




San Francisco Water Power Sewer

Services of the San Francisco Public Utilities Commission

525 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102
T 415.554.3155
F 415.554.3161
TTY 415.554.3488

DATE: December 1, 2020

TO: Commissioner, Sophie Maxwell, President
Commissioner, Anson Moran, Vice President
Commissioner, Tim Paulson
Commissioner, Ed Harrington

FROM: Harlan L. Kelly, Jr., General Manager 

RE: Wastewater Enterprise Capital Improvement Program
1st Quarter/ Fiscal Year 2020-2021

Enclosed please find the Wastewater Enterprise Capital Improvement Program (CIP) Quarterly Report for the 1st Quarter (Q1) of Fiscal Year (FY) 2020-2021. The primary intent of the report is to provide the Commission, stakeholders, and the public, with a status summary of the Wastewater Enterprise Capital Projects, based on the data for the period of July 1, 2020 to September 30, 2020.

This quarterly report incorporates other SSIP projects beyond Phase 1 that were presented to the San Francisco Public Utilities Commission (SFPUC) on December 11, 2018. The scopes, schedules, and budgets for other active SSIP projects can be found in the respective sections in this report.

We would like to note that reported costs associated with Public Works Department (PW) support are not fully reconciled to PeopleSoft. Due to the PeopleSoft process PW utilizes for tracking their charges, costs are reported at a level that does not relate to a single SFPUC project. SFPUC staff have held numerous meetings with the Controller and the Public Works Accounting team in an effort to reach agreement on revised cost tracking procedures. As current projects utilizing the project structure put in place at PeopleSoft conversion are completed and being closed SFPUC staff work closely with PW Accounting and the respective PW Manager to reconcile actual costs to work completed at the SFPUC project level of detail. This is a lengthy and complex process, but staff are making progress toward completion of the reconciliation.

To ensure accurate and efficient cost reporting on future projects, SFPUC is currently drafting a Memorandum of Understanding (MOU) between SFPUC and PW. The MOU will outline estimating, tracking, and reporting processes for SFPUC capital projects where PW is providing planning, design and/or construction management support; it will allow

- London N. Breed**
Mayor
- Sophie Maxwell**
President
- Anson Moran**
Vice President
- Tim Paulson**
Commissioner
- Ed Harrington**
Commissioner
- Harlan L. Kelly, Jr.**
General Manager



programmatic updates of PW costs into the SFPUC project controls system and monthly reconciliation of reported actual costs against the PeopleSoft financial system.

As mentioned last quarter, on March 16, 2020, the Department of Public Health issued a shelter-in-place order, Order No. C19-07, effective March 17, 2020. In compliance with this order, nearly 1,200 SFPUC employees have been working remotely. Employees who have been deemed essential to continue operations by reporting to SFPUC facilities are doing so to deliver water, power and sewer services to the communities we serve.

Following the shelter-in-place order, on March 18, 2020, SFPUC issued a memo to the construction contractors stating that public works construction projects are considered an “essential activity” and work is expected to continue, but contractors are required to stop work temporarily and submit a revised Site-Specific Health and Safety Plan to address COVID-19 safety and protective work practices for SFPUC review by close of business on March 20, 2020.

On March 20, 2020, a letter was issued to contractors from the City Administrator. The letter noted that The City was prepared to partner with contractors to take steps to make projects as safe as possible for employees to help keep projects moving forward and determine if Social Distancing Requirements can be met.

On March 31, 2020, the Health Officer issued Health Order No. C19-07b, replacing the earlier March 16, 2020 order. The order requires the City Administrator, in consultation with the Health Officer, to specifically designate certain public works projects as an Essential Government Function if they are to continue during this shelter-in-place order.

Additionally, contractors were provided with the Construction Safety Guidelines, dated April 1, 2020, developed by City representatives and the San Francisco Building and Construction Trades Council, with input from construction industry contractors’ associations. This document provides industry guidelines for safe practices at construction work sites. Accordingly, Contractors were required to prepare and submit updated Site-Specific Health and Safety Plan to address COVID-19 issues at each site.

Furthermore, on April 15, 2020, the City Administrator’s Office issued Procedures for Implementation and Enforcement of COVID-19 Field Safety Guidelines for Public Works Projects.

And, on April 29, 2020, the Health Officer issued Health Order No. C19-07c, extending the shelter-in-place through the end of May. This new order went into effect on May 4, 2020 and all construction was allowed to resume as long as specific safety measures are in place. The Health Order C19-07c also provides Safety protocols for both small and large construction projects. Lastly, on May 5, 2020, the Health Officer issued a directive requiring that each contractor for a City public works project to comply with all aspects of these safety protocols.

During the months following, Infrastructure staff coordinated with the Enterprises to implement worksite health screenings and communication plans. Infrastructure construction management teams developed procedures and practices to fulfill the City's role as mandated by the "Public Works Project Safety Protocol for COVID-19" through inspection of worksites to assure worker compliance with the contractors' approved Health and Safety Plans.

Due to anticipated financial impacts from the pandemic, staff worked on revising the 10-year Capital Improvement Program (CIP) budget to ensure we can continue essential services to the public and maintain our financial sustainability. On July 14, 2020, a Revised CIP plan was submitted and approved by the Commission.

The highlights of this reporting period are stated below:

SEWER SYSTEM IMPROVEMENT PROGRAM (SSIP)

STATUS AND PERFORMANCE SUMMARY

Overall, SSIP Phase 1 is 46.4% complete while Other SSIP projects are 2.2% complete as of September 2020.

As of the end of the reporting period, there are no projects in pre-planning, nine (9) projects in planning or design, five (5) projects in bid & award, seventeen (17) projects in construction, and thirty-nine (39) projects in closeout or completed in SSIP Phase 1.

PROGRAM UPDATE

The highlights for this reporting period are as follows:

- Continued construction on the Southeast Area Major projects which include BDFP, Headworks and the Southeast Community Center.
- Provided SFPUC Commissioner Sophie Maxwell and SFPUC Executive team a tour of the work in progress at the Southeast Area major projects.
- Provided SFPUC Commission with update on the three major projects in the Southeast including progress of planning for the January 2021 closure of Jerrold Avenue between Rankin and Phelps Streets.
- Continued extensive remote work practices and ongoing oversight and review of construction activities including review of site-specific health and safety protocols in response to Shelter-in-Place Public Health Order.

Major program milestones reached during the reporting quarter include:

Planning and Design

- Completed 95% Design for one (1) project
 - Large Sewer Condition Assessment and Improvements – Subproject (B), New Montgomery, Mission, Jessie & Minna Streets Brick Sewer Rehabilitation

Environmental

- CEQA (CATEX) was approved for one (1) project
 - Large Sewer Condition Assessment and Improvements – Subproject (B), New Montgomery, Mission, Jessie & Minna Streets Brick Sewer Rehabilitation

Construction Contracts Advertised:

- One (1) construction contract was advertised during this quarter
 - WW-645R, Westside Pump Station Reliability Improvements

Construction Contracts Awarded:

- Three (3) contracts were awarded during this quarter
 - WW-662R, SEP Power Feed and Primary Switchgear Upgrades
 - WW-703, SSIP Sewer Improvements Projects – Mission Street, 16th to Cesar Chavez Streets, Brick Sewer Rehabilitation
 - WW-702R, CSD Backflow Prevention and Monitoring

Construction Notice to Proceed (NTP) Issued:

- NTP was issued for two (2) construction contracts during this quarter
 - WW-696, Cargo Way Sewer Box Odor Reduction – Cargo Way Flush Line
 - WW-647R, SEP Biosolids Digester Facilities Project – Scope II (New Biosolids Facilities)

Construction Substantial Completion Issued:

- Two (2) construction contracts achieved substantial completion
 - WW-651, Griffith Pump Station Improvements
 - WW-627R, Richmond Green Infrastructure

Construction Final Completion Issued:

- One (1) construction contract achieved final completion
 - WW-613, SEP 521/522 and Disinfection Upgrades (SEP Building 521 Replacement)

Project Completion:

- One (1) project was completed during this quarter
 - Flood Resilience Analysis (Planning Phase Only)

UPDATE ON PROJECTS IN PRE-CONSTRUCTION

Treatment Plant Projects:

- Continued working on the 35% Design package in the SEP Distributed Control System (DCS) Network upgrades.

Central Bayside System Improvement Project (CBSIP):

- The 35% Design and the Draft Administrative EIR were completed in 2019. SFPUC Senior Management has decided not to continue with the design/CEQA efforts. There are still remaining efforts that will carry the project till June 2021, to secure long-term storage of the soil/rock cores and also to initiate preliminary planning on replacement of existing 66" force main.

Collection System:

- Completed 35% Design for Kansas and Marin Streets Sewer Improvements project, which will be part of the tender set for a request for bid. The project received comments from Public Works staff on a Memorandum of Agreement (MOA) to allow for a tunnel under their maintenance yard, including mitigations for a future garage structure on top of the tunnel alignment and parking replacement during construction.
- Completed revised 35% Design and will complete 65% Design next quarter for the Better Market Street Sewer Improvements – Phase 1.

Stormwater Management:

- Development of an RFP for Yosemite Green Infrastructure engineering services is ongoing, and the RFP is anticipated to be issued next quarter.
- Continued to work on 100% design documents for Wawona St and 15th Ave Stormwater Detention Project. The construction contract will be advertised in the upcoming quarter.

Flood Resilience:

- Continued working on the 65% Design for the upstream components in Folsom Area Stormwater Improvement Project. For the tunnel component, a significant conflict with a Caltrans overpass foundation was discovered during the early phase of design, and detailed coordination with Caltrans will be necessary to proceed with this project alignment. In this quarter, the project team had a productive and positive meeting with Caltrans about our preferred solution. In parallel, the project team also analyzed and compared an alternative tunnel alignment on 17th Street with the original alignment on Alameda Street. In the next quarter, the project team will select which alignment to proceed with and restart the tunnel component design in earnest.

Collection system / Other SSIP

- The Large Sewer Condition Assessment and Improvements projects includes seven (7) subprojects in various stages from not initiated to planning and design phases.

UPDATE ON PROJECTS IN CONSTRUCTION

SEP Biosolids Digester Facilities Project

Scope I (Demolition and Utility Relocation) - Construction work is continuing with the relocation of existing utilities and sewers and preparation of the site for the upcoming Scope II construction. The demolition of existing infrastructure at the project sites has been completed.

Scope II (New Biosolids Facilities - Remainder of the construction work) - As described at the February 25 Commission meeting, construction cost estimates at the 95% design phase came in much higher than expected with a longer construction duration exceeding the baseline budget and schedule. An extensive cost reduction effort was conducted to identify cost savings to mitigate the project cost and schedule impacts. Original project goals and Levels of Service are maintained and unchanged. Project scope changes include improvements to the contract and design specifications, a better and more efficient odor control strategy, deferral of the maintenance buildings to a future CIP project, and consideration of an alternate biogas end-use. The re-design to incorporate the scope changes is near completion. With the Construction Manager/General Contractor approach, construction can still proceed concurrent with design. Notice-to-proceed for Scope II was issued on July 1 with the start of excavation, dewatering, shoring, foundation work. Other construction bid packages are being prepared and will be advertised in the next 2 to 3 quarters.

SEP New Headworks (Grit) Replacement

Scope II.A (BFS Improvements) – CM/GC submitted request for substantial completion during this quarter. Pump Station acceptance testing to continue until Final Completion in order to test during wet weather.

Scope III (Main Headworks) – Drilled piers installation continues, 160 of 452 piers installed. Pre-bid meetings for process piping, HVAC, Ductwork, and Demolition held in September 2020.

SEP Seismic Reliability and Condition Assessment Improvements

The dry weather season rehabilitation (i.e., cleaning, surface preparation and coating) of SEP 540 (Plant Effluent Control Structure), SEP 044 (Conduits C, D & E) has been completed. At SEP 042 (Primary Sedimentation), continuing sack and patch of concrete surfaces and installation of scum pumps and associated piping. Preparing to demo and replace sidewalk along Road C, with paving to follow.

OSP Digester Gas Utilization Upgrade:

Construction activities including yard utility pipe installation, HVAC and electrical installation at Buildings 800, 820, and 821, and the site-wide electrical short-circuit coordination study are on-going.

WWE Capital Improvement Program (CIP)

WWE Facility Reliability Improvements – SEP Northside project is in close-out; forecast completion by March 2021.

WWE Facilities and Infrastructure Program

Five (5) projects are on-going: two (2) projects in construction, two (2) projects in design, and one (1) project in planning.

WWE Renewal and Replacement (R&R) Program

Twenty-six (26) Collection System projects and ten (10) Treatment Facilities project are in construction.

Triple Bottom Line (TBL) Report

None was completed in this quarter.

Enclosure

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San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission



QUARTERLY REPORT

Wastewater Enterprise Programs

July 2020 – September 2020

Quarterly Report

Wastewater Enterprise Programs

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I. Sewer System Improvement Program



1. PROGRAM DESCRIPTION

The responsibilities of the San Francisco Public Utilities Commission (SFPUC)'s Wastewater Enterprise (WWE) are to manage, operate, and maintain San Francisco's wastewater collection and treatment system. San Francisco's sewer system collects, conveys, and treats both dry and wet weather (urban stormwater) flows.

The Sewer System Improvement Program (SSIP) is the SFPUC's wastewater capital improvement program which includes multiple projects to improve the existing system. The SSIP is the culmination of several years of wastewater system planning efforts, public meetings, and SFPUC Commission workshops, to develop proposed improvements to address the following challenges:

1. Aging infrastructure and the poor condition of existing facilities.
2. Seismic deficiencies and lack of structural integrity.
3. Limited operating flexibility and lack of redundancy.
4. Compliance with operational permits at all times including.
5. Managing stormwater in San Francisco's eight urban watersheds.
6. Optimizing system performance and efficiency.
7. Protecting public health, the environment, and conservation goals to safeguard our natural and human environments, and
8. Compliance with the Commission's Environmental Justice and Community Benefits Policy.

The purpose of the SSIP is to upgrade the existing wastewater system so it can meet the challenges of today and the future. The implementation of the SSIP projects and their associated expenditures will be phased over twenty (20) years in an effort to maintain ratepayer affordability and minimize impacts to our communities throughout the City.

In February 2011 the SFPUC Commission directed staff to proceed with the procurement of a program management consultant to assist City

staff with the implementation of the SSIP. The AECOM-Parsons Joint Venture was selected and the Program Management Consultant (PMC) team began work on September 6, 2011. The first major task for the PMC was to develop a recommended Program, collectively known as Program Validation. This effort was completed by the PMC and City staff recommending the scope, schedule, and budget of the SSIP treatment and collection system projects, as well as revisions to the SSIP Goals and Levels of Service (LOS). On August 28, 2012, after a series of three public SSIP workshops, the SFPUC Commission officially endorsed the proposed projects in the \$6.933 billion 20-year SSIP and the associated Goals and Level of Service and also authorized staff to proceed with planning and development of projects within Phase 1 of the SSIP, representing \$2.7 billion.

Subsequently in October 2015 the PMC was assigned to work on refining program scope, budget and schedule based on newly available information and various constraints and challenges. The effort included project re-prioritization, scope refinement, budget re-alignment and schedule re-alignment. The refinement was completed in January 2016 and presented to the SFPUC Commission on March 22, 2016. The refined program scope and budget for \$6.976 billion along with the Goals and LOS for all three phases of the SSIP was endorsed by the Commission along with the baseline for scope, schedule and budget for Phase 1 projects totaling \$2.910 billion. The revised program is referred to as the "2016 SSIP Baseline".

The endorsed Goals are stated below:

- Provide a compliant, reliable, resilient, and flexible system that can respond to catastrophic events;
- Integrate green and grey infrastructure to manage stormwater and minimize flooding;
- Provide benefits to impacted communities;
- Modify the system to adapt to climate change;
- Achieve economic and environmental sustainability; and

- Maintain ratepayer affordability.

Wastewater System Overview:

The San Francisco wastewater collection and treatment system has been developed over the past two centuries. San Francisco's sewer system dates back to the 1800's when the first sewers were constructed which, at the time, discharged directly into the San Francisco Bay and the Pacific Ocean. The City's major treatment facilities were constructed over several years as part of major capital improvement programs. The existing treatment facilities were built as follows: North Point Facility, 1951; Southeast Plant, 1952; and Oceanside Plant, 1993. The Southeast Plant was enlarged and upgraded to secondary treatment in 1982, and again expanded to treat peak wet-weather flows in 1996.

The Collection System is a network of sewers that collect and transport both sanitary flows and stormwater runoff. The system is designed to take advantage of the City's natural topography wherever possible to maximize the benefits of gravity flow for the collection, transport, treatment, and discharge of wastewater and stormwater. Ninety-two percent of San Francisco is served by a combined sanitary and stormwater system that consists of 24,800 manholes, 25,000 catch basins, 27 pump stations, and approximately 1,000 miles of sewers ranging from 8-inch diameter pipes to large transport structures measuring up to 45 feet deep by 25 feet wide. Flows are conveyed from the collection system through the transport/storage boxes, to two centralized all-weather treatment plants, located in the southeast and southwest sections of the City respectively, the Southeast Water Pollution Control Plant (SEP) and the Oceanside Water Pollution Control Plant (OSP). During wet weather additional flows are conveyed to our wet-weather facility, located in the northeast section of the City, the North Point Wet-Weather Facility (NPF). The collection system storage capacity is over 200 million gallons, comprised of predominantly grey infrastructure at this time. Existing collection system components include:

- Large Sewers*, Tunnels and Odor Control
- Pump Stations and Force Mains
- Transport/Storage Boxes, and
- Combined Sewer Discharge (CSD) Structures

* Large sewers are sewers greater than 36-inches in diameter (or equivalent size).

The broad components of the wastewater treatment plant facilities include:

- Liquid treatment processes;
- Solids treatment processes; and,
- Deepwater outfalls, located in the San Francisco Bay and Pacific Ocean.

Operating a combined system, WWT treats both sanitary sewage and urban stormwater – commonly referred to as wastewater. The maximum daily treatment capacity of the existing system is 575 million gallons. On an annual basis the system treats approximately 40 billion gallons.

Program Phasing:

The 2016 SSIP Baseline endorsed by the SFPUC Commission is to be implemented in three (3) overlapping phases. A summary of the endorsed Program phases is stated below:

Phase 1: \$2,910 million

Planning, environmental review, and final design through proposed construction of projects in the following subprograms:

- Biosolids Digester Facilities Project
- SEP New Headworks
- SEP Improvements
- OSP Improvements
- NPF Improvements
- Interceptors/Tunnels/Odor Control
- Interdepartmental (Collection System)
- Pump Stations and Force Main Improvements
- CSD and Transport/Storage Structures
- Stormwater Management
- Flood Resilience
- Land Reuse

Phase 1 also includes planning through preliminary design for the following projects:

- OSP Condition Assessment Repairs
- Central Bayside System Improvement Project (CBSIP)
- Watershed Stormwater Management
- Flood Resilience

Phase 2: \$3,140 million

Final design through proposed construction of the following projects:

- OSP Condition Assessment Repairs
- CBSIP
- Watershed Stormwater Management
- Flood Resilience

Also includes planning, environmental review, and final design through proposed construction of the following projects:

- Demolition of the Existing Southeast Plant Digesters and Southside Renovation
- Southeast Plant Wet-Weather Primary Clarification Replacement
- SEP, OSP, and NPF Seismic and Structural Upgrades
- OSP Grit and Process Upgrades
- NPF Odor, Process and Security Upgrades
- Sewer Improvements
- Interdepartmental (Collection System)
- Pumps and Pump Stations Upgrades
- CSD Structure Improvements and Backflow Prevention

Phase 3: \$926 million

Final design through proposed construction for the following projects:

- SEP Process Improvements
- SEP, OSP, and NPF Seismic and Structural Upgrades
- OSP and NPF Grit, Odor and Monitoring Upgrades
- Pumps and Pump Stations Upgrades
- CSD Structure Improvements and Backflow Prevention
- Watershed Stormwater Management

SSIP Phase 1 Revised Baseline:

As reflected in Table 1.1, the SSIP Phase 1 Baseline Budget and Schedule were revised in 2018, and these revisions were approved by the San Francisco Public Utilities Commission on April 24, 2018. The revised program is referred to as the “2018 SSIP Revised Baseline”. The 2018 Approved Budget for SSIP Phase 1 is \$2,979 million, which is about \$68 million higher than 2016 Baseline Budget. The 2018 Approved Program Completion is May 2025, which is 18 months earlier than 2016 Baseline Program Completion.

Refer to Appendix 1 for scope description of all projects in Phase 1.

Table 1.1 SSIP Phase I Program Revision

Program Revision	Commission Approval	Budget (\$Million)	Schedule*
2016 (Baseline)	March 22, 2016	\$2,910.4	10/30/26
2018 (Latest Approved)	April 24, 2018	\$2,978.7	05/01/25

* Final Program Completion Date

Table 1.2 Other SSIP Projects

Program Revision	Commission Approval	Budget (\$Million)	Schedule*
2018 (Baseline)	December 11, 2018	\$430.5	06/30/28

* Final Program Completion Date

I. SSIP Quarterly Report

2. PROGRAM PHASE 1 STATUS

Figure 2.1 shows the total Current Approved Budget for the SSIP Phase 1 projects remaining in each phase of the program as of September 30, 2020. The number of projects currently active in each phase is shown in parentheses.

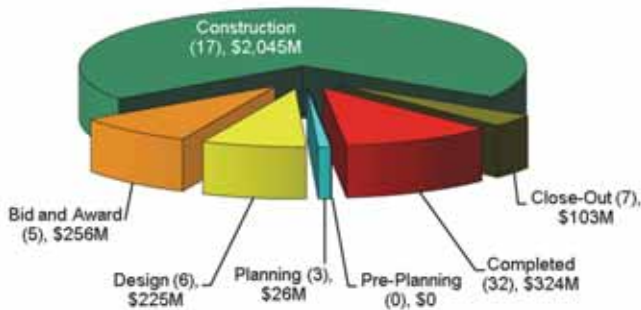


Figure 2.1 Total Current Approved Budget for SSIP Phase 1 Projects Active in Each Phase

Figure 2.2 shows the number of SSIP Phase 1 projects in the following stages of the program as of September 30, 2020: Pre-construction, Construction, and Post-construction.

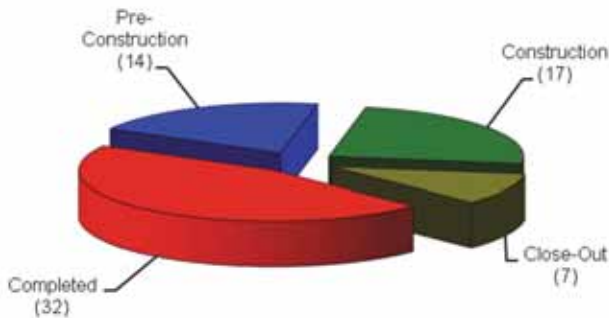


Figure 2.2 Number of SSIP Phase 1 Projects in Pre-construction, Construction, and Post-construction

Figure 2.3 summarizes the environmental review and permitting status of the SSIP Phase 1 projects as of September 30, 2020.

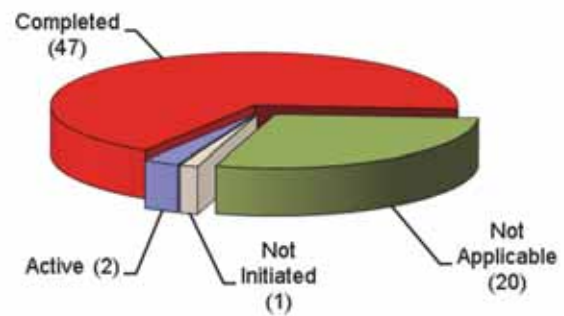


Figure 2.3 Program Environmental and Permitting Status of the SSIP Phase 1 Projects

Figure 2.4 shows the total Current Approved Budget for the Other SSIP projects remaining in each phase of the program as of September 30, 2020. The number of projects currently active in each phase is shown in parentheses.

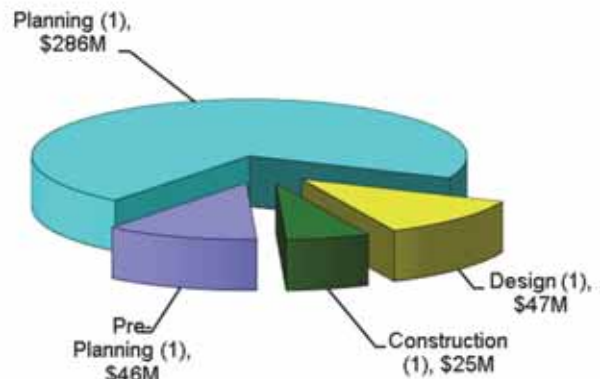


Figure 2.4 Total Current Approved Budget for Other SSIP Projects Active in Each Phase

Figure 2.5 shows the number of Other SSIP projects in the following stages of the program as of September 30, 2020: Pre-construction, Construction, and Post-construction.

Figure 2.6 summarizes the environmental review and permitting status of the Other SSIP projects as of September 30, 2020.

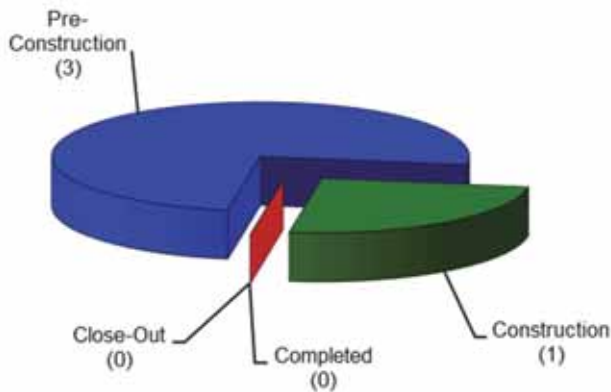


Figure 2.5 Number of Other SSIP Projects in Pre-construction, Construction, and Post-construction

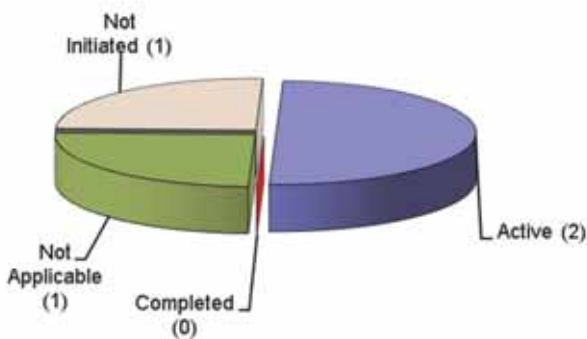


Figure 2.6 Program Environmental and Permitting Status of the Other SSIP Projects

KEY ACCOMPLISHMENTS

Programmatic

- Continued construction on the Southeast Area Major projects which include BDFP, Headworks and the Southeast Community Center.
- Provided SFPUC Commissioner Sophie Maxwell and SFPUC Executive team a tour of the work in progress.
- Provided SFPUC Commission with update on the three major projects in the Southeast including the progress of planning for the January 2021 closure of Jerrold Avenue between Rankin and Phelps Streets.

- On September 12, hosted “Fixing an Airplane While Its in Flight” Virtual Explorations webinar on the vital upgrades being implemented as part of the Sewer System Improvement Program
- Continued extensive remote work practices and ongoing review of construction activities including site-specific health and safety protocols in response to Shelter-in-Place Public Health Order.
- Phase 1 utility work has completed on the Van Ness Improvement Project as of late August.

COMMUNICATIONS

In the news

- Six (6) media mentions of SSIP-related projects, including stories on: WIFIA loan for wastewater upgrades, SFPUC’s Virtual Exploration Webinar series offering virtual tours, upgrades at the Southeast Treatment Plant, and bicycle safety detours as part of the Force Main Rehabilitation at Embarcadero and Jackson Project.
- Over 262,000+ impressions were recorded this quarter through social media outlets (Facebook, Twitter, Instagram, YouTube, Nextdoor, and LinkedIn), SSIP webpage views, and community meeting attendees.

Outreach

- August – Notice to Southeast Community residents in the project area of the upcoming Cargo Way Sewer Box Replacement Project construction activities.
- Monthly citywide and District 10 focused email newsletters to 4,500+ recipients providing information on the status of construction projects, the SFPUC Community Assistance Program, grants available to small Bayview businesses, and other community resources
- Southeast Construction Updates Email - bi-weekly email newsletters to 500+ recipients providing construction updates on projects underway at the Southeast Treatment Plant and the new Southeast Community Center at 1550 Evans, including the planning for the

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January 2021 closure of Jerrold Avenue between Rankin and Phelps Streets.

