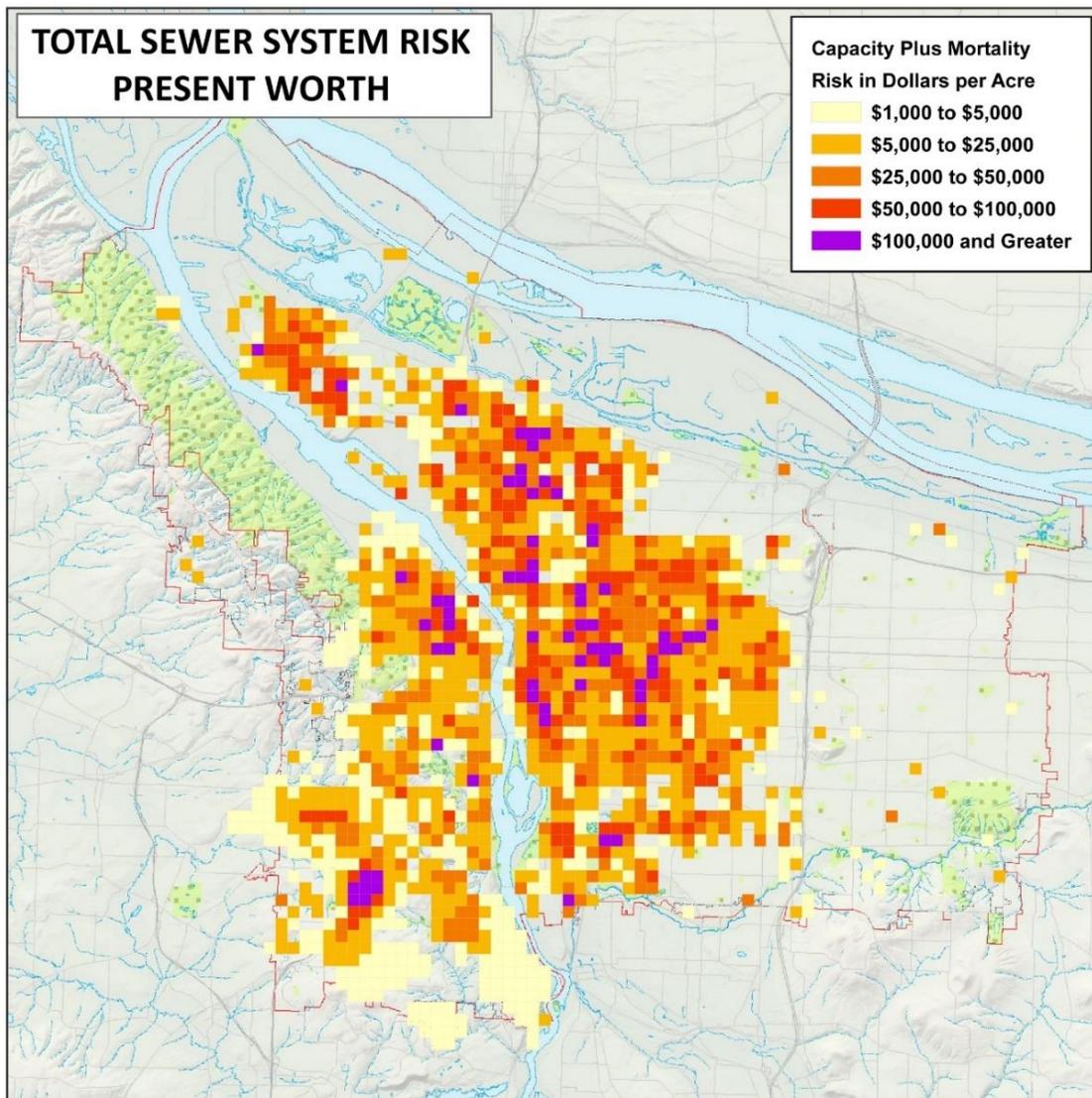
The CIP is developed through a multi-step process to identify, develop, review, score and rank projects for funding and scheduling priority. This process ensures that core needs of sewage, drainage, and surface water systems, and the communities they serve, are appropriately funded and scheduled. A bureau-wide stakeholder review team investigates, scores, and ranks all CIP projects in accordance with identified CIP criteria. Weighted criteria, scoring instructions, scheduling guidelines, estimating procedures, and project request forms are used to ensure each project is developed, reviewed, and scored based on detailed and consistent information. Projects are reviewed by managers in BES finance, program areas, operations, and engineering to ensure financial resources are expended effectively and appropriately. The CIP management team evaluates all the information from the process, meets with project and program managers to refine cost and schedule data, and submits a recommendation to the Bureau Director. The Bureau Director reviews the findings and approves the CIP plan,



which is then submitted as part of the bureau’s requested budget and approved through the annual city budget process.

## Maintenance and Reliability

This program funds systematic rehabilitation and replacement of the collection system to consistently and progressively reduce the total capital maintenance and reliability backlog. The 2012 BES Systems Plan identified high priority pipe rehabilitation and capacity projects. Pipe segments were prioritized based on risk: likelihood of failure multiplied by consequence of failure as summarized in the map below. Failure can be structural and/or capacity-related. Projects with the highest benefit/cost ratios are proposed for funding in the CIP.



## MAINTENANCE AND RELIABILITY MAJOR PROJECTS

**Maintenance Capital Contract:** This program is for relatively small collection system projects delivered through contracted construction. This work is distinguished from routine maintenance because the solutions require private contracting. Spot repair techniques used by city maintenance crews are insufficient. Due to the age of the system, structural failures, localized flooding, and/or hydraulic capacity problems are discovered with some frequency and need to be addressed quickly.

**Northwest Neighborhoods:** This series of projects will repair and upgrade sewers in this 4,000-acre basin where more than 50% of the area does not meet bureau's level of service.

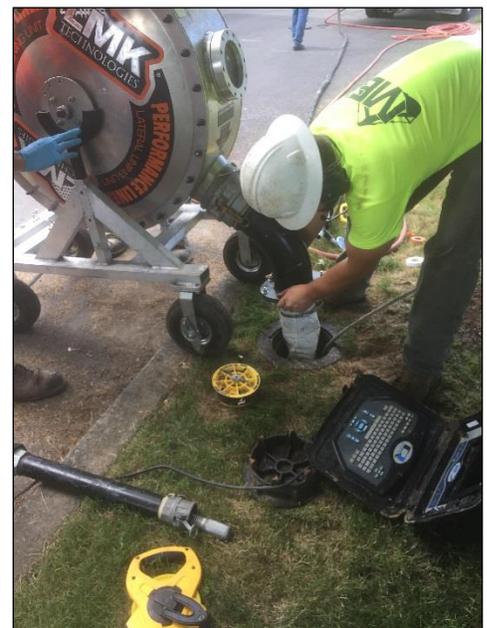
**Tabor to the River:** This multi-year, multi-project program addresses system deficiencies and will eliminate basement flooding for the 25-year storm event with cost-effective projects in the 1,500-acre Taggart D Basin. The projects include both traditional pipe solutions and green infrastructure (green streets and private property retrofits). A similar suite of projects is getting underway in the Alder Basin.

**Fanno Basin Improvements:** This group of projects addresses deficiencies in the Fanno Basin Pump Station and Pressure Line system. Remaining work includes completion of improvements to major trunk and pressure lines.

**Phases 2 and 3 Pipe Rehabilitation:** These two programs include structural rehabilitation of critical small diameter pipe (less than 36 inches) combined and sanitary sewers that are at the end of their economic life and have the highest consequence of failure. The pipes have been prioritized based on their risk so that pipes with the highest benefit (risk reduction) to cost ratio are addressed soonest. Recent inspections have added significantly to the number of pipe segments that need repair. Because the system is aging, it is anticipated to be an ongoing need. This work is also referred to as the Large Scale Sewer Rehab Program.

**Large Diameter Sewer Rehabilitation:** Large diameter pipes (over 36 inches) are the backbone of the collection system. This program is focused on nine of the large diameter sewers. Like the small diameter program, this program prioritizes projects to reduce risk. In addition to the program, there are two standalone large diameter projects: Southeast Interceptor and Taggart Outfall 30.

**Fanno and Burlingame Basins Infiltration and Inflow:** These programs will reduce infiltration and inflow of stormwater into sanitary sewers to reduce peak wet weather flows and the frequency of sanitary sewer overflows to streets, streams, or property.



*Lining a sewer clean-out, part of the Hollywood-Grant Park project*



## Sewage Treatment

This program funds projects at Columbia Boulevard Wastewater Treatment Plant (CBWTP) and Tryon Creek Wastewater Treatment Plant (TCWTP), as well as maintenance and repair/rehabilitation of the nearly 100 active pump stations located system-wide. The recently completed TCWTP Facilities Plan and preliminary draft of the CBWTP Facilities Plan have identified need for significant improvements at both plants for condition, capacity, and to meet permit requirements. Both plants are over 50 years old. Expenditures in this program are planned to increase significantly in the coming years.



*Wet weather primary clarifiers and digesters at the Columbia Boulevard Wastewater Treatment Plant*

### SEWAGE TREATMENT MAJOR PROJECTS

#### **Pump Station Improvement Program:**

This is an ongoing program to refurbish and upgrade pump stations to meet current codes, to operate more reliably, to meet increased demand, and to replace outdated equipment.

#### **Treatment Facilities — Rehabilitation and Modification:**

Both the CBWTP and TCWTP are major capital assets that require ongoing investment for repair, rehabilitation, and maintenance to protect the capital investment and enhance system reliability. This program is key to preventing violations of the city's National Pollutant Discharge Elimination System (NPDES) permit. Under the Clean Water Act it facilitates small capital projects to replace equipment and upgrade aging facilities.



*Vortex used to diffuse solids waste, Schmeer Pump Station*

**CBWTP Lagoon Reconstruction:** To better manage solids, this project is lining individual ponds and constructing additional dikes in the existing lagoon to create more separation.



## Surface Water Management

This program area is made up of projects from the new BES Stormwater System Plan including projects designed to systematically protect and restore surface water assets and ensure overall watershed health. BES prioritizes projects that protect the most critical existing watershed functions and/or preserve those locations at the greatest risk of damage based on goals and objectives in the Portland Watershed Management Plan (PWMP). The program includes projects aimed at meeting requirements of Portland's Underground Injection Controls (UIC) permit, Municipal Separate Storm Sewer System (MS4) permit, Total Maximum Daily Loads (TMDL), and Endangered Species Act (ESA) commitments. The bureau focuses efforts on comprehensive, multi-purpose solutions in the highest priority areas to address watershed health and public safety concerns associated with flooding, stream erosion, and urban pollution. The bureau pursues cost-sharing partnerships for projects to protect and restore critical watershed functions and occasionally provides matching funds for projects that are significantly funded by others.



*Channel filling on the Bybee-Glenwood Culvert Replacement Project*

### **SURFACE WATER MANAGEMENT MAJOR PROJECTS**

**Johnson Creek Restoration Program:** This program implements the recommendations of the 2001 Johnson Creek Restoration Plan. The plan identifies a number of projects to mitigate flooding, improve water quality, and enhance fish and wildlife habitat. This program includes willing seller land acquisition in four target areas. It also includes restoration of floodplain areas along Johnson Creek with the goals of increased flood storage, enhanced habitat for fish and



*Placing a culvert girder*



other wildlife, and improved water quality. A series of projects are included in the five-year CIP.

**Fanno/Tryon projects:** This group of projects implements the recommendations of the Fanno/Tryon Watershed Plan and addresses the city's water quality regulations (TMDL).

**Watershed Land Acquisition:** This capital program provides land acquisition to protect habitat and watershed health, replacement of culverts for fish passage, and construction of green streets for more sustainable stormwater management.

**Watershed Investment Program:** This program funds innovative watershed enhancements. Priority is given to projects that leverage other funding sources, demonstrate new technologies, and/or address multiple watershed health goals.



*Volunteers salvage mussels prior to construction at Crystal Springs Creek*

## Systems Development

In support of the City's Comprehensive Plan and Metro's 2040 plan, BES funds projects that are cost effective and incrementally expand the sewer collection system. In addition, the bureau funds sewer rehabilitation and/or relocation required for major public infrastructure projects managed by others, for example TriMet's Portland to Milwaukie Light Rail Project. This program also includes other capital projects that do not fall under the scope of other CIP program areas relating to sewer system expansion and privately funded development.

### SYSTEMS DEVELOPMENT MAJOR PROJECTS

**Party Sewers:** This program addresses shared private sewer lines. Over several years, the program will provide property owners direct access to a municipal sewer line or ensure that appropriate easements have been acquired.



# Summary Tables

**Table 1. Environmental Services Capital Program Status Report**

CIP Program	FY 2015-16 Adopted Budget	FY 2015-16 Revised Budget	FY 2015-16 Year-End Actuals	Variance \$	Variance %	FY 2016-17 Adopted Budget	Fall BMP Revised Budget	Variance \$	Variance %
	\$0	\$0	\$87,732	\$87,732		\$0	\$0	\$0	
Buildings	\$0	\$0	\$9,740	\$9,740		\$0	\$0	\$0	
Facilities	\$0	\$0	\$439	\$439		\$0	\$0	\$0	
Maintenance and Reliability	\$73,461,000	\$73,707,189	\$52,554,728	(\$21,152,461)	(29%)	\$72,084,000	\$72,065,871	(\$18,129)	(0%)
Sewage Treatment Systems	\$18,300,000	\$18,300,000	\$11,526,126	(\$6,773,874)	(37%)	\$17,336,000	\$17,336,000	\$0	0%
Support	\$0	\$0	\$755,167	\$755,167		\$0	\$0	\$0	
Surface Water Management	\$9,076,000	\$9,104,345	\$8,180,333	(\$924,012)	(10%)	\$13,628,000	\$13,628,000	\$0	0%
Systems Development	\$3,765,000	\$3,876,600	\$3,131,653	(\$744,947)	(19%)	\$6,095,000	\$6,095,000	\$0	0%
<b>Total</b>	<b>\$104,602,000</b>	<b>\$104,988,134</b>	<b>\$76,245,917</b>	<b>(\$28,742,217)</b>	<b>(27%)</b>	<b>\$109,143,000</b>	<b>\$109,124,871</b>	<b>(\$18,129)</b>	<b>(0%)</b>

\* Prior Year variances compare Year-End Actuals to Revised Budget  
 \*\* Current Year variances compare Revised Budget to Adopted Budget

**Prior Year Variance Description**

Main drivers of variance include:

**Maintenance and Reliability**

E10031—Phase 2 Pipe Rehab—Several projects have slower than anticipated construction start dates (\$14.5M)  
 E08401—Far North Nicolai—Redesign in response to neighborhood concerns resulted in slower than anticipated construction start (\$3.7M)

**Treatment**

E10033—CBWTP Biogas Utilization—Negotiations with NW Natural Gas have delayed project implementation (\$6.1M)

**Surface Water Management**

E10372—Culvert Replacement Phase 2—Bybee/Glenwood culvert delayed due to coordinating of construction by other agencies within the area (\$1.8M)

**Systems Development**

Various small projects are slightly under budget.

**Current Year Variance Description**

The only variance is in the Maintenance and Reliability program, reflecting savings from conversion of contract employees to full-time employees.



**Table 2. FY 2016-17 CIP Budget vs. Expenditures**

<b>Program</b>	<b>Revised Budget (dollars)</b>	<b>Expenditures thru 6.30.17 (dollars)</b>
<b>SEWAGE TREATMENT</b>		
Repair, Rehabilitation & Modification	4,000,000	1,981,580
CBWTP Lagoon Reconstruction	2,740,000	2,716,525
CBWTP Secondary Treatment Expansion	200,000	85,413
CBWTP Digester Improvements	270,000	60,271
CBWTP Biogas Utilization	950,000	513,779
CBWTP Outfall Diffuser	200,000	86,964
Alder Pump Station Upgrade	1,430,000	-196,334
CBWTP Dewatering Improvements	511,000	25,523
TCWTP Headworks Improvements	2,000,000	1,584,305
Pump Station Improvements Prgrm, FY15-19	4,000,000	5,740,617
TCWTP Secondary Process Improvements	780,000	10,109
CBWTP Organic Waste Receiving Facility	63,000	0
CBWTP Headworks Screens Improvements	98,000	25,475
Inverness Pump Station Force Main	94,000	14,250
<b>Sewage Treatment Program totals:</b>	<b>17,336,000</b>	<b>12,648,476</b>
<b>MAINT &amp; RELIABILITY</b>		
Maintenance Capital - Construction	240,000	548,204
NWN: Far North Nicolai	4,200,000	3,363,694
NWN: Slabtown Sewer Replacement	7,000,000	295,474
NWN: NW Thurman St Sewer	185,000	94,654
TGD: SE Powell Recon/Green Streets	3,700,000	1,952,979
TGD: SE Hawthorne Recon/Green Streets	2,200,000	1,530,242
Tryon SS Protection: 1A TCWTP to Hwy 43	1,000,000	-54,316
Fanno Basin System Improvements	1,100,000	3,300,300
SE Interceptor Rehabilitation	500,000	467,269
Phase 2 Pipe Rehabilitation	32,800,000	23,374,897
Wheeler WHE-04	515,000	535,647
Alder: Sunnyside North Recon/Green Streets	500,000	400,516
Alder: Sunnyside East Recon/Green Streets	2,200,000	180,213
Structural Rehab Taggart Outfall 30	1,630,000	545,972
Owner Controlled Insurance Program Phase 4	300,000	121,576
Burlingame Basin Inflow and Infiltration	1,100,000	289,239
Combined Sewer Overflow Pressure Relief	750,000	272,619
Pipe Rehabilitation Phase 3	7,784,000	7,616,352
Large Diameter Sewer Rehabilitation	600,000	2,399,144
Capital Maintenance - Non-Process Facilities	680,000	209,141
Maintenance Capital - Contract, FY15-19	3,000,000	2,809,711
Small Urgent Capacity Projects	100,000	9,042
<b>Maint &amp; Reliability Program totals:</b>	<b>72,084,000</b>	<b>50,262,569</b>



**SURFACE WATER MGMT**

JC: River Mile 9.6 Floodplain Restoration	200,000	66,447
JC: Springwater Wetland	128,000	63,914
JC: Brunkow	100,000	5,342
JC: Oxbow	300,000	68,486
FT: Beaverton Hillsdale Hwy	500,000	120,567
FT: SW 45th Ave Culvert	1,115,000	220,917
FT: Jackson Middle School Creek Daylight	1,136,000	-129,971
FT: Boones Ferry Culvert	500,000	295,960
Oaks Bottom Culvert Replacement	200,000	1,805,853
Watershed Investment Program	1,500,000	396,013
Green Infrastructure: Land Acquisition	500,000	1,239,939
JC: Willing Seller Phase 2	500,000	1,367,952
Culvert Replacement Phase 2	2,000,000	3,019,507
FT: Drainage Shoulder Improvement	102,000	0
Watershed Land Acquisition Program	1,000,000	0
Stephens Creek Phase 1 Improvements	822,000	168,701
Columbia Slough Outfalls	3,025,000	314,992
<b>Surface Water Mgmt Program totals:</b>	<b>13,628,000</b>	<b>9,024,619</b>

**SYSTEMS DEVELOPMENT**

Drainage Improvement	250,000	31,116
PBOT Interagency Reimbursement	350,000	-129
Permit Reimbursement	250,000	83,051
Party Sewers	2,000,000	2,813,639
Public Works Permit Projects	500,000	
Sewer Easements on Existing Sewers	50,000	0
SW Terwilliger Blvd Sanitary Sewer Extension	2,595,000	4,633,646
Sewer Extensions for High Risk Septic	100,000	93,616
<b>Systems Development Program totals:</b>	<b>6,095,000</b>	<b>7,654,939</b>

<b>Totals:</b>	<b>109,143,000</b>	<b>79,590,602</b>
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Table 3. FY 2016-17 Ongoing CIP Programs							
SAP Code	Name	FY 16-17 Plan (Year 1)	FY 17-18 Plan (Year 2)	FY 18-19 Plan (Year 3)	FY 19-20 Plan (Year 4)	FY 20-21 Plan (Year 5)	FY 21-22 Plan (Year 6)
E04661	<b>Pump Station Improvements:</b> Program to ensure the 97 pump stations are maintained in accordance with a scheduled plan to ensure pump station reliability.	4,000,000	4,000,000	4,000,000	4,000,000	5,000,000	5,000,000
E04861	<b>Maintenance Capital - Construction:</b> Rehab of existing sewer pipes in response to urgent but small-scale structural or hydraulic capacity deficiencies.	240,000	240,000	240,000	240,000	240,000	250,000
E04863	<b>Maintenance Capital - Contract:</b> Contracted repair and reconstruction of pipelines in the collection system approaching end of service life. Projects are prioritized based on the need to protect public health / property.	3,000,000	3,000,000	3,000,000	3,500,000	4,000,000	4,000,000
E04891	<b>Treatment Plants Rehab; Repair &amp; Modifications:</b> Program for reinvestment in the treatment facilities to protect capital investment and enhance system reliability. It provides best management practice to prevent potential violations of NPDES permit.	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000	4,000,000
E04894	<b>Drainage Improvement:</b> For stormwater improvements in association with LID or Public Work or urgent stormwater system rehab.	250,000	250,000	250,000	250,000	250,000	250,000
E04895	<b>PBOT Interagency Reimbursement -</b> BES design services for transportation projects.	350,000	350,000	350,000	350,000	350,000	350,000
E05219	<b>Permit Reimbursement:</b> Program to reimburse a developer for making public sewer available to another property per City Code Title 17.	250,000	45,000	45,000	45,000	45,000	45,000
E08748	<b>Party Sewers:</b> Program to address non-conforming sewers.	2,000,000	1,795,000	1,000,000	1,000,000	1,000,000	1,000,000
E08782	<b>Watershed Investment Fund:</b> Program for innovative watershed enhancements. Priority given to projects that leverage other funding sources, demonstrate new technologies, and/or address multiple watershed health goals.	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000
E10263	<b>Sewer Easements on Existing Sewers:</b> To purchase legal easements for sewers located on private property.	50,000	50,000	50,000	50,000	50,000	50,000
E10491	<b>Sewer Extensions for High Risk Septic Systems:</b> For construction of small sanitary sewer extension projects to developed residential properties with septic systems.	100,000	100,000	1,000,000	100,000	100,000	1,000,000
E10594	<b>Capital Maintenance - Non-process Facilities:</b> Capital maintenance of BES-owned non-process facilities including the Water Pollution Control Lab, Materials Testing Lab, administration buildings at the Treatment Plants, and downtown office space.	680,000	975,000	1,500,000	2,000,000	500,000	1,000,000



## Glossary for Project Profiles

Profile Element	Definition and Comments
<b>Part A. Scope</b>	
Description/Purpose:	Project scope or assets. What is the project?
Rationale: Plans/Studies & Specifics	Reason for project. Some projects have had plans, studies, analyses, Council or authorization for this project. Some specifics from those references to justify the project approval. Describes “why” we have started the project.
Major changes since start:	Summarize approved scope, schedule, and/or budget changes, life-to-date. This can be blank if there have been no changes.
Other info/ Coordination:	Include information such as agency coordination, grant funding, constraints or requirements on the project delivery.
<b>Part B. Schedule</b>	
Project opened:	Date the project number was assigned.
Initial planned comp:	This was the estimated completion date when the project number was assigned.
Current planned comp:	This is the current completion date as known on July 2016.
<b>Part C. Cost Plan</b>	
FY 16-17 plan:	Approved project budget.
FY 17-18 plan:	Consistent with the FY 17-18 Approved Budget.
Overall rate impact %:	Calculated % for CIP published July 2011. Formula: Project total ÷ \$35,000,000 ÷ 100.
Debt service estimate:	Estimated annual debt service for project. Calculation based on 20 years term at 7.1% financing rate.
Operations & Maintenance (O & M) Impact:	Dollars/year impact on operating budget.
<b>Part D. Identification</b>	
SAP #:	SAP capital project number for the project.
Program:	CIP program.
<b>Part E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)</b>	
Current Budget	Same as FY 16-17 plan.
FY 16-17 Expenditures	From program management data base as of July 25, 2016.
FY 17-18 Plan:	FY 17-18 Approved Budget.
FY 18-19 Plan:	FY 17-18 Approved Budget.
FY 19-20 Plan:	FY 17-18 Approved Budget.
FY 20-21 Plan:	FY 17-18 Approved Budget.
FY 21-22 Plan:	FY 17-18 Approved Budget.