- Force Main Rehabilitation at Embarcadero and Jackson Project – ongoing coordination with Supervisor Peskin’s office and local community to develop and implement safe bicycle detour options through project site
- August - Project completion outreach and notification for the Baker Beach Green Streets project
- August - Project completion outreach and notification for the Baker Beach Green Streets project
- Aug. 24 – Outreach to The Sequoias for water switchover coordination between its building engineer and management, the City water department and MTA for the Geary Rapid Transit project.
- September 11 – Published SFPUC Newsroom story on the Headworks Art installation to highlight the SFPUC’s role in supporting the community through art and commitment to environmental justice
- September 11 – Published SFPUC Newsroom story on the Headworks Art installation to highlight the SFPUC’s role in supporting the community through art and commitment to environmental justice
- September 21-25 – Celebrate United for Infrastructure Week with content shared across online accounts promoting flood resiliency projects and grants, worker profiles, and major project updates
- September – Community meeting with Supervisor Stefani and residents of the Baker Beach Green Streets project to coordinate on additional traffic control measures at recently completed green infrastructure project site

Upcoming Outreach

- October – Notice to Southeast Community residents in the project area of the Biosolids Digester Facilities Project of the upcoming closure of Jerrold Avenue between Rankin and Phelps Streets.
- November – Outreach to nearby businesses and community organizations for work

during the Holiday Moratorium as part of the Force Main Rehabilitation at Embarcadero and Jackson Project

- Project update notification and preconstruction outreach as part of the 15th and Wawona and Vicente Streets Water and Stormwater Improvements project
- Project outreach and notification for completion of the Sunset Boulevard Greenway project
- December – support construction milestone virtual event for Southeast Community Center as part of larger southeast investments including upgrades to Southeast Treatment Plant

3. PROGRAM COST SUMMARY

Table 3.1 provides a summary of the expenditures to date and cost variances for SSIP Phase 1 projects. The authorized SSIP Budget for Phase 1 is \$2,978.7 million and the Current Forecasted Cost (based on the proposed project list shown in Appendix 1) at completion is \$3,640.8 million (\$662.1 million over the Current Approved Budget).

Table 3.2 provides a cost summary of Other SSIP projects. The Current Approved Budget and Current Forecasted Cost Other SSIP projects are \$430.5 million and \$539.4 million, respectively (\$108.9 million over the Current Approved Budget).

Table 3.1 Phase 1 Cost Summary

Subprograms	Expenditures to Date (\$ Million) (A)	Current Approved Budget (\$ Million) (B)	Current Forecasted Cost (\$ Million) (C)	Cost Variance (\$ Million) (D = B - C)
Treatment Plants	\$703.5	\$2,250.7	\$2,856.7	(\$606.0)
Biosolids Digester Facilities Project	\$302.0	\$1,276.4	\$1,680.7	(\$404.2)
SEP New Headworks (Grit) Replacement	\$164.5	\$418.8	\$618.8	(\$200.0)
Southeast Plant (SEP) Improvements	\$174.1	\$340.6	\$339.5	\$1.1
Oceanside Plant (OSP) Improvements	\$51.4	\$139.6	\$158.3	(\$18.7)
North Point Facility (NPF) Improvements	\$11.5	\$75.2	\$59.5	\$15.7
Collection System	\$255.0	\$504.8	\$519.2	(\$14.4)
Central Bayside System Improvement Project (CBSIP)	\$36.1	\$64.0	\$64.0	-
Interceptors/Tunnels/Odor Control	\$19.5	\$65.2	\$60.0	\$5.2
Interdepartmental Projects	\$38.8	\$87.5	\$96.6	(\$9.1)
Pump Stations and Force Main Improvements	\$57.9	\$77.6	\$82.1	(\$4.5)
CSD and Transport/Storage Structures	\$11.7	\$27.0	\$24.0	\$3.0
Stormwater Management	\$69.1	\$95.8	\$97.2	(\$1.5)
Flood Resilience Projects	\$22.0	\$87.7	\$95.2	(\$7.5)
Land Reuse Projects	\$85.5	\$98.2	\$89.9	\$8.3
Program Management (PM)	\$121.1	\$125.0	\$175.0	(\$50.0)
SSIP Phase 1 Total	\$1,165.1	\$2,978.7	\$3,640.8	(\$662.1)

Table 3.2 Other SSIP Cost Summary

Subprograms	Expenditures to Date (\$ Million) (A)	Current Approved Budget (\$ Million) (B)	Current Forecasted Cost (\$ Million) (C)	Cost Variance (\$ Million) (D = B - C)
Treatment Plants	-	\$72.0	\$131.4	(\$59.4)
Oceanside Plant (OSP) Improvements*	-	\$72.0	\$131.4	(\$59.4)
Collection System	\$4.9	\$358.5	\$408.0	(\$49.5)
Interceptors/Tunnels/Odor Control	\$1.3	\$47.0	\$96.5	(\$49.5)
Stormwater Management	\$1.4	\$25.0	\$25.0	-
Flood Resilience Projects	\$2.2	\$286.5	\$286.5	-
Other SSIP Total	\$4.9	\$430.5	\$539.4	(\$108.9)

* \$46.7 million is approved under the current 10-Year CIP plan.

4. PROGRAM SCHEDULE SUMMARY

Figure 4.1 compares the 2016 Baseline, 2018 Approved, and Current Forecasted Schedules for the Phase 1 of the SSIP. Refer to the “Cost and Schedule Status” notes in Section 5 for the criteria associated with the three color-coded Forecast Status levels in Figure 4.1 – Meet Requirements, Need Attention, and Exceed Limits.

Overall completion schedule for the revised SSIP Phase 1 was approved by the SFPUC Commission in April 2018. The approved schedule completion for the overall SSIP Phase 1 is in May 2025. The current projects forecasted completion of the SSIP Phase 1 is in July 2028 (39-month behind schedule).

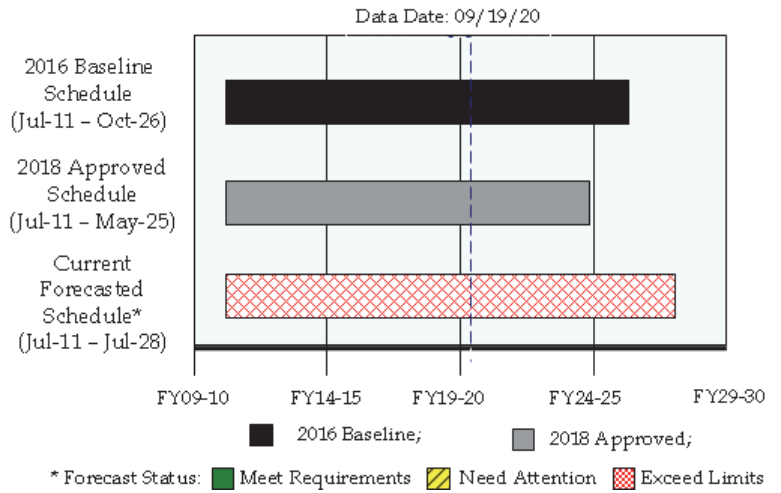


Figure 4.1 SSIP Phase 1 Schedule Summary

5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 09/19/20

Project Name	Active Phase (**)	2016 Baseline Budget (a)	‡ 2018 Approved Budget (b)	‡ Current Approved Budget (c)	Current Forecasted Cost (d)	Expenditures To Date (e)	Cost Variance (f = c - d)	Cost Status (+)	2016 Baseline Completion (g)	‡ 2018 Approved Completion (h)	‡ Current Approved Completion (i)	Current Forecasted Completion (j)	Schedule Variance (k = i - j)	Schedule Status (+)	Project Data Sheet
Treatment Facilities															
Biosolids Digester Facilities Project															
CWWSIPDP01 - SEP Biosolids Digester Facilities Project	CN	\$ 1,276,447	\$ 1,276,447	\$ 1,276,447	\$ 1,680,693	\$ 302,003	(\$404,246)	●	05/01/25	05/01/25	05/01/25	07/26/28	38.9 mo. Late	●	See Section 6
New Headworks (Grit) Replacement															
CWWSIPSE02 - SEP New Headworks (Grit) Replacement	CN	\$ 358,631	\$ 418,835	\$ 418,835	\$ 618,835	\$ 164,462	(\$200,000)	●	12/29/23	09/30/24	09/30/24	09/30/24	-	★	See Section 6
Southeast Plant (SEP) Improvements															
CWWSIPSE07 - SEP Facility-wide Distributed Control System Upgrade	DS	\$ 62,988	\$ 62,988	\$ 62,988	\$ 62,988	\$ 7,630	-	★	08/31/23	08/31/23	08/31/23	07/26/28	58.9 mo. Late	●	See Section 6
CWWSIPSE08 - SEP Seismic Reliability and Condition Assessment Improvements	CN	\$ 53,152	\$ 53,152	\$ 53,152	\$ 44,152	\$ 26,238	\$ 9,000	★	12/31/19	09/30/21	09/30/21	09/09/22	11.3 mo. Late	●	See Section 6
CWWSIPSE10 - SEP Power Feed and Primary Switchgear Upgrades	BA	\$ 69,841	\$ 84,340	\$ 84,340	\$ 95,875	\$ 8,229	(\$11,535)	●	07/31/20	12/30/22	12/30/22	06/18/24	17.6 mo. Late	●	See Section 6
Oceanside Plant (OSP) Improvements															
CWWSIPTPOP02 - Westside Pump Station Reliability Improvements	BA	\$ 70,500	\$ 71,500	\$ 71,500	\$ 87,800	\$ 18,216	(\$16,300)	●	12/02/21	06/30/23	06/30/23	12/31/24	18.1 mo. Late	●	See Section 6
CWWSIPTPOP03 - OSP Digester Gas Utilization Upgrade	CN	\$ 39,688	\$ 45,888	\$ 45,888	\$ 54,388	\$ 19,141	(\$8,500)	●	06/15/20	06/04/21	06/04/21	09/14/22	15.4 mo. Late	●	See Section 6

‡ The 2018 Budgets and Schedules for the SSIP Phase 1 projects were approved by the SFPUC Commission in April 2018.

* Exclude projects with completed construction and projects that are no longer active (i.e., deleted projects, closed projects, and projects combined with other projects)

**** Phase Status Legend**

PL	Planning	DS	Design
BA	Bid & Award	CN	Construction

‡ The Current Budgets and Schedules for the SSIP Phase 1 projects were approved by the SFPUC Commission in April 2018.

+ Cost and Schedule Status

- ★ Meet Requirements: Forecasted Cost/Schedule is within Approved Budget/Schedule.
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I. SSIP Quarterly Report

Q1-FY2020-2021 (07/01/20 - 09/30/20)

Project Name	Active Phase (**)	2016 Baseline Budget (a)	‡ 2018 Approved Budget (b)	‡ Current Approved Budget (c)	Current Forecasted Cost (d)	Expenditures To Date (e)	Cost Variance (f = c - d)	Cost Status (+)	2016 Baseline Completion (g)	‡ 2018 Approved Completion (h)	‡ Current Approved Completion (i)	Current Forecasted Completion (j)	Schedule Variance (k = i - j)	Schedule Status (+)	Project Data Sheet
Treatment Facilities (cont'd)															
North Point Facility (NPF) Improvements															
CWWSIPTPNP02 - North Shore Pump Station Wet Weather Improvements	BA	\$ 69,803	\$ 55,000	\$ 55,000	\$ 55,000	\$ 7,048	-	★	12/31/20	07/30/21	07/30/21	12/29/23	29.0 mo. Late	●	See Section 6
Collection System															
Central Bayside System Improvement Project (CBSIP)															
CWWSIPCT01 - Central Bayside System Improvement Project - Phase 1	DS	\$ 64,000	\$ 64,000	\$ 64,000	\$ 64,000	\$ 36,079	-	★	06/30/17	12/31/18	12/31/18	06/30/21	30.0 mo. Late	●	See Section 6
Interceptors / Tunnels and Odor Control															
10033745 - SSIP Sewer Improvements Projects	BA	\$ 20,462	\$ 20,462	\$ 20,462	\$ 9,875	\$ 910	\$ 10,588	★	11/22/22	11/22/22	11/22/22	11/22/22	-	★	See Section 10
CWWSIPCSSR03 - Kansas and Marin Streets Sewer Improvements	DS	\$ 7,734	\$ 17,477	\$ 17,477	\$ 28,380	\$ 3,852	(\$10,903)	●	11/27/18	12/15/21	12/15/21	12/29/23	24.5 mo. Late	●	See Section 6
CWWSIPCSSR11 - Cargo Way Sewer Box Odor Reduction	CN	\$ 6,442	\$ 6,442	\$ 6,442	\$ 8,743	\$ 1,838	(\$2,301)	●	02/11/20	07/12/21	07/12/21	12/30/22	17.6 mo. Late	●	See Section 6
Interdepartmental Projects															
10033106 - Geary BRT Sewer Improvements Phase 2	PL	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 35	-	★	01/08/18	03/30/20	03/30/20	12/29/23	45.0 mo. Late	●	See Section 6
CWWSIPCSSR04 - Van Ness BRT Sewer Improvements	CN	\$ 14,957	\$ 21,100	\$ 21,100	\$ 25,000	\$ 13,691	(\$3,900)	●	06/04/20	06/30/21	06/30/21	12/30/21	6.0 mo. Late	●	See Section 6
CWWSIPCSSR05 - Better Market Street Sewer Improvements - Phase 1	DS	\$ 32,405	\$ 9,753	\$ 9,753	\$ 15,000	\$ 1,627	(\$5,247)	●	01/24/23	03/31/22	03/31/22	09/30/24	30.0 mo. Late	●	See Section 6
CWWSIPCSSR06 - Geary BRT Sewer Improvements Phase 1	CN	\$ 17,043	\$ 12,900	\$ 12,900	\$ 12,900	\$ 8,911	-	★	07/15/19	02/12/21	02/12/21	07/12/21	4.9 mo. Late	⚠	See Section 6
CWWSIPCSSR08 - Mission Bay Loop Sewer Improvement	CN	\$ 1,794	\$ 718	\$ 718	\$ 718	\$ 535	-	★	11/01/17	12/31/18	12/31/18	12/30/21	36.0 mo. Late	●	See Section 6

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**** Phase Status Legend**

PL	Planning	DS	Design
BA	Bid & Award	CN	Construction

‡ The Current Budgets and Schedules for the SSIP Phase 1 projects were approved by the SFPUC Commission in April 2018.

+ Cost and Schedule Status

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I. SSIP Quarterly Report

Q1-FY2020-2021 (07/01/20 - 09/30/20)

Project Name	Active Phase (**)	2016 Baseline Budget (a)	‡ 2018 Approved Budget (b)	‡ Current Approved Budget (c)	Current Forecasted Cost (d)	Expenditures To Date (e)	Cost Variance (f = c - d)	Cost Status (+)	2016 Baseline Completion (g)	‡ 2018 Approved Completion (h)	‡ Current Approved Completion (i)	Current Forecasted Completion (j)	Schedule Variance (k = i - j)	Schedule Status (+)	Project Data Sheet
Collection System (cont'd)															
Interdepartmental Projects (cont'd)															
CWWSIPCSSR13 - Taraval Sewer Improvements	CN	\$ 20,400	\$ 33,136	\$ 33,136	\$ 34,693	\$ 7,661	(\$1,557)	⚠	10/19/20	04/09/21	04/09/21	12/29/23	32.7 mo. Late	●	See Section 6
Pump Stations and Forcemain Improvements															
CWWSIPCSPS02 - Force Main Rehab at Embarcadero and Jackson Streets	CN	\$ 5,845	\$ 9,909	\$ 9,909	\$ 11,009	\$ 2,147	(\$1,100)	●	12/12/18	10/29/21	10/29/21	09/29/22	11.0 mo. Late	●	See Section 6
CWWSIPCSPS03 - Mariposa Dry-Weather Pump Station & Force Main Improvements	CN	\$ 28,221	\$ 28,221	\$ 28,221	\$ 31,932	\$ 17,188	(\$3,712)	●	01/21/21	06/21/21	06/21/21	12/30/22	18.3 mo. Late	●	See Section 6
CWWSIPCSPS06 - Griffith Pump Station Improvements	CN	\$ 7,029	\$ 14,977	\$ 14,977	\$ 15,427	\$ 14,813	(\$450)	⚠	07/19/19	12/10/19	12/10/19	09/30/21	21.7 mo. Late	●	See Section 6
CSD and Transport/Storage Structures															
CWWSIPCSCD03 - Beach and Sansome Street CSD Rehabilitation	CN	\$ 2,523	\$ 3,150	\$ 3,150	\$ 6,000	\$ 3,320	(\$2,850)	●	12/20/19	04/30/20	04/30/20	08/31/21	16.0 mo. Late	●	See Section 6
CWWSIPCSCD04 - CSD Backflow Prevention and Monitoring	BA	\$ 15,000	\$ 13,617	\$ 13,617	\$ 12,041	\$ 3,326	\$ 1,577	★	10/01/21	10/01/21	10/01/21	09/30/22	12.0 mo. Late	●	See Section 6
CWWSIPCSCD05 - 5th, North 6th and Division Street CSD Rehabilitation	CN	\$ 4,635	\$ 5,390	\$ 5,390	\$ 5,390	\$ 4,484	-	★	07/13/20	07/13/20	07/13/20	08/31/21	13.6 mo. Late	●	See Section 6
Early Implementation Projects															
CWWSIPFCDB01 - Sunset Green Infrastructure	CN	\$ 10,746	\$ 8,439	\$ 8,439	\$ 9,027	\$ 7,039	(\$588)	⚠	12/31/20	09/30/21	09/30/21	09/30/21	-	★	See Section 6
CWWSIPFCDB05 - Richmond Green Infrastructure	CN	\$ 10,119	\$ 12,060	\$ 12,060	\$ 13,008	\$ 10,809	(\$948)	⚠	04/30/21	04/30/21	04/30/21	06/30/21	2.0 mo. Late	⚠	See Section 6
CWWSIPFCDB06 - Yosemite Green Infrastructure	PL	\$ 12,804	\$ 16,050	\$ 16,050	\$ 17,101	\$ 3,373	(\$1,051)	⚠	12/21/21	04/05/24	04/05/24	06/30/26	26.8 mo. Late	●	See Section 6

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**** Phase Status Legend**

PL	Planning	DS	Design
BA	Bid & Award	CN	Construction

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I. SSIP Quarterly Report

Q1-FY2020-2021 (07/01/20 - 09/30/20)

Project Name	Active Phase (**)	2016 Baseline Budget (a)	‡ 2018 Approved Budget (b)	‡ Current Approved Budget (c)	Current Forecasted Cost (d)	Expenditures To Date (e)	Cost Variance (f = c - d)	Cost Status (+)	2016 Baseline Completion (g)	‡ 2018 Approved Completion (h)	‡ Current Approved Completion (i)	Current Forecasted Completion (j)	Schedule Variance (k = i - j)	Schedule Status (+)	Project Data Sheet
Collection System (cont'd)															
Watershed Stormwater Management															
CWWSIPFCDB12 - Wawona St and 15th Ave Stormwater Detention Project	DS	\$ 22,710	\$ 22,710	\$ 22,710	\$ 45,000	\$ 3,131	(\$22,290)	●	04/07/20	12/30/21	12/30/21	07/08/24	30.3 mo. Late	●	See Section 6
CWWSIPFCGI01 - Watershed Stormwater Management (Planning Only)	PL	\$ 7,000	\$ 7,000	\$ 7,000	\$ 9,000	\$ 2,811	(\$2,000)	●	07/12/19	12/30/20	12/30/20	06/30/22	18.0 mo. Late	●	See Section 6
Advanced Rainfall and Operation Decision System															
CWWSIPFCRP03 - Operational Decision System Phase 2	CN	\$ 7,798	\$ 8,721	\$ 8,721	\$ 6,721	\$ 3,047	\$ 2,000	★	06/26/20	06/26/20	06/26/20	09/30/25	63.2 mo. Late	●	See Section 6
Flood Resilience Projects															
CWWSIPFCDB14 - Folsom Area Stormwater Improvement Project	DS	\$ 36,265	\$ 38,411	\$ 38,411	\$ 38,000	\$ 6,684	\$ 411	★	11/01/19	06/01/20	06/01/20	01/31/23	32.0 mo. Late	●	See Section 6
Sewer/Collection System (Other SSIP)															
Other SSIP Projects															
10034718 - Large Sewer Condition Assessment and Improvements	DS		\$ 47,000	\$ 47,000	\$ 96,520	\$ 1,324	(\$49,520)	●		05/20/24	05/20/24	12/07/26	30.6 mo. Late	●	See Section 6
Stormwater Management/Flood Control (Other SSIP)															
Watershed Stormwater Management															
10034553 - Green Infrastructure Grant Program (GIGP)	CN		\$ 25,000	\$ 25,000	\$ 25,000	\$ 1,373	-	★		06/30/28	06/30/29	06/30/29	-	★	See Section 10
Flood Resilience Projects															
10034360 - Lower Alemany Area Stormwater Improvement Project	PL		\$ 286,460	\$ 286,460	\$ 286,460	\$ 2,158	-	★		12/31/26	12/31/26	03/13/28	14.4 mo. Late	●	See Section 6

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**** Phase Status Legend**

PL	Planning	DS	Design
BA	Bid & Award	CN	Construction

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+ Cost and Schedule Status

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- Exceed Limits: Forecasted Cost is over Approved Budget by 10% or more. Or Forecasted Schedule is over Approved Schedule by greater than 6 months or 10% or more.

6. PROJECTS NOT WITHIN BUDGET AND/OR SCHEDULE (THRESHOLD LIMITS)

CWWSIPDP01 - SEP Biosolids Digester Facilities Project

Description: The proposed Biosolids Digester Facilities Project includes the planning, design and construction of new digestion and solids handling processes, which would replace the existing aged failing systems at the Southeast Water Pollution Control Plant (SEP). SEP is located adjacent to residents. The existing biosolids facilities employ aging/ outdated technologies for treatment, structural design and odor control. The new facilities are proposed to be located in the southeast area of San Francisco adjacent to SEP. It will include state-of-the art treatment processes producing biogas and Class A biosolids that can be reused for beneficial purposes. The new replacement facilities will meet SSIP levels of service, optimize operations and maintenance demands, satisfy present and future seismic and structural requirements, and minimize odor and visual impacts of the new Biosolids Digester Facilities Project on the surrounding community.

Program: Biosolids Digester Facilities Project	Project Status: Construction	Environmental Status: Completed (EIR)
Project Cost: Approved  \$1,276.45 Forecast*  \$1,680.69 Actual  \$302.00 M		Project Schedule: Approved Jul-11  May-25 Forecast* Jul-11  Jul-28 Project Percent Complete: 27.7%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	10/12/18✓	(A) N/A (B) N/A	08/26/19✓ 07/01/20✓	09/16/21 07/26/27

+ The project delivery method for this project is Construction Manager/General Contractor (CM/GC). WW-647R CM/GC Construction contract consists of: (A) Scope I, and (B) Scope II

Progress and Status:

Scope I (Demolition and Utility Relocation) - Construction work is continuing with the relocation of existing utilities and sewers and preparation of the site for the upcoming Scope II construction. The demolition of existing infrastructure at the project sites has been completed.

Scope II (New Biosolids Facilities - Remainder of the construction work) - As described at the February 25 Commission meeting, construction cost estimates at the 95% design phase came in much higher than expected with a longer construction duration exceeding the baseline budget and schedule. An extensive cost reduction effort was conducted to identify cost savings to mitigate the project cost and schedule impacts. Original project goals and Levels of Service are maintained and unchanged. Project scope changes include improvements to the contract and design specifications, a better and more efficient odor control strategy, deferral of the maintenance buildings to a future CIP project, and consideration of an alternate biogas end-use. The re-design to incorporate the scope changes are near completion. With the Construction

Manager/General Contractor approach, construction can still proceed concurrent with design. Notice-to-proceed for Scope II was issued on July 1 with the start of excavation, dewatering, shoring, foundation work. Other construction bid packages are being prepared and will be advertised in the next 2 to 3 quarters.

Issues and Challenges:

The forecasted project cost and schedule reflect the current project efforts (as described above). The budget is forecasted to be \$404 million higher than the current baseline budget with construction completion in July 2027. With the CM/GC approach, the project team will continue to evaluate construction cost impacts associated with current market conditions and explore design and construction approaches to improve cost and schedule.

I. SSIP Quarterly Report

CWWSIPSE02 - SEP New Headworks (Grit) Replacement

Description: This project involves the construction of a new all-weather 250 MGD Headworks facility, consisting of state of the art, screening, grit removal and odor control technologies. The project will include demolishing two existing antiquated Headworks facilities and existing influent lift station. The Headworks facility will install coarse screens, fine screens with washer/compactor units, and high efficiency grit removal and handling units. Also included are upgrades to the Bruce Flynn Pump Station and a new 50 MGD influent pump station. This project is being implemented in following distinct scopes: Scope I – Site Preparation; Scope II.A – Bruce Flynn Pump Station; Scope II.B/C – Influent Sewer and 50 MGD Southeast Lift Station; Scope III – 250 MGD Headworks and Odor Control Facilities.

The new odor control system will comprise of two stage odor treatment to minimize the odor impacts. The project will also improve visual aesthetics of the facility.

Program: New Headworks (Grit) Replacement	Project Status: Construction	Environmental Status: Completed (MND)
Project Cost:		Project Schedule:
Approved 	\$418.83 M	Approved Mar-13 Sep-24
Forecast* 	\$618.83 M	Forecast* Mar-13 Sep-24
Actual 	\$164.46 M	Project Percent Complete: 44.6%
 Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	05/31/17✓	(A) N/A (B) N/A (C) N/A (D) TBD	11/15/17✓ 12/17/18✓ 07/22/19✓ 04/23/24	05/01/20✓ 11/14/20 02/29/24 09/30/24

+ The project delivery method for this project is Construction Manager/General Contractor (CM/GC). (A, B, C) WW-628 CM/GC Construction which consist of: (A) Scope I; (B) Scope II; and (C) Scope III (D) Demolition Contract – not yet awarded

** Typographical error in June 2020 quarterly report's cost forecast was corrected in this report.*

Progress and Status:

Scope I (Site Preparation) – Complete
 Scope II.A (BFS Improvements) – CM/GC submitted request for substantial completion on 9/16/2020. Pump Station acceptance testing to continue until Final Completion in order to test during wet weather.
 Scope III (Main Headworks) – Drilled piers installation continues, 160 of 452 piers installed. Pre-bid meetings for process piping, HVAC, Ductwork, and Demolition held on 9/1/2020 and 9/2/2020.

Issues and Challenges:







Similar to last quarter's report, the forecast project cost reflects latest construction efforts related to Scope II.A and Scope III. Project team continues to evaluate construction cost impacts associated with current market conditions and continues to explore cost control approaches.



Scope III - Earthwork/Drilled Piers

CWWSIPSE07 - SEP Facility-wide Distributed Control System Upgrade

Description: This project addresses distributed control system (DCS) upgrades within the Southeast Pollution Control Plant (SEP), Oceanside Pollution Control Plant (OSP), North Point Wet Weather Facility (NPF), Channel Pump Station (CHS), Westside Pump Station (WSS), and Bruce Flynn Pump Station (BFS). Under this project, OSP, NPF, and WSS DCS upgrades include planning/design only to ensure system-wide consistency. Both hardware and software upgrades integrating field instrumentation, control devices, communications hardware, processing hardware, interface hardware, and associated software packages into a unified system are required to provide real-time, system-wide monitoring and control. Coordination of monitoring parameters in various systems to reflect geo-spatial relationships will also be required to maintain compatibility and consistency of the input data used for process control.

Program: Southeast Plant (SEP) Improvements	Project Status: Design	Environmental Status: Not Applicable
Project Cost:		Project Schedule:
Approved  \$62.99 M	Approved Feb-14  Aug-23	
Forecast*  \$62.99 M	Forecast* Feb-14  Jul-28	
Actual  \$7.63 M	Project Percent Complete: 25.0%	
		

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	See Note	See Note+	07/01/21	01/26/28

+ The project delivery method for this project is Progressive Design-Build with pre-design/design components.

** BEM has determined upgrades to the DCS Controls involves primarily computer hardware and software which do not fall within the definition of a "project" under CEQA because there would be no physical change in the environment.

Progress and Status:

The project team's work on the 35% DCS design at specific Southeast Water Pollution Control Plant (SEP) process facilities is ongoing. Field verification activities at Wastewater facilities located outside of SEP, such as at the Northpoint Wet Weather Treatment Facility (NPF) & Northshore Pump Station (NSS), commenced this quarter.

Issues and Challenges:

As per the previous quarterly report, the forecast project finish delay is due to this project's interdependency with CWWSIPDP01 Biosolids Digester Facilities Project (BDFP). The DCS project team continuously evaluates and coordinates impacts on the project's schedule and sequence that result from its interdependence with other SSIP projects' progress.



Updated Bruce Flynn Pump Station Control Room

I. SSIP Quarterly Report

CWWSIPSE08 - SEP Seismic Reliability and Condition Assessment Improvements

Description: As part of the condition assessment effort, numerous seismic, conditional and operational issues associated with the existing facilities will require remedial attention before other program projects are completed. This project represents immediate improvements to the existing facilities at SEP identified as part of the condition assessment effort that are not specifically included as part of another near-term SSIP Phase 1 project. This project includes items for rehabilitation such as concrete spalling repair and seismic retrofit of priority process buildings. Seismic retrofit and structural repairs to the Sedimentation Building and channel structures (SEP 530 Contact Channel, SEP 540 Effluent Control Structure, 6' reinforced concrete pipe from SEP 540 to Booster Pump Station, Conduits C/D/E, SEP 525 Box Channel, and 9' reinforced concrete pipe to Junction Structure #5) will be completed.

Program: Southeast Plant (SEP) Improvements	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved \$53.15 M	Approved Jun-13 Sep-21	
Forecast* \$44.15 M	Forecast* Jun-13 Sep-22	
Actual \$26.24 M	Project Percent Complete: 70.7%	
<div style="display: flex; justify-content: space-between; font-size: small;"> Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits </div>		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	03/25/16✓	(A) 07/01/17✓ (B) 03/04/19✓	09/04/18✓ 09/09/19✓	05/01/20✓ 03/08/22

Project includes multiple construction contracts.

(A) Southeast Water Pollution Control Plant New Headworks Facility – Scope 1 (North side, WW-628)

(B) Seismic Reliability and Condition Assessment Improvements (WW-665)

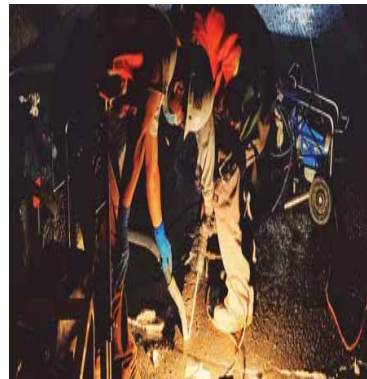
Progress and Status:

The dry weather season rehabilitation (i.e., cleaning, surface preparation and coating) of SEP 540 (Plant Effluent Control Structure), SEP 044 (Conduits C, D & E) have been completed. At SEP 042 (Primary Sedimentation), continuing sack and patch of concrete surfaces and installation of scum pumps and associated piping. Preparing to demo and replace sidewalk along Road C, with paving to follow.

Issues and Challenges:

As indicated previously, forecast project cost is lower due to the low bid received for WW-665. Forecast milestone for northside seismic work final completion has increased to align with approved construction duration under WW-628 Scope I. Forecast project schedule for WW-665 is trending longer due to time lost during bid/award phase and to accommodate dry weather constraints.

Currently project team is forecasting to exceed the construction contingency amount due to additional repair, surface prep, coating thickness and oversight that were required to address unforeseen pre-existing conditions inside SEP 044 Conduits C, D & E to facilitate coating. Project Team is also proceeding with




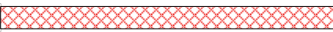




Crack repairs at floor in SEP-540

redesign of new scum system and drum screens. These scope additions are being incorporated as change orders to the Contract.

CWWSIPSE10 - SEP Power Feed and Primary Switchgear Upgrades

Description: The project is intended to address the deficiency of the existing medium voltage power distribution system (MV PDS), obtain a second redundant power feed from PG&E to upgrade the treatment plant with redundant electrical feeds, construct a new main switchgear sized to provide adequate power to new facilities, replace aging unit substations, and integrate the electric services of the nearby pump stations to the SEP medium voltage network. The project consists of installing a new redundant PG&E service, upgrading the existing Hunters Point feed to 12 MW, upgrading the main switchgear, and replacing fifteen aging existing primary unit substations at SEP. Additionally, it involves integration of Bruce Flynn Station and Booster Pump Station to SEP MV PDS, enhanced Energy Monitoring and Management System (EMMS), coordination with other SEP projects (particularly BDFP) to plan the need for emergency generators for critical processes, and construction of a new duct bank from the main switchgear to an electrical manhole.

Program: Southeast Plant (SEP) Improvements	Project Status: Bid and Award	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved 	\$84.34 M	Approved Jun-14  Dec-22
Forecast* 	\$95.87 M	Forecast* Jun-14  Jun-24
Actual 	\$8.23 M	Project Percent Complete: 11.9%
		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP	Construction Final Completion
Current Forecast	02/22/18✓	03/05/19✓ - 02/20/20 ✓	10/05/20	12/18/23

+ Contract WW-662 was originally bid in March 2019. This project is now schedule to re-advertise in January 2020.

Progress and Status:

In July 2020, construction contract WW-662R was awarded to the pre-qualified bidder submitting the lowest responsive bid. In September 2020, the Notice to Proceed letter was issued to the contractor to commence the work for the contract on October 5, 2020.

The project team is currently refining the project description to reflect the new redundant power feed by SFPUC in lieu of PG&E.

Issues and Challenges:

Similar to last quarterly report, the forecast project cost has increased as a result of the lowest bid price received. The forecast project schedule duration has increased due to the additional time required for Bid/Award activities.



SEP Building 032 Conceptual Rendering

I. SSIP Quarterly Report

CWWSIPTPOP02 - Westside Pump Station Reliability Improvements

Description: The project consists of screenings improvements including, replacement of existing bar screens, and addition of screening washing and compaction systems. The project also includes replacement of existing wet-weather pumps to provide pump redundancy. The construction would take place within the existing structure and includes four new submersible pumps and 200 linear feet (LF) of discharge force main. Other improvements under this project include increasing the power feeder capacity at WSS to account for additional wet weather pumping capacity and provide a reliable redundant power source from PG&E, and replacement of the existing odor control units at the WSS with dilution ventilation fans and ducting.

Program: Oceanside Plant (OSP) Improvements	Project Status: Bid and Award	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved \$71.50 M	Approved Jun-13 Jun-23	
Forecast* \$87.80 M	Forecast* Jun-13 Dec-24	
Actual \$18.22 M	Project Percent Complete: 23.2%	
Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 06/13/13✓ (B) 04/20/17✓	05/06/14✓ 09/08/20✓	10/15/14✓ 03/15/21	03/27/17✓ 06/27/24

+ Project includes multiple construction contracts.
 (A) WW-572R Westside Pump Station Discharge Pipe Manifold Upgrade; (B) WW-645 Westside Pump Station Reliability Improvements
 ** The Environmental Approval for Contract A - Westside Pump Station Discharge Pipe Manifold Upgrade was achieved in Project CWWRNRTF47. The Environmental Approval for Contract B – Westside Pump Station Reliability Improvements is shown in the above table.

Progress and Status:

(A) Construction Contract WW-572R WSS Discharge Pipe Manifold Upgrade contract closeout has been completed.
 (B) WW-645R Westside Pump Station Reliability Improvements contract was advertised in September 2020. The Contract pre-bid conference and job-walk were completed in September 2020. Contract bids are targeted for November 2020.

Issues and Challenges:




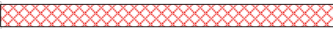


Similar to the last quarterly report, the schedule variance reflects the duration for rescoping/redesign elements of the project to align with the baseline construction budget. The WW-645R 100% design construction cost estimate is trending above the baseline budget. SFPUC is continuing discussions with SF Zoo staff regarding real estate license agreement for construction staging areas required for the project.



Proposed Westside Reliability Improvements architectural rendering of project site improvements

CWWSIPTPOP03 - OSP Digester Gas Utilization Upgrade

Description: In this project, the gas storage vessel and digester gas conditioning equipment will be replaced. The existing cogeneration Internal-Combustion units (IC engines) and controls will also be replaced. Other improvements include providing an ancillary exhaust gas conditioning and heat exchanger systems to comply with regulatory air board requirements. Improved reliability and redundancy of hot water and electrical energy production systems, as well as, ventilation upgrades will maximize process efficiency within the energy recovery building. The electrical gear at Sub-Station No. 5 will be replaced to provide parallel electrical gear and power system reliability. A 500 kw standby diesel generator and diesel fuel storage system will also be provided for electrical redundancy of critical plant electrical loads.

Program: Oceanside Plant (OSP) Improvements	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved 	\$45.89 M	Approved Oct-13  Jun-21
Forecast* 	\$54.39 M	Forecast* Oct-13  Sep-22
Actual 	\$19.14 M	Project Percent Complete: 38.2%
		

Key Milestones:	Environmental+ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	06/14/17✓	04/25/18✓	11/26/18✓	03/17/22

+ The key milestone dates reflect the main construction contract for this project (WW-639 Oceanside Water Pollution Control Plant Digester Gas Utilization Upgrade)

Progress and Status:

Construction activities including yard utility pipe installation, HVAC and electrical installation at Buildings 800, 820, and 821, and the site-wide electrical short-circuit coordination study are on-going.

Issues and Challenges:

Similar to the last quarterly report, the forecasted cost variance reflects a higher construction contract award beyond baseline budget. The project team continues to coordinate with PG&E in order to comply with electrical inter-connection agreement requirements and Bay Area Air Quality Management District (BAAQMD) to obtain necessary permits. Additionally, the Contractor supplied HVAC equipment has faced some delivery delays. The processing of the project permits with the external agencies and HVAC equipment delivery delays, the construction schedule is trending beyond NTP end date.



Within OSP Building 820, the Contractor installed the boiler hot water loop pump system equipment and mock-up piping in August 2020.

I. SSIP Quarterly Report

CWWSIPTPNP02 - North Shore Pump Station Wet Weather Improvements

Description: The purpose-of this project is to provide redundant effluent pumping capacity at North Shore Pump Station (NSS) during wet weather. This project will replace existing four (4) dry weather pumps with larger capacity units so that 3 of the 4 pumps are capable of pumping 75 MGD during wet weather. The project also includes upgrades to the motor control centers (MCCs) and distributed control system (DCS). The implementation of this project will ensure reliable and efficient operation in keeping with the LOS and maintain regulatory compliance.

Program: North Point Facility (NPF) Improvements	Project Status: Bid and Award	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved \$55.00 M	Approved Aug-13 Jul-21	
Forecast* \$55.00 M	Forecast* Aug-13 Dec-23	
Actual \$7.05 M	Project Percent Complete: 18.5%	
 Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/13/17✓	06/14/19✓ - 11/03/20	03/22/21	04/10/23

Progress and Status:

Project team identified construction management support resources. Project team completed contract preparation review and received all necessary signatures to advertise contract. Forecast advertisement date is October 8, 2020 and forecast pre-bid conference date is October 14, 2020.

Issues and Challenges:




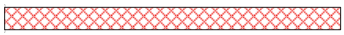


The overall schedule variance is due to addition of RFQ (Request for Qualifications) process to the standard design-bid-build contract and additional SRF related requirements. The schedule variance from previous quarterly report is due to additional time needed for bid/award of the contract and adjusting the contract closeout duration to reflect six months.



Existing Dry Weather (DW) Pump

CWWSIPCT01 - Central Bayside System Improvement Project - Phase 1

Description: The CBSIP will provide collection system enhancements to both the Channel and Islais Creek watersheds including redundancy for the existing 66-inch Channel Force Main, infrastructure improvements to sewers and pump stations, and stormwater management. The new Channel Tunnel will include a gravity tunnel approximately 24-feet in diameter and up to 10,000 feet long, extending from the existing Channel Pump Station (CHS) near Mission Creek to the SEP. It will also include a new Channel Tunnel Lift Station (CTLS) with approximately 120 MGD capacity, located in the vicinity of the SEP at the southern end of the Channel Tunnel. In addition, the existing CHS will be retrofitted. This project will provide planning, environmental review, and preliminary design for the improvements. Design and construction of CBSIP will be completed in Phase 2 of SSIP.

Program: Central Bayside System Improvement Project (CBSIP)	Project Status: Design	Environmental Status: Active (EIR)
Project Cost:		Project Schedule:
Approved  \$64.00 M	Approved Jul-12  Dec-18	
Forecast*  \$64.00 M	Forecast* Jul-12  Jun-21	
Actual  \$36.08 M	Project Percent Complete: 96.1%	
		

Key Milestones:	Environmental** Approval	Bid** Advertisement	Construction NTP**	Construction** Final Completion
Current Forecast	See Note	N/A	N/A	N/A

** Environmental approval and permitting, and all construction related activities will be completed outside of SSIP Phase 1.

Progress and Status:

The 35% Design and the Draft Administrative EIR were completed in 2019. SFPUC Senior Management had decided not to continue with the design/CEQA efforts. But there are still remaining efforts that will carry the project till June 2021, to secure long term storage of the soil cores and also to initiate preliminary planning on replacement of existing 66" force main.

Issues and Challenges:

Similar to the last quarterly report, the schedule variance reflects additional time to close this project.



CBSIP Site Map

I. SSIP Quarterly Report

10034718 - Large Sewer Condition Assessment and Improvements

Description: This is a collection of sewer improvement projects that will rehabilitate and/or replace Large Sewers (sewers greater than 36-inches in diameter or equivalent diameter) that has been prioritized using Collection System Asset Management Program (CSAMP) data with the highest risk level for failure. The collection of projects (or subprojects) were identified from the efforts of SSIP Phase 1 projects, CWWSSIPCSSR02 - Collection System Condition Assessment.

Included as one subproject will be to construct an intertie between the existing 66-inch diameter Channel Force Main (CHFM) sewage conveyance line to the Islais Creek Transport/Storage (ICT) Box.

Program: Other SSIP Projects	Project Status: Design	Environmental Status: Active (Various)
Project Cost:		Project Schedule:
Approved	\$47.00 M	Approved Aug-19 May-24
Forecast*	\$96.52 M	Forecast* Aug-19 Dec-26
Actual	\$1.32 M	Project Percent Complete: 2.9%
Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental+ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 03/25/22 (B) 08/06/20✓ (C - F) TBD	11/04/22 03/03/21 TBD	05/26/23 09/17/21 TBD	11/27/24 12/12/22 TBD

+Project includes multiple construction contracts: (A) Channel Force Main Intertie; (B) New Montgomery, Mission, Jessie & Minna Streets BSR; (C) Oak, Fell, Cole, Stanyan Streets & 7th Ave Large Sewer Rehabilitation (LSR); (D) Tenderloin Large Diameter Sewer; (E) Chinatown and North Beach Large Diameter Sewer; (F) Castro and Mission Districts Sewer Improvements; future projects may be added when they are initiated and if funds are available.

Progress and Status:

Subproject (A), Channel Force Main Intertie: The NAR/AAR was completed and the project team is proceeding to CER;

Subproject (B), New Montgomery, Mission, Jessie & Minna Streets Brick Sewer Rehabilitation: 95% design was completed and the project team is proceeding towards contract advertisement;

Subproject (C), Oak, Fell, Cole, Stanyan Streets & 7th Ave Large Sewer Rehabilitation: The CER was completed and the project team is proceeding to design;

Subproject (D), Tenderloin and Nob Hill Large Sewer Rehabilitation: completed planning phase and initiated design phase.

Subproject (E), Chinatown and North Beach Large Diameter Sewer Rehabilitation: The planning phase was initiated.

Subproject (F), Castro and Mission Districts Sewer Improvements; The planning phase will be initiated next quarter.






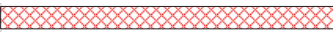


New Montgomery, Mission, Jessie & Minna Streets Brick Sewer Rehabilitation subproject rendering

Issues and Challenges:

Similar to the last quarterly report and reflected in the 10-year CIP, the variances in project schedule and budget are due to the additions of scopes of work, reflected by the additional subprojects listed above.

CWWSIPCSSR03 - Kansas and Marin Streets Sewer Improvements

Description: The purpose of this project is to increase the wet-weather flow conveyance for a minor drainage basin within the Islais Creek Watershed Basin to meet the Level of Service storm. The project consists of land acquisition for sewer construction and permanent sewer easement, temporary construction easement for construction of the new auxiliary sewer and relocation assistance associated with sewer easement and displacements of existing lease-holders who occupy SFPUC's property above the C-Box Transport Storage Structure (Lot 031). Additionally, it will include construction of 900 linear feet of 8-foot diameter tunnel installed using conventional road-header construction method in an easement under the SFPW's Maintenance Yard. Two new reinforced concrete junction structures will also be constructed to connect the proposed tunnel with the existing sewers, along with surface restoration work associated with construction and installation of the above assets.

Program: Interceptors / Tunnels and Odor Control	Project Status: Design	Environmental Status: Completed (CatEx)**
Project Cost:		Project Schedule:
Approved 	\$17.48 M	Approved Jun-13  Dec-21
Forecast* 	\$28.38 M	Forecast* Jun-13  Dec-23
Actual 	\$3.85 M	Project Percent Complete: 22.5%
		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/23/19✓	N/A	02/01/22	05/03/23

**Environmental approval (CatEx) was previously obtained for a sewer alignment located under private property, but project team was unsuccessful in negotiating the easement. In 2016, the project was re-baselined with a new sewer tunnel alignment, which is the Revised Project that is reflected in the current CEQA (CatEx) document.

Progress and Status:

The project team finalized the 35% design, which will be part of the tender set for a request for bid. During this quarter, the project received comments from Public Works staff on the Memorandum of Agreement (MOA) with Public Works to allow for the tunnel through their yard, including mitigations for a future garage structure on top of the tunnel alignment and parking replacement during construction. In the next quarter, the project team intends to issue the request for qualifications for DB-131, the design-build contract to complete the design and construction for the Kansas Marin project.



KM MTBM Receiving Area

Issues and Challenges:

The schedule variance reflects the additional delays related to negotiating the MOA with Public Works for use of their property, and a more detailed design, construction and closeout schedule estimate. The cost variance reflects the selected tunneling methodology to complete the project, the delay costs due to the schedule variances, and will be balanced through savings from projects CWWSIPCSSR02 and 10033745.

I. SSIP Quarterly Report

CWWSIPCSSR11 - Cargo Way Sewer Box Odor Reduction

Description: The Needs Assessment Report for Bayside Collection System Odor and Corrosion Control will be completed under this project to identify odor control opportunities in the Bayside collection system, and improvements will be implemented with available funding based on the recommendations detailed in the report.

Odor control improvements identified by WWE Operations Staff for the sewer box located at Cargo Way includes identification of flow sources and potential infiltration and inflow issues, and installation of a tee at Booster Pump Station Effluent manifold. Additionally, the project includes trenchless installation of 50 LF of 12-inch DIP inside 18-inch steel casing beneath SFMTA tracks, installation of 3,950 LF of 12-inch DIP, and installation of backflow preventer and control valves.

Program: Interceptors / Tunnels and Odor Control	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved \$6.44 M		Approved Apr-15 Jul-21
Forecast* \$8.74 M		Forecast* Apr-15 Dec-22
Actual \$1.84 M		Project Percent Complete: 27.8%
 Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/23/19✓	11/18/19✓	07/14/20✓	08/17/21

Progress and Status:

During this quarter, the construction NTP was issued in July 2020 and construction has begun for Contract WW-696, Cargo Way Flushline. For this project, certain construction work can only be performed during the dry-weather season, between May 15th to September 30th of each year. Due to the delays in the construction NTP (due to shelter-in-place order), some of the contract work would need to be postponed to the summer of 2021 and non-compensable delays are reflected in the schedule forecast.









WW-696: Potholing along 3rd Street

Issues and Challenges:

The increase in the project forecast budget is based on actual bids received and will be balanced from project CWWSIPCSSR03. The increase in the project forecast schedule is based on non-compensable delay in issuing the NTP due to COVID 19 shelter-in-place order.

10033106 - Geary BRT Sewer Improvements Phase 2

Description: Phase 2 of SFMTA’s Geary BRT Project includes the addition of center-running BRT lanes on Geary Boulevard between Palm Avenue and 27th Avenue, followed by dedicated BRT lanes along each sides of the street between 27th and 34th Avenue. The center-running BRT lanes on Geary Boulevard would be located directly above the existing sewer lines and severely impact SFPUC’s ability to perform future maintenance, repair and/or replacement. The purpose of the Phase 2 sewer work is to coordinate with Geary BRT Project to relocate (or replace as needed) main sewers outside of the transit lanes, platforms and bulb-outs. Approximately 2.2 miles of aging sewers on this Geary corridor (Stanyan Street to 34th Avenue) and on nearby cross streets have been identified as possibly needing replacement. SFPUC will determine sewer conditions along the Geary Corridor. Any sewer work required, whether it is sewer relocation, sewer rehabilitation or sewer replacement, will be undertaken as part of SFMTA’s project. Only initial costs for planning and design has been allocated for this project under Phase 1 of SSIP.

Program: Interdepartmental Projects		Project Status: Planning		Environmental Status: Not Initiated	
Project Cost:			Project Schedule:		
Approved		\$2.00 M	Approved Mar-18		Mar-20
Forecast*		\$2.00 M	Forecast* Mar-18		Dec-23
Actual		\$0.03 M	Project Percent Complete: 2.3%		
					

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	07/03/23	N/A	N/A	N/A

+ All construction related activities will be completed under Phase 2 of SSIP.

** SFMTA is the project lead. The San Francisco County Transportation Authority (SFCTA) prepared the CEQA approval, except for the sewer and water scopes, which will be completed separately by SFPUC.

Progress and Status:

Project continues to be on hold by SFMTA due to funding and other challenges. Design and CEQA initiation cannot be determined until receiving direction from SFMTA.

Issues and Challenges:

Similar to the last quarterly report, schedule will be indefinitely delayed until SFMTA activates the project.

I. SSIP Quarterly Report

CWWSSIPCSSR04 - Van Ness BRT Sewer Improvements

Description: The Van Ness Bus Rapid Transit (BRT) Project will be implemented by SFMTA in conjunction with the Van Ness BRT Sewer Improvements Project, which will be implemented by SFPUC as part of SSIP. SFPUC will replace and relocate existing sewer utilities located along Van Ness Avenue, between Lombard Street and Mission Street, from the center of the street to outside of the BRT right-of-way to allow for future sewer service maintenance and repair/replacement without impacting SFMTA's BRT operations. The scope of the project includes constructing approximately 20,000 linear feet (LF) of 12-inch to 54-inch diameter VCP, RCP or HDPE (in steel casing) sewer mains and associated manholes, catch basins and culverts; and retrofitting and connecting existing sewer laterals and catch basins to the aforementioned new sewer mains. Closed-circuit television (CCTV) technology will be used to inspect the newly constructed sewer mains, sewer laterals and culverts. Abandoned sewers (approximately 1,800 LF) will be plugged-and-filled.

Program: Interdepartmental Projects	Project Status: Construction	Environmental Status: Completed (EIR)
Project Cost:		Project Schedule:
Approved	\$21.10 M	Approved Oct-13 Jun-21
Forecast*	\$25.00 M	Forecast* Oct-13 Dec-21
Actual	\$13.69 M	Project Percent Complete: 74.9%
Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental**	Bid Advertisement	Construction NTP***	Construction Final Completion
Current Forecast	See Note	N/A	01/16/18✓	03/31/21

** The San Francisco County Transportation Authority (SFCTA) and the Federal Transit Administration (FTA) completed an EIR/EIS for the Van Ness BRT project (NOD filed on September 13, 2013). SFMTA is the project lead and contracting authority. SFCTA prepared an EIR for CEQA approval, which includes the SFPUC funded sewer improvement.

*** CMGC contract was awarded by SFMTA and NTP was given to Walsh Construction on October 27, 2016. NTP for the sewer work was obtained on January 16, 2018.

Progress and Status:

Contractor has completed all new sewer installation. The only remaining work is sewer abandonment. Sewer scope is approximately 98% complete.

Issues and Challenges:







Claim negotiations, related to schedule delays and differing site conditions, continue between SFMTA and the Contractor. Final resolution of claims will impact project budget and schedule milestones. The project cost variance is due to the anticipated contract/soft costs for resolving claims and differing site conditions.



Sewer construction along Van Ness

CWWSIPCSSR05 - Better Market Street Sewer Improvements - Phase 1

Description: San Francisco’s vision for a Better Market Street (BMS) is a comprehensive program to reconstruct the City’s premier boulevard and the region’s most important transit corridor from Octavia Boulevard to The Embarcadero. The program will advance several key City policies: Transit First, Complete Streets, the SF Pedestrian Strategy/Walk First and the SF Bicycle Plan. The BMS Sewer Improvements will be completed under SSIP to replace aging sewer infrastructure beneath Market Street, especially brick sewers that are over 100 years old. Phase 1 will consist of a two-block pilot project on Market Street between 6th Street and 8th Street.

Program: Interdepartmental Projects	Project Status: Design	Environmental Status: Completed (EIR)
Project Cost:		Project Schedule:
Approved 	\$9.75 M	Approved Jan-14  Mar-22
Forecast* 	\$15.00 M	Forecast* Jan-14  Sep-24
Actual 	\$1.63 M	Project Percent Complete: 9.7%
		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/18/19✓	02/23/21	09/01/21	12/11/23

** SFPW is the project lead and contracting authority. They have received CEQA approval in 12/19, including SFPUC funded sewer improvements.

Progress and Status:

Project team completed the revised Phase 1 35% Design Submittal in September 2020. The 65% Submittal is scheduled for October 2020. The targeted Advertisement date of the Phase 1 Contract is February 2021.

Issues and Challenges:

Similar to the last quarterly report, key milestones have slipped due to budget shortfalls and COVID-19 impacts. SFPW still needs to resolve project-wide cost sharing on the 1st contract with partner departments, including SFPUC.



Better Market Street – Rendering of proposed project

I. SSIP Quarterly Report

CWWSSIPCSSR06 - Geary BRT Sewer Improvements Phase 1

Description: SFMTA’s Geary BRT Project will improve the 38-Geary bus services, accessibilities, and pedestrian safety. The project includes collaboration from SFPUC, SFPW, and San Francisco County Transportation Authority (SFCTA). Phase 1 of the SFMTA Geary BRT Project is comprised mostly of transit and pedestrian bulbs. The addition of concrete and/or curb alignment change may trigger the needs to relocate existing catch basins, side sewers vents, and manholes. SFPW and SFPUC will be determining the condition of water and sewer utilities along the Geary Corridor. It is anticipated that approximately 1.5 miles of aging sewers (6-inch to 18-inch diameter circular sewers and 3-foot by 5-foot egg-shaped brick sewers) along the Geary corridor and nearby cross streets will need to be replaced.

Program: Interdepartmental Projects	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved \$12.90 M	Approved Jan-14 Feb-21	
Forecast* \$12.90 M	Forecast* Jan-14 Jul-21	
Actual \$8.91 M	Project Percent Complete: 83.2%	
Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/17/17✓	(A) 03/21/18✓ (B) N/A	01/07/19✓ 02/19/20✓	12/31/20 01/11/21

** SFMTA is the project lead. The San Francisco County Transportation Authority (SFCTA) prepared the CEQA approval, except for the sewer and water scopes, which were separately completed by SFPUC. Project has 2 construction contracts: WW-674R and Geary Rapid West Surface.

Progress and Status:

WW-674R: Construction activities are on-going near Gough Street. JMB has completed Segment B Sewer work and will continue with Water connections support work.

Geary Rapid West Surface Contract: Sewer lining work was completed in September.

Issues and Challenges:







Similar to the last quarterly report, schedule variance is due to the additional time required to re-bid the contract as the slip-lining scope was removed.



Geary BRT – Rendering of proposed project

CWWSIPCSSR08 - Mission Bay Loop Sewer Improvement

Description: SFMTA’s Mission Bay Loop Project will install light rail track on Illinois Street between 18th and 19th Streets. The improvements will support the future operations of the Third Street Light Rail in anticipation of the activation of the new Central Subway segment. The existing gravity sewers and force mains on Illinois Street will need to be relocated and/or replaced to avoid future conflicts with light rail operations. This sewer improvement project includes planning, environmental review, design, and construction phases.

Program: Interdepartmental Projects	Project Status: Construction	Environmental Status: Completed (EIR)
Project Cost:		Project Schedule:
Approved  \$0.72 M	Approved May-14  Dec-18	
Forecast*  \$0.72 M	Forecast* May-14  Dec-21	
Actual  \$0.53 M	Project Percent Complete: 77.0%	
		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP+	Construction Final Completion
Current Forecast	N/A	N/A	03/10/17✓	TBD

** SFMTA is the project lead and obtained the CEQA approval by relied on the 3rd Street Light Rail EIR for the environmental approval of the project, including the sewer work.

+ The NTP for the overall contract was December 8, 2014, and the construction NTP shown is for the sewer portion of work

Progress and Status:

Substantial Completion for the sewer work was achieved in October 2019 and the lead agency, SFTMA and the Contractor are focusing on completing other outstanding contract work. Final completion can only be issued for the whole project. As partial final completion cannot be issued for the sewer work, project will move to the closeout phase as the lead agency, SFMTA work on completing the rest of the contract work.

Since Substantial Completion was achieved, this is the last PSR report as reporting of the Final Completion milestone will be moved to the closeout phase.

Issues and Challenges:

Similar to the last quarterly report, final completion and closeout of sewer contract work continued to be delayed while staff continues to follow-up with the contract’s lead agency (SFMTA).



Insertion of the HDPE Force Main

I. SSIP Quarterly Report

CWWSSIPCSSR13 - Taraval Sewer Improvements

Description: SFMTA has proposed a pedestrian safety and transit improvements project along Muni’s “L Taraval” route. The project includes construction/extension of boarding islands; addition of dedicated transit-only lanes; and replacement of aging tracks, overhead wires and trolley poles. The Taraval Sewer Improvements Project will relocate existing sewer facilities from the center of the street to outside of the tracks to allow for ease of maintenance and repair/replacement without impacting future SFMTA’s Muni operations. The scope of the sewer work includes replacing approximately 19,000 LF of 12-inch to 36-inch diameter ISP, VCP, RCP, or concrete sewers along Taraval Street between 15th Avenue and 46th Avenue, and Ulloa Street between Forest Side Avenue and 15th Avenue for a twin sewer system.

Program: Interdepartmental Projects	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved \$33.14 M		Approved Mar-16 Apr-21
Forecast* \$34.69 M		Forecast* Mar-16 Dec-23
Actual \$7.66 M		Project Percent Complete: 32.6%
Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental** Approval	Bid*** Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 04/17/17✓ (B) 04/17/17✓	10/02/18✓ 11/16/20	07/01/19✓ 03/15/21	03/31/21 03/20/23

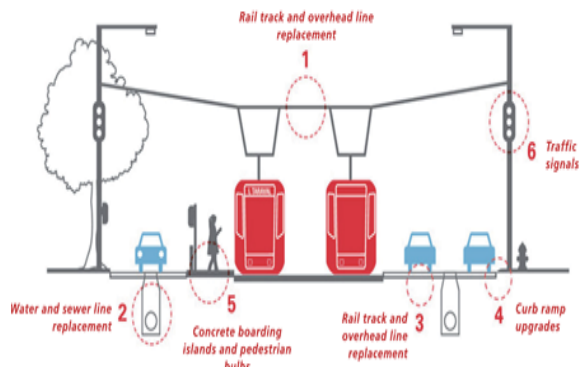
+ Segment A (SF Zoo to Sunset Blvd – No 1306) and Segment B (Sunset Blvd to West Portal – No 1308)
 ** SFMTA is the project lead and contracting authority. The San Francisco County Transportation Authority (SFCTA) prepared the CEQA approval, except for the sewer and water scopes, which were separately completed by SFPUC.
 *** Segment B was originally advertised on June 20, 2019 with bid opening held on September 12, 2019 and will be re-bid in mid-2020.