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**Part F. Detailed Schedule with Gantt Chart (projects only)**

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Phase	Applicable phase of project management.
%	Percentage complete as of end of FY 16-17.
Dur	Length of time spent (or scheduled to be spent) in phase.
Finish	Confirmed end date OR projected end date.

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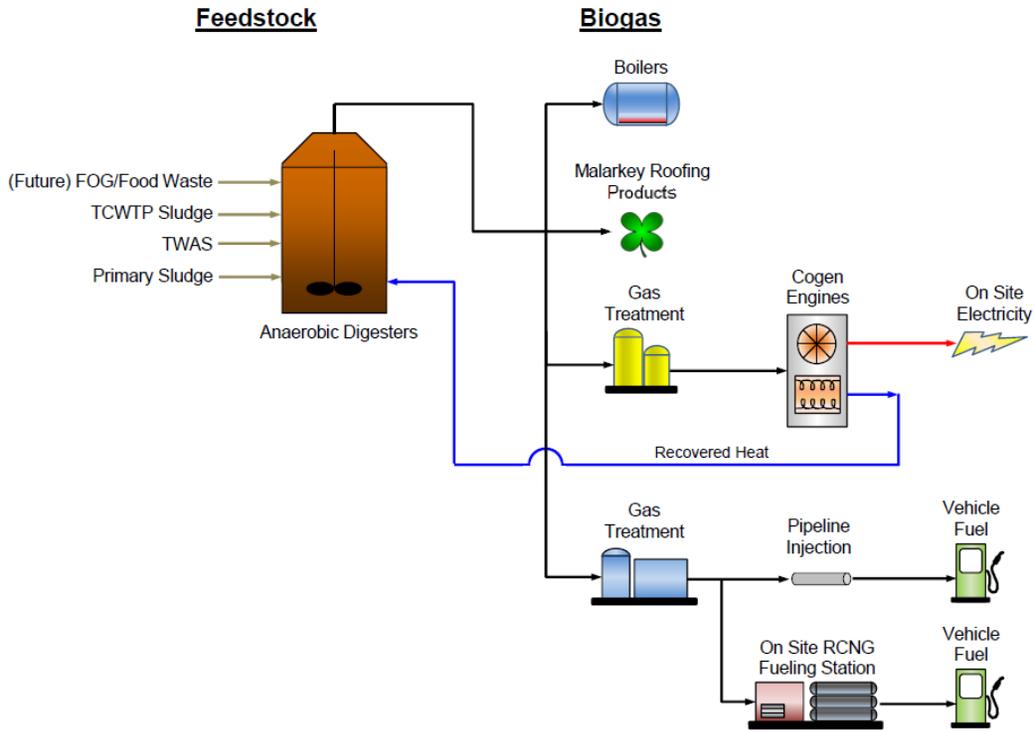


## Major Project Profile Index

<b>CIP Program</b>	<b>SAP Code</b>	<b>Project</b>	<b>Project Total (\$)</b>	<b>Phase</b>	<b>Page</b>
Sewage Treatment	E10033	CBWTP Biogas Utilization	10,899,341	Design	16
Sewage Treatment	E10582	TCWTP Headworks Improvements	38,522,427	Pre-design	18
Sewage Treatment	E10657	PS Improvement Program, FY15-19	24,499,953	Various	20
Sewage Treatment	E10694	TCWTP Secondary Process Improvements	5,960,000	Pre-design	22
Sewage Treatment	E08401	Far North Nicolai	5,941,000	Construction	24
Maintenance & Reliability	E10663	Slabtown Sewer Replacement	11,150,000	Advertise-NTP	26
Maintenance & Reliability	E08659	SE Powell Recon & GRST (TGD-01,02,06)	5,598,180	Startup/Closeout	28
Maintenance & Reliability	E08668	SE Hawthorne-Salmon Recon GRST	6,205,000	Startup/Closeout	30
Maintenance & Reliability	E10251	Tryon SS Protection: 1A TCWTP to Hwy 43	4,310,000	Design	32
Maintenance & Reliability	E10219	Wheeler WHE-04	9,931,000	Construction	34
Maintenance & Reliability	E10370	Sunnyside East Recon/GRST	4,389,900	Design	36
Maintenance & Reliability	E10220	Structural Rehabilitation Taggart OF 30	14,805,000	Design	38
Maintenance & Reliability	E10490	CSO Pressure Relief	2,331,713	Startup/Closeout	40
Maintenance & Reliability	E10656	Maintenance Capital - Contract, FY15-19	8,790,628	Various	42
Maintenance & Reliability	E08676	SW 45th Ave Culvert	1,701,534	Construction	44
Maintenance & Reliability	E10413	SW Terwilliger Blvd & Powers Ct SSwr Ext	3,420,218	Construction	46



## Future Biogas Distribution



# CBWTP Biogas Utilization

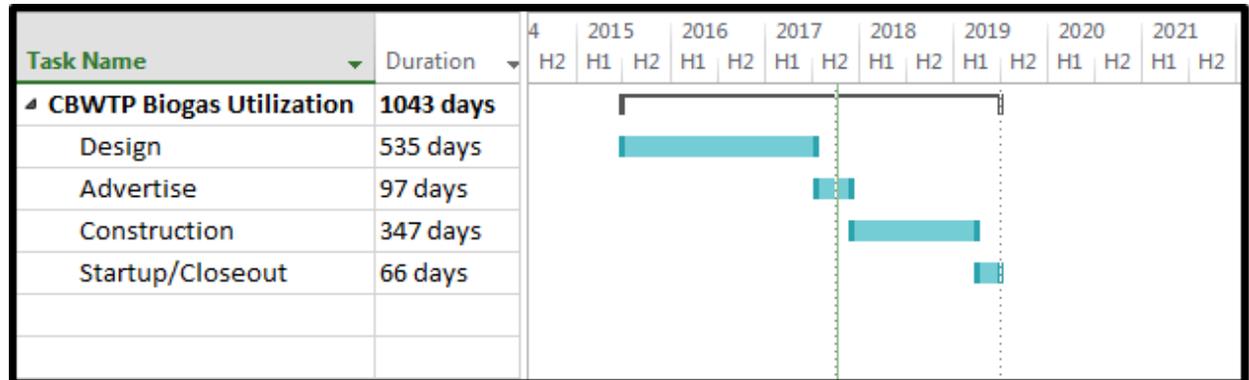
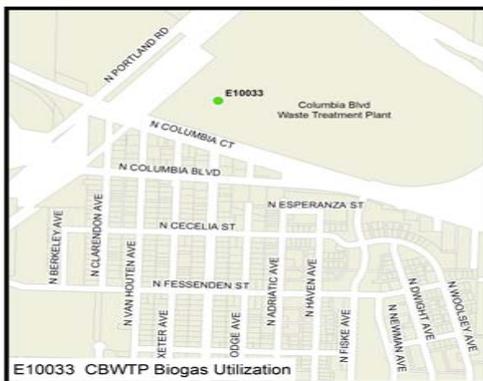
A. Scope	
Original Description / Purpose:	Design and construct a gas treatment facility to treat available biogas for pipeline injection. The project also includes design and construction of an onsite renewable natural gas (RNG) fueling station for internal fleet.
Rationale: Plans/Studies & Specifics	Based on the alternative analysis recommendation and approval, the project scope was changed to gas treatment for vehicle use. The project will include design and construction of gas treatment, compression, storage, and fueling facilities, as well as consumption and/or sale of the product (vehicle fuel).
Major changes since start:	Project was initially proposed as an expansion to the on-site co-generation facility.
Other info / Coordination:	Working with Northwest Natural Gas.

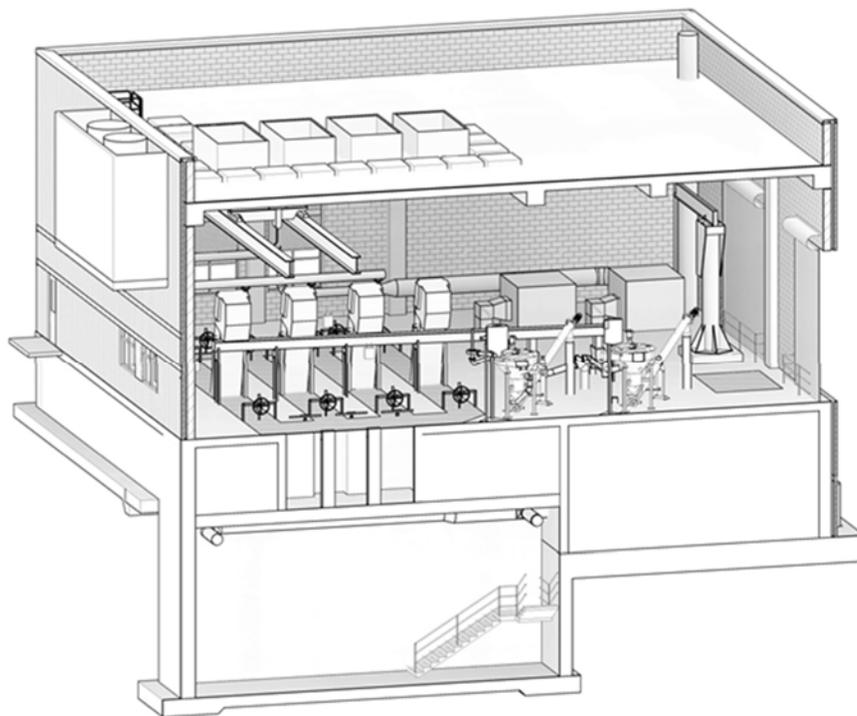
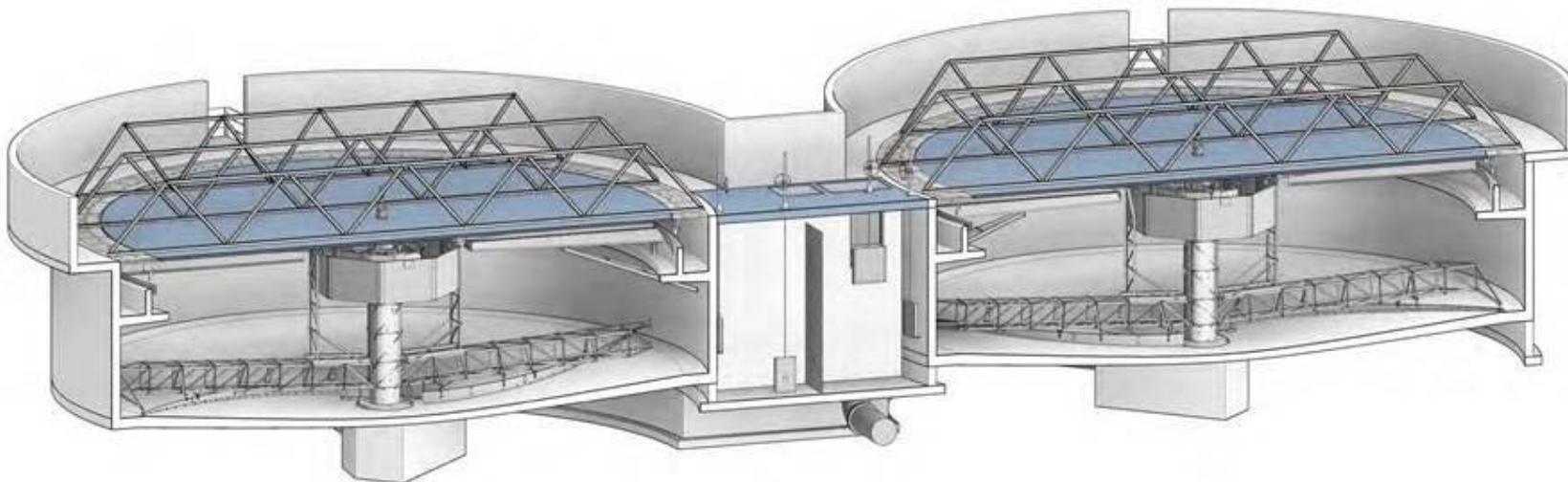
B. Schedule	
Project Opened:	05.20.2016
Initial planned comp:	03.05.2021
Current planned comp:	03.05.2021