Progress and Status:

Track Shutdown is on-going. Contractor has essentially completed sewer installation. SFMTA is targeting October 2020 on the advertisement of Segment B contract.

Issues and Challenges:







Key milestones have slipped since SFMTA’s decision to separate this project into two segments/ contracts (A and B). The SSIP schedule for Segment B will be further revised upon advertisement for bids by SFMTA. Project team is continuing negotiation with PG&E on utility support reimbursement costs.



Cross Section Rendering of Taraval Improvement Project

CWWSIPCSPS02 - Force Main Rehab at Embarcadero and Jackson Streets

Description: The purpose of this project is to rehabilitate or replace 240 linear feet of the North Shore Force Main (NSFM) that is most susceptible to failure. At the completion of this project, the entire portion of the NSFM located outside the Jackson Street Transport/Storage Box (JST) will have complete redundancy. The project consists of rehabilitating approximately 190 LF of the NSFM that is located outside the Jackson Street Transport/Storage Box (JST) by installing a 28-inch outside diameter, DR26 HDPE pipe. Approximately 190 LF of the NSFM that is located outside the JST and underneath the Jackson combined sewer discharge will be replaced. Valve, valve-vault and associated mechanical/electrical controls will be constructed to allow WWE Operations to direct combined sewage flows to either the NSCFM or to the existing NSFM. A MOU will be established with SF Port (and/or its tenant) for the temporary construction and permanent O&M easement for the NSFM asset. CEQA approval will need to be obtained. Public outreach to the community will also be conducted, including stakeholders along SF Port’s waterfront area.

Program: Pump Stations and Force Main Improvements	Project Status: Construction	Environmental Status: Completed (MPM)
Project Cost:		Project Schedule:
Approved 	\$9.91 M	Approved Jul-14  Oct-21
Forecast* 	\$11.01 M	Forecast* Jul-14  Sep-22
Actual 	\$2.15 M	Project Percent Complete: 23.2%
		

Key Milestones:	Environmental Approval	Bid** Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/16/16✓	08/06/19✓	06/01/20✓	02/22/22

** Contract was originally advertised on 5/15/17 and will be re-bid after the field investigations are completed under CWWSIPCSSR09.

Progress and Status:

During the past quarter, construction work continues to progress as CCTV inspection of the existing force main was completed, and potholing activities continue. The project team is addressing various construction issues due to differing site conditions and utility conflicts discovered from the potholing activities. A major differing site condition is the discovery that a portion of the force main is located further into the SFPORT’s property, which may trigger re-negotiation of an existing agreement and additional right-of-way costs due to SF Port . In addition, public complaints led to implementation of a bicycle detour into a parking lane on Broadway Street, which takes away parking metered spaces from SFPORT. Additional hard and soft costs are anticipated in order to address these construction issues and public complaints, and this report reflects the higher project costs due to these issues and trends.

Issues and Challenges:

The schedule variance reflects delays to contract advertisement and issuance of construction NTP, which are due to delays in obtaining agreements with SFPORT and delays from the shelter-in-place order for



WW-687: Excavating Pit Hole for Slip-Lining

COVID19, respectively. The cost variance reflects the increase in the project budget forecast due to differing site conditions, utility conflicts, potential right of way costs to SFPORT, and implementation of bicycle detours as described in the Progress and Status above. Additional funds for this project have been identified from other collection system projects, such as 10033745.

I. SSIP Quarterly Report

CWWSIPCSPS03 - Mariposa Dry-Weather Pump Station & Force Main Improvements

Description: The project will increase the current dry weather capacity of the Mariposa dry-weather pump station and dry-weather force main to accommodate the peak design flow rate of 5.0 MGD. The scope consists of demolishing the existing pump station building, underground structure, wet well, electrical system, and associated assets to make room for a new pump station. CEQA approval will also be needed along with other necessary permits (such as BCDC, Maher Ordinances etc.) to construct the improvements. A new pump station building, underground structures, and wet well, along with new MCCs, DCS, PLC, panels, power service, level monitoring system, HVAC and odor control system will be constructed. The existing dry-weather force main will be replaced with a larger diameter force main downstream of the new dry-weather pump station. Utility coordination and/or relocation may be necessary with the replacement of the force main. Obtain permanent power supply from the Power Enterprise. A MOU (or encroachment permit) will be established for temporary construction easement within SF Port's jurisdiction, as well as an expansion of the existing SF Port easement to accommodate the new pump station footprint. Public outreach to the community will be conducted including SF Port and its stakeholders.

Program: Pump Stations and Force Main Improvements	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved \$28.22 M	Approved Jul-14 Jun-21	
Forecast* \$31.93 M	Forecast* Jul-14 Dec-22	
Actual \$17.19 M	Project Percent Complete: 56.5%	
Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/25/17✓	04/04/18✓	01/28/19✓	09/28/21

Progress and Status:

During this quarter, pump station construction continues to progress for Contract WW-667, Mariposa Dry-Weather Pump Station Improvements. Due to prolonged delays of temporary electrical services from PG&E, the construction duration had to be extended, which pushed out the overall project schedule.

During this quarter, no changes were made for the force main work under Contract DB-128R2, as staff continues to negotiate construction claims from the design-builder, and work towards final completion. The overall project duration currently ends with the pump station contract WW-667.

Issues and Challenges:











Similar to the last quarterly report, the cost variance reflects the actual bid received and the permitting and right-of-way costs at the pre-construction phases. The shortfall in budget is addressed by utilizing savings from another SSIP project, CWWSIPCSSR02. The schedule variance reflects the extended bid & award phase to resolve the bid protest and construction delays caused by PG&E.



WW-667: Setting formwork for the 1st level

CWWSIPCSPS06 - Griffith Pump Station Improvements

Description: The aging mechanical and electrical systems at Griffith Pump Station will be refurbished and its expected service life will be extended. The facility will also be modernized by upgrading most of the instrumentation and controls systems, which would reduce energy use and future maintenance requirements. The scope of the project includes replacing the dry-weather pumps and rebuilding the wet-weather pump, including installing new sump pumps to maintain the existing capacity of 11.5 MGD and 120 MGD, new bar screens, two new bridge cranes in the manifold room and main pump area, and a new tamper-proof roof access ladder. The bar rack room crane will be replaced with a new monorail system. Structural modifications, as necessary, will be performed in support of mechanical systems installations. The project will also involve construction of two canopy systems to protect outdoor equipment, including chemical tanks, metering pumps, ultraviolet light, and associated deteriorating elements. The project will also provide new MCC and electrical connections needed due to a PG&E transformer failure.

Program: Pump Stations and Forcemain Improvements	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved  \$14.98 M	Approved Mar-16  Dec-19	
Forecast*  \$15.43 M	Forecast* Mar-16  Sep-21	
Actual  \$14.81 M	Project Percent Complete: 99.6%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/21/16✓	05/03/17✓	10/16/17✓	12/17/20

Progress and Status:

During this quarter, substantial completion was issued on August 31, 2020. The project team is working on punchlist items with the contractor and progressing towards final completion. As we progress into final completion, negotiation on disputed costs has begun, which is anticipated to extend the final completion duration of the construction contract. The current schedule reflects this additional estimated duration to negotiate final completion as well as the previous construction delays due to PG&E shutdown re-schedules (resulting from COVID-19 shelter-in-place order) and previously negotiated time extension required to complete major electrical work that was deferred by one dry-weather season.



WW-651: Switchgear work during PG&E shutdown

Issues and Challenges:

The schedule variance reflects delays due to delayed PG&E shutdown (due to the shelter-in-place order), previous delays of major electrical work that had to be performed during dry-weather season, and additional time needed to resolve disputed costs with the contractor to achieve final completion.

I. SSIP Quarterly Report

CWWSSIPCSCD03 - Beach and Sansome Street CSD Rehabilitation

Description: A program-wide assessment was performed of the combined sewer discharge (CSD) structures through the Collections System Reliability (CSR) programmatic effort. Inspections and analysis provided specific information about lack of or deficient baffles to control floatables per the NPDES permit. Scope of work for these CSDs are based on historical performance and WVE Operations video inspection records and include several items at both Beach Street and Sansome Street CSDs. Under this project, cleaning and specific condition assessment of the CSDs will be completed. Inspection of baffles and weirs will be performed, and necessary repairs or replacements will be made accordingly. Corroded metal ceiling will also be repaired. Similar improvements will be carried out for the Sansome Street CSD. Concrete cracks and spalling, exposed rebar, and I-beam will be repaired along with replacement of butterfly valve seals. Under this project, backflow prevention systems will be installed at Beach each Sansome CSD's.

Program: CSD and Transport/Storage Structures	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved 	\$3.15 M	Approved Mar-16 Apr-20
Forecast* 	\$6.00 M	Forecast* Mar-16 Aug-21
Actual 	\$3.32 M	Project Percent Complete: 92.3%
 Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental+ Approval	Bid+, ** Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 02/16/18✓ (B) 07/06/18✓	03/01/18✓ 12/10/18✓	06/29/18✓ 06/17/19✓	12/27/18✓ 12/28/20

+ Project includes multiple construction contracts: (A) Beach Street (JOC-59-23) and (B) Sansome Street.

**Sansome Street contract (WW-683R) was re-advertised.

Progress and Status:

(A) JOC 59-29 will be used to fix the leaking gate at Beach St. CSD, based on team design.

(B) Construction work at Sansome St. CSD for additional repair work, under WW-683R has started and will continue in the next quarter.

Issues and Challenges:




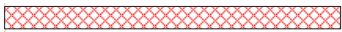


The project cost variance is due to Sansome CSD's contract (WW-683R) coming in higher than the engineer's estimate and baseline budget. In addition, a substantial amount of unanticipated repair has added to the cost and schedule.



Rebar replacement on the ceiling of Sansome CSD

CWWSIPCSCD04 - CSD Backflow Prevention and Monitoring

Description: Collection system assets that contribute to saltwater intrusion fall into two categories: conveyance and CSD structures. A component of this project involves developing and implementing a CSD and conveyance monitoring plan to gather data on the salinity in the whole collection network to be able to locate potential infiltration sources in the collection system and then verify performance once improvements (implemented through SFPUC’s R&R Program) have been completed. The scope also includes planning, design and installation backflow preventers at selected CSD outfalls. Backflow preventers will be installed in a phased and monitored approach, with the following priority CSD outfalls considered based on locations with the potential for highest inflow in the system for the same tide: 17 – Jackson Street, 10 – Pierce Street, 29 – Mariposa Street, 31A – Islais Creek North, 32 – Marin Street, 33 – Selby Street, and 41 – Yosemite. The project scope will be fluid and subject to change based on monitoring results.

Program: CSD and Transport/Storage Structures	Project Status: Bid and Award	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved  \$13.62 M	Approved Jul-16  Oct-21	
Forecast*  \$12.04 M	Forecast* Jul-16  Sep-22	
Actual  \$3.33 M	Project Percent Complete: 26.7%	
		

Key Milestones:	Environmental+ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	10/29/19✓	05/22/20✓	10/19/20	01/21/22

+ In addition to monitoring, this project has combined the multiple construction locations: Pierce Street and Jackson & Griffith Street to one construction contract under WW-702R.

Progress and Status:

Two bids for WW-702R were received in the last quarter and contract was awarded to Trinet Construction. The Notice to Proceed will be issued awarded in the upcoming quarter.

Issues and Challenges:

Similar to the last quarterly report, the variance in budget is due to the (1) added cost for the emergency repair of the 3rd St. CSD collapse and (2) the added cost from the current engineer’s estimate for WW-702R. The recent time extension is due to delay in bid opening that pushes the project out of the 2020 dry season and extends construction duration to 400 calendar days, to accommodate work through next year dry season.









Typical backflow preventer device installed over the weir

I. SSIP Quarterly Report

CWWSIPCSCD05 - 5th, North 6th and Division Street CSD Rehabilitation

Description: A program-wide assessment was performed of the CSD structures through the Collections System Reliability (CSR) programmatic effort. Based on video inspections by WWE Operations personnel, three CSD structures, CSD 24, 25, and 26 (5th, North 6th, and Division Street) were identified as priority structures due to their age (built in 1947, 1934, and 1963, respectively), the importance of the CSD structure based on amount of discharge and sensitivity of the receiving water body, structural conditions, compliance with permit requirements, and other operational deficiencies. These CSDs were combined into one project due to proximity and hydraulic interconnectedness.

Hydraulic modeling of the three CSDs will be performed as their functions are related. Scope of work for these CSDs are based on historical performance and WWE Operations video inspection records and include cleaning and specific condition assessment of the asset, including preliminary seismic evaluation, provide necessary ventilation and repair necessary concrete crack, spalling and exposed rebar. Additionally, the project will also aim to provide safe access, replace the flap gate at 5th St. CSD and North 6th St. CSD, refurbish flap gate at Division CSD and repair the baffle at Division CSD. Backflow prevention system will also be implemented at the 5th Street and 6th Street CSD structures.

Program: CSD and Transport/Storage Structures		Project Status: Construction	Environmental Status: Completed (CatEx)	
Project Cost:		Project Schedule:		
Approved		\$5.39 M	Approved Jul-16	 Jul-20
Forecast*		\$5.39 M	Forecast* Jul-16	 Aug-21
Actual		\$4.48 M	Project Percent Complete: 96.9%	
				

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/06/18✓	12/10/18✓	06/17/19✓	12/28/20

Progress and Status:

Construction of three CSDs have been completed.

Issues and Challenges:







Similar to the last quarterly report, the added cost to the contract will be determined in the upcoming quarter for Sansome rehabilitation. The Final Completion milestone and project completion have been extended by another seven-months to cover the time needed for change orders for additional structural repair in dry season for Sansome CSD (CWWSIPCSCD03).



Looking into repaired 5th St. CSD discharge pipe

CWWSIPFCDB01 - Sunset Green Infrastructure

Description: The Sunset Boulevard Greenway project will construct a series of tiered bioretention rain gardens in the western stretch of landscaped parcels along 12 blocks stretching from Golden Gate Park to Lake Merced. The rain gardens will manage stormwater runoff on the west side of Sunset Boulevard from the street, paths, and a portion of the landscaped parcel area. The project will also incorporate a “Learning Lab” to supplement elementary school curriculum. This project is also referred to as “Sunset Boulevard Greenway.”

Program: Early Implementation Projects	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved  \$8.44 M	Approved Dec-12  Sep-21	
Forecast*  \$9.03 M	Forecast* Dec-12  Sep-21	
Actual  \$7.04 M	Project Percent Complete: 89.7%	
		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	12/02/14✓	(A) N/A (B) 04/17/19✓	08/10/15✓ 09/30/19✓	02/24/18✓ 01/30/21

+ (A) Pilot Block & Phase I performed in-house by DPW; (B) Phase II contract

Progress and Status:

This quarter, the contractor completed grading of the rain gardens and planting of the rain gardens is largely complete. Construction of the Learning Laboratory is ongoing. Next quarter, the project is forecast to reach substantial completion.

Issues and Challenges:

Procurement of plant material has been complicated by poor supply of specified plant species. In response, the project landscape architect has re-designed the planting plans to better reflect available plant stock. The cost variance results from anticipated soft cost overruns.



View of Learning Lab Construction

I. SSIP Quarterly Report

CWWSIPFCDB05 - Richmond Green Infrastructure

Description: Specific work that will be completed at El Camino Del Mar includes providing new pedestrian crosswalks, terraced rain gardens, subsurface infiltration galleries, soil stabilization techniques in selected locations, sewer main upsizing between Lands End Trailhead and manhole east of 32nd Avenue, and upgrading existing crosswalks to comply with the Americans with Disabilities Act. Specific work that will be completed at Beach Terrace includes permeable pavement, rain garden bulb outs at the eastern & western ends of the permeable pavement, a flow-through rain garden, traditional (infiltrative) rain garden bulb-outs, improved catch basins, and a traditional rain garden. This project is also referred to as "Baker Beach Green Street".

Program: Early Implementation Projects	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved \$12.06 M	Approved Dec-12 Apr-21	
Forecast* \$13.01 M	Forecast* Dec-12 Jun-21	
Actual \$10.81 M	Project Percent Complete: 96.8%	

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/29/15✓	03/22/18✓ - 07/06/18 ✓	01/10/19✓	11/23/20

***The original advertisement was 03/22/18 and the re-advertisement 07/06/18.*

Progress and Status:

Substantial completion was achieved on July 2, 2020 and the punchlist was issued on September 9, 2020. On July 14, 2020, the SFPUC Commission approved an increase of \$500,000 to the construction cost contingency and 100-consecutive calendar days to the duration contingency. Next quarter, the project is forecast to reach final completion.

Issues and Challenges:







Construction costs are forecast to exceed the original construction contract amount by 16% due to unforeseen conditions, bid item overruns, contract additions and archaeological discoveries made during construction. The schedule variance results from Covid-19 related delays issuing the punch list. Two traffic accidents on Sea Cliff Avenue resulted in additional traffic striping and signage at the bioretention planters. In response to requests made by residents, further pedestrian safety measures are planned and will be implemented by a JOC contractor.



View of north side of Node 2 looking east

CWWSIPFCDB06 - Yosemite Green Infrastructure

Description: The upper reach of the Yosemite Creek Daylighting project would daylight the creek along a portion of the historic creek path, from Yosemite Marsh in McLaren Park to Woolsey and Hamilton Streets. This project diverts flows from the sewer using swales, vegetated channels, rain gardens, piped sections and a constructed wetland/detention basin/bio-swale system. This project is also referred to as "Upper Yosemite Creek Daylighting". This project will provide plant establishment and/or monitoring of the following GI projects, Islais Creek, Sunset, North Shore, Lake Merced, Sunnysdale, Richmond, Channel and Yosemite.

Program: Early Implementation Projects	Project Status: Planning	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved 	\$16.05 M	Approved Dec-12  Apr-24
Forecast* 	\$17.10 M	Forecast* Dec-12  Jun-26
Actual 	\$3.37 M	Project Percent Complete: 20.2%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/15/17✓	06/30/22	12/02/22	10/31/24

Progress and Status:

Development of an RFP for green infrastructure engineering services is pending approval by PUC business approvers and is anticipated to be issued next quarter. During this quarter, progress was made on a design and construction MOU with the San Francisco Recreation & Park Department (SFRPD).

Issues and Challenges:

The schedule variance reflects the delay resulting from the project having been on hold from January 2019 to December 2019 while the PUC and SFRPD resolved the approach to stormwater storage and re-use within McLaren Park, a property owned and maintained by SFRPD. In addition, the delay in bid advertisement and NTP results from the ongoing time required to procure design services.



Yosemite Station along Wayland Street provides outdoor educational opportunities for creek restoration and ecology.

I. SSIP Quarterly Report

CWWSIPFCDB12 - Wawona St and 15th Ave Stormwater Detention Project

Description: The neighborhood surrounding the intersection of 15th Avenue and Wawona Street is topographically lower in elevation compared to its adjacent neighborhoods, and has been subjected to flooding during large storms. When the capacity of the sewers are exceeded during large storms, significant volumes of overland flow upstream of the intersection cannot enter the catch basins and sewer system, causing flooding and property damage. The purpose of this project is to convert the Arden Wood Natural Area to a flood water detention basin by collecting the upstream surface water and diverting it into the area, using a series of pipe and inlet systems on the upstream, and a large pipe/micro-tunnel at the intersection of Wawona Street and 15th Avenue.

Program: Watershed Stormwater Management	Project Status: Design	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved	\$22.71 M	Approved Jul-16 Dec-21
Forecast*	\$45.00 M	Forecast* Jul-16 Jul-24
Actual	\$3.13 M	Project Percent Complete: 20.4%
Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

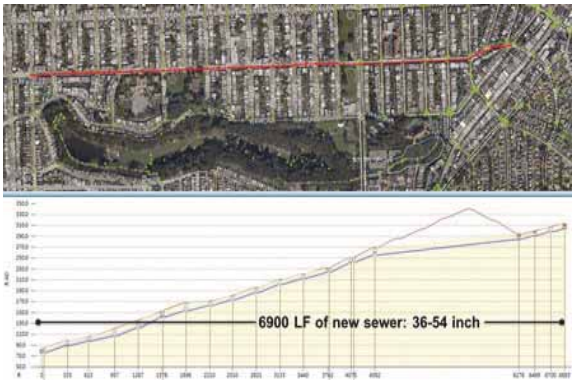
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/01/20✓	12/04/20	04/28/21	01/10/24

Progress and Status:

Project team worked on 100% design documents in this quarter. Constructability and risk assessment were completed and the 95% completed plans were presented to Technical Steering Committee and Operations and CDD. The construction contract, WW-711 Wawona Area Stormwater Improvement and Vicente St. Water Main Replacement will be advertised in the upcoming quarter. This contract will take 2.5 years to substantially complete and will include water main replacement and paving work, which is funded by SFPW paving program.

Issues and Challenges:

The change in project duration was due to extending the construction duration based on TSC recommendation from 2 years to 2.5 years. There are two other construction projects in the surrounding areas, with overlapping schedules with this project; 19th Ave and Vicente; 19th Ave Combined City and Taraval B contracts. In addition to staging areas on the street and the traffic impact, any other staging in PUC property in the neighborhood needs to be addressed to Supervisor's office. The Wawona communication team met with other departments and will continue coordinating during bid/award phase.









New stormwater sewer on Vicente St., to collect the stormwater from upstream of Wawona and 15th, to mitigate flooding at LOS storm

CWWSIPFCGI01 - Watershed Stormwater Management (Planning Only)

Description: This project will address long term GI development process and how it will be integrated and prioritized in the Collection System Plan and UWA report.

Program: Watershed Stormwater Management	Project Status: Planning	Environmental Status: Not Applicable
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Project Cost:		Project Schedule:	
Approved 	\$7.00 M	Approved Jul-16 	Dec-20
Forecast* 	\$9.00 M	Forecast* Jul-16 	Jun-22
Actual 	\$2.81 M	Project Percent Complete: 62.0%	
			

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	N/A	N/A	N/A	N/A

Progress and Status:

During this quarter, the project team provided ongoing technical support for Flood Resilience Programmatic Strategies, development green infrastructure projects and programs, and support for billing system upgrades. Flood resilience work included support for 100-year Storm Flood Risk Map implementation, the parcel review process, and interagency data sharing; coordination with Interdepartmental working groups (including the City Administrator's Office, Office of Resilience, Department of Building Inspection, and Planning Department) on FEMA floodplain management requirements and flood resilient building code modifications; and development of flood elevations for parcels within the SFPUC's 100-Year Storm Flood Risk Zone. Green infrastructure development focused on analysis for a potential residential green infrastructure (downspout disconnect) grant program, where an RFP is expected to advertise next quarter upon management approval. Finance Division is in the process of awarding a contract for the billing system upgrade work. NTP for the consultant contract is anticipated next quarter.

Issues and Challenges:

Similar to the last quarterly report, development of a Joint Use Agreement between SFPUC and SFUSD for the construction of green infrastructure on SFUSD property has been delayed by three months due to lack of legal resources at SFUSD. Cost variance reflects higher anticipated cost as reflected in the 10-year CIP. The 18-month schedule variance is the outcome of additional time required to develop and implement green infrastructure programmatic strategies and to complete the billing system upgrade work scope. It also reflects the three-month delay of funding for the FY20-21 budget due to the COVID-19 impacts.

I. SSIP Quarterly Report

CWWSIPFCRP03 - Operational Decision System Phase 2

Description: This project would integrate available data in the collection system (levels, flows, pump status, etc.) with rainfall prediction data (from National Oceanic and Atmospheric Administration). The rainfall prediction data will be coupled with WWE’s collection system hydraulic model to project the likely impact of approaching storms and generate specific operational recommendations for managing flows. Phase 2 builds upon Phase 1 (CWWSIPFCRP02) for a citywide installation.

Program: Advanced Rainfall and Operation Decision System	Project Status: Construction	Environmental Status: Not Applicable
---------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------	-------------------------------------------------------------------------------

Project Cost:	Project Schedule:
Approved <div style="display: inline-block; width: 100px; height: 10px; background-color: gray; border: 1px solid black;"></div> \$8.72 M	Approved Feb-17 <div style="display: inline-block; width: 100px; height: 10px; background-color: gray; border: 1px solid black;"></div> Jun-20
Forecast* <div style="display: inline-block; width: 100px; height: 10px; background-color: green; border: 1px solid black;"></div> \$6.72 M	Forecast* Feb-17 <div style="display: inline-block; width: 100px; height: 10px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, red 2px, red 4px); border: 1px solid black;"></div> Sep-25
Actual <div style="display: inline-block; width: 100px; height: 10px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, blue 2px, blue 4px); border: 1px solid black;"></div> \$3.05 M	Project Percent Complete: 30.3%
 Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits	

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	N/A	12/18/17✓	02/22/18✓	06/30/25

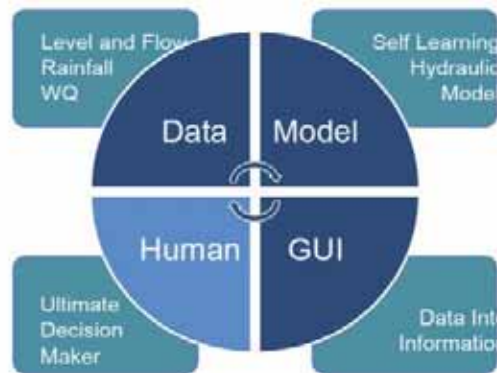
+ This is a software development project. NTP represents the date of award for software development agreement.

Progress and Status:

The project team started installing the thirty (30) new flow meters. Quality assurance and quality control (QA/QC) of raw data gathered from these newly installed flow monitoring devices are projected to start in the next quarter, during wet weather season.

Issues and Challenges:




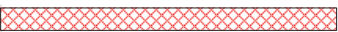


As per the previous quarterly report, there is a forecast project completion variance of about 5 years to cover the installation of 30 new flow meters, the QA/QC of flow meter data that will be gathered from these devices, data integration, configuration, and testing in the ODS software / database. There is no project level cost increase due to a project contingency that was already in place prior to the refinement of this new added scope. There is a project cost reduction that is being forecasted since SSIP’s Q2FY18-19 report. This cost reduction helped to partially compensate for the scope and budget change of SSIP project CWWSIPFCDB12 Wawona Area Stormwater Improvement in late 2018.



ODS Graphic Screen Mock-up

10034360 - Lower Alemany Area Stormwater Improvement Project

Description: The Lower Alemany area surrounding the US 101 and I-280 interchange has been susceptible to recurring flooding associated with moderate and heavy storms and do not meet the defined SSIP level of service (LOS). The primary objective of the Lower Alemany Area Stormwater Improvement Project is to address the SSIP LOS goals of managing stormwater and minimizing flooding from a 5-year 3-hour storm. This project will include planning, design and construction to improve stormwater conveyance away from the Lower Alemany area neighborhood and consequently to minimize flooding during the LOS storm.

Program: Flood Resilience Projects	Project Status: Planning	Environmental Status: Active (CatEx)
Project Cost:		Project Schedule:
Approved  \$286.46 M	Approved Jan-19  Dec-26	
Forecast*  \$286.46 M	Forecast* Jan-19  Mar-28	
Actual  \$2.16 M	Project Percent Complete: 1.8%	
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	01/09/24	02/23/24	07/05/24	09/13/27

Progress and Status:

In this quarter, the project team presented the draft AAR to the Technical Steering Committee. The process of soliciting design consultant for engineering support for CER and design phase is still on-going.

Issues and Challenges:

The increase in schedule forecast is due to delay in design consultant solicitation because of a protest. It is anticipated that the protest will be resolved in the next quarter.



Flooding at the I-280/Hwy 101 interchange at Lower Alemany area, during the rainfall of February 13, 2019

I. SSIP Quarterly Report

CWWSSIPFCDB14 - Folsom Area Stormwater Improvement Project

Description: The neighborhood surrounding Folsom Street from 14th to 18th has been susceptible to recurring flooding associated with moderate to heavy storms. This project will include planning and design to improve stormwater conveyance away from the 17th and Folsom neighborhood to minimize flooding in the Level of Service storm. This project is to be developed based on the preferred alternative identified in Flood Resilience - Early Projects.

Program: Flood Resilience Projects	Project Status: Design	Environmental Status: Active (CatEx)
Project Cost:		Project Schedule:
Approved \$38.41 M	Approved Jul-16 Jun-20	
Forecast* \$38.00 M	Forecast* Jul-16 Jan-23	
Actual \$6.68 M	Project Percent Complete: 47.5%	
 Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	03/31/21	N/A	N/A	N/A

+ Project includes Planning, Environmental, and Design Phases only.