C. Cost Plan	
FY16-17 Plan:	\$10,899,341
FY17-18 Plan:	\$4,700,000
Debt Service Est:	\$741,155
Bill Impact:	0.23%
O&M Impact:	\$0

D. Identification	
SAP #:	E10033
Program:	T02 Sewage Treatment

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)									
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22	
Land Acquisition	\$0		\$0						
Predesign	\$455,000		\$1,688						
Design	\$821,166		\$506,442						
Advertising/NTP	\$59,900		\$0						
Construction	\$9,358,109		\$5,649						
Statup/Closeout	\$205,166		\$0						
<b>Sum</b>	<b>\$10,899,341</b>	<b>\$1,618,112</b>	<b>\$513,779</b>	<b>\$4,700,000</b>	<b>\$4,300,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>





# TCWTP Headworks Improvements

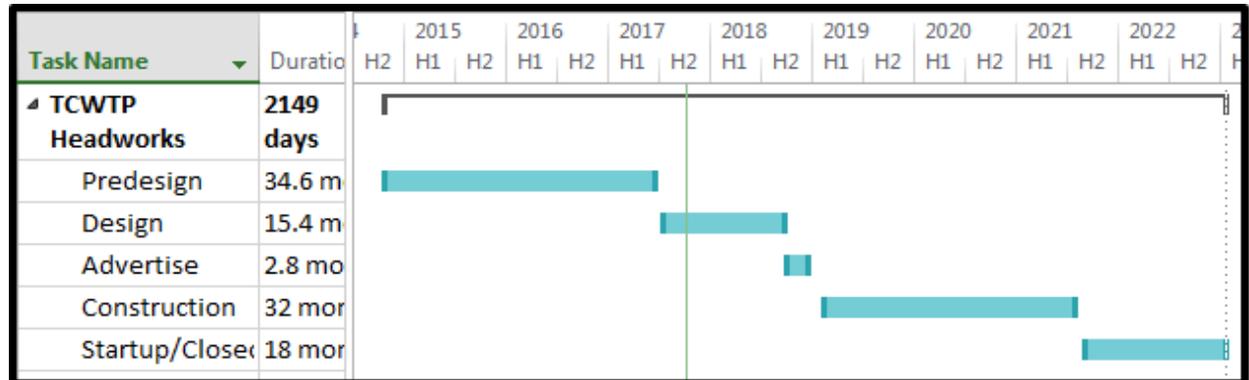
A. Scope	
Original Description / Purpose:	TCWTP improvements are driven by a need to bring the headworks process up to current treatment and efficiency standards, increase peak flow hydraulic capacity, community needs, and an opportunity to improve the plant hydraulic profile.
Rationale: Plans/Studies & Specifics	The TCWTP Facilities Plan is the primary blueprint for updating the plant's infrastructure and bring it up to acceptable operating standards.
Major changes since start:	In very early design phase.
Other info / Coordination:	Project is jointly funded by Lake Oswego.

B. Schedule	
Project Opened:	08.19.2014
Initial planned comp:	05.28.2024
Current planned comp:	07.26.2023

C. Cost Plan	
FY16-17 Plan:	\$38,522,427
FY17-18 Plan:	\$6,000,000
Debt Service Est:	\$2,619,525
Bill Impact:	0.82%
O&M Impact:	\$0

D. Identification	
SAP #:	E10582
Program:	T02 Sewage Treatment

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$3,885,490		\$0					
Predesign	\$2,578,443		\$1,220,867					
Design	\$3,729,919		\$272,062					
Advertising/NTP	\$13,402		\$0					
Construction	\$28,214,542		\$91,376					
Startup/Closeout	\$100,631		\$0					
<b>Sum</b>	<b>\$38,522,427</b>	<b>\$1,785,441</b>	<b>\$1,584,305</b>	<b>\$6,000,000</b>	<b>\$18,000,000</b>	<b>\$27,000,000</b>	<b>\$7,000,000</b>	<b>\$3,800,000</b>





# PS Improvement Program, FY15-19

A. Scope	
Original Description / Purpose:	Program to refurbish or upgrade pump stations not in compliance with current codes, not operating reliably, in need improvements because of growth in the receiving sewage basin, and/or are over 20 years old with out-of-date equipment. The Pump Station Improvement Plan guides the selection of projects. This program was developed to ensure the 97 pump stations are maintained in accordance with a scheduled plan to ensure pump station reliability.
Rationale: Plans/Studies & Specifics	This is a continuing program to refurbish or upgrade pump stations that are not in compliance with present codes, are not operating in a reliable manner, need improvements because of growth in the receiving sewage basin, and/or are over 20 years old with out-of-date equipment. This program is necessary to increase pump station reliability, reduce or avoid increases in maintenance costs, and to avoid failures that will cause sewage to bypass to metropolitan area waterways.
Major changes since start:	
Other info / Coordination:	

B. Schedule	
Project Opened:	03.04.2008
Initial planned comp:	06.08.20.26
Current planned comp:	06.08.20.26

C. Cost Plan	
FY16-17 Plan:	\$24,499,953
FY17-18 Plan:	\$4,000,000
Debt Service Est:	\$1,665,997
Bill Impact:	0.52%
O&M Impact:	\$125,000

D. Identification	
SAP #:	E10657
Program:	T02 Sewage Treatment

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$401,800		\$12,211					
Predesign	\$1,483,603		\$389,145					
Design	\$3,767,093		\$492,066					
Advertising/NTP	\$160,834		\$3,733					
Construction	\$18,357,287		\$4,829,931					
Statup/Closeout	\$329,336		\$13,530					
Sum	\$24,499,953	\$13,435,201	\$5,740,617	\$4,000,000	\$4,000,000	\$4,000,000	\$5,000,000	\$5,000,000





# TCWTP Secondary Process Improvements

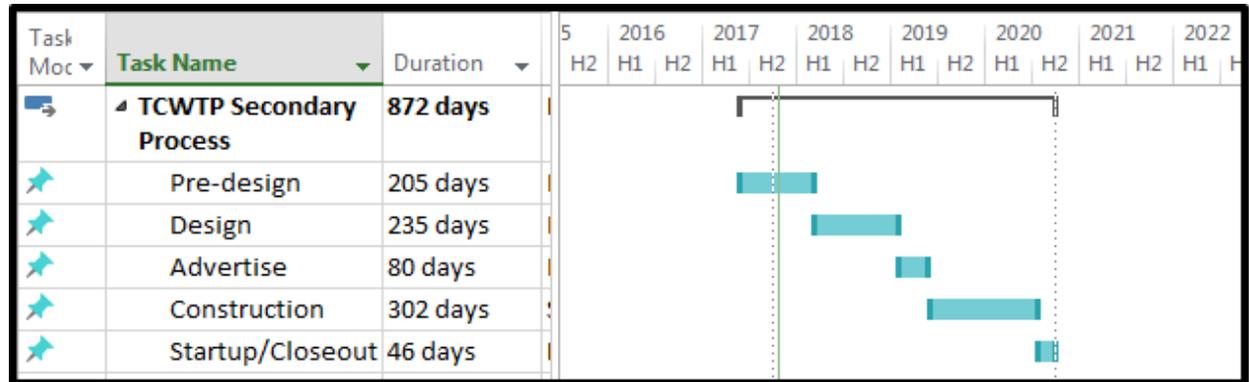
A. Scope	
Original Description / Purpose:	Improve TCWTP secondary process treatment performance and reliability to ensure that current NPDES permit requirements and future Willamette Basin water quality standards are met. The timing of this project is dependent upon other improvements under E10582.
Rationale: Plans/Studies & Specifics	The secondary process was last improved in 2004 with addition of fine bubble diffusers, high efficiency aeration blowers, addition of swing selector zones, and modification of the basins from four complete mix basins to two trains of two basins with manual gates for step feed operation.
Major changes since start:	With delays project construction window overlaps E10582 Headworks project. Investigating potential for using the CMGC contract as the vehicle for procuring construction instead.
Other info / Coordination:	

B. Schedule	
Project Opened:	09.01.2015
Initial planned comp:	09.29.2022
Current planned comp:	09.28.2020

C. Cost Plan	
FY16-17 Plan:	\$5,960,000
FY17-18 Plan:	\$820,000
Debt Service Est:	\$405,280
Bill Impact:	0.13%
O&M Impact:	\$0

D. Identification	
SAP #:	E10694
Program:	T02 Sewage Treatment

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$0					
Predesign	\$210,000		\$10,109					
Design	\$820,000		\$0					
Advertising/NTP	\$20,000		\$0					
Construction	\$4,813,000		\$0					
Statup/Closeout	\$97,000		\$0					
Sum	\$5,960,000	\$41,227	\$10,109	\$820,000	\$2,500,000	\$2,400,000	\$0	\$0





# Far North Nicolai

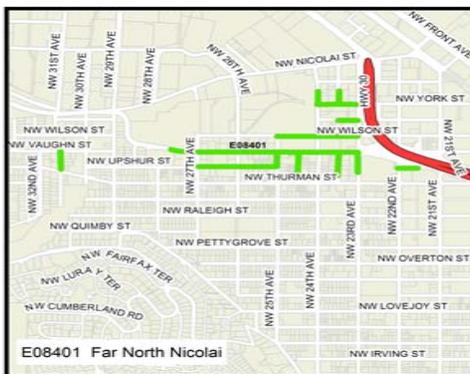
A. Scope	
Original Description / Purpose:	Construct approximately 8,000 linear feet of pipe ranging in size from 8" to 30" to relieve basement sewer back ups, address pipe conditions, and alleviate hydraulic capacity problems. Located in NW Portland, the project area is generally bound by Reed, Hwy 30, Thurman, and 28th.
Rationale: Plans/Studies & Specifics	This project was a recommendation from the Northwest Neighborhoods Combined Sewer Relief Predesign. Increased hydraulic capacity will eliminate basement flooding from the 25-year storm.
Major changes since start:	Original scope reduced and budget lowered to \$6,000,000. Construction is underway with substantial completion scheduled for July 2017.
Other info / Coordination:	Extensive neighborhood involvement resulted in modifying scope to reduce the amount of night work required.

B. Schedule	
Project Opened:	01.25.2016
Initial planned comp:	07.22.2019
Current planned comp:	07.22.2019

C. Cost Plan	
FY16-17 Plan:	\$5,941,000
FY17-18 Plan:	\$0
Debt Service Est:	\$403,988
Bill Impact:	0.13%
O&M Impact:	\$0

D. Identification	
SAP #:	E08401
Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$0					
Predesign	\$0		\$0					
Design	\$710,000		(\$12,126)					
Advertising/NTP	\$20,000		\$0					
Construction	\$5,177,000		\$3,375,817					
Statup/Closeout	\$34,000		\$2					
<b>Sum</b>	<b>\$5,941,000</b>	<b>\$4,820,046</b>	<b>\$3,363,694</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



Task Name	Duration	2015		2016		2017		2018		2019		2020		2021	
		H2	H1	H2											
Far North Nicolai	911 days														
Advertise	94 days														
Construction	317 days														
Startup/Closeout	500 days														





# Slabtown Sewer Replacement

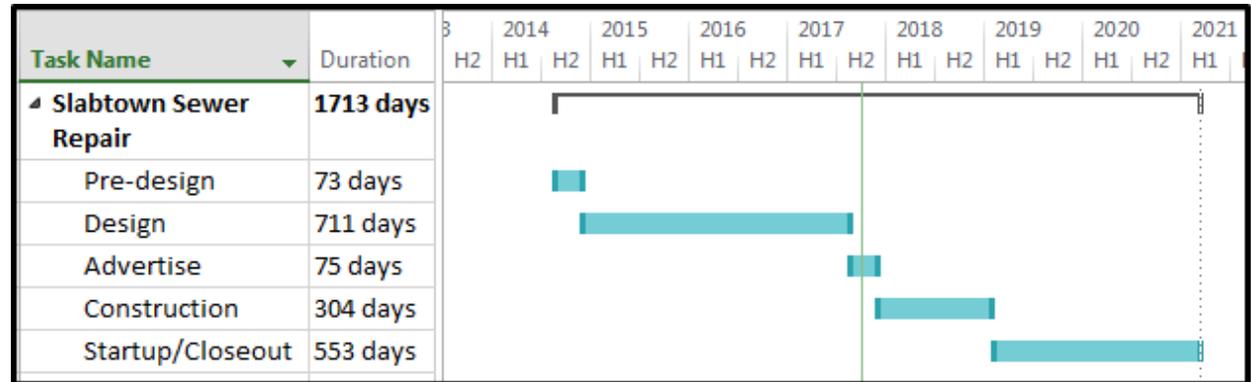
A. Scope	
Original Description / Purpose:	Project was reconfigured from two previously planned projects to address the Conway Master Plan redevelopment area in NW Portland. Pipes in this area are typically 100-year old clay and under capacity for the planned development. The project will increase pipe capacity to address risk of sewer backups to 67 properties between NW 13th and 21st and Pettygrove and Savier.
Rationale: Plans/Studies & Specifics	Addresses sewer capacity concerns for existing combined sewers in northwest Portland. The project area extends from NW 13th to 21st Avenue and NW Pettygrove to Savier. 67 properties in this area exhibit high risk of basement sewer backup conditions. Improvements include the replacement of existing pipes with those with diameters ranging from 12 to 36 inches. This work will also address the elevated structural risk of failure for these same pipes. This project scope was formed from portions of the original North Tanner (E08402) and Fremont (E08403) projects.
Major changes since start:	
Other info / Coordination:	

B. Schedule	
Project Opened:	07.01.2014
Initial planned comp:	03.17.2021
Current planned comp:	03.17.2021

C. Cost Plan	
FY16-17 Plan:	\$11,150,000
FY17-18 Plan:	\$8,000,000
Debt Service Est:	\$758,200
Bill Impact:	0.24%
O&M Impact:	\$0

D. Identification	
SAP #:	E10663
Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$799					
Predesign	\$15,000		\$132					
Design	\$990,000		\$288,791					
Advertising/NTP	\$20,000		\$2,137					
Construction	\$10,050,000		\$3,616					
Startup/Closeout	\$75,000		\$0					
<b>Sum</b>	<b>\$11,150,000</b>	<b>\$877,268</b>	<b>\$295,474</b>	<b>\$8,000,000</b>	<b>\$2,000,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>





# SE Powell Recon & GRST (TGD-01,02,06)

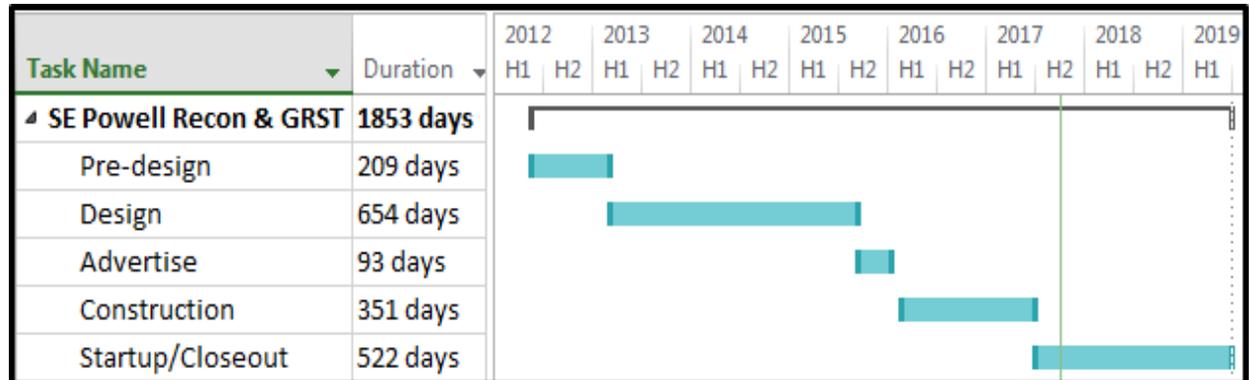
A. Scope	
Original Description / Purpose:	Reconstruct approximately 5,300 linear feet of pipe including 1,790 linear feet in poor condition and 3,130 linear feet with inadequate capacity, and 365 linear feet of sewer extensions. Also construct 50 vegetated stormwater infiltration facilities. Located in SE Portland, there are two project areas generally bound: (1) between Taggart & 7th and Rhone & 15th and (2) between 24th & 25th and Cora & Reynolds.
Rationale: Plans/Studies & Specifics	Merges TGD-01, TGD-02, and TGA-06. It will construct around 5,300 linear feet of proposed mainline pipe work from 8" to 24". Approximately 1,790 linear feet is condition-based only and 3,130 linear feet is capacity-related, with 365 linear feet of sewer extension main.
Major changes since start:	Construction is underway with substantial completion scheduled for June 2017.
Other info / Coordination:	

B. Schedule	
Project Opened:	04.23.2012
Initial planned comp:	07.01.2019
Current planned comp:	07.01.2019

C. Cost Plan	
FY16-17 Plan:	\$5,598,180
FY17-18 Plan:	\$0
Debt Service Est:	\$380,676
Bill Impact:	0.12%
O&M Impact:	\$5,000

D. Identification	
SAP #:	E08659
Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$0					
Pre-design	\$0		\$0					
Design	\$910,000		(\$8,347)					
Advertising/NTP	\$23,000		\$14,774					
Construction	\$4,635,180		\$1,908,385					
Statup/Closeout	\$30,000		\$38,167					
<b>Sum</b>	<b>\$5,598,180</b>	<b>\$4,827,666</b>	<b>\$1,952,979</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>





# SE Hawthorne-Salmon Recon GRST

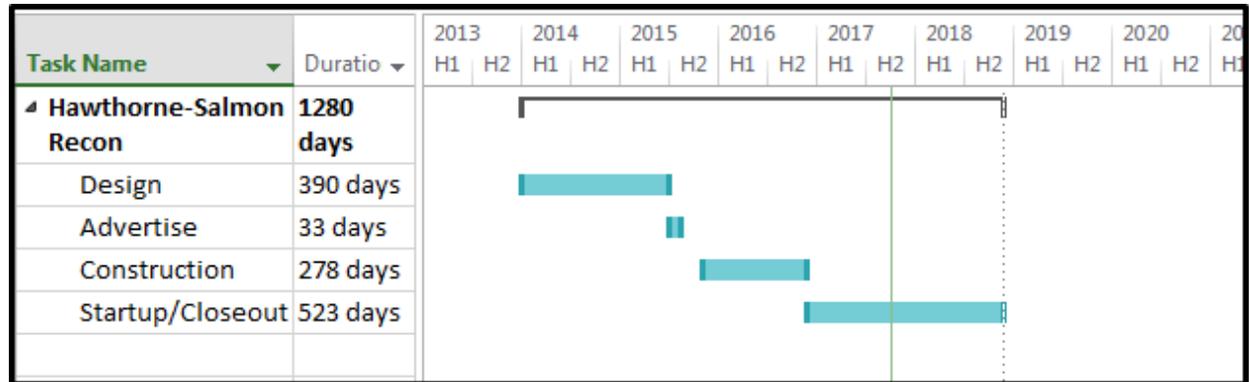
A. Scope	
Original Description / Purpose:	Project combines two previously planned projects into a single construction project. Located in SE Portland, one area is generally bound by Madison, 41st, Clay, and 50th; the other by Yamhill, 46th, Main, and 49th.
Rationale: Plans/Studies & Specifics	This project represents two areas identified from the Integrated Taggart D Pre-design Report that address sewer capacity, structural pipe integrity, and watershed health issues in this basin. Together the projects will rehabilitate 4,813 linear feet of pipe, install 28 stormwater facilities, plant 277 trees, and relieve basement backup risk to 111 parcels and street flooding at 21 manholes.
Major changes since start:	Construction is underway with substantial completion scheduled for November 2016.
Other info / Coordination:	

B. Schedule	
Project Opened:	01.02.2014
Initial planned comp:	11.28.2018
Current planned comp:	11.28.2018

C. Cost Plan	
FY16-17 Plan:	\$6,205,000
FY17-18 Plan:	\$0
Debt Service Est:	\$421,940
Bill Impact:	0.13%
O&M Impact:	\$0

D. Identification	
SAP #:	E08668
Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$0					
Predesign	\$0		\$0					
Design	\$1,155,000		\$1,701					
Advertising/NTP	\$10,000		\$0					
Construction	\$4,707,000		\$1,476,996					
Startup/Closeout	\$333,000		\$51,545					
<b>Sum</b>	<b>\$6,205,000</b>	<b>\$6,434,253</b>	<b>\$1,530,242</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>





# Tryon SS Protection: 1A TCWTP to Hwy 43

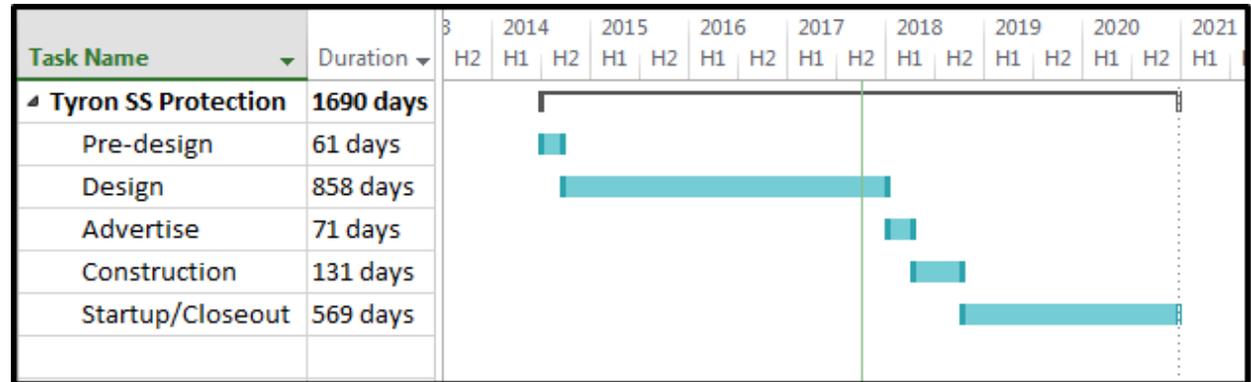
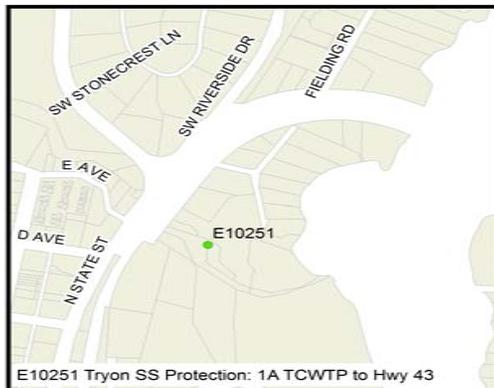
A. Scope	
Original Description / Purpose:	Upgrade the Tryon Creek sewer from the Tryon Creek wastewater treatment plant approximately 1,867 feet upstream into Tryon Creek State Park. Based on the condition of the pipeline, support piers, and stream channel, upgrades will be made and the creek restored.
Rationale: Plans/Studies & Specifics	Tryon Sanitary Sewer enters the Tryon Creek Wastewater Treatment Plant as an elevated 30" sewer supported on piers. These piers are not designed to withstand certain seismic events and are therefore at risk for failure during a large seismic event, posing a potential risk to adjacent property and Tryon Creek.
Major changes since start:	Significant increases in scope of the project to include the segment of pipe from Highway 43 to TCWTP. Most of the sewer is above grade. The increased scope also includes seismic upgrade. Project is currently on hold pending additional evaluation as pa
Other info / Coordination:	The City of Lake Oswego also has an interceptor sewer entering the plant, a portion of which parallels the City of Portland's Tryon sewer. The City of Lake Oswego is currently working to retrofit their elevated sewer. Their design was completed in 2012.