Progress and Status:

City design team and consultants worked on the 65% design for the upstream components in this quarter. For the tunnel component, a significant conflict with a Caltrans overpass foundation was discovered during the early phase of design, and detailed coordination with Caltrans will be necessary to proceed with this project alignment. In this quarter, the project team had a very productive and positive meeting with Caltrans about our preferred solution. In parallel, the project team also analyzed and compared an alternative tunnel alignment on 17th Street with the original alignment on Alameda Street. In the next quarter, the project team will select which alignment to proceed with and restart the tunnel component design in earnest.



3D graphic of proposed rotation shaft site for the tunnel boring machine at Alameda and De Haro

Issues and Challenges:

The overall schedule is delayed because of delay in consultant contract certification. There will also be delays in the design duration due to the complexity of the project and coordination with the stakeholders, including the aforementioned conflict with Caltrans. Construction of the project requires extensive staging on private property and permanent improvements through private property. Obtaining easements on these private parcels will be a critical challenge, which may affect and alter the design moving forward. After the decision is made about which tunneling alignment to pursue, the design will need to be restarted from the CER stage, or will require detailed coordination with Caltrans, either of which will cause further schedule delay.

7. On-Going Construction**

Construction Contract	Schedule			Budget		Variance (Approved - Forecast)		Actual % Complete
	NTP Date	Approved Construction Final Completion	Current Forecasted Construction Final Completion*	Approved Contract Cost	Current Forecasted Cost*	Schedule (Cal. Days)	Cost	
Biosolids Digester Facilities Project								
CSWWSIPDP01- Biosolids Digester Facilities Project - Scope I - Early Out Packages (Total of 4 Packages)	08/25/19	09/16/21	09/16/21	\$ 49,249,940	\$ 49,249,940	-	-	67.5%
New Headworks (Grit) Replacement								
CWWSIPSE02 - Southeast Water Pollution Control Plant New Headworks Facility - SCOPE II.A (issued POs for 15 Packages)	12/17/18	11/14/20	11/14/20	\$ 18,260,165	\$ 18,301,533	-	(\$41,368)	90.0%
CWWSIPSE02 - Southeast Water Pollution Control Plant New Headworks Facility - SCOPE III (issued POs for 13 of 62 Packages)	07/22/19	08/25/23	02/29/24	\$ 126,530,657	\$ 126,530,657	(188)	-	10.3%
Southeast Plant (SEP) Improvements								
CWWSIPSE08 - SEP Seismic Reliability and Condition Assessment Improvements (WW-665)	09/09/19	03/31/21	03/08/22	\$ 9,714,630	\$ 10,215,504	(342)	(\$500,874)	64.0%
Oceanside Plant (OSP) and Westside Pump Station (WSS) Improvements								
CWWSIPTPOP03 - Oceanside Water Pollution Control Plant Digester Gas Utilization Upgrades	11/26/18	02/22/21	02/22/21	\$ 38,733,895	\$ 38,733,895	-	-	25.0%

Note: * The Forecasted Cost includes all approved, pending, and potential change orders, and Final Completion Date includes all approved, pending, and potential change orders, and trends.

** This table is reflecting Active construction contract with original contract amount greater than \$1M.

I. SSIP Quarterly Report

Q1-FY2020-2021 (07/01/20 - 09/30/20)

Construction Contract	Schedule			Budget		Variance (Approved - Forecast)		Actual % Complete
	NTP Date	Approved Construction Final Completion	Current Forecasted Construction Final Completion*	Approved Contract Cost	Current Forecasted Cost*	Schedule (Cal. Days)	Cost	
Interceptors / Tunnels and Odor Control								
CWWSICSSR11 PUC Cargo Way Flush Line	07/14/20	08/17/21	08/17/21	\$ 4,486,280	\$ 4,486,280	-	-	5.0%
Interdepartmental Projects ***								
CWWSIPCSSR04 - Van Ness Corridor Transit Improvement Project (sewer only)	01/16/18	01/15/20	03/31/21	\$ 14,314,631	\$ 14,314,631	(441)	-	98.0%
CWWSIPCSSR06 Geary Boulevard Sewer and Water Improvements	01/07/19	12/01/20	12/31/20	\$ 7,295,208	\$ 7,295,208	(30)	-	86.0%
Pump Stations and Forcemain Improvements								
CWWSICSPS02 Force Main at Embarcadero and Jackson	06/01/20	02/22/22	02/22/22	\$ 5,893,038	\$ 5,893,038	-	-	10.0%
CWWSICSPS03 Mariposa Dry Weather Pump Station Improvements	01/28/19	09/28/21	09/28/21	\$ 17,031,000	\$ 17,437,754	-	(\$406,754)	30.0%
CWWSICSPS06 - Griffith Pump Station Improvements	10/16/17	11/30/20	11/30/20	\$ 11,546,666	\$ 11,546,666	-	-	98.0%
Stormwater Management								
CWWSIPFCDB01 Sunset Green Infrastructure (Sunset Boulevard Greenway P2 Irving)	09/30/19	10/28/20	01/30/21	\$ 2,572,351	\$ 2,624,583	(94)	(\$52,232)	64.5%

Note: * The Forecasted Cost includes all approved, pending, and potential change orders, and Final Completion Date includes all approved, pending, and potential change orders, and trends.

** This table is reflecting Active construction contract with original contract amount greater than \$1M.

*** Contracts performed under SFMTA/SFPW.

+ The Approved Contract Cost was \$29,752,381 in 2018 Baseline.

I. SSIP Quarterly Report

Q1-FY2020-2021 (07/01/20 - 09/30/20)

Construction Contract	Schedule			Budget		Variance (Approved - Forecast)		Actual % Complete
	NTP Date	Approved Construction Final Completion	Current Forecasted Construction Final Completion*	Approved Contract Cost	Current Forecasted Cost*	Schedule (Cal. Days)	Cost	
Stormwater Management								
CWWSIPFCDB05 Richmond Green Infrastructure (Baker Beach Green Streets)	01/10/19	09/10/20	11/23/20	\$ 7,168,590	\$ 7,381,214	(74)	(\$212,624)	93.0%
CSD and Transport/Storage Structures								
CWWSICSCD03 & CD05 Sansome, 5th, 6th (North) and Division Street CSD Rehabilitation and Backflow Prevention	06/17/19	12/28/20	12/28/20	\$ 6,288,223	\$ 6,288,223	-	-	94.0%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	\$ 319,085,274	\$ 320,299,127	(\$1,213,853)	(0.4%)

Note: * The Forecasted Cost includes all approved, pending, and potential change orders, and Final Completion Date includes all approved, pending, and potential change orders, and trends.

** This table is reflecting Active construction contract with original contract amount greater than \$1M.

8. PROJECTS IN CLOSE-OUT

Project Title	2016 Baseline Construction Phase Completion	2018 Approved Construction Phase Completion	Current Approved Construction Phase Completion	Actual Construction Phase Completion	2016 Baseline Construction Phase Budget	2018 Approved Construction Phase Budget	Current Approved Construction Phase Budget	Construction Phase Expenditures To Date
Southeast Plant (SEP) Improvements								
CWWSIPSE05 - SEP 521/522 and Disinfection Upgrades (SEP Building 521 Replacement)	07/18/18	03/01/19	03/01/19	07/31/20	\$ 28,325,000	\$ 29,752,381	\$ 29,752,381	\$ 30,370,472
Interceptors / Tunnels and Odor Control								
CWWSIPCSSR02 - Collection System Condition Assessment	N/A	N/A	N/A	N/A	\$ 0	\$ 0	\$ 0	\$ 0
CWWSIPCSSR09 - Drumm and Jackson Streets Sewer System Improvement	06/13/18	10/04/18	10/04/18	06/28/19	\$ 7,681,000	\$ 5,764,990	\$ 5,764,990	\$ 4,363,144
CSD and Transport/Storage Structures								
CWWSIPCSCD01 - Richmond Transport/Storage Tunnel Rehabilitation	11/07/18	10/05/18	10/05/18	N/A	\$ 3,433,000	\$ 3,171,733	\$ 3,411,733	\$ 0
Flood Resilience Projects								
CWWSIPFCDB16 - Hydraulic and Drainage Sewer Improvements	N/A	06/29/18	06/29/18	09/08/18	\$ 0	\$ 5,887,270	\$ 5,887,270	\$ 3,557,202
Land Reuse								
CWWSIPRPL92 - Land Reuse of 1801 Jerrold Avenue	08/31/17	07/31/18	07/31/18	N/A	\$ 4,221,599	\$ 6,386,371	\$ 6,401,083	\$ 0
Oceanside Plant (OSP) Improvements								
CWWSIPTPOP05 - OSP Condition Assessment Repairs	12/24/20	12/18/18	12/18/18	03/31/20	\$ 360,810	\$ 10,150,000	\$ 10,150,000	\$ 9,067,867
TOTAL					\$ 44,021,409	\$ 61,112,744	\$ 61,367,457	\$ 47,358,685

9. COMPLETED PROJECTS

Project Title	2016 Baseline Project Completion	2018 Approved Project Completion	Current Approved Project Completion	Actual Project Completion	2016 Baseline Project Budget	2018 Approved Project Budget	Current Approved Project Budget	Project Expenditures To Date
Southeast Plant (SEP) Improvements								
CWWBAE01 - Biofuel Alternative Energy	03/31/16	03/31/16	03/31/16	03/31/16	\$ 1,855,143	\$ 1,855,143	\$ 1,855,143	\$ 1,862,449
CWWSIPSE01 - SEP Oxygen Generation Plant	06/10/16	06/10/16	06/10/16	06/10/16	\$ 11,781,151	\$ 11,135,600	\$ 11,135,600	\$ 11,135,740
CWWSIPSE03 - SEP Existing Digester Roof Repairs	07/29/16	03/03/16	03/03/16	03/03/16	\$ 16,625,297	\$ 15,423,413	\$ 15,423,412	\$ 15,438,647
CWWSIPSE04 - SEP Primary and Secondary Clarifier Upgrades	08/31/18	01/21/19	01/21/19	01/21/19	\$ 36,016,280	\$ 36,016,280	\$ 36,016,280	\$ 32,551,125
CWWSIPSE09 - SEP Existing Digester Gas Handling Improvements	03/05/19	11/30/19	11/30/19	02/28/20	\$ 22,143,317	\$ 22,143,317	\$ 22,143,317	\$ 15,470,135
CWWSIPSE11 - SEP Oxygen Generation Plant 01	12/31/18	11/21/19	11/21/19	11/21/19	\$ 9,030,106	\$ 9,850,429	\$ 9,850,429	\$ 8,697,217
Oceanside Plant (OSP) Improvements								
CWWSIPTPOP06 - OSP Odor Control Optimization	04/15/22	09/23/20	09/23/20	02/05/20	\$ 5,129,029	\$ 5,129,029	\$ 5,129,029	\$ 1,207,196
North Point Facility (NPF) Improvements								
CWWSIPTPNP01 - Northpoint Outfall Refurbishment	08/27/18	08/27/18	08/27/18	10/31/18	\$ 17,775,621	\$ 20,199,435	\$ 20,199,435	\$ 4,452,047
Interceptors / Tunnels and Odor Control								
CWWSIPCSSR01 - Richmond Transport Modeling	06/30/14	06/30/14	06/30/14	06/30/14	\$ 86,883	\$ 86,883	\$ 86,883	\$ 86,883
CWWSIPCSSR12 - Rutland Sewer Improvements	04/26/18	04/26/18	04/26/18	09/21/18	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000
Interdepartmental Projects								
CWWSIPCSSR07 - Central Subway Sewer Improvements	02/28/17	06/29/18	06/29/18	06/28/19	\$ 3,956,000	\$ 3,956,000	\$ 3,956,000	\$ 3,108,430
CWWSIPCSSR10 - Masonic Avenue Sewer Improvements	05/07/18	12/31/18	12/31/18	06/28/19	\$ 3,921,000	\$ 3,921,000	\$ 3,921,000	\$ 3,184,248
Pump Stations and Forcemain Improvements								
CWWSIPCSPS01 - Hudson Ave Pump Station and Outfall Improvements	02/28/18	10/31/17	10/31/17	10/31/17	\$ 594,000	\$ 281,500	\$ 281,500	\$ 281,639
CWWSIPCSPS04 - Cesar Chavez Pump Station	05/26/16	05/26/16	05/26/16	05/26/16	\$ 185,000	\$ 179,728	\$ 179,727	\$ 178,360
CWWSIPCSPS05 - Marin Street Sewer Replacement	08/03/18	11/02/18	11/02/18	01/23/20	\$ 3,926,000	\$ 6,774,519	\$ 6,774,519	\$ 5,968,190
CWWSIPNC01 - North Shore to Channel F M Drainage Improvement	06/06/17	06/06/17	06/06/17	06/06/17	\$ 29,800,000	\$ 17,300,000	\$ 17,300,000	\$ 17,300,000
Early Implementation Projects								
CWWLID01 - Cesar Chavez Green Infrastructure	06/28/13	06/28/13	06/28/13	06/28/13	\$ 1,374,143	\$ 1,374,143	\$ 1,374,143	\$ 1,374,143
CWWLID02/FCDB09 - Islais Creek Green Infrastructure	10/30/26	04/24/18	04/24/18	04/24/18	\$ 4,929,908	\$ 5,729,070	\$ 5,729,070	\$ 5,341,855
CWWSIPFCDB02 - North Shore Green Infrastructure	03/31/20	12/31/18	12/31/18	12/31/18	\$ 2,493,272	\$ 1,904,770	\$ 1,904,770	\$ 1,716,993
CWWSIPFCDB03 - Lake Merced Green Infrastructure	07/31/20	04/24/18	04/24/18	04/24/18	\$ 7,316,074	\$ 6,338,687	\$ 6,338,687	\$ 6,268,452






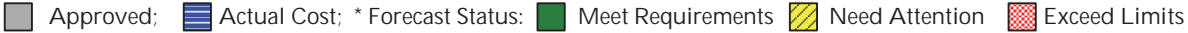
I. SSIP Quarterly Report

Project Title	2016 Baseline Project Completion	2018 Approved Project Completion	Current Approved Project Completion	Actual Project Completion	2016 Baseline Project Budget	2018 Approved Project Budget	Current Approved Project Budget	Project Expenditures To Date
Early Implementation Projects								
CWWSIPFCDB04 - Sunnysdale Green Infrastructure	11/30/20	02/28/19	02/28/19	09/30/19	\$ 4,950,001	\$ 4,298,843	\$ 4,298,843	\$ 5,432,099
CWWSIPFCDB08 - Channel Green Infrastructure	09/17/20	08/31/18	08/31/18	08/31/18	\$ 4,569,648	\$ 3,106,231	\$ 3,106,231	\$ 2,189,138
Urban Watershed Assessment								
CWWSIPUW00 - Urban Watershed Assessment and Planning Initiation	06/28/13	06/28/13	06/28/13	06/28/13	\$ 3,102,671	\$ 3,102,671	\$ 3,102,671	\$ 3,102,671
CWWSIPUW01 - Urban Watershed Assessment and Planning	04/04/17	06/30/17	06/30/17	06/30/17	\$ 14,260,844	\$ 14,260,844	\$ 14,260,844	\$ 14,155,162
Advanced Rainfall and Operation Decision System								
CWWSIPFCRP01 - Advanced Rainfall Prediction - Part 1	06/29/18	06/29/18	06/29/18	06/29/18	\$ 3,254,000	\$ 2,364,838	\$ 2,364,838	\$ 1,462,767
CWWSIPFCRP02 - Operational Decision System Phase 1	09/30/16	09/30/16	09/30/16	09/30/16	\$ 1,000,921	\$ 967,572	\$ 967,572	\$ 944,709
Flood Resilience Projects								
CWWSIPFCDB07 - 17th and Folsom Wet Weather Storage	03/31/16	05/06/16	05/06/16	05/06/16	\$ 1,012,352	\$ 898,623	\$ 898,623	\$ 898,623
CWWSIPFCDB10 - Flood Resilience Analysis (Planning Phase Only)	05/31/17	02/28/17	02/28/17	07/31/20	\$ 2,505,999	\$ 2,192,288	\$ 2,192,288	\$ 2,176,246
CWWSIPFCDB11 - Flood Resilience - Early Projects (Planning Phase Only)	12/30/16	12/30/16	12/30/16	12/30/16	\$ 5,708,749	\$ 3,990,330	\$ 3,990,330	\$ 4,024,920
CWWSIPFCDB13 - Cayuga Ave Stormwater Detention Project	01/07/20	02/28/22	02/28/22	03/29/19	\$ 8,253,000	\$ 8,253,000	\$ 8,253,000	\$ 452,053
CWWSIPFCDB15 - 17th and Folsom Permanent Barriers	04/02/18	07/31/19	07/31/19	03/29/19	\$ 2,656,000	\$ 2,656,000	\$ 2,656,000	\$ 175,540
Land Reuse								
CWWSIPRPL91 - Land Reuse of 1800 Jerrold Avenue	02/01/19	02/01/19	02/01/19	12/31/19	\$ 90,000,000	\$ 90,000,000	\$ 90,000,000	\$ 84,751,090
TOTAL					\$ 321,712,409	\$ 307,190,186	\$ 307,190,183	\$ 256,888,769

10. PROJECTS WITHIN BUDGET AND SCHEDULE (THRESHOLD LIMITS)

10033745 - SSIP Sewer Improvements Projects

Description: This is a collection of sewer improvement projects that will rehabilitate and/or replace the sewers after the scope of work is better defined through the condition assessment efforts from the Collection System Condition Assessment Project. Due to the uncertainty of the scope of work, a budget limit is established and the project team will rehabilitate or replace the most critical major sewers with the available budget. This project is expected to include planning, environmental approval, design, and construction phases.

Program: Interceptors / Tunnels and Odor Control	Project Status: Bid and Award	Environmental Status: Not Applicable (StatEx)
Project Cost:		Project Schedule:
Approved  \$20.46 M	Approved May-18  Nov-22	
Forecast*  \$9.87 M	Forecast* Jul-18  Nov-22	
Actual  \$0.91 M	Project Percent Complete: 22.0%	
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	12/02/19✓	05/14/20✓	11/30/20	11/29/21

Progress and Status:

During this quarter, Contract WW-703, Mission St 16th to Cesar Chavez Streets, Brick Sewer Rehabilitation, was awarded at the August 25, 2020 Commission meeting and an agreement for obtaining MUNI support during construction was executed. The project team is working towards construction NTP.

Issues and Challenges:

The cost variance reflects the reduced scope of work since the last baseline in 2018 and reflects the awarded contract costs for the construction contract. Savings from this project would be reallocated to fund other collection system projects.



Schematic for Large Sewers – Mission BSR

I. SSIP Quarterly Report

10034553 - Green Infrastructure Grant Program (GIGP)

Description: The Green Infrastructure Grant Program (GIGP) offers grants to large public and private property owners to manage stormwater onsite and improve the performance of the collection system during wet weather. The Green Infrastructure Grant Program (GIGP) was established with several objectives: to manage stormwater using green infrastructure, to manage stormwater cost effectively, and to provide customers impacted by the anticipated stormwater cost allocation a mechanism to reduce their stormwater runoff and fees. The grant will cover the costs of design and construction of an approved stormwater management feature, such as rain gardens, permeable pavement, cisterns, and vegetated roofs. The maximum grant award is \$765,000 per acre of impervious surface managed, up to \$2 million in funding. Maintenance responsibility for the GI lies with the property owner and inspection responsibility with the SFPUC. In order for an application to be considered for funding, the project must meet minimum criteria including: managing stormwater runoff from a minimum impervious area of 0.5 acres; capturing the 90th percentile storm (0.75-inch depth) with the proposed green infrastructure features; and providing co-benefits to the community. The SFPUC has allocated \$25M from FY18 – FY27 for the program. The program will be administered by the SFPUC Wastewater Enterprise with project management support from the Infrastructure Division.

Program: Watershed Stormwater Management	Project Status: Construction	Environmental Status: Not Applicable
Project Cost:		Project Schedule:
Approved \$25.00 M	Approved Jul-18 Jun-29	
Forecast* \$25.00 M	Forecast* Jul-18 Jun-29	
Actual \$1.37 M	Project Percent Complete: 9.9%	
 Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	N/A	N/A	N/A	N/A

Progress and Status:

During the past quarter, the General Manager awarded one green infrastructure grants in the amount of \$884,291 to San Francisco Recreation and Parks Department for work at the parking lot at Crocker Amazon Playground. In addition, the Commission authorized release of pre-construction funding in the amount of \$96,300 to Lycee Francais de San Francisco. Construction of grant funded green infrastructure at Lafayette Elementary School and Bessie Carmichael Middle School is forecast to be complete next quarter. This quarter SFPUC received a green infrastructure grant application for work at St Anne of the Sunset. It is currently under review. In addition, program staff conducted 5 sites visits with potential grantees this quarter.



View of Lafayette Elementary School Green Infrastructure Construction

Issues and Challenges:

The 1-year schedule variance results from the inclusion of post-award grant administration in the overall schedule.

II. Wastewater Capital Improvement Program



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1. PROGRAM DESCRIPTION

The Wastewater Capital Improvement Programs (WWE CIP) addresses immediate wastewater needs in the areas of flood control, odor control, and aging facilities. The WWE CIP precedes the Sewer System Improvement Program (SSIP), which is a long-term plan to address the City's wastewater long-term needs. The SSIP was initiated in 2011 and construction of the first SSIP project was not anticipated until after 2013. Because a number of critical projects had already been identified to address the immediate needs of the wastewater system, the SFPUC approved funding in Spring of 2005 for the WWE CIP Program to begin work.

The WWE CIP (previously called "the 5-year CIP" or "Interim CIP") program budget and schedule were originally adopted in December 2005. The original WWE CIP had 36 projects, \$150M in budget, and a five-year duration in anticipation of the upcoming SSIP. Over time, additional work was identified by the Wastewater Enterprise before the SSIP initiation; therefore, new projects and funding were added to the WWE CIP through supplemental appropriations for fiscal years (FY) 2009/10, 2010/11, 2011/12 and 2012/13. The reported budgets are summarized in Table 1.1 below.

In summary, the current WWE CIP has 72 projects, \$399M in approved budget and an anticipated completion in March 2021. No

changes to the overall program budget, but a four-year delay to the program schedule. All construction activities have been completed for the program. The program has been extended to the first quarter of 2021 to perform financial closeout of the projects and reconcile F&P issues and Prop 1E Grant reimbursement projects.

The projects identified in the WWE CIP are divided into four major categories:

- 1) Odor Control
- 2) Treatment Facilities
- 3) Pump Stations, and
- 4) Sewer/Collection System

The Odor Control/Treatment/Pump Stations projects will improve odor control, ensure reliability of critical equipment and improve structural integrity at treatment facilities and pumping stations. Projects at the Southeast Treatment Facility are mostly related to odor control and reliability. Projects at the Oceanside Treatment Facility are for controlling corrosion, improving HVAC, and meeting biosolids disposal requirements. Pump station projects are specific to improving reliability and efficiency or providing redundancy.

The Sewer/Collection System Projects will enhance the collection and conveyance of sewage and storm water in San Francisco. The completed projects will increase sewer

Table 1.1 Program Baseline Summary

Program Revisions	Commission Reported	Budget (\$Million)	Schedule ⁽¹⁾	Number of Projects
FY 2005/06 (Orig BSLN)	January 10, 2006	\$150.2	12/28/10	36
FY 2009/10	November 23, 2010	\$222.4	02/20/14	50
FY 2010/11	March 8, 2011	\$307.6	12/18/14	58
FY 2011/12	September 13, 2011	\$386.0	08/15/14	62
FY 2012/13	September 11, 2012	\$412.7	03/16/16	71
FY 2012/13	September 10, 2013	\$399.9	03/16/16	72
FY 2012/13	February 25, 2014	\$399.0	12/08/16	72

⁽¹⁾ Final Program Completion Date

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capacity, allowing flow to be captured and transported to the wastewater treatment plants and minimizing potential flooding in city streets. Approximately fifty percent of the sewer system in San Francisco is over 70 years old. Replacing and increasing the sizes of sewer pipelines throughout the City will enhance the reliability of the sewer collection system.

Refer to Appendix 1.2-1 (Section II) for detailed descriptions of the WWE CIP projects.

2. PROGRAM STATUS

This first (1st) quarterly report for Fiscal Year (FY) 2020-2021 presents the progress made on the WWE CIP projects for the period of July 1, 2020 through September 30, 2020. The program's schedule and budget were last reported to SFPUC on August 18, 2020.

Figure 2.1 shows the total Approved Budget for the projects remaining in each phase of the program as of September 19, 2020. The number of projects in each phase is shown in parenthesis.

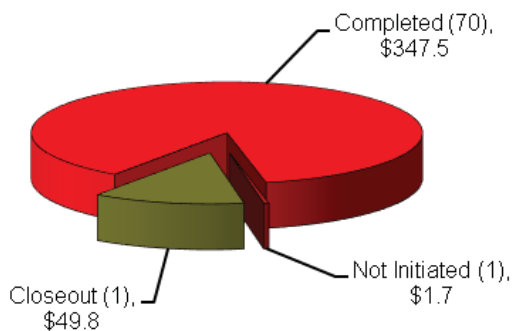


Figure 2.1 Total Approved Budget for Projects Each Phase (\$ Million)

Figure 2.2 shows the number of projects in the following stages of the program as of September 19, 2020: Pre-construction, Construction, and Post-construction. Pre-construction includes all projects in Planning, Design, Bid & Award, and in Multiple Phases.

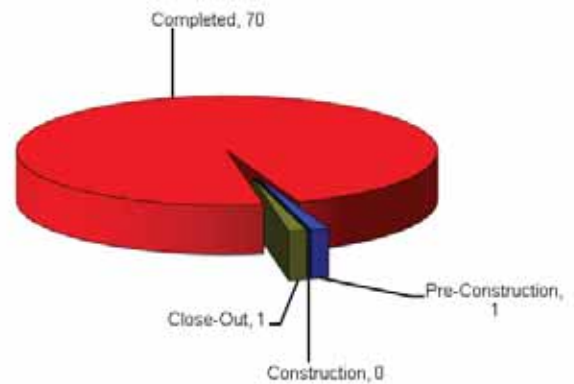


Figure 2.2 Number of Projects in Pre-construction, Construction, and Post-construction

3. PROGRAM COST SUMMARY

Table 3.1 provides an overall program-level cost summary of the WWE CIP. It shows: the expenditures to date; the 2005 Baseline Budget, the FY 2013-14 Approved Budget, the Current Forecasted Costs; and the Cost Variance between the Approved and Forecasted Budgets for each cost category. The cost categories include construction costs, program delivery costs, and other costs.

The total approved WWE CIP Budget (not including Financing Costs) remains at \$399 million (which includes funding from FY 2009/10, FY 2010/11, FY 2011/12, and FY 2012/13 and a reduction of \$12.7M through the Supplemental Budget Process in May 2013).

Table 3.1 Program Cost Summary

Cost Categories	Expenditures To Date (\$ Million) (A)	2005 Baseline Budget (\$ Million) (B)	FY 2014-15 Approved Budget ² (\$ Million) (C)	Current Forecasted Cost (\$ Million) (D)	Cost Variance (\$ Million) (E = D - C)
WWE CIP					
Construction Cost	\$291.0	\$110.2	\$299.8	\$300.8	\$1.0
Program Delivery Cost	\$94.0	\$37.0	\$95.7	\$94.6	(\$1.1)
Other Costs ¹	\$3.3	\$3.0	\$3.5	\$3.6	\$0.1
PROGRAM TOTAL	\$388.3	\$ 150.2	\$399.0	\$399.0	-

Notes: ¹ Other Costs cover expenditures associated with Environmental Mitigation, Arts Commission Program, Security Improvements, and Right-of-Way/Real Estate Requirements.

4. PROGRAM SCHEDULE SUMMARY

Figure 4.1 and Table 4.1 compare the 2005 Baseline, the 2014 Current Approved and Current Forecasted Schedules for the WWE CIP. Refer to the “Cost and Schedule Status” notes in Section 5 of Section I - SSIP for the criteria associated with the three color-coded Forecast Status levels in Figure 4.1 – Meet Requirements, Need Attention, and Exceed Limits.

The Approved Schedule completion for the overall WWE CIP is December 2016 and the Current Forecasted completion is March 31, 2021, four-year delay. Refer to Appendix 2.2 (Section II) for a graphical presentation of the WWE CIP 2014 Project-Level Schedule.

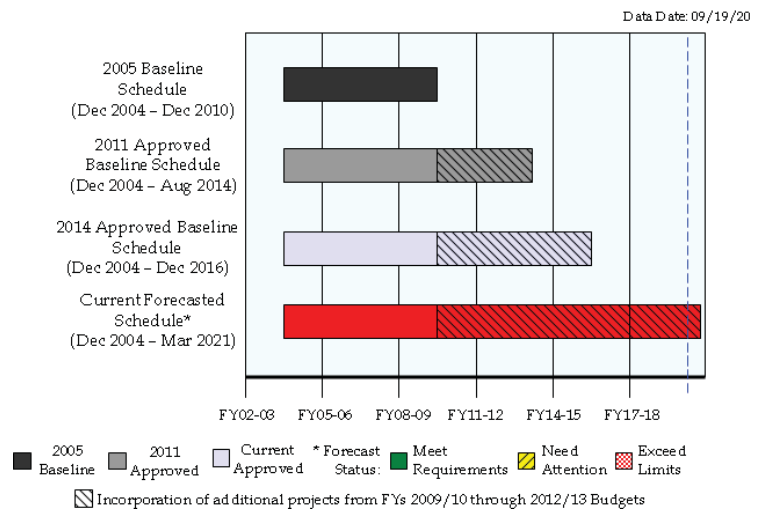


Figure 4.1 Program Schedule Summary

Table 4.1 2014 Approved vs. Current Forecasted Schedule Dates

Program	2005 Baseline Start	2014 Approved Start	Current Approved Start	Actual Start	2005 Baseline Completion	2014 Approved Completion	Current Approved Completion	Current Forecasted Completion	Schedule Variance (Months)
WWE CIP	12/31/04	12/31/04	12/31/04	12/31/04✓	12/28/10	12/08/16	12/08/16	03/31/21	52

5. PROJECT PERFORMANCE SUMMARY

No projects to report under this section, as the remaining open projects are in closeout.

6. PROJECTS NOT WITHIN BUDGET AND/OR SCHEDULE (THRESHOLD LIMITS)

No projects to report under this section.

7. ON-GOING CONSTRUCTION

No projects are currently in construction.

8. PROJECTS IN CLOSE-OUT

Project Title	2005 Baseline Construction Phase Completion	2014 Approved Construction Phase Completion	Current Approved Construction Phase Completion	Actual Construction Phase Completion	2005 Baseline Construction Phase Budget	2014 Approved Construction Phase Budget	Current Approved Construction Phase Budget	Construction Phase Expenditures To Date
Treatment Facilities								
CENMSCIC37 WVE Facility Reliability Impr - SEP Northside		08/29/16	08/29/16	12/26/17		\$ 36,303,511	\$ 36,303,511	\$ 35,894,595
TOTAL						\$ 36,303,511	\$ 36,303,511	\$ 35,894,595

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9. COMPLETED PROJECTS

Project Title	2005 Baseline Project Completion	2014 Approved Project Completion	Current Approved Project Completion	Actual Project Completion	2005 Baseline Project Budget	2014 Approved Project Budget	Current Approved Project Budget	Project Expenditures To Date
Odor Control								
CENMSCIC05 Oceanside WPCP HVAC Imprv	04/03/09	04/13/10	04/13/10	04/13/10	\$ 3,300,000	\$ 18,545,650	\$ 18,545,650	\$ 18,545,650
CENMSCIC07 Chemical Feed Sys Imprv - Ph 1	07/28/06	04/10/07	04/10/07	04/10/07	\$ 523,067	\$ 583,027	\$ 583,027	\$ 583,027
CENMSCIC16 WS PS VFDs and Pumps	09/10/07	07/14/09	07/14/09	07/14/09	\$ 1,830,753	\$ 1,786,082	\$ 1,786,082	\$ 1,786,082
CENMSCIC20 Chemical Feed Sys Imprv - Ph 2	09/30/08	08/30/07	08/30/07	08/30/07	\$ 2,450,000	\$ 499,661	\$ 499,661	\$ 499,661
CENMSCIC22 Embarcadero Vent Elements Ph 1	06/04/07	09/28/07	09/28/07	09/28/07	\$ 625,000	\$ 562,364	\$ 562,364	\$ 562,364
CENMSCIC28 SEWPCP Bldg 010 Odor Control Improvements	09/30/09	08/16/12	08/16/12	08/16/12	\$ 5,000,000	\$ 6,674,261	\$ 6,674,261	\$ 6,674,261
CENMSCIC31 SEWPCP 620 & 680 Digester Compressor		01/08/13	01/08/13	01/08/13		\$ 2,445,940	\$ 2,445,940	\$ 2,445,940
Treatment Facilities								
CENMSCIC06 SEP Gas Handling Imprv	09/30/08	09/22/09	09/22/09	09/22/09	\$ 13,000,000	\$ 11,061,999	\$ 11,061,999	\$ 11,061,999
CENMSCIC08 SEP Secondary Clarifiers Concrete Repairs	02/29/08	09/28/07	09/28/07	09/28/07	\$ 3,000,000	\$ 1,810,483	\$ 1,810,483	\$ 1,810,483
CENMSCIC09 SEP Mixed Liquor and Odor Control Imprv	09/30/09	07/31/07	07/31/07	07/31/07	\$ 7,420,272	\$ 545,724	\$ 545,724	\$ 545,724
CENMSCIC17 OSP / WS Bar Screens	09/28/07	07/14/09	07/14/09	07/14/09	\$ 2,450,000	\$ 5,573,615	\$ 5,573,615	\$ 5,573,615
CENMSCIC29 SEWPCP Gas Handling Improvements - Ph 2		06/08/10	06/08/10	06/08/10		\$ 2,818,043	\$ 2,818,043	\$ 2,818,043
CENMSCIC36 WWE Facility Security/Emergency Response		07/09/14	07/09/14	01/14/15		\$ 9,982,547	\$ 9,982,547	\$ 9,267,933
CENMSCIC38 SEP Solid Handling (Digester Roof, Gas Mixing, etc)		12/31/15	12/31/15	09/23/16		\$ 16,282,213	\$ 16,282,213	\$ 16,021,383
CENMSCIC39 OSP Solids Handling and Coating		05/20/16	05/20/16	07/26/16		\$ 31,671,201	\$ 31,671,201	\$ 32,204,904
CENMSCIC41 MV-SWGR SEP Electrical Reliability		09/30/15	09/30/15	09/12/16		\$ 3,600,601	\$ 3,600,601	\$ 3,411,017
CENMSCIC42 GHW Stabilization Emergency		09/02/12	09/02/12	09/02/12		\$ 1,792,500	\$ 1,792,500	\$ 1,792,444
CENMSCIC45 OPS: FOG to Biodiesel		12/31/14	12/31/14	09/23/16		\$ 1,000,000	\$ 1,000,000	\$ 983,246
CENMSCIC47 WWE Mechanical / Electrical Upgrade		12/08/16	12/08/16	06/30/20		\$ 5,774,634	\$ 5,774,634	\$ 5,502,263
CENMSCIC70 OS Plant Improvements - Aeration Syst Upgrade		12/31/15	12/31/15	09/25/15		\$ 1,362,452	\$ 1,362,452	\$ 321,132
CENMSCIC72 Facility Security Upgrades Contract 2		12/08/16	12/08/16	06/30/20		\$ 2,000,000	\$ 2,000,000	\$ 387,599
Int03 Contract 4 OSP Gas Compressors (\$ included in IC17)	11/30/06	01/14/09	01/14/09	09/30/08	\$ 400,000	\$ 0	\$ 0	\$ 0
Pump Stations								
CENMSCIC19 Tennessee Pump Station Reliability - Ph 1	06/30/08	08/30/07	08/30/07	08/30/07	\$ 1,550,000	\$ 190,117	\$ 190,117	\$ 190,117
CENMSCIC21 Channel Pump Station Odor Control	06/30/09	10/31/07	10/31/07	10/31/07	\$ 5,000,000	\$ 2,516,287	\$ 2,516,287	\$ 2,516,287
CENMSCIC30 Channel Pump Station Odor Control - Phase 2		10/11/12	10/11/12	10/11/12		\$ 21,710,944	\$ 21,710,944	\$ 21,710,944
CENMSCIC33 North Shore to Channel Force Main Improvement		07/14/11	07/14/11	07/14/11		\$ 2,014,336	\$ 2,014,336	\$ 2,014,336

Project Title	2005 Baseline Project Completion	2014 Approved Project Completion	Current Approved Project Completion	Actual Project Completion	2005 Baseline Project Budget	2014 Approved Project Budget	Current Approved Project Budget	Project Expenditures To Date
Pump Stations								
CENMSCIC40 North Shore and Mariposa Pump Station Improvements		06/30/14	06/30/14	09/23/16		\$ 7,619,497	\$ 7,619,497	\$ 6,983,102
CENMSCIC48 Channel Pump Sta Improvements Phase 3		11/12/13	11/12/13	11/12/13		\$ 6,548,684	\$ 6,548,684	\$ 6,550,798
CENMSCIC52 North Shore Force Main, Phase 2		05/27/16	05/27/16	12/08/16		\$ 8,771,203	\$ 8,771,203	\$ 8,720,971
CENMSCIC61 North Shore Force Main Emergency		04/04/13	04/04/13	04/04/13		\$ 721,739	\$ 721,739	\$ 721,561
CENMSCIC62 Emergency NSFMR Rehabilitation		07/01/14	07/01/14	09/25/15		\$ 8,035,821	\$ 8,035,821	\$ 7,508,190
Sewer/Collection System								
CENMSCIC01 Vicente St. Sewer Sys Imprv Ph 2	05/24/07	11/30/07	11/30/07	11/30/07	\$ 4,663,000	\$ 4,295,061	\$ 4,295,061	\$ 4,295,061
CENMSCIC02 Teresita Blvd "South" Sewer Replc	12/29/06	10/15/07	10/15/07	10/15/07	\$ 2,628,000	\$ 2,374,788	\$ 2,374,788	\$ 2,374,788
CENMSCIC03 Shotwell & 18th St. Drainage Imprv	03/30/07	03/27/08	03/27/08	03/27/08	\$ 6,445,155	\$ 6,516,357	\$ 6,516,357	\$ 6,516,357
CENMSCIC10 Brotherhood Way/St Charles Sewer Improvement	09/30/08	10/08/09	10/08/09	10/08/09	\$ 1,984,000	\$ 2,417,216	\$ 2,417,216	\$ 2,417,216
CENMSCIC11 Cesar Chavez Sewer Imprv Ph 1	03/31/09	12/31/14	12/31/14	09/23/16	\$ 8,000,000	\$ 23,610,423	\$ 23,610,423	\$ 23,906,823
CENMSCIC12 Vicente St. Ph 1 Sewer Imprv	07/28/06	03/16/07	03/16/07	03/16/07	\$ 3,405,000	\$ 2,851,895	\$ 2,851,895	\$ 2,851,895
CENMSCIC13 Monterey, Baden, & Circular Sewer Imprv	06/30/06	09/29/06	09/29/06	09/29/06	\$ 1,035,000	\$ 778,790	\$ 778,790	\$ 778,790
CENMSCIC14 Mission & Foote Sewer Imprv	08/17/06	11/14/06	11/14/06	11/14/06	\$ 769,409	\$ 574,359	\$ 574,359	\$ 574,359
CENMSCIC15 Mission & Mt. Vernon Sewer Imprv Ph I	09/16/08	09/22/09	09/22/09	09/22/09	\$ 11,402,780	\$ 10,270,282	\$ 10,270,282	\$ 10,270,282
CENMSCIC18 Justin Dr/Marietta Ave/Del Vale Ave Sewer Imprv	09/28/07	05/28/08	05/28/08	05/28/08	\$ 885,000	\$ 1,372,540	\$ 1,372,540	\$ 1,372,540
CENMSCIC23 Sunnydale Auxiliary Sewer	09/28/10	03/26/15	03/26/15	09/23/16	\$ 25,500,000	\$ 59,937,553	\$ 59,937,553	\$ 58,157,278
CENMSCIC24 Phelps/Topeka/Pomona Sewer Imprv	11/27/07	06/01/09	06/01/09	06/01/09	\$ 2,220,000	\$ 902,607	\$ 902,607	\$ 902,607
CENMSCIC25 Colon/Greenwood/Plymouth /Southwood/Miramar Sewer Improvement	08/29/08	01/19/12	01/19/12	01/19/12	\$ 3,949,000	\$ 1,921,706	\$ 1,921,706	\$ 1,921,706
CENMSCIC26 Alemany & Sickles Sewer Improvements	06/30/09	03/28/08	03/28/08	03/28/08	\$ 2,500,000	\$ 52,078	\$ 52,078	\$ 52,078
CENMSCIC27 Ocean Ave Sewer Improvement	03/31/09	02/28/08	02/28/08	02/28/08	\$ 1,400,000	\$ 59,714	\$ 59,714	\$ 59,714
CENMSCIC32 Spot Sewer Repair Contract #23		05/12/11	05/12/11	05/12/11		\$ 1,818,960	\$ 1,818,960	\$ 1,818,960
CENMSCIC34 Folsom St Sewer Replacement		02/24/12	02/24/12	02/24/12		\$ 1,560,906	\$ 1,560,906	\$ 1,560,906
CENMSCIC35 Minna/Natoma/Russ Sewer Replacement		08/19/11	08/19/11	08/19/11		\$ 735,402	\$ 735,402	\$ 735,402
CENMSCIC43 Richmond Drainage Improvement Ph2		01/16/14	01/16/14	01/16/14		\$ 799,664	\$ 799,664	\$ 799,664
CENMSCIC44 Cesar Chavez Sewer Improvements Ph2		02/07/14	02/07/14	02/07/14		\$ 256,416	\$ 256,416	\$ 256,416
CENMSCIC46 Fell St Sewer Replacement		08/19/11	08/19/11	08/19/11		\$ 220,059	\$ 220,059	\$ 220,059
CENMSCIC49 Vallejo St Emergency St Replacement		05/10/11	05/10/11	05/10/11		\$ 272,560	\$ 272,560	\$ 272,560

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Project Title	2005 Baseline Project Completion	2014 Approved Project Completion	Current Approved Project Completion	Actual Project Completion	2005 Baseline Project Budget	2014 Approved Project Budget	Current Approved Project Budget	Project Expenditures To Date
Sewer/Collection System								
CENMSCIC50 As Needed Sewer Replacement Contract #1		11/15/13	11/15/13	11/15/13		\$ 3,220,635	\$ 3,220,635	\$ 3,220,635
CENMSCIC51 Spot Sewer Repair Contract #25		04/02/12	04/02/12	04/02/12		\$ 4,530,383	\$ 4,530,383	\$ 4,530,383
CENMSCIC53 Downtown District Aging Sewer Replacement/Rehabilitation		12/30/13	12/30/13	12/30/13		\$ 3,222,960	\$ 3,222,960	\$ 2,630,580
CENMSCIC54 Sunnydale Auxiliary Sewer Phase 2		07/20/16	07/20/16	09/27/16		\$ 5,369,192	\$ 5,369,192	\$ 5,205,632
CENMSCIC55 Church St./Duboce Sewer Replacement		09/09/13	09/09/13	09/09/13		\$ 1,168,000	\$ 1,168,000	\$ 899,347
CENMSCIC56 Powell and Mason Sewer Improvements (SHI)		05/15/15	05/15/15	05/15/15		\$ 1,698,104	\$ 1,698,104	\$ 1,698,104
CENMSCIC57 Sewer Staff Facility Improvements		05/30/14	05/30/14	08/11/14		\$ 743,387	\$ 743,387	\$ 724,379
CENMSCIC58 Vactor Waste Staging Area		09/30/14	09/30/14	09/13/16		\$ 361,613	\$ 361,613	\$ 367,999
CENMSCIC59 Spot Sewer Repair Contract #26		12/26/12	12/26/12	12/26/12		\$ 4,404,774	\$ 4,404,774	\$ 4,404,774
CENMSCIC60 Spot Sewer Repair Contract #27		06/28/13	06/28/13	06/28/13		\$ 4,290,621	\$ 4,290,621	\$ 4,290,876
CENMSCIC63 Plymouth Avenue Sewer Replacement		03/16/13	03/16/13	03/16/13		\$ 753,754	\$ 753,754	\$ 753,754
CENMSCIC64 As-Needed Sewer Replacement		11/04/13	11/04/13	11/04/13		\$ 2,742,529	\$ 2,742,529	\$ 2,444,174
CENMSCIC65 Western Addition/Beach/Marina District Sewer Replacement		09/08/13	09/08/13	10/25/13		\$ 2,882,000	\$ 2,882,000	\$ 2,565,627
CENMSCIC66 Greenwich/Leavenworth/Lombard Sewer Repl		05/13/13	05/13/13	05/13/13		\$ 736,015	\$ 736,015	\$ 736,015
CENMSCIC67 Block 2169 Emergency Easement Sewer Repl		11/04/12	11/04/12	11/04/12		\$ 248,344	\$ 248,344	\$ 248,344
CENMSCIC68 24th Street Sewer Replacement		09/29/13	09/29/13	11/27/13		\$ 734,560	\$ 734,560	\$ 675,710
CENMSCIC69 Various Location Replacement No.4		02/04/14	02/04/14	02/04/14		\$ 1,703,992	\$ 1,703,992	\$ 1,515,878
CENMSCIC71 Folsom Street Sewer Replacement		07/12/13	07/12/13	08/22/13		\$ 576,440	\$ 576,440	\$ 576,439
TOTAL					\$ 123,335,436	\$ 347,488,264	\$ 347,488,264	\$ 339,319,187

10. PROJECTS WITHIN BUDGET AND SCHEDULE (THRESHOLD LIMITS)

No projects to report under this section.

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III. Facilities and Infrastructure Program



1. PROGRAM DESCRIPTION

The Wastewater Facilities and Infrastructure Program will encompass those capital improvements that fall outside of the Sewer System Improvement and Renewal and Replacement Programs. These capital projects are intended to provide for necessary upgrades to aging facilities which are not addressed by the SSIP or R&R to maintain their intended functions. Projects will include improvement to Treasure Island wastewater facilities and improvements to wastewater support facilities (office consolidation, Southeast Community Facility).

The Wastewater Facilities and Infrastructure Program will address the following challenges:

- Uphold the SFPUC Wastewater Enterprise Levels of Service (LOS);
- Protect the structural integrity of critical City infrastructure;
- Streamline core operational functions and processes;
- Employ energy efficiency components, stormwater management enhancements, seismic upgrades, spatial improvements, safety and security improvements, and other essential improvements to modernize existing facilities to current standards;
- Provide benefits to surrounding communities.

2. PROGRAM STATUS

This Quarterly Report presents the progress made on the Facilities and Infrastructure program between July 1, 2020 and September 30, 2020.

The approved project budget and schedule were developed and approved by the appropriate Wastewater Enterprise Manager on September 30, 2020. This is based on the project team's assessment at this time. However, it should be noted that the project team is currently focused on validating these estimates.

3. PROGRAM COST SUMMARY

Table 3.1 provides an overall program-level cost summary of the Facilities and Infrastructure Program. It shows the Expenditures to Date, Current Approved Budget and Current Forecasted Cost; and the Cost Variance between the Approved Budget and Forecasted Budgets. The Current Approved Budget is \$450.3 million and the currently Forecast Cost (based on the proposed project list) at completion is \$666.3 million (\$216 million over the Current Approved Budget).

Table 3.1 Program Cost Summary

Program	Expenditures to Date (\$ Million) (A)	Current Approved Budget (\$ Million) (B)	Current Forecasted Cost (\$ Million) (D)	Cost Variance (\$ Million) (E = B - D)
Facilities and Infrastructure Program	\$101.90	\$450.27	\$666.26	(\$215.99)

4. PROGRAM SCHEDULE SUMMARY

Figure 4.1 and Table 4.1 compare the Current Approved, Current Forecasted Schedules for the Facilities and Infrastructure Program. Refer to the “Cost and Schedule Status” notes in Section 5 for the criteria associated with the three color-coded Forecast Status Levels in Figure 4.1 – Meet Requirements, Need Attention, and Exceed Limits. The Program schedule is under development, the overall time frame is 20-30 years.

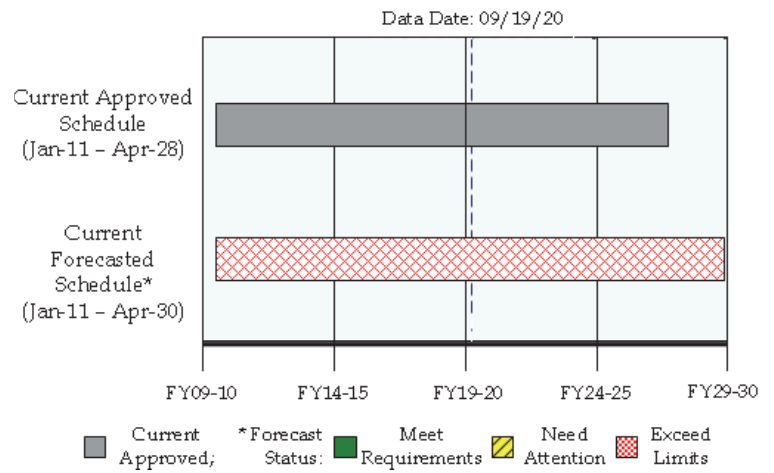


Figure 4.1 Program Schedule Summary

Table 4.1 Current Approved vs. Current Forecasted Schedule Dates

Program	Current Approved Project Start	Actual Start	Current Approved Completion	Current Forecasted Completion	Schedule Variance (Months)
Facilities and Infrastructure Program	01/01/11	01/01/11✓	04/04/28	04/01/30	23.9 (Late)

5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 09/19/20

Project Name	Active Phase (**)	Current Approved Budget (a)	Current Forecasted Cost (b)	Expenditures To Date (c)	Cost Variance (d= a - b)	Cost Status (+)	Current Approved Completion (e)	Current Forecasted Completion (f)	Schedule Variance (g = e - f)	Schedule Status (+)	Project Data Sheet
Facilities and Infrastructure											
10033820 - Southeast Outfall Condition Assessment & Rehabilitation	PL	\$ 33,775	\$ 33,775	\$ 503	-	★	04/30/27	04/01/30	35.1 mo. Late	●	See Section 6
CWP11001 - New Treasure Island Wastewater Treatment Plant	DS	\$ 67,398	\$ 202,475	\$ 5,938	(\$135,077)	●	09/01/23	05/23/25	20.7 mo. Late	●	See Section 6
CWWFAC01 - Ocean Beach Project	CN	\$ 126,765	\$ 169,923	\$ 12,333	(\$43,158)	●	01/30/26	07/01/27	17.0 mo. Late	●	See Section 6
CWWFAC03 - Southeast Community Center @ 1550 Evans	CN	\$ 108,500	\$ 113,654	\$ 36,231	(\$5,154)	⚠	12/29/23	12/29/23	-	★	See Section 6
CWWFAC04 - Southeast Bay Outfall Islais Creek Crossing Replacement	DS	\$ 35,000	\$ 67,600	\$ 9,494	(\$32,600)	●	07/29/24	06/03/26	22.2 mo. Late	●	See Section 6

* Exclude projects with completed construction and projects that are no longer active (i.e., deleted projects, closed projects, and projects combined with other projects)

**** Phase Status Legend**

PL	Planning	DS	Design
BA	Bid & Award	CN	Construction
MP	Multi-Phases		

+ Cost and Schedule Status











- ★ Meet Requirements: Forecasted Cost/Schedule is within Approved Budget/Schedule.
- ⚠ Need Attention: Forecasted Cost is over Approved Budget by greater than 1% and less than 10%. Or Forecasted Schedule is over Approved Schedule by greater than 2 months and both less than 6 months and less than 10%.
- Exceed Limits: Forecasted Cost is over Approved Budget by 10% or more. Or Forecasted Schedule is over Approved Schedule by greater than 6 months or 10% or more.

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6. PROJECTS NOT WITHIN BUDGET AND/OR SCHEDULE (THRESHOLD LIMITS)

10033820 - Southeast Outfall Condition Assessment & Rehabilitation

Description: This Wastewater Enterprise Capital Improvement Program project will include extensive condition assessment and rehabilitation of the Southeast Water Pollution Control Plant (SEP) effluent force main. The Booster pump station was constructed in 1967 and last upgraded in 2002. The Booster Pump Station receives treated effluent from Southeast Treatment Plant via 72" gravity conduit. The discharge system from Booster Pump Station consists of 42" and 36" parallel force mains under Islais Creek that ultimately discharge into 60" Southeast Outfall. The effluent outfall discharges into the San Francisco Bay through the series of pipes at Pier 80. The outfall ends with 36" pipe and diffuser system that was replaced in 2012 using JOC Contract. The treated effluent flow conveyance is 50-60 million gallons per day(MGD) average and 110 MGD peak through the Southeast Outfall System. The underwater crossings have exhibited leaks 3 times in past 6 years and were repaired with JOC Contracts. The last limited condition assessment was performed in 2010-2011 and the report recommended the near-term and long-term actions for the entire Outfall system. The short-term action recommended that Islais Creek Underwater Crossings replacement within 5 years and long-term action recommended the re-inspection and re-habilitation of the remaining system within 10 years. The Islais Creek underwater crossings replacement is currently at 35% design phase under separate project FAC04 Facilities and Infrastructure Program. This new project will thoroughly and completely evaluate the condition and remaining life expectancy of the Southeast Outfall System and implement the rehabilitation solutions to extend the useful life.

Program: Facilities and Infrastructure		Project Status: Planning		Environmental Status: Not Initiated	
Project Cost:			Project Schedule:		
Approved		\$33.78 M	Approved Jan-19		Apr-27
Forecast*		\$33.78 M	Forecast* Jul-19		Apr-30
Actual		\$0.50 M	Project Percent Complete: 2.0%		
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits					
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion	
Current Forecast	TBD	04/30/25	09/29/25	09/28/29	

Progress and Status:

During the reporting period, two additional workshops were completed with city staff and consultant team to continue the development of field work as-found condition inspection goals, objectives, and inspection technologies for the project.

Issues and Challenges:




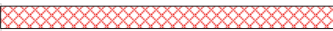


Similar to the last quarterly report, the forecasted project schedule duration has increased due to many project challenges including extensive coordination with the multi-governmental agency jurisdiction of the project site, accessibility to the project area, proximity to San Francisco Bay that may trigger extensive environmental review. Additional time is also required to re-define the exact scope of condition assessment and obtain agreement amongst all stakeholders on the approach.



Southeast Outfall Segments

CWP11001 - New Treasure Island Wastewater Treatment Plant

Description: The objective of the project is to build a new wastewater treatment plant that will provide reliable service for the Treasure Island residents and meet the recycled water demands of the future redevelopment on the island. The existing facility was built by the United States Navy over 50 years ago and is past its useful life and no longer reliable. The existing facility is also not capable of providing recycled water and meeting the needs of the residents on the redeveloped island.

Program: Facilities and Infrastructure	Project Status: Design	Environmental Status: Completed (EIR)
Project Cost:		Project Schedule:
Approved 	\$67.40 M	Approved Jan-11  Sep-23
Forecast* 	\$202.48 M	Forecast* Jan-11  May-25
Actual 	\$5.94 M	Project Percent Complete: 14.8%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/18/19✓	N/A	12/21/21	11/22/24

Progress and Status:

The new wastewater treatment plant and associated recycled water facility are in the planning portion of the project. The Design Build Request for Qualifications was released in August with qualification packages submitted on September 22nd. The team is currently developing the Request for Proposals with an anticipated release date early 2021. Coordination is ongoing with site preparation, geotechnical improvements, and other project activities with Treasure Island Community Development (TICD), Treasure Island Development Authority (TIDA), and the project team.

Issues and Challenges:

Similar to the previous quarterly, the cost and schedule variance represent the revised plan for design and construction, presented in the completed CER and approved by the Technical Steering Committee (TSC) for the New Treasure Island Wastewater Treatment Plant.



Rendering of the proposed Treasure Island Wastewater Treatment Plant

III. WWE F&I Quarterly Report

CWWFAC01 - Ocean Beach Project

Description: The project will develop a comprehensive shoreline management and protection plan against bluff erosion and climate-change induced sea level rise along Ocean Beach south of Sloat Boulevard consistent with the recommendations in the 2012 Ocean Beach Master Plan (OBMP). This project is necessary to protect the integrity of wastewater assets built to protect public health and the environment, including the Lake Merced Tunnel, the Westside Pump Station and the Oceanside Treatment Plant. The project includes a) Short-term Improvements [STI] to provide interim (2015-2022) erosion protection and improved beach access [e.g., sand backpass/stabilization and placement of sand bags], b) Army Corps of Engineers Section 204 beach nourishment [ACOE] (e.g., beneficial reuse of dredged sand to provide erosion protection), and c) Long-term Improvements [LTI] that will address a comprehensive shoreline management and protection plan.

Program: Facilities and Infrastructure	Project Status: Construction	Environmental Status: Active (EIR)
Project Cost:		Project Schedule:
Approved 	\$126.76 M	Approved Jul-12 Jan-26
Forecast* 	\$169.92 M	Forecast* Jul-12 Jul-27
Actual 	\$12.33 M	Project Percent Complete: 15.4%
 Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	(A) 09/10/14✓ (B) 03/29/21 (C) 09/26/22	09/14/15✓ N/A 07/14/22	01/07/16✓ 07/22/21 01/03/23	03/01/21 01/28/22 12/31/26

(A) Short Term Improvements (STI) is a multi-year, as-needed contract. Forecasted completion date is unknown at this time. (B) The Army Corps of Engineers (ACOE) will be responsible for construction (no Bid & Award) (C) Long Term Improvements (LTI)

Progress and Status:

A) STI: Annual monitoring report accepted by Coastal Commission; report found that no sand backpass is needed this year to protect the Lake Merced Tunnel; however, required monitoring will continue through the year to ensure stability of the bluffs and subsequently the Lake Merced Tunnel.

B) ACOE: Design work for the ACOE for Beneficial Reuse of dredged sand at South Ocean Beach is in process; 65% design is under review. SF Planning has determined that a CatEx is the appropriate level of CEQA review. Construction anticipated in late summer of 2021.

C) LTI: This is the first CCSF Climate Change Adaptation Project requiring a high level of coordination with other CCSF Agencies; negotiations with SF Zoo and CCSF agencies on funding and project components continue to proceed at a slow rate. 35% Design Phase is underway and is expected to be completed by October 2020; CEQA NOP was released in September and the formal Scoping meeting was completed on September 30, 2020.