B. Schedule	
Project Opened:	07.01.2010
Initial planned comp:	12.21.2020
Current planned comp:	12.21.2020

C. Cost Plan	
FY16-17 Plan:	\$4,310,000
FY17-18 Plan:	\$100,000
Debt Service Est:	\$293,080
Bill Impact:	0.09%
O&M Impact:	\$0

D. Identification	
SAP #:	E10251
Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$0					
Predesign	\$340,000		\$0					
Design	\$1,180,000		(\$54,316)					
Advertising/NTP	\$10,000		\$0					
Construction	\$2,775,000		\$0					
Statup/Closeout	\$5,000		\$0					
<b>Sum</b>	<b>\$4,310,000</b>	<b>\$932,849</b>	<b>(\$54,316)</b>	<b>\$100,000</b>	<b>\$1,600,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>





# Wheeler WHE-04

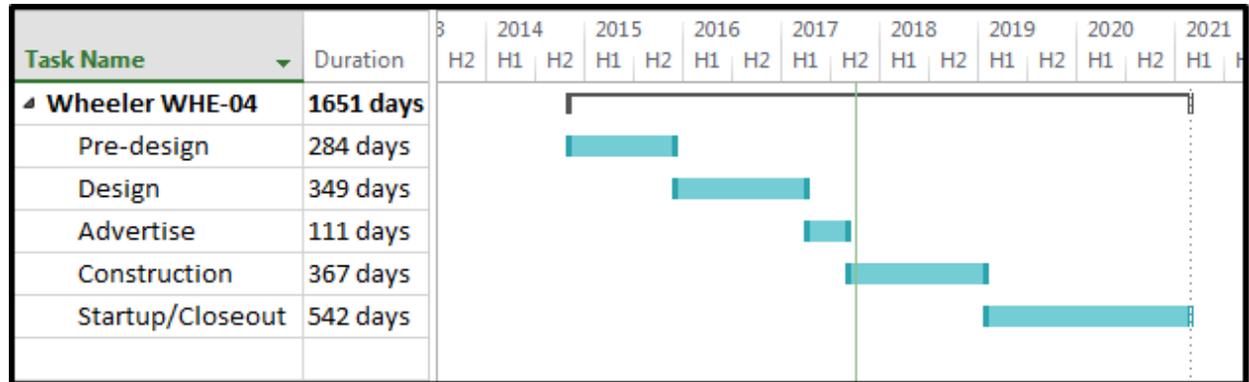
A. Scope	
Original Description / Purpose:	Construct improvements to relieve street flooding and basement sewer backups in an area generally bound by NE Brazee, NE 7th, NE San Rafael, and the Willamette River. This project is the most downstream project in the Wheeler basin and is not hydraulically dependent upon any other project. The WHE_04 project will reduce the risk of basement sewer backups to 247 properties. The project has a positive cost to benefit ratio (CBR) = 1.38.
Rationale: Plans/Studies & Specifics	This project is within the Wheeler Basin in N/NE Portland and will upsize approximately 12,000 linear feet of pipe that does not have adequate hydraulic capacity. There are no poor condition pipe segments in the project area that require replacement and there are no proposed stormwater controls.
Major changes since start:	Working on revised Water Relocation Plans. The project was bid with a 90% review set of plans. A Change Order will be issued to issue revised plans when received from the Water Bureau.
Other info / Coordination:	

B. Schedule	
Project Opened:	10.15.2013
Initial planned comp:	03.01.2021
Current planned comp:	03.01.2021

C. Cost Plan	
FY16-17 Plan:	\$9,931,000
FY17-18 Plan:	\$6,000,000
Debt Service Est:	\$675,308
Bill Impact:	0.21%
O&M Impact:	\$0

D. Identification	
SAP #:	E10219
Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$0					
Predesign	\$714,000		\$7,140					
Design	\$929,000		\$520,200					
Advertising/NTP	\$0		\$8,307					
Construction	\$8,216,000		\$0					
Startup/Closeout	\$72,000		\$0					
<b>Sum</b>	<b>\$9,931,000</b>	<b>\$1,224,911</b>	<b>\$535,647</b>	<b>\$6,000,000</b>	<b>\$2,400,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>





# Sunnyside East Recon/GRST

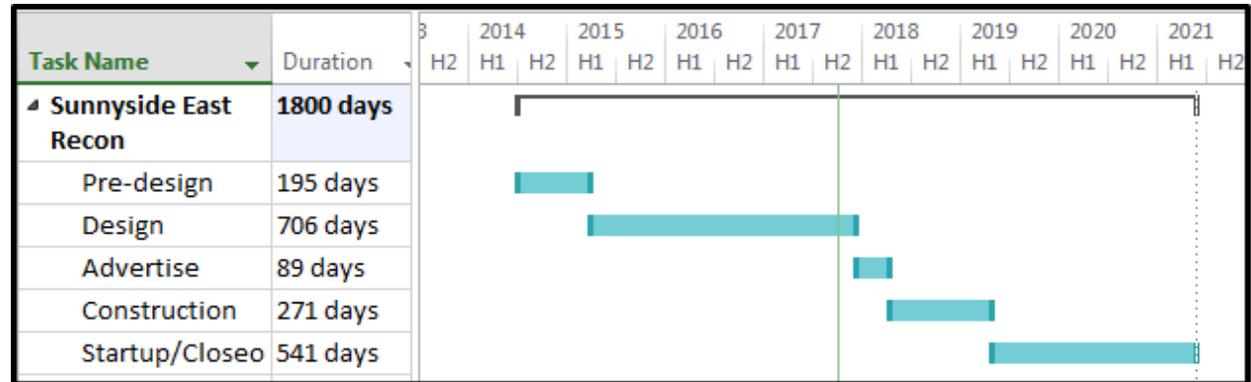
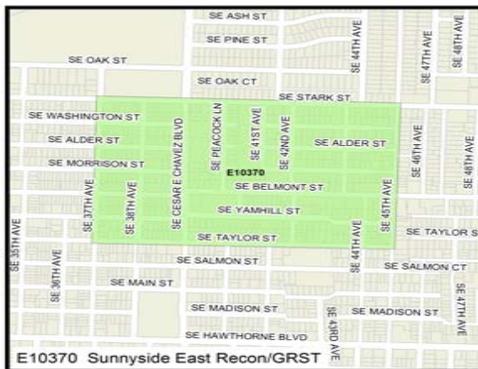
A. Scope	
Original Description / Purpose:	Construct improvements to upsize pipe segments; install street, roof and parking stormwater controls to relieve street flooding and basement sewer backups. Located in SE Portland, the project area is generally bound by Stark, 45th, Taylor, and 37th.
Rationale: Plans/Studies & Specifics	This project addresses the basement sewer backup risk in the Alder basin as part of the Combined Sewer System Plan. This project is the most upstream project in the Alder basin and is hydraulically dependent upon upsizing a trunk line in SE Yamhill Street that is a part of the ALD_05 project.
Major changes since start:	Ruben Gonzalez 03/17/2017 - Project has had to take a lower priority due to other project demands.
Other info / Coordination:	

B. Schedule	
Project Opened:	07.01.2014
Initial planned comp:	05.25.2021
Current planned comp:	05.24.2021

C. Cost Plan	
FY16-17 Plan:	\$4,389,900
FY17-18 Plan:	\$3,600,000
Debt Service Est:	\$298,513
Bill Impact:	0.09%
O&M Impact:	\$5,000

D. Identification	
SAP #:	E10370
Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$0					
Predesign	\$200,800		\$0					
Design	\$488,200		\$177,886					
Advertising/NTP	\$20,000		\$0					
Construction	\$3,649,400		\$2,327					
Statup/Closeout	\$31,500		\$0					
<b>Sum</b>	<b>\$4,389,900</b>	<b>\$714,758</b>	<b>\$180,213</b>	<b>\$3,600,000</b>	<b>\$50,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>





# Structural Rehabilitation Taggart OF 30

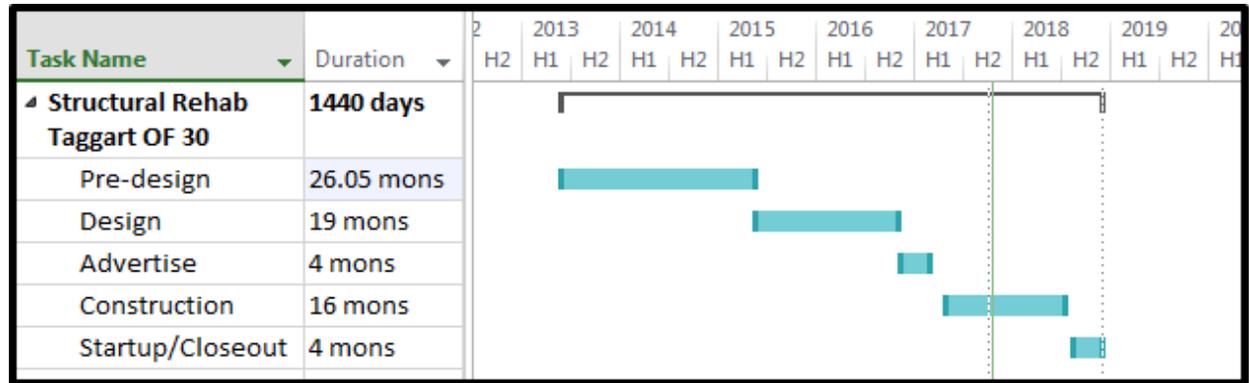
A. Scope	
Original Description / Purpose:	The Taggart combined sewer outfall is a brick sewer, constructed in 1906 to serve the Taggart basin. Previous to 2011, this sewer flowed to the river. In 2011, a majority of the flow was directed to the Eastside CSO Consolidation Tunnel. This sewer had a high consequence of failure due to its size and depth. Two particular reaches would be extremely difficult to repair if they failed; the potential damage caused by a failure could be very high due to the peak flow rates and high volume of runoff.
Rationale: Plans/Studies & Specifics	The reach from the outfall to the SE Interceptor overflow structure ranges in diameter from 116 to 118 inches, with depths from 30 feet to 63 feet, and carries approximately 900 cfs of runoff from the 25 year design storm design. The upstream reach in SE 16th Avenue ranges in size from 64 to 90 inches in diameter, at depths of 20 to 29 feet, and carries approximately 460 cfs of flow from the 25 year storm.
Major changes since start:	60% design complete.
Other info / Coordination:	

B. Schedule	
Project Opened:	07.07.2014
Initial planned comp:	06.28.2023
Current planned comp:	11.01.2021

C. Cost Plan	
FY16-17 Plan:	\$14,805,000
FY17-18 Plan:	\$500,000
Debt Service Est:	\$1,006,740
Bill Impact:	0.32%
O&M Impact:	\$0

D. Identification	
SAP #:	E10220
Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$0					
Predesign	\$0		\$17,416					
Design	\$1,931,000		\$528,244					
Advertising/NTP	\$0		\$0					
Construction	\$12,820,000		\$312					
Statup/Closeout	\$54,000		\$0					
<b>Sum</b>	<b>\$14,805,000</b>	<b>\$2,138,748</b>	<b>\$545,972</b>	<b>\$500,000</b>	<b>\$8,000,000</b>	<b>\$3,750,000</b>	<b>\$0</b>	<b>\$0</b>





# CSO Pressure Relief

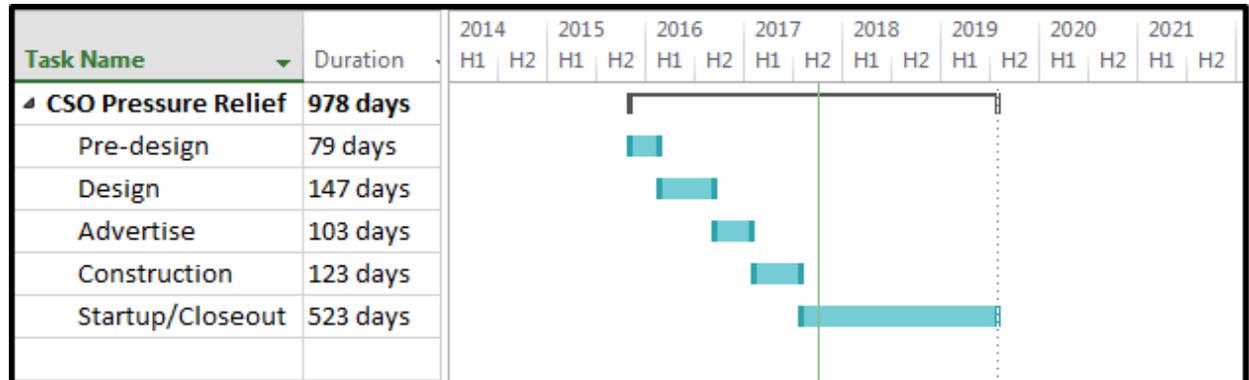
A. Scope	
Original Description / Purpose:	This project consists of design and construction of transient relief structures at the two remaining susceptible locations in Willamette CSO System.
Rationale: Plans/Studies & Specifics	The completed Willamette CSO System at specific locations is susceptible to hydraulic transients or pressure waves that can cause geysers well above ground level, causing public safety risks and damage to sewer and surrounding structures. This project consists of design and construction of transient relief structures at the three remaining susceptible locations in Willamette CSO System.
Major changes since start:	David Hammond 02/06/2017 - None.
Other info / Coordination:	

B. Schedule	
Project Opened:	01.22.2015
Initial planned comp:	08.01.2019
Current planned comp:	08.01.2019

C. Cost Plan	
FY16-17 Plan:	\$2,331,713
FY17-18 Plan:	\$0
Debt Service Est:	\$158,556
Bill Impact:	0.05%
O&M Impact:	\$0

D. Identification	
SAP #:	E10490
Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$400,000		\$0					
Predesign	\$383,000		\$57,783					
Design	\$670,713		\$106,981					
Advertising/NTP	\$1,500		\$6,587					
Construction	\$875,000		\$101,268					
Statup/Closeout	\$1,500		\$0					
<b>Sum</b>	<b>\$2,331,713</b>	<b>\$759,001</b>	<b>\$272,619</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>





# Maintenance Capital - Contract, FY15-19

A. Scope	
Original Description / Purpose:	New Shell Program for design and construction of relatively small-scale urgent capital maintenance repair and reconstruction collection system projects. Projects address structural failures, or near failures, localized flooding, and hydraulic capacity problems.
Rationale: Plans/Studies & Specifics	Secondary projects under this program are prioritized based on the criticality and condition of the facility, and the need to protect health and property.
Major changes since start:	
Other info / Coordination:	

B. Schedule	
Project Opened:	08.24.2014
Initial planned comp:	09.30.2020
Current planned comp:	09.30.2020

C. Cost Plan	
FY16-17 Plan:	\$8,790,628
FY17-18 Plan:	\$3,000,000
Debt Service Est:	\$597,763
Bill Impact:	0.19%
O&M Impact:	\$0

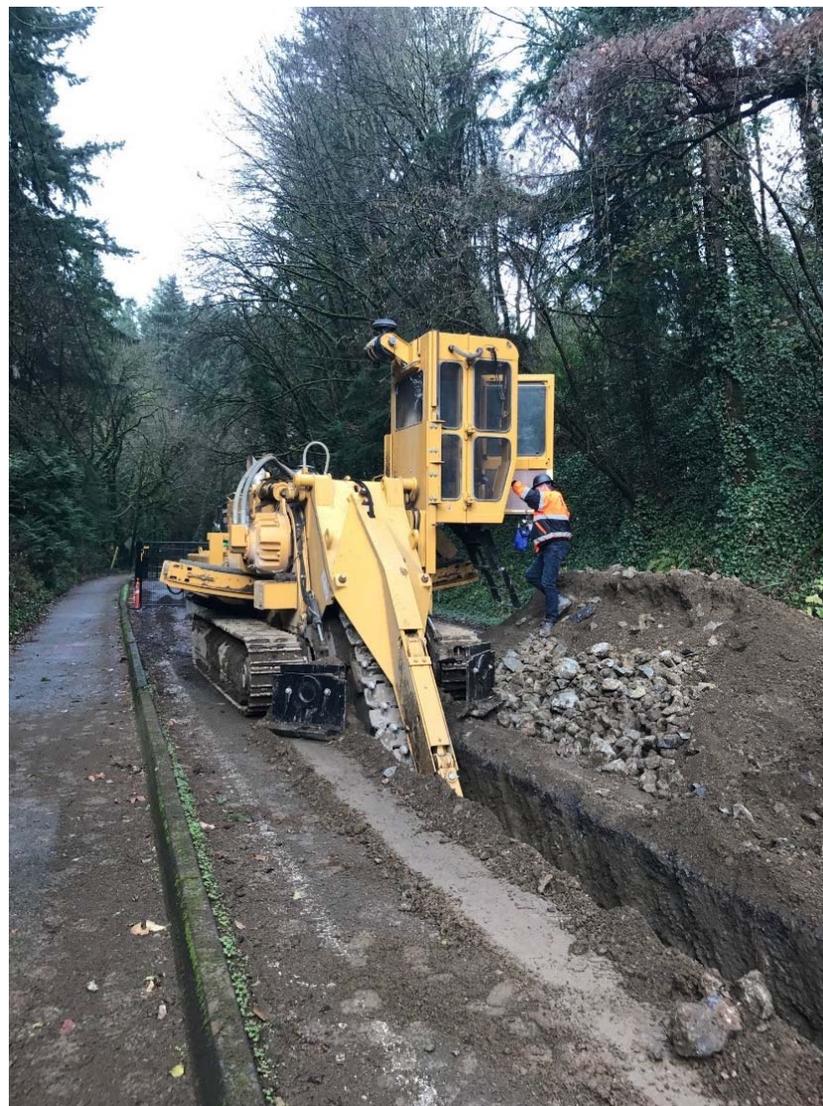
D. Identification	
SAP #:	E10656
Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$459					
Predesign	\$136,710		\$60,069					
Design	\$1,043,844		\$452,293					
Advertising/NTP	\$119,566		\$4,163					
Construction	\$7,208,553		\$2,260,423					
Statup/Closeout	\$281,955		\$32,305					
Sum	\$8,790,628	\$4,388,212	\$2,809,711	\$3,000,000	\$3,000,000	\$3,500,000	\$4,000,000	\$4,000,000









# SW Terwilliger Blvd & Powers Ct SSwr Ext

A. Scope	
Original Description / Purpose:	Construct approximately 7,000 linear feet of 8-inch sewer pipe along Terwilliger Blvd. from the Powers Court pump station-site to the 30-inch Tryon Interceptor sewer located in Hwy 43.
Rationale: Plans/Studies & Specifics	The purpose of this project is to eliminate the private pump station at Terwilliger and Powers by constructing approximately 7,000 feet of 8-inch sewer pipe from the pump station and connecting it to the 30 inch Tryon Interceptor sewer in HWY 43.
Major changes since start:	Don Poletski 04/10/2017 - Ground improvement were performed for 3 manholes to facilitate their installation. It appears this technique has been highly effective.
Other info / Coordination:	

B. Schedule	
Project Opened:	10.03.2011
Initial planned comp:	06.11.2019
Current planned comp:	06.11.2019

C. Cost Plan	
FY16-17 Plan:	\$3,420,218
FY17-18 Plan:	\$0
Debt Service Est:	\$232,575
Bill Impact:	0.07%
O&M Impact:	\$0

D. Identification	
SAP #:	E10413
Program:	T06 Systems Development

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$0					
Predesign	\$23,982		\$0					
Design	\$586,236		\$62,165					
Advertising/NTP	\$10,000		\$24,892					
Construction	\$2,785,000		\$4,546,590					
Statup/Closeout	\$15,000		\$0					
<b>Sum</b>	<b>\$3,420,218</b>	<b>\$5,450,817</b>	<b>\$4,633,646</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>



## Major Program Profile Index

CIP Program	SAP Code	Program	Total Budget	Phase	Page
Sewage Treatment	E06072	CBWTP Lagoon Reconstruction	25,812,619	various	49
Maintenance & Reliability	E09045	Fanno Basin System Improvements	51,371,492	various	50
Maintenance & Reliability	E10031	Phase 2 Pipe Rehabilitation	131,227,895	various	51
Maintenance & Reliability	E10474	Burlingame Basin Inflow and Infiltration	7,640,000	various	52
Maintenance & Reliability	E10500	Pipe Rehabilitation Phase 3	146,141,190	various	53
Maintenance & Reliability	E10576	Large Diameter Sewer Rehabilitation	104,679,500	various	54
Maintenance & Reliability	E10594	Capital Maintenance - Non-Process Facilities	5,315,643	various	55
Surface Water Management	E10372	Culvert Replacement Phase 2	3,234,830	various	56
Surface Water Management	E10488	Stephens Creek Phase 1 Improvements	4,144,000	various	57
Surface Water Management	E10563	Columbia Slough Outfalls	8,453,300	various	58

**Programs** are a suite of projects to address a specific issue where the exact methodology has not been defined. Scopes are refined as individual projects are established

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**The following projects had a fiscal year budget over \$500,000, but don't lend themselves to the summary sheet format.**

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# CBWTP Lagoon Reconstruction

A. Scope	
Original Description / Purpose:	Construct additional dikes in the existing lagoon to create more separation. The individual ponds will be lined with a monofill. Two separate phases are programmed in the 5-year CIP.
Rationale: Plans/Studies & Specifics	This project involves the lining of the solids storage lagoon at the CBWTP. The existing lagoon is unlined and there is some concern that the contents are seeping into the groundwater. In addition, lagoon solids pose a potential environmental liability to the City and should be removed. The initial engineering effort involves predesign of the lagoon reconstruction to evaluate appropriate size, lining methods, solids disposal options, and budget and schedule. This work will determine design phase scope.
Major changes since start:	
Other info / Coordination:	

B. Schedule	
Project Opened:	12.31.2007
Initial planned comp:	07.28.2013
Current planned comp:	01.02.2024

C. Cost Plan	
FY16-17 Plan:	\$25,812,619
FY17-18 Plan:	\$4,300,000
Debt Service Est:	\$1,755,258
Bill Impact:	0.55%
O&M Impact:	\$5,000

D. Identification	
SAP #:	E06072
Program:	T02 Sewage Treatment

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$0					
Predesign	\$0		\$0					
Design	\$831,480		\$98,109					
Advertising/NTP	\$140,182		\$88,387					
Construction	\$24,640,957		\$1,043,285					
Statup/Closeout	\$200,000		\$53,527					
Sum	\$25,812,619	\$18,816,264	\$1,283,309	\$4,300,000	\$4,700,000	\$640,000	\$110,000	\$150,000



# FANNO BASIN SYSTEM IMPROVEMENT

A. Scope	
Original Description / Purpose:	Improvements to the sanitary system serving the Fanno Basin by increase pumping and conveyance capacity in the Fanno Basin Pump Station and Pressure Line system. Includes cost of temporary diversion to Clean Water Services.
Rationale: Plans/Studies & Specifics	Upon thorough risk analysis, several portions of the sewer system in Fanno Basin were determined to be under capacity, leading to system failures.
Major changes since start:	Scope and budget have evolved with additional engineering, site assessments, and system needs.
Other info / Coordination:	Extensive and effective coordination with Clean Water Services, Oregon Department of Environmental Quality, and neighborhood associations. Land use approvals were obtained through Washington County.

B. Schedule	
Project Opened:	01.20.2016
Initial planned comp:	08.30.2024
Current planned comp:	08.30.2024

C. Cost Plan	
FY16-17 Plan:	\$51,371,492
FY17-18 Plan:	\$0
Debt Service Est:	\$3,493,261
Bill Impact:	1.09%
O&M Impact:	\$0

D. Identification	
SAP #:	E09045
Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$2,250,000		\$75,359					
Predesign	\$16,044,483		\$1,127					
Design	\$6,135,823		\$112,192					
Advertising/NTP	\$81,638		\$2,379					
Construction	\$26,448,703		\$8,674,730					
Statup/Closeout	\$410,845		\$45,164					
Sum	\$51,371,492	\$81,699,354	\$8,910,951	\$0	\$0	\$0	\$0	\$0



# Phase 2 Pipe Rehab

A. Scope	
Original Description / Purpose:	This program includes structural rehabilitation of critical combined and sanitary sewers that are at the end of their economic life and have the highest consequence of failure. The pipes have been prioritized based on their business risk exposure so that the pipes with the highest benefit (risk reduction) to cost ratios are done first.
Rationale: Plans/Studies & Specifics	Pipes are identified from inspections, field assessments and experience (including history of spot repairs), non-conforming sewers identification, and from advanced modeling. Individual project scopes are vetted through a technical review process. Several large projects are profiled in the major project section of this report.
Major changes since start:	Sewer system assessments identified a greater need for rehabilitation services than originally expected. With more rehabilitation project experience, delivery schedules are becoming more predictable.
Other info / Coordination:	These projects require extensive community involvement.