Contractor excavator and dump trucks loaded with surplus sand collected at North Ocean Beach

Issues and Challenges:

Like the previous quarterly reports, SFPUC continues discussions with the SF Zoo regarding project impacts to ingress and egress from their parking lot; negotiations are on-going, but delays continue to impact design and environmental review. A Draft Cooperative Agreement was developed and has been shared with the Zoo.

CWWFAC03 - Southeast Community Center @ 1550 Evans

Description: The Southeast Community Center project will serve to address the SFPUC’s commitment to the mitigation measure for the expansion of the Southeast Plant (SEP) by constructing a new community center at 1550 Evans. The project will include a childcare center, café, multipurpose space for meetings, events, and workshops, and co-working office and classroom space for community-based organizations providing workforce development services. It will also include parking and over two acres of landscaped open space, with play areas, an amphitheater, picnic areas and gardens. The new center will provide a wide range of social services supporting workforce development and education for Southeast residents of all ages.

Program: Facilities and Infrastructure	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved  \$108.50 M	Approved Jul-12  Dec-23	
Forecast*  \$113.65 M	Forecast* Jul-12  Dec-23	
Actual  \$36.23 M	Project Percent Complete: 36.6%	
		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/30/18✓	N/A	01/13/20✓	12/31/22

+ The project delivery method for this project is construction Manager/General Contractor (CM/GC).

Progress and Status:

Construction proceeded with completion of all pours for foundation grade beams, caps and slabs and commencement of erecting structural steel. The project launched a project newsletter in July and project website, www.southeastcommunitycenter.com in August. The website features community participation on the project. Employees of Pankow on the project, including Pankow’s CEO, and others on the project participated in two of a 3-part workshop on Women of Color in Construction. In July, the project reported to the Commission on the outcome of completing procurement of trade packages and requested authorization to increase the contract award amount and project contingency. The project is trending on schedule.



Pile driving completed

Issues and Challenges:

At the end of the bid phase, construction costs came in 10% above budget. The project reported the increase in construction costs to the commission for authorization to increase the construction contract. In addition, Public Works reported during this quarter that design costs had exceeded the original budget due to the increased duration to complete design and the requirement for additional services during design.

III. WWE F&I Quarterly Report

CWWFAC04 - Southeast Bay Outfall Islais Creek Crossing Replacement

Description: This Wastewater Enterprise Capital Improvement Program project will include improvements to the Southeast Water Pollution Control Plant (SEP) effluent force main crossings at Islais Creek and modifications to the Booster Pump Station. SEP is the SFPUC’s largest wastewater facility treating almost 80% of the City’s dry and wet weather flows.

Major improvements are planned to ensure that the SEP facilities maintain permit compliance and operate reliably. This project primarily addresses the portion of effluent discharge outfall into the San Francisco Bay through the series of pipes at Pier 80. Following improvements are needed to address aging infrastructure:

- Pipeline replacement within the Islais Creek
- Restoration of access manholes for future inspection and maintenance
- Improving flow velocity with new pipeline material
- Providing redundancy and flexibility for operation
- Piping isolation improvements to the Booster Pump Station

Program: Facilities and Infrastructure		Project Status: Design		Environmental Status: Active (MND)	
Project Cost:			Project Schedule:		
Approved		\$35.00 M	Approved Sep-16		Jul-24
Forecast*		\$67.60 M	Forecast* Sep-16		Jun-26
Actual		\$9.49 M	Project Percent Complete: 14.7%		
Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits					

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	01/27/21	08/30/21	03/17/22	12/05/25

Progress and Status:

Design team continued to work on the final bid package. Initial input was received from SFMTA about relocation of the overhead contact system and is being incorporated into the design package. The project team presented the 95% design details to the TSC including the design changes and request for additional budget. The TSC requested the design team to explore additional alternatives, and to present findings back to the TSC. Draft Mitigated Negative Declaration will be published next quarter as scheduled.



Current pipeline crossing at Islais Creek

Issues and Challenges:

As previously reported, the schedule variance is due to design changes, additional scope and incorporation of the emergency bypass project components. Additional delay is due to incorporation of critical seismic design and MUNI overhead control system relocation work on third street. The forecast cost is trending higher due to market conditions, and handling/disposal of high level of contaminant sediment materials. In addition, project team is expecting schedule delays due to updated the CEQA schedule. Due to comments for CEQA, design team is incorporating some changes to design, which is causing delays to final design.

7. On-Going Construction**

Construction Contract	Schedule			Budget		Variance (Approved - Forecast)		Actual % Complete
	NTP Date	Approved Construction Final Completion	Current Forecasted Construction Final Completion*	Approved Contract Cost	Current Forecasted Cost*	Schedule (Cal. Days)	Cost	
Facilities and Infrastructure								
CWWFAC03 - Southeast Community Center @ 1550 Evans	01/13/20	12/31/22	12/31/22	\$ 71,076,982	\$ 69,564,318	-	\$ 1,512,664	31.0%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	\$ 71,076,982	\$ 69,564,318	+\$1,512,664	+2.1%

Note: * The Forecasted Cost includes all approved, pending, and potential change orders, and Final Completion Date includes all approved, pending, and potential change orders, and trends.

** This table is reflecting Active construction contract with original contract amount greater than \$1M.

III. WWE F&I Quarterly Report

8. PROJECTS IN CLOSE-OUT

Project Title	2016 Baseline Construction Phase Completion	2018 Approved Construction Phase Completion	Current Approved Construction Phase Completion	Actual Construction Phase Completion	2016 Baseline Construction Phase Budget	2018 Approved Construction Phase Budget	Current Approved Construction Phase Budget	Construction Phase Expenditures To Date
Facilities and Infrastructure								
CWWFAC02 - Collection Division Consolidation (Griffith Yard Improvements)	N/A	02/15/19	02/15/19	05/22/19	\$ 0	\$ 27,361,789	\$ 27,361,789	\$ 16,629,029
TOTAL					\$ 0	\$ 27,361,789	\$ 27,361,789	\$ 16,629,029

9. COMPLETED PROJECTS

No projects are currently completed.

10. PRJECTS WITHIN BUDGET AND SCHEDULE

No projects are within the current approved budget and schedule.

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IV. Renewal and Replacement Program





1. PROGRAM DESCRIPTION

The Wastewater Enterprise (WWE) Renewal and Replacement Program (R&R) is a continuing annual program that seeks to address deficiencies in two wastewater infrastructure categories: R&R Collection System and R&R Treatment Facilities. The goal of the R&R Program is to meet the endorsed levels of service goals, regulatory permit compliance, system reliability and functionality, and sustainable operations of the City's sewer system. The R&R Program also complies with the State requirement that a provision be made for the periodic repair and replacement of sewer system facilities.

San Francisco's sewer collection system was installed in phases beginning in the early 1870's. Many of the sewers are near the end of their useful life and are in need of urgent attention in order to continue to function at proper capacity and to meet regulatory standards. An asset management approach was developed to prioritize which assets within the sewer system should get attention first. For the R&R Collection System, the asset management base approach factors in the physical condition of the sewer, age, location, risk, public safety, Department of Public Work's street paving schedule, and various other factors. Approximately 12.4 miles of sewer replacement work was awarded in FY 13-14. In FY 14-15 the sewer replacement mileage target subsequently increases to 15 miles to meet Commission endorsed Level of Service goals.

The R&R Treatment Facilities projects are prioritized based upon regulatory compliance, condition assessments, Operation staff recommendations, and Level of Service goals. These projects seek to extend the useful life of treatment facility assets throughout San Francisco by helping to maintain their treatment capacity and performance and enable WWE to maintain regulatory compliance with

Regional Water Quality Control Board (RWQCB) National Pollutant Discharge Elimination System (NPDES) permits and Bay Area Air Quality Management District (BAAQMD) requirements.

2. PROGRAM STATUS

This Quarterly Report presents the progress made on the Renewal and Replacement Program (R&R) projects between July 1, 2020 and September 30, 2020.

The approved project budget and schedule were developed and approved by the appropriate Wastewater Enterprise Manager on September 30, 2020. This is based on the project team's best assessment of the projects at this time. However, it should be noted that the project team is currently focused on validating these estimates.

Figures 2.1 and 2.2 show the total number of active projects remaining in each phase of the R&R Collection systems and R&R Treatment Facilities programs as of September 30, 2020.

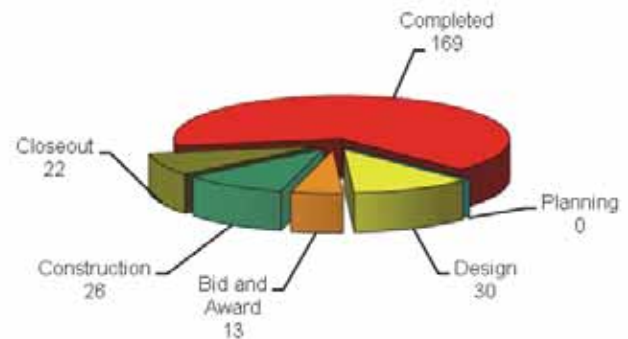


Figure 2.1 Total Number of Active R&R Collection Systems Projects in R&R Program

IV. WVE R&R Quarterly Report

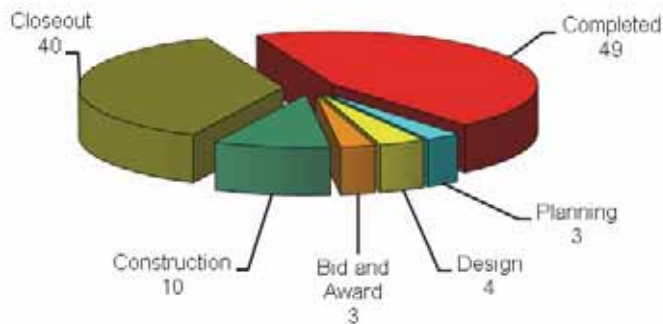
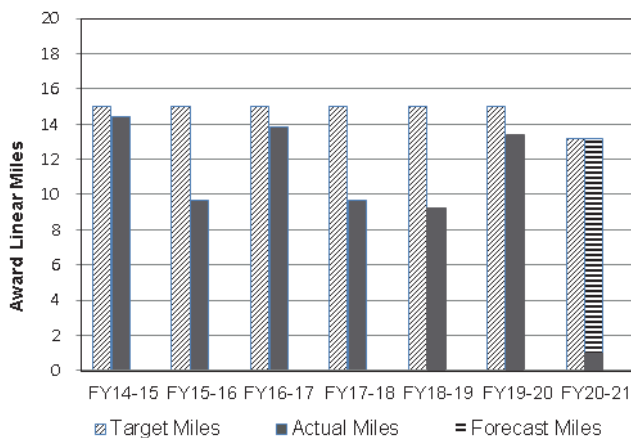


Figure 2.2 Total Number of Active R&R Treatment Facilities Projects in R&R Program

The Wastewater R&R Collection System Sewer Replacement Program has an annual budget of \$76.3 million in FY21 to award a target of 13.2 miles of sewer replacement work in San Francisco.

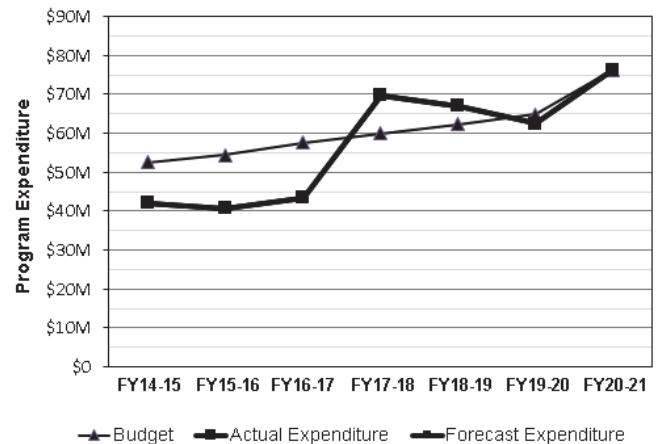
Figure 2.3 shows the target and actual award miles of sewer improvement projects that have been awarded to date and are forecasted to be awarded. The Wastewater R&R Collection System Sewer Replacement Program has awarded approximately 1.0 miles of sewer replacement work in FY21.



	FY14-15	FY15-16	FY16-17	FY17-18	FY18-19	FY19-20	FY20-21
Target Miles	15.0	15.0	15.0	15.0	15.0	15.0	13.2
Actual Miles	14.4	9.7	13.8	9.7	9.2	13.4	1.0
Forecast Miles							13.2

Figure 2.3 Wastewater R&R Collection System - Sewer Improvements - Award Linear Miles by Fiscal Year

Figure 2.4 shows the annual total program expenditure by fiscal year for the R&R Collection System Sewer Replacement program.



	FY14-15	FY15-16	FY16-17	FY17-18	FY18-19	FY19-20	FY20-21
Budget	\$52.5M	\$54.3M	\$57.6M	\$59.9M	\$62.3M	\$64.8M	\$76.3M
Actual Expenditure	\$42.1M	\$40.8M	\$43.4M	\$69.7M	\$67.0M	\$62.4M	\$10.5M
Forecast Expenditure							\$76.3M

Figure 2.4 Wastewater R&R Collection System - Sewer Improvements - Program Expenditure by Fiscal Year

3. PROGRAM COST SUMMARY

Table 3.1 provides an overall program-level cost summary of the R&R Program. It shows the Expenditures to Date; Current Approved Budget and Current Forecasted Cost; and the Cost Variance between the Approved Budget and Forecasted Cost.

The total Approved Budget for the R&R Program is \$956.7 million and the Current Forecasted Cost at completion is \$946.5 million (\$10.2 million under the Current Approved Budget).

Table 3.1 Program Cost Summary

Sub-Program	Expenditures to Date (\$ Million) (A)	Current Approved Budget (\$ Million) (B)	Current Forecasted Cost (\$ Million) (C)	Cost Variance (\$ Million) (D = B - C)
R&R Collection Systems	\$571.51	\$793.64	\$783.44	\$10.20
R&R Treatment Facilities	\$119.65	\$163.04	\$163.04	-
Program Total	\$691.15	\$956.68	\$946.48	\$10.20

4. PROGRAM SCHEDULE SUMMARY

Figure 4.1 and Table 4.1 compare the Current Approved and Current Forecasted Schedules for the R&R program. Refer to the “Cost and Schedule Status” notes in Section 5 for the criteria associated with the three color-coded Forecast Status levels in Figure 4.1 – Meet Requirements, Need Attention, and Exceed Limits.

The Approved Schedule completion for the overall R&R program is March 2022. The overall R&R Program is currently forecasted to be completed in March 2022.

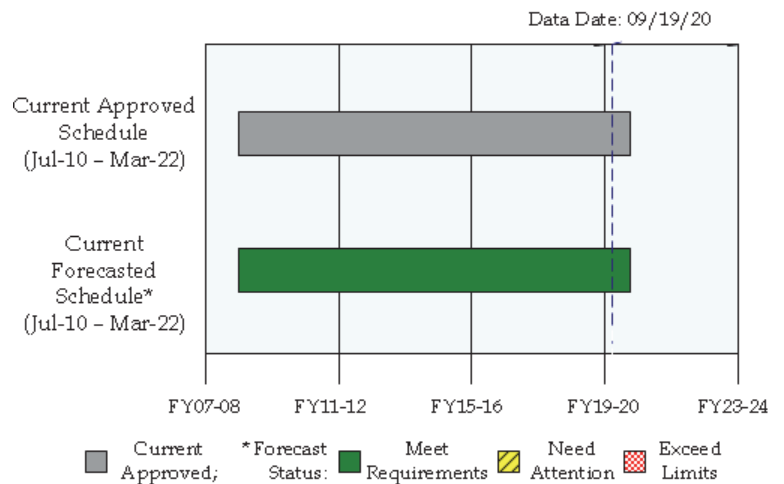


Figure 4.1 Program Schedule Summary

Table 4.1 Current Approved vs. Current Forecasted Schedule Dates4-4

Sub-Program	Current Approved Project Start	Actual Start	Current Approved Completion	Current Forecasted Completion	Schedule Variance (Months)
R&R Collection Systems	07/01/10	07/01/10✓	03/31/22	03/31/22	-
R&R Treatment Facilities	07/01/10	07/01/10✓	02/12/22	02/12/22	-
Overall Program	07/01/10	07/01/10✓	03/31/22	03/31/22	-

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5. PROGRAM PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 09/19/20

Program Name	Active Phase (**)	Current Approved Budget (a)	Current Forecasted Cost (b)	Expenditures To Date (c)	Cost Variance (d= a - b)	Cost Status (+)	Current Approved Completion (e)	Current Forecasted Completion (f)	Schedule Variance (g = e - f)	Schedule Status (+)	Project Data Sheet
Renewals and Replacements											
CWWRNRCS - R&R Collection Systems	MP	\$ 793,640	\$ 783,440	\$ 571,507	\$ 10,200	★	03/31/22	03/31/22	-	★	See Section 10
CWWRNRTF - R&R Treatment Facilities	MP	\$ 163,035	\$ 163,035	\$ 119,648	-	★	02/14/22	02/14/22	-	★	See Section 10

* Exclude projects with completed construction and projects that are no longer active (i.e., deleted projects, closed projects, and projects combined with other projects)

**** Phase Status Legend**

PL	Planning	DS	Design
BA	Bid & Award	CN	Construction
MP	Multi-Phases		

+ Cost and Schedule Status

- ★ Meet Requirements: Forecasted Cost/Schedule is within Approved Budget/Schedule.
- ⚠ Need Attention: Forecasted Cost is over Approved Budget by greater than 1% and less than 10%. Or Forecasted Schedule is over Approved Schedule by greater than 2 months and both less than 6 months and less than 10%.
- Exceed Limits: Forecasted Cost is over Approved Budget by 10% or more. Or Forecasted Schedule is over Approved Schedule by greater than 6 months or 10% or more.

IV. WWE R&R Quarterly Report

6. PROGRAMS NOT WITHIN BUDGET AND/OR SCHEDULE

All programs are within the current approved budget and schedule.

7. On-Going Construction**

Construction Contract	Schedule			Budget		Variance (Approved - Forecast)		Actual % Complete
	NTP Date	Approved Construction Final Completion	Current Forecasted Construction Final Completion*	Approved Contract Cost	Current Forecasted Cost*	Schedule (Cal. Days)	Cost	
R&R Collection System								
10015681-As-Needed Sewer Sealing (WW-644)	02/06/17	05/05/21	05/05/21	\$ 3,934,250	\$ 3,934,250	-	-	86.0%
10033120-Various Locations Sewer Replacement No. 6 (WW-677)	06/15/20	05/20/21	05/20/21	\$ 4,107,325	\$ 4,107,325	-	-	31.8%
10033121-Various Locations Sewer Replacement No. 7 (WW-678)	06/29/20	06/28/21	06/28/21	\$ 2,400,049	\$ 2,400,049	-	-	25.8%
10034352-As-Needed Spot Sewer Replacement No. 38 (WW-686)	06/10/19	10/13/20	10/13/20	\$ 13,808,733	\$ 13,808,733	-	-	97.4%
10034354-As-Needed Spot Sewer Replacement No. 39 (WW-692)	12/02/19	01/04/21	01/04/21	\$ 8,176,960	\$ 8,176,960	-	-	76.0%
10034564-As-Needed Sewer Cleaning and Inspection (FY20) (WW-695)	09/03/19	03/25/21	03/25/21	\$ 1,865,233	\$ 1,865,233	-	-	69.1%

Note: * The Forecasted Cost includes all approved, pending, and potential change orders, and Final Completion Date includes all approved, pending, and potential change orders, and trends.

** This table is reflecting Active construction contract with original contract amount greater than \$1M.

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Q1-FY2020-2021 (07/01/20 - 09/30/20)

Construction Contract	Schedule			Budget		Variance (Approved - Forecast)		Actual % Complete
	NTP Date	Approved Construction Final Completion	Current Forecasted Construction Final Completion*	Approved Contract Cost	Current Forecasted Cost*	Schedule (Cal. Days)	Cost	
R&R Treatment Plants								
10015757 - Oceanside Water Pollution Control Plant Door Assembly Upgrade (WW-673)	12/03/18	02/12/21	02/12/21	\$ 1,981,334	\$ 1,981,334	-	-	68.0%
10015762 North Point Wet Weather Facility Sedimentation Tank Influent Gate Upgrades (WW-664)	01/14/19	03/08/21	03/08/21	\$ 2,741,000	\$ 2,741,000	-	-	93.0%
10015786 Southeast Water Pollution Control Plant Buildings 040, 041, 044, 060, 061, 062, 925, and 960 Mechanical Improvements (WW-654)	06/17/19	04/06/21	04/06/21	\$ 7,027,000	\$ 7,027,000	-	-	80.0%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	\$ 46,041,884	\$ 46,041,884	\$0	0 %

Note: * The Forecasted Cost includes all approved, pending, and potential change orders, and Final Completion Date includes all approved, pending, and potential change orders, and trends.

** This table is reflecting Active construction contract with original contract amount greater than \$1M.

8. PROGRAMS IN CLOSE-OUT

No program is currently under close-out.

9. COMPLETED PROGRAMS







No Program is currently completed.

IV. WWE R&R Quarterly Report

10. PROGRAMS WITHIN BUDGET AND SCHEDULE

CWWRNRCs - R&R Collection Systems

Description: The purpose of the Wastewater Enterprise (WWE) Renewal and Replacement Program (R&R) Collection System Sewer Improvements project is to maintain the existing functionality of the sewage collection system and address planned and emergency projects for repair and replacement of structurally inadequate sewers. This project consists of the following sub-projects: small diameter (less than and equal to 36-inch) sewer improvements, small diameter (less than and equal to 36-inch) sewer condition assessment, spot sewer replacement, large diameter (greater than 36-inch) sewer condition assessment, large diameter (greater than 36-inch) sewer improvements and sewer transport storage box condition assessment. By utilizing an asset management approach, which factors in: physical condition, age, location, risk, public safety, paving schedule and other factors, aging and failed portions of the collection system are identified and replaced.

Program: Renewals and Replacements		Program Status: Multiple Phases		Environmental Status: Completed	
Project Cost:			Project Schedule:		
Approved		\$793.64 M	Approved Jul-10		Mar-22
Forecast*		\$783.44 M	Forecast* Jul-10		Mar-22
Actual		\$571.51 M	Project Percent Complete: 80.0%		
					
Key Milestones:	Environmental++ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion	
Current Forecast	See Note++	Various	Various	Various	

+ See Section 7 for the active construction contracts information.

++On-Going Construction Projects identified in Section 7. were all covered under exemption determinations.

Progress and Status:

The summary below shows the total number of projects in each phase of the program as of September 30, 2020.

The two-hundred sixty (260) WWE Collection Systems projects are distributed as follows:

Planning: 0
 Design: 30
 Bid & Award: 13
 Construction: 26
 Closeout: 22
 Completed: 169







During this Quarter, 2 new projects were initiated, 2 projects were advertised, 3 projects were awarded/awaiting NTP, 3 projects received NTP, 1 project completed construction and 8 projects closed out.

Issues and Challenges:

Similar to the last quarterly report, \$10.2M of RNR CS FY19-20 funding was provided to cover WWE funding deficits created by the COVID-19 shutdown.

CWWRNRTF - R&R Treatment Facilities

Description: The purpose of the Wastewater Enterprise (WWE) Renewal and Replacement (R&R) Treatment Program is to extend the useful life of the WWE treatment facility assets. The R&R Treatment Facilities projects are prioritized based upon regulatory compliance, condition assessments, Operation staff recommendations and Level Of Service goals.

Program: Renewals and Replacements	Program Status: Multiple Phases	Environmental Status: On-going
Project Cost:		Project Schedule:
Approved  \$163.04 M	Approved Jul-10  Feb-22	
Forecast*  \$163.04 M	Forecast* Jul-10  Feb-22	
Actual  \$119.65 M	Project Percent Complete: 83.0%	
		

Key Milestones:	Environmental++ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	See Note++	Various	Various	Various

+ See Section 7 for the active construction contracts information.

++ Projects will be reviewed for CEQA compliance as they proceed.

Progress and Status:

The summary below shows the total number of the remaining projects in each phase of the program as of September 30, 2020.

The one-hundred nine (109) active WWE Treatment Facility Repair projects distributed as follows:

- Planning: 3
- Design: 4
- Bid/Award: 3
- Construction: 10
- Closeout: 40
- Completed: 49

No updates at this time for equipment.

Issues and Challenges:

None at this time.

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APPENDICES

1. PROJECT DESCRIPTIONS
2. APPROVED PROJECT-LEVEL SCHEDULE
3. LIST OF ACRONYMS

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APPENDIX 1. PROJECT DESCRIPTION

APPENDIX 1.1 SEWER SYSTEM IMPROVEMENT PROGRAM

BIOSOLIDS DIGESTER FACILITIES PROJECT CWWSIPDP01 - SEP Biosolids Digester Facilities Project

The existing digester and solids handling facilities are operating well beyond their useful lives and do not meet seismic codes. The goal of the BDFP is to fully replace the existing aged and failing facilities with new Biosolids Digester Facilities. The BDFP proposes to construct new facilities to meet the projected solids wastewater treatment needs through 2045.

Planning, engineering, and construction of the new solids processing facilities will include solids pretreatment; thermal hydrolysis; anaerobic digestion; biosolids dewatering; biosolids product storage and loadout; biogas handling, energy generation and recovery; odor control; automated control systems; and supporting Operations, Engineering, and Maintenance (OEM) staff facilities.

Key BDFP facilities and processes consist of:

- Primary sludge and waste activated sludge pumping to the solids treatment processes, which includes improvement to the existing waste activated sludge pumping facilities
- Consolidated Solids Pretreatment Building
- Thermal hydrolysis of dewatered, screened combined primary and activated sludge and cooling of the thermally hydrolyzed sludge
- Mesophilic anaerobic digestion and digested sludge storage using digesters
- A Biosolids Dewatering building that will include the following processes/equipment:
 - (1) Dewatering of digested biosolids using belt filter presses
 - (2) Storage and load-out of dewatered biosolids product using silos, screw conveyors, and truck hauling
- Beneficial use of the biogas produced during the digestion process. Energy recovery through combined heat and power using gas turbines and/or boilers. Biogas storage is also included.
- Pre-Digestion and Post-Digestion odor control
- Process systems to support the BDFP facilities

including chlorinated and filtered plant secondary effluent system upgrade, plant air, polymer systems, and cooling water system

- Maintenance Facilities to support OEM of BDFP facilities

NEW HEADWORKS (GRIT) REPLACEMENT CWWSIPSE02 - SEP New Headworks (Grit) Replacement

The new 250 MGD headworks consist of major components / facilities as follows:

- New Influent Junction Structure and Influent Monitoring:
 - o Construction of a new Influent Junction Structure that will include a temporary overflow weir for excess wet weather flow.
 - o Construction of a temporary connection between the Influent Junction Structure and Influent Control Structure.
 - o Construction of a new connection from Influent Junction Structure to the new bypass,
 - o Demolition of the existing Influent Control Structure.
 - o Installation of a new influent monitoring and sampling system including: influent flowmeters, pH and conductivity insertion probes, automatic samplers, and manual sample ports.
- A new Primary Influent Distribution Structure:
 - o Construction of a new bypass around the wet weather Headworks facility from the Influent Control Structure to the primary influent conduits that lead to the wet weather primary sedimentation basins (SEP 040/041).
- Upgrades to the Bruce Flynn Pump Station:
 - o Modifications to sewer connections and mechanical/electrical modifications.
 - o Addition of new bar screens and upgrades to the electrical system.
 - o Upon completion of these modifications, demolish the Southeast Lift Station (SELS).
- A new Bar Screens, Washer-Compactors and Screenings Handling Facility consisting of four multi-rake bar fine screens (three duty plus one standby), four screenings washer compactors, two shuttle hoppers, and a grit influent splitter structure.
- A new Grit Basins, Grit Washers and Grit Handling Facility using either the HeadCell (modular multi-tray grit tanks) or Pista360 (grit

vortex) technology. This includes 12 HeadCell grit tanks with 24 grit pumps or six Pista360 tanks with 18 grit pumps. Both technologies involve 6 grit washers and two grit storage hoppers.

- A new Odor Control Facility, consisting of a two-stage system with bioscrubbers followed by carbon adsorption.
- New 50 mgd influent pump station, including influent piping and effluent force main, electrical building and odor control.
- Two new primary substations, each with a 15-kV vacuum circuit breaker, substation type, liquid-filled transformer, and a low-voltage power circuit breaker on the secondary side of the transformer.
- Electrical, Instrumentation and Control Rooms/Building.
- Demolition of both existing Headworks Facilities (SEP-011 and SEP-012).

SOUTHEAST PLANT (SEP) IMPROVEMENTS

CWWBAE01 - Biofuel Alternative Energy (Completed)

A recent trend in the wastewater industry involves the addition of fats, oil, and grease (FOG) or other high-strength waste (HSW) directly into digesters to increase digester gas production and maximize the amount of renewable energy production from cogeneration. Due to the existing capacity constraints and condition of the biosolids facilities at the SEP, the addition of large quantities of FOG or other HSW is not currently feasible. While inedible kitchen grease (IKG) is currently accepted at the SEP Yellow Grease Facility, only the marginal grease is directly injected to the digesters, which consists of residual solids and moisture that is removed from the raw IKG and represents less than one percent of the daily volatile suspended solids loading to the digesters. Therefore, while not an option for the existing biosolids facilities, FOG and HSW addition could be a component of the new biosolids digesters project. The Biofuel Alternative Energy Project aims to determine if it is feasible and cost-effective for the SFPUC to generate bioenergy (e.g. biofuel or cogenerated power) as a byproduct of processing the FOG and/or food waste collected throughout the City. This project was originally initiated in 2011 before

SSIP Phase 1 validation efforts began in 2012, but has been placed on hold until considered necessary.

CWWSIPSE01 - SEP Oxygen Generation Plant (Completed)

As a result of the Clean Water Act of 1972, the secondary treatment process, which is achieved through the use of high purity oxygen (HPO), was implemented at Southeast Plant. During wet weather the regulatory permit requires that the Southeast Plant treat up to 150 million gallons per day, to the secondary level. The two existing, 66 tons per day (TPD), cryogenic oxygen generation plants that were placed in operation in 1981 are becoming extremely difficult to maintain, and have failed two times in the past year. Replacing the antiquated oxygen plants with two technologically advanced 45 TPD oxygen generation plants, will allow WWE Operations to have optimum control on the utilization of oxygen (based on the influent variations), thus significantly reducing the energy consumption.

CWWSIPSE03 - SEP Existing Digester Roof Repairs (Completed)

As part of the SSIP, a new biosolids handling facility will be built to replace the existing system. However, the existing digesters and associated facilities must continue to handle all biosolids generated by primary and secondary treatment operations at SEP until all planning, design, construction, and commissioning activities for new facilities are completed. Under this project, work will be completed to maintain existing digestion facilities in operation with sufficient capacity and reliability to produce Class B biosolids until new facilities are available for service. The project consists of repairs to the existing floating roof and associated appurtenances (Digester 8), and replacement of the existing floating roofs and associated appurtenances (Digesters 4, 6, 7 and Cake Bins 3 & 4). This project is currently at the closeout stage.

CWWSIPSE04 - SEP Primary and Secondary Clarifier Upgrades

This project will upgrade the mechanical, structural and electrical components at the

primary and secondary sedimentation tanks (clarifiers) at SEP to address operational reliability and compliance with regulatory requirements for liquid treatment. The major upgrades taking place at the primary sedimentation tanks include replacing key mechanical and electrical equipment and addressing structural repairs such as concrete repairs and coating seven tanks and influent channel. Covers for the primary sedimentation tanks and ventilation system will also be installed. Similarly, major upgrades for the secondary clarifiers include replacing key equipment and retrofitting existing secondary clarifiers (8 of 16 included in this project). Structural repairs will also be addressed including concrete crack repairs and coating.

CWWSIPSE05 - SEP 521/522 and Disinfection Upgrades (SEP Building 521 Replacement)

This project includes upgrades to the Post-Chlorination Building as well as construction of a new building to house electrical and hydraulic controls, and replacement of valves and actuators in the Chlorine Contact Channel and stop logs at the Effluent Control Structure. The new building for electrical and hydraulic controls will be constructed to meet the SSIP seismic reliability goals. In addition, this project will upgrade and relocate the non-potable (W3) pump system by replacing four existing W3 pumps and motors with six new higher flow capacity pumps.

CWWSIPSE07 - SEP Facility-wide Distributed Control System Upgrades

This project addresses distributed control system (DCS) upgrades within the Southeast Pollution Control Plant (SEP), Oceanside Pollution Control Plant (OSP), North Point Wet Weather Facility (NPF), Channel Pump Station (CHS), Westside Pump Station (WSS), and Bruce Flynn Pump Station (BFS). Under this project, OSP, NPF, and WSS DCS upgrades include planning/design only to ensure system-wide consistency. Both hardware and software upgrades integrating field instrumentation, control devices, communications hardware, processing hardware, interface hardware, and associated software packages into a unified system are required to provide real-time, system-wide monitoring and control.

Coordination of monitoring parameters in various systems to reflect geo-spatial relationships will also be required to maintain compatibility and consistency of the input data used for process control.

CWWSIPSE08 - SEP Seismic Reliability and Condition Assessment Improvements

As part of the condition assessment effort, numerous seismic, conditional and operational issues associated with the existing facilities will require remedial attention before other program projects are completed. This project represents immediate improvements to the existing facilities at SEP identified as part of the condition assessment effort that are not specifically included as part of another near-term SSIP Phase 1 project. This project includes items for rehabilitation such as concrete spalling repair and seismic retrofit of priority process buildings. Seismic retrofit and structural repairs to the Sedimentation Building and channel structures (SEP 530 Contact Channel, SEP 540 Effluent Control Structure, 6' reinforced concrete pipe from SEP 540 to Booster Pump Station, Conduits C/D/E, SEP 525 Box Channel, and 9' reinforced concrete pipe to Junction Structure #5) will be completed.

CWWSIPSE09 - SEP Existing Digester Gas Handling Improvements

The project consists of:

- Process upgrades addressing deficiencies related to Digester Gas Compressors, Heat Exchangers and Controllers, Combined Primary Activated Sludge (CPAS) Tank, Boiler and Boiler Stacks, Waste Flare and Cogeneration Cooling Water System, and B100 Biofuel Tank (EPA permit compliance).
- Building systems and odor control unit (OCU) upgrades such as replacing Roof Drains, OCUs and upgrading ventilation and OCUs, Roof Replacement and Air Compressor (BAAQMD Permit Application).
- Electrical Upgrades related to External Lighting Upgrades and installing Fire Alarm Building 800 (safety).
- Control Upgrades such as installing CO Gas Monitors and Replacing Digester Gas Flow

Meters (safety).

- 300 feet of waste gas piping and appurtenances.

CWWSIPSE10 - SEP Power Feed and Primary Switchgear Upgrades

The project consists of:

- A new redundant power service from the Potrero substation provided by the Power Enterprise.
- Upgrade existing Hunters Point feed to 12 MW by PG&E.
- Upgrade main switchgear to provide adequate power for all existing SEP electrical loads and SSIP SEP projects demands and peak loads.
- Replacement/upgrade fifteen (15) aging existing primary unit substations at SEP.
- Integration of Bruce Flynn Station and Booster Pump Station in to SEP MV PDS to take advantage of SEP redundant power feed instead of separate second feeds for these facilities from PG&E.
- Enhanced Energy Monitoring and Management System (EMMS) for the MV power distribution system.
- Coordination with other SEP projects and Biosolids Digester Facilities Project (BDFP) in particular to coordinate construction of a unified emergency power distribution system for SEP in place of the several emergency generators that are currently being utilized and/or in the process of being constructed to provide emergency power for critical processes.
- Construct a duct bank from the main switchgear to an electrical MH, in close proximity to the BDFP, where BDFP will extend the power supply to its facility.

CWWSIPSE11 - SEP Oxygen Generation Plant 01

The existing liquid oxygen (LOX) facility at SEP does not meet current safety codes and is in need of replacement. The LOX system is a mandatory redundant system to the on-site oxygen generation to ensure full compliance with the NPDES permit. This project includes the demolition of the LOX facility (three horizontal LOX storage tanks, four vaporization systems, and ancillary equipment); demolition of SEP 270 Oxygen Generation Building; installation of

structural piles; construction of concrete slabs and utility trench; and installation of a new packaged LOX system consisting of four vertical LOX storage tanks, vaporizers and an unloading station.

OCEANSIDE PLANT (OSP) IMPROVEMENTS CWWSIPTPOP02 - Westside Pump Station Reliability Improvements

The project consists of:

- Replacement of existing bar screens and addition of screening washing and compaction systems.
- Construct an interconnection between the existing dry weather and wet weather channels downstream of the new screens.
- New HVAC system (cooling improvements) to manage rejected heat from electrical equipment.
- Replacement of existing wet weather pumps to provide pump redundancy. The construction would take place within the existing structure and includes the following major components:
 - (1) Four new submersible pumps
 - (2) 200 linear feet of 54-inch force main
- Increasing the power feeder capacity at WSS to account for additional wet weather pumping capacity to allow power source redundancy. The two new power sources from PG&E would run approximately 3,000 feet along the Sloat Blvd.
- Replacement of the existing odor control units (OCUs) at the WSS with dilution ventilation fans and ducting. An improved ventilation system would be installed within the pump station.

CWWSIPTPOP03 - OSP Digester Gas Utilization Upgrade

The project consists of:

- Replacement of the gas storage vessel and digester gas condition equipment. The gas cleaning system includes a 350 cfm system for moisture, H₂S, and siloxanes removal. The project includes replacement of the gas holder with new gas holding tank that will provide compressed digester gas storage at an average digester gas production of approximately 450,000 cf/day.
- Replacement of the existing cogeneration Internal-Combustion units (IC engines) and controls. The existing IC engines will be replaced by three (2)-new 620 kW IC engines to

accommodate the amount of digester gas anticipated during the maximum month condition.

- Provide ancillary exhaust gas conditioning system and heat exchanger systems to comply with regulatory air board requirements, maximize process efficiency and hot water production.
- Upgrade ventilation within the energy recovery building.
- Replace electrical gear at Sub-Station No. 5; provide paralleling electrical gear and power system reliability improvements.
- 500 kw standby diesel generator and diesel fuel storage system.

CWWSIPTPOP05 - OSP Condition Assessment Repairs

The OSP Condition Assessment Repairs project will include major improvements to the plant, aimed to address the reliability of existing assets that have deteriorated over the years. This project includes planning, design and environmental review of improvements to address the age, deterioration and reliability of existing assets at OSP that are not specifically included in the other SSIP projects. This project includes rehabilitation of building structures, rehabilitation or replacement of mechanical and electrical equipment, and seismic retrofit of process tanks and buildings. Improvements focus on maintaining operational reliability and extending the service life of buildings that are required to remain in operation for 30 years or more.

CWWSIPTPOP06 - OSP Odor Control Optimization

This project includes planning, design, environmental review and construction/upgrades to inefficiencies identified in Building 042 (Primary Clarifiers). Currently, the air from the entire building is exchanged and scrubbed for odor. In order to significantly reduce the volume of air treated for odor, the primary clarifiers should be covered and only air from the primary clarifier basins scrubbed. The main components of this project included:

- New covers for the five primary clarifiers (each cover would be approximately 190 feet long by 38 feet wide).

- Duct work to connect the head space in each clarifier basin to the odor control system.

Current plans involve the completion of an odor control study as part of the Alternative Analysis Report (AAR) planning phase. Opportunities may exist for reducing energy consumption while maintaining effective performance and meeting offsite odor limits. These include optimizing system operation, consideration of different reduced backpressure media, implementation of new lower energy usage technologies, and ventilation strategies including reduced turnover, covers for reducing volume, and air transfer. Based on the results of the alternative analysis, the project will forego covering the primary clarifiers and implement other optimization measures in its place.

NORTH POINT FACILITY (NPF) IMPROVEMENTS

CWWSIPTPNP01 - NPF Outfall System Rehabilitation

Rehabilitation of the outfall system includes removal of sediment/debris inside subterranean reinforced concrete sewers and repair of concrete spalls, cracks and damaged linings with epoxy. Rust formations will also be removed, followed by re-lining of existing cast-iron pipes (CIPs) with epoxy lining that provides the protection against the extreme corrosive marine environment and strength to withstand operating and hydrodynamic loads. In addition, sediments deposited inside and around the diffuser pipes will be removed and disposed of, along with associated steel supporting brackets. The project will also include installation of a new cathodic protection system for the Outfall System CIPs, ductile iron pipes (DIPs), and Outfall support structures under Piers 33 and 35; repair of damaged coating of Outfall pipes and supports; and installation of air vents and air relief valves on the outfall to release entrapped air.

CWWSIPTPNP02 - North Shore Pump Station Wet Weather Improvements

The project scope consists of:

- Demolition of the Materials Testing Lab within the North Shore Pump Station.
- Replace four Dry Weather (DW) pumps with

larger units so that 3 of the 4 pumps are capable of pumping 75 mgd during wet weather.

- Replace/extend discharge piping as needed for new flow path.
- Upgrade dewatering system, personnel elevator, bridge cranes, ventilation system and odor control system.
- Replace dry weather bar screens.
- Upgrade electrical systems.
- Full-range flow meter for each discharge pipe for measurement and regulatory requirements.
- Upgrades to existing standby generator to operate any one (1) of the dry weather pumps.
- Upgrades to the existing ferrous chloride system with double walled tanks, metering pumps and secondary containment system.
- Corrosion control and concrete coating at inlet channels and wet well.
- Re-roof North Shore Pump Station.

CENTRAL BAYSIDE SYSTEM IMPROVEMENT PROJECT (CBSIP)

CWWSIPC01 - Central Bayside System Improvement Project - Phase 1

The Central Bayside System Improvement Project (CBSIP) will provide collection system enhancements to both the Channel and Islais Creek watersheds including redundancy for the existing 66-inch Channel Force Main, infrastructure improvements to sewers and pump stations, and stormwater management. Major components of the project consist of a tunnel to transport (via gravity) dry and wet weather flows from the Channel and North Shore watersheds to the SEP, a large all-weather pump station to lift the flows into the SEP, improvements to Channel Pump Station (CHS), and infrastructure improvements within the watersheds. This project will provide planning, environmental review, and preliminary design for the improvements. Design and construction of CBSIP will be completed in Phase 2 of SSIP.

The Channel Tunnel will include a gravity tunnel approximately 24-feet in diameter and up to 10,000 feet long, extending from the existing CHS near Mission Creek to the SEP. It will also include a new Channel Tunnel Lift Station (CTLS) with approximately 120 MGD capacity, located in the vicinity of the SEP at the southern end of the

Channel Tunnel. The existing CHS will be retrofitted to include additional pumping functions, potential grit removal, and potential odor control.

INTERCEPTORS / TUNNELS AND ODOR CONTROL

10033745 - SSIP Sewer Improvements Projects

This is a collection of sewer improvement projects that will rehabilitate and/or replace the sewers after the scope of work is better defined through the condition assessment efforts from the Collection System Condition Assessment Project. Due to the uncertainty of the scope of work, a budget limit is established and the project team will rehabilitate or replace the most critical major sewers with the available budget. This project is expected to include planning, environmental approval, design, and construction phases.

CWWSIPC01 - Richmond Transport Modeling (Completed)

Historically, geysering and blown manholes have been observed in the Richmond Transport/Storage Tunnel and upstream sewer system during large storms. These phenomena may be due to surge activity in the system, release of trapped air pockets, or excessive venting relative to the available vents. Various hydraulic models were performed using InfoWorks and some physical improvements to the system have been made over the last 15 years. The hydraulic modeling performed could not account for air pockets or potential bores in the system; therefore, WVE and SFPW/Hydraulics agreed that consultant support was needed to provide numeric modeling that can stimulate the known situation and provide recommendations for capital improvements to address the system issues.

This project included the review of two separate models: the InfoWorks Integrated Catchment Model (ICM) of the San Francisco collection system, and a Transient Analysis Program (TAP) model of the Richmond Transport/Storage Tunnel and associated sewers and amenities. Recommendations for improving the system and addressing the identified issues were developed in a technical memorandum (TM). Since the

completion of the TM, a new project was initiated to evaluate and determine which recommendations from the TM would be implemented through construction. This project ended at the Planning Phase.

CWWSIPCSSR02 - Collection System Condition Assessment

There are over 80-miles of major sewers that have been in service for over 100-years. Using Collection System Asset Management Program (CSAMP) data, major sewers were prioritized by expanding the existing consequence of failure scores. Using this method, approximately 13-miles of the 80-miles of major sewers are considered to be the most critical and have an average age of 127-years. The project will include condition assessment with available funding and up to 13-miles of sewers. The project will include various locations throughout San Francisco, and fulfill the Needs Assessment effort in the Planning Phase. Upon completion of the condition assessment, the needs and methods of rehabilitation or replacement will be used to initiate sewer improvement projects in SSIP Sewer Improvement Projects.

CWWSIPCSSR03 - Kansas and Marin Streets Sewer Improvements

The proposed project consists of:

- Land acquisition for sewer construction and permanent sewer easement.
- Temporary construction easement for construction of the new auxiliary sewer.
- Relocation assistance associated with the sewer easement and displacements of existing lease-holders who occupy SFPUC's property above the C-Box Transport Storage structure (Lot 031).
- Construction of 900 linear feet of 8-foot diameter tunnel installed using conventional road header construction method in an easement through SFPW's Maintenance Yard.
- Construction of two new reinforced concrete junction structures (including angled access manhole structures) to connect with the existing sewers.
- Surface restoration work associated with construction and installation of the above assets.

CWWSIPCSSR09 - Drumm and Jackson Streets Sewer System Improvement

Under this project, 800 linear-feet of the Drumm Street Box Sewer (between Commercial and Jackson Streets) and 200 linear-feet of the Jackson Street Box Sewer (between Drumm Street and the Embarcadero) will be rehabilitated. Increasing the reliability of these major assets help meet the NPDES permit requirement to maximize use of the collection system for storage and to maximize flows to the wastewater treatment plant. Associated work for rehabilitation will include performing necessary cleaning for trenchless rehabilitation, bypassing sewer flow by damming and piping through the existing box sewer and performing surface restoration. Coordination will also be needed with WWE to ensure worker safety and preventing wet-weather impacts. CEQA approval and public outreach for the project will also be required. As needed, a Memorandum of Understanding (MOU) with SF Port for work near the intersection of the Embarcadero and Jackson Street may be executed. The project includes planning, environmental approval, design, and construction phases.

CWWSIPCSSR11 - Cargo Way Sewer Box Odor Reduction

The Needs Assessment Report for Bayside Collection System Odor and Corrosion Control will be completed under this project to identify odor control opportunities in the Bayside collection system, and improvements will be implemented with available funding based on the recommendations detailed in the report.

Odor control improvements identified by WWE Operations Staff for the sewer box located at Cargo Way includes identification of flow sources and potential infiltration and inflow issues, and installation of a tee at Booster Pump Station Effluent manifold. Additionally, the project includes trenchless installation of 50 linear feet of 12-inch DIP inside 18-inch steel casing beneath SFMTA tracks, installation of 3,950 linear feet of 12-inch DIP, and installation of backflow preventer and control valves. CEQA approval will also be needed along with any other necessary permits (such as Maher and BCDC

Appendix 1 - SSIP Quarterly Report

ordinances) required for project implementation. Construction and long-term MOU with SFMTA and SF Port will be coordinated. Public outreach will also be conducted, including SF Port and its stakeholders.

CWWSIPCSSR12 - Rutland Sewer Improvements (Completed)

Under this project, the hydraulic capacity of the sewers in the project area will be increased to meet the SSIP Level of Service storm. The project will consist of multiple improvements along Rutland Street (from Visitacion Avenue to Sunnydale Avenue) including replacing the existing sewer with a larger reinforced concrete pipe, constructing a wet weather diversion structure, and conveying water passing over a weir inside this underground structure during a large storm event through new piping and discharging into a deep wet weather tunnel (Sunnydale Sewer Tunnel). To minimize construction impacts to the community, this sewer work will be constructed with the Visitacion Valley Green Nodes Project.

INTERDEPARTMENTAL PROJECTS

10033106 - Geary BRT Sewer Improvements Phase 2

SFMTA's Geary BRT Project will improve the "38 Geary" bus services, accessibilities, and pedestrian safety. The project includes collaboration from SFPUC, SFPW, and SFCTA. Phase 2 of this project includes the addition of center-running BRT lanes on Geary Boulevard between Palm Avenue and 27th Avenue, followed by dedicated BRT lanes along each side of the street between 27th and 34th Avenue.

The aforementioned center-running BRT lanes on Geary Boulevard would be located directly above the existing sewer lines. This would severely impact SFPUC's ability to perform future maintenance, repair and/or replacement. The purpose of the Phase 2 sewer work is to coordinate with Geary BRT Project to relocate (or replace as needed) main sewers outside of the transit lanes, platforms and bulb-outs.

SFPW has started the pre-planning phase to identify sewers that may need replacement due to age and/or condition. Approximately 2.2 miles of

aging sewers (average 74 years) on this Geary corridor (Stanyan Street to 34th Avenue) and on nearby cross streets have been identified as possibly needing replacement. SFPUC will be determining the condition of sewers along the Geary Corridor. Any sewer work required, whether it is sewer relocation, sewer rehabilitation or sewer replacement, will be undertaken as part of SFMTA's project. Only initial costs for planning and design has been allocated for this project under Phase 1 of SSIP.

CWWSIPCSSR04 - Van Ness BRT Sewer Improvements (Completed)

The Van Ness Bus Rapid Transit (BRT) Project will be implemented by SFMTA in conjunction with the Van Ness BRT Sewer Improvements Project, which will be implemented by SFPUC as part of SSIP. SFPUC will replace and relocate existing sewer utilities located along Van Ness Avenue, between Lombard Street and Mission Street, from the center of the street to outside of the BRT right-of-way to allow for future sewer service maintenance and repair/replacement without impacting SFMTA's BRT operations. The scope of the project includes constructing approximately 20,000 linear feet (LF) of 12-inch to 54-inch diameter VCP, RCP or HDPE (in steel casing) sewer mains and associated manholes, catch basins and culverts; and retrofitting and connecting existing sewer laterals and catch basins to the aforementioned new sewer mains. Closed-circuit television (CCTV) technology will be used to inspect the newly constructed sewer mains, sewer laterals and culverts. Abandoned sewers (approximately 1,800 LF) will be plugged-and-filled.

CWWSIPCSSR05 - Better Market Street Sewer Improvements - Phase 1

In line with SSIP's strategy to work with other City and County agencies on projects they initiated to protect value and function of wastewater facilities, the BMS State of Good Repair Project will be completed in SSIP. This interdepartmental project will replace aging infrastructure such as the sewers which are made of bricks and are over 100 years old. The SSIP will participate in this project with the replacement of

most of the sewers in Market Street. Phase 1 will consist of a two block pilot project on Market Street between 6th Street and 8th Street.

CWWSIPCSSR06 - Geary BRT Sewer Improvements Phase 1

Generally, the MTA scope of work does not trigger sewer relocation except in some cases the addition of concrete or curb alignment change will prompt relocation of catch basins, side sewers vents, and manholes. SFPUC will be determining the condition of sewers along the Geary Corridor. This project includes replacement or rehabilitation of existing 6-inch to 18-inch diameter circular sewers and 3-foot by 5-foot non-circular egg-shaped brick sewers. Any sewer work required, whether it is sewer relocation, sewer rehabilitation or sewer replacement, will be undertaken as part of SFMTA's project. Approximately 1.5 miles of sewers along this corridor, on Geary Boulevard, and on nearby cross streets, have been identified as possibly needing replacement. The weighted average age of these sewers is 78 years. Cost information provided below is based on the net present value of the initial screening and will change once project proceeds to design phase.

CWWSIPCSSR07 - Central Subway Sewer Improvements (Completed)

This project is related to the SFMTA Central Subway Phase 2 of the Third Street Long Range Transportation Plan Project that will extend rail service from Fourth and King Streets to a northern terminal at Stockton and Jackson Streets. The purpose of this project is to include sewer improvements to avoid conflicts with the proposed light rail scope and to minimize future repair and replacement impacts. The sewer improvement project includes reconstructing existing 78-inch sewer (Fourth Street between Brannan Street and King Street), and relocating/replacing existing 30-inch force main (Fourth Street between Bryant Street and King Street) and 48-inch gravity sewer (Fourth Street between Bryant Street and Brannan Street).

CWWSIPCSSR08 - Mission Bay Loop Sewer Improvement

SFMTA's Mission Bay Loop Project will install light rail track on Illinois Street between 18th and 19th Streets. The improvements will support the future operations of the Third Street Light Rail in anticipation of the activation of the new Central Subway segment. The existing gravity sewers and force mains on Illinois Street will need to be relocated and/or replaced to avoid future conflicts with light rail operations. This sewer improvement project includes planning, environmental review, design, and construction phases. The Mission Bay Loop contract has been awarded but the contract is on hold pending resolution to a CEQA court challenge.

CWWSIPCSSR10 - Masonic Avenue Sewer Improvements (Completed)

The Masonic Avenue Complete Streets Project will take place on Masonic Avenue between Geary Boulevard and Fell Street. The project includes sidewalk and streetscape improvements; median and bicycle lane additions on Masonic Avenue; construction of a small park on the southwest corner of Geary Boulevard and Masonic Avenue; and incorporation of public art elements along this corridor. In conjunction with the aforementioned Masonic Avenue Complete Streets Project, the Masonic Avenue Sewer Replacement Project includes rehabilitating/realigning existing sewers as well as constructing new sewer mains, manholes, side sewers and catch basins. The sewer scope includes approximately 4,700 linear feet of sewers ranging from 12-inch to 24-inch in diameter.

CWWSIPCSSR13 - Taraval Sewer Improvements

SFMTA has proposed a pedestrian safety and transit improvements project along Muni's "L Taraval" route. The project includes construction/extension of boarding islands; addition of dedicated transit- only lanes; and replacement of aging tracks, overhead wires and trolley poles. The Taraval Sewer Improvements Project will relocate existing sewer facilities from the center of the street to outside of the tracks to allow for ease of maintenance and repair/replacement without impacting future SFMTA's Muni operations. The scope of the sewer work includes replacing approximately 19,000 LF of 12-inch to 36-inch diameter ISP, VCP, RCP, or concrete sewers along Taraval Street between 15th Avenue and 46th Avenue, and Ulloa Street between Forest Side Avenue and 15th Avenue for a twin sewer system.

PUMP STATIONS AND FORCEMAIN IMPROVEMENTS

CWWSIPCSPS01 - Hudson Ave Pump Station and Outfall Improvements

This project involves working with WWE, City's Attorney Office, SFPUC Communications and SFPW to request affected property owners (10 Hunters Point Boulevard and 930 Innes Avenue) to install sewer laterals from their properties to the sewer main on Innes Avenue. The project also involves working with the City Attorney's Office, SFPUC Finance and other City departments as necessary to determine the feasibility and possibility of implementing a loan program or other financial assistance to the property owners for their construction of the lateral connection to the sewer main. CEQA approval will also be needed. After the affected properties have sewer lateral connections to the sewer main in place on Innes Avenue, the Hudson Avenue Pump Station and the 1-block of 8-inch easement sewer will be deactivated by plugging and capping the pipe with light weight concrete. Coordination with SFPW will be required on sidewalk encroachment issues related to one of the affected properties. External outreach will also be needed to implement the solution, in coordination with SFPUC Communications. The project assumes

that the property owners will hire and pay for their own contractor to install necessary pumps or laterals to make a connection to the sewer on Innes Avenue.

CWWSIPCSPS02 - Force Main Rehab at Embarcadero and Jackson Streets

In October 2015, SFPUC Contract WW-483RR was completed and a redundant force main (North Shore to Channel Force Main [NSCFM]) to the 2,750 LF of the North Shore Force Main (NSFM) that was most susceptible to failure, is now in commission. The combined sewage flow is now diverted to the NSCFM; thereby, allowing rehabilitation of the remaining 240 LF of the ductile iron pipe section of the NSFM. The purpose of this project is to rehabilitate or replace the remaining 240 LF of the NSFM that is most susceptible to failure. At the completion of this project, the 2,750 LF of the NSFM located outside the Jackson Street Transport/Storage Box (JST) will have complete redundancy.

The proposed project consists of rehabilitating approximately 190 LF of the NFSM that is located outside the Jackson Street Transport/Storage Box (JST) by installing a 28-inch outside diameter, DR26 HDPE pipe. Approximately 190 LF of the NFSM that is located outside the ST and underneath the Jackson combined sewer discharge will be replaced. Valve, valve-vault and associated mechanical/electrical controls will be constructed to allow WWE Operations to direct combined sewage flows to either the NSCFM or to the existing NSFM. A MOU will be established with SF Port (and/or its tenant) for the temporary construction and permanent O&M easement for the NSFM asset. CEQA approval will need to be obtained. Public outreach to the community will also be conducted, including stakeholders along SF Port's waterfront area.

CWWSIPCSPS03 - Mariposa Dry-Weather Pump Station & Force Main Improvements

The proposed project consists of the following:

- Increase the dry weather pump capacity to handle a peak flow rate of 5.0 MGD
- Demolish existing pump station building, underground structure, wet well, electrical system, and associated assets to make room for a

new pump station.

- Obtain CEQA approval (MND is assumed) for the project, and apply for necessary permits (BCDC, Maher's Ordinance, etc.) to construct the improvements.

- Construct a new pump station building, underground structures, and wet well within existing SFPUC land and an expansion of the existing SF Port easement, including:

- (1) Replacing the deteriorated main discharge valve.

- (2) Replacing the crane system with one capable of supporting the larger, new pumps.

- (3) Providing security cameras.

- (4) Providing emergency access key box at gate and main entry door.

- (5) Providing accessible egress gate and improving Vector truck access by modifying perimeter fence.

- (6) Providing code-compliant emergency exit lighting with battery backup along egress path of travel and at exterior door landing.

- Construct new MCCs, DCS, PLC, panels, power service, and level monitoring system, including:

- (1) Upgrading and/or replacing power service to the pump station to accommodate power requirement for new dry weather pumps.

- (2) Evaluating PLC replacement as part of ongoing effort to replace PLCs system-wide.

- (3) Replacing the compressor and receiver to maintain system reliability during the service life of the building, and evaluating Ultrasonic Level Detection as primary control instrument.

- (4) Construct new HVAC and Odor Control System, including:

- (a) Investigating the adequacy of the current HVAC system to provide necessary ventilation and replacing HVAC equipment as required.

- (b) Replacing odor control unit and ducting. New odor control unit type will be decided by WWE O&M for system-wide consistency of odor control equipment and operations.

- Obtain permanent power supply from Power Enterprise