B. Schedule	
Project Opened:	02.28.2010
Initial planned comp:	12.08.2021
Current planned comp:	12.08.2021

C. Cost Plan	
FY16-17 Plan:	\$131,227,895
FY17-18 Plan:	\$14,000,000
Debt Service Est:	\$8,923,497
Bill Impact:	2.79%
O&M Impact:	\$0

D. Identification	
SAP #:	E10031
Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$58,655					
Predesign	\$2,511,189		\$61,059					
Design	\$11,854,592		\$1,545,354					
Advertising/NTP	\$286,728		\$173,795					
Construction	\$116,178,466		\$15,731,887					
Statup/Closeout	\$396,920		\$125,671					
Sum	\$131,227,895	\$100,214,397	\$17,696,421	\$14,000,000	\$1,000,000	\$0	\$0	\$0



# Burlingame Basin I & I Predesign

A. Scope	
Original Description / Purpose:	Program to reduce stormwater flows into the sanitary sewers to reduce combined-sewer overflows in the Burlingame Sewer Basin (SW Portland).
Rationale: Plans/Studies & Specifics	Established to comply with mutual order between BES and Oregon Department of Environmental Quality. Approved budget is for first phase of pilot projects.
Major changes since start:	Program includes a series of pilot projects to determine primary source of stormwater - i.e. whether from private party into laterals or mainlines. This data will inform future phases.
Other info / Coordination:	Extensive coordination with private property owners.

B. Schedule	
Project Opened:	03.09.2011
Initial planned comp:	03.10.2011
Current planned comp:	10.30.2020

C. Cost Plan	
FY16-17 Plan:	\$7,640,000
FY17-18 Plan:	\$2,000,000
Debt Service Est:	\$519,520
Bill Impact:	0.16%
O&M Impact:	\$0

D. Identification	
SAP #:	E10474
Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$102,000		\$10,279					
Predesign	\$450,000		\$112,621					
Design	\$1,009,000		\$85,236					
Advertising/NTP	\$35,800		\$0					
Construction	\$5,959,200		\$16,636					
Statup/Closeout	\$84,000		\$3,867					
Sum	\$7,640,000	\$6,230,494	\$228,640	\$2,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000



# Phase 3 Pipe Rehab

A. Scope	
Original Description / Purpose:	Structural rehabilitation of critical combined and sanitary sewers that are at the end of their economic life and have the highest consequence of failure.
Rationale: Plans/Studies & Specifics	The pipes have been prioritized based on their business risk exposure so that the pipes with the highest benefit (risk reduction) to cost ratios are done first. It is expected that new data will identify pipes that are shown to have higher risk reduction priorities than those previously identified. This dynamic priority list will be updated once a year and the highest priority pipes will proceed to design and construction.
Major changes since start:	Focus is on pipes likely to fail within the next 10 years.
Other info / Coordination:	These projects require extensive community outreach.

B. Schedule	
Project Opened:	06.30.2015
Initial planned comp:	06.29.2023
Current planned comp:	07.01.2015

C. Cost Plan	
FY16-17 Plan:	\$146,141,190
FY17-18 Plan:	\$16,000,000
Debt Service Est:	\$9,937,601
Bill Impact:	3.11%
O&M Impact:	\$0

D. Identification	
SAP #:	E10500
Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$1,690		\$7,009					
Predesign	\$7,066,090		\$1,473,783					
Design	\$18,091,200		\$2,285,561					
Advertising/NTP	\$704,730		\$6,123					
Construction	\$119,743,700		\$9,514					
Statup/Closeout	\$533,780		\$0					
Sum	\$146,141,190	\$13,557,655	\$3,781,990	\$16,000,000	\$23,000,000	\$23,000,000	\$23,000,000	\$23,000,000



# Large Diameter Sewer Rehab

A. Scope	
Original Description / Purpose:	This program will perform spot and whole pipe rehabilitation of large diameter (> 36 inches in diameter) sanitary and combined sewers that are currently in poor structural condition.
Rationale: Plans/Studies & Specifics	These pipes were identified and prioritized in the System Plan – Combined and Sanitary Sewer Elements, March 2012. The recommendations from the system plan were updated to include the results of most recent large diameter CCTV inspections.
Major changes since start:	Project is in early stages of implementation.
Other info / Coordination:	

B. Schedule	
Project Opened:	10.01.2018
Initial planned comp:	02.02.2021
Current planned comp:	02.02.2021

C. Cost Plan	
FY16-17 Plan:	\$104,679,500
FY17-18 Plan:	\$700,000
Debt Service Est:	\$7,118,206
Bill Impact:	2.23%
O&M Impact:	\$0

D. Identification	
SAP #:	E10576
Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$0					
Predesign	\$13,375,100		\$232,832					
Design	\$13,290,200		\$46,920					
Advertising/NTP	\$1,281,000		\$2,702					
Construction	\$75,928,200		\$150,196					
Statup/Closeout	\$805,000		\$0					
Sum	\$104,679,500	\$2,836,636	\$432,649	\$700,000	\$3,200,000	\$9,000,000	\$6,000,000	\$18,000,000



# Capital Maint-Non Process Facilities

A. Scope		B. Schedule	
Original Description / Purpose:	This program is for capital maintenance of BES-owned non-process facilities including the Water Pollution Control Lab, Materials Testing Lab, administration buildings at the Treatment Plants, and downtown office space.	Project Opened:	08.18.2016
Rationale: Plans/Studies & Specifics		Initial planned comp:	09.30.2016
Major changes since start:		Current planned comp:	09.30.2016
Other info / Coordination:		<b>C. Cost Plan</b>	
		FY16-17 Plan:	\$5,315,643
		FY17-18 Plan:	\$1,700,000
		Debt Service Est:	\$361,464
		Bill Impact:	0.11%
		O&M Impact:	\$0
		<b>D. Identification</b>	
		SAP #:	E10594
		Program:	T03 Maint & Reliability

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$0					
Predesign	\$253,000		\$131,247					
Design	\$622,956		\$45,057					
Advertising/NTP	\$34,500		\$0					
Construction	\$4,368,045		\$674,086					
Statup/Closeout	\$37,142		\$1,820					
Sum	\$5,315,643	\$1,829,779	\$852,210	\$1,700,000	\$2,800,000	\$4,900,000	\$750,000	\$1,000,000



# Culvert Replacement Phase II

A. Scope	
Original Description / Purpose:	This project will replace four of the highest priority culverts in Crystal Springs Creek and Tryon Creek in support of watershed health goals and commitments under the Endangered Species Act.
Rationale: Plans/Studies & Specifics	This is an umbrella project that was approved to fund and remove the last three of the nine high priority culverts that block fish passage and impact water quality and flooding in Crystal Springs Creek, initiated under the Grey to Green initiative. It also included the Tryon Creek culvert replacement project at Highway 43. These culverts were identified and prioritized in the Johnson Creek Restoration Plan, Tryon Creek planning, and various citywide Endangered Species Act and culvert plans and studies.
Major changes since start:	The Highway 43 culvert project on Tryon Creek was pulled out of this umbrella project, to be funded and implemented separately, dependent on federal funding. The railroad culvert project on Crystal Springs was completed with significant cost-sharing from
Other info / Coordination:	Construction of the Bybee and Glenwood culverts (E10480) was delayed due to permitting. It was completed in summer 2016, marking the completion of the Crystal Springs culvert effort.

B. Schedule	
Project Opened:	06.01.2015
Initial planned comp:	12.30.2016
Current planned comp:	12.30.2016

C. Cost Plan	
FY16-17 Plan:	\$3,234,830
FY17-18 Plan:	\$0
Debt Service Est:	\$219,968
Bill Impact:	0.07%
O&M Impact:	\$0

D. Identification	
SAP #:	E10372
Program:	T04 Surface Water Mgmt

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$19,500		\$2,049					
Predesign	\$0		\$0					
Design	\$671,330		\$93,997					
Advertising/NTP	\$11,000		\$34,310					
Construction	\$2,518,000		\$37,539					
Statup/Closeout	\$15,000		\$0					
Sum	\$3,234,830	\$4,947,849	\$167,895	\$0	\$0	\$0	\$0	\$0



# Stephens Creek Phase 1 Improvements

A. Scope	
Original Description / Purpose:	Address stormwater issues in the Stephens Creek subwatershed: (1) unmanaged stormwater discharge from existing impervious surfaces;(2) pollution reduction and detention of stormwater;(3) restoration of ecological functions of riparian and wetland areas; and(4) Energy dissipation at outfalls causing erosion and excess sediment loading.
Rationale: Plans/Studies & Specifics	Opportunities to provide pollution reduction and detention for stormwater from new impervious area are constrained due to landslide hazards, narrow right-of-way, and lack of infiltration capacity; which has limited development opportunities and hindered mobility improvements in the right-of-way. Riparian areas and wetlands have been negatively impacted by altered flow regimes and are not providing their historic ecological function.
Major changes since start:	Capital projects are in very early stages of implementation.
Other info / Coordination:	Successful stormwater management will likely involve public-private partnerships.

B. Schedule	
Project Opened:	11.07.2016
Initial planned comp:	07.10.2020
Current planned comp:	07.10.2020

C. Cost Plan	
FY16-17 Plan:	\$4,144,000
FY17-18 Plan:	\$500,000
Debt Service Est:	\$281,792
Bill Impact:	0.09%
O&M Impact:	\$0

D. Identification	
SAP #:	E10488
Program:	T04 Surface Water Mgmt

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$0					
Predesign	\$155,000		\$48,715					
Design	\$917,000		\$153,811					
Advertising/NTP	\$32,000		\$0					
Construction	\$2,944,000		\$0					
Statup/Closeout	\$96,000		\$0					
Sum	\$4,144,000	\$560,837	\$202,526	\$500,000	\$1,815,000	\$2,011,000	\$3,011,000	\$6,000,000



# Columbia Slough Outfall 57

A. Scope	
Original Description / Purpose:	A Record of Decision from the OR Department of Environmental Quality, requires the City to manage storm water quality from the public right of way at publicly owned stormwater outfalls along the Columbia Slough.
Rationale: Plans/Studies & Specifics	Pre-Design identified the highest priority outfalls. This program will address those outfalls in separate CIP projects over a number of years.
Major changes since start:	Management of stormwater at Outfall 77a is complete. Work on Outfalls 100 and 104b is currently underway.
Other info / Coordination:	Successful stormwater control will likely involve public-private partnerships.

B. Schedule	
Project Opened:	02.21.2017
Initial planned comp:	12.09.2021
Current planned comp:	12.09.2021

C. Cost Plan	
FY16-17 Plan:	\$8,453,300
FY17-18 Plan:	\$2,780,000
Debt Service Est:	\$574,824
Bill Impact:	0.18%
O&M Impact:	\$0

D. Identification	
SAP #:	E10563
Program:	T04 Surface Water Mgmt

E. Project Actual and FY Plans Breakout (numbers may not add up due to rounding)								
	Current Budget	Actual PTD	FY 17 EXP	FY 17-18	FY 18-19	FY 19-20	FY 20-21	FY 21-22
Land Acquisition	\$0		\$0					
Predesign	\$236,000		\$3,666					
Design	\$981,000		\$152,298					
Advertising/NTP	\$39,600		\$546					
Construction	\$7,134,700		\$279,737					
Statup/Closeout	\$62,000		\$5,656					
Sum	\$8,453,300	\$1,413,752	\$441,904	\$2,780,000	\$150,000	\$1,000,000	\$2,000,000	\$2,000,000





ENVIRONMENTAL SERVICES  
CITY OF PORTLAND

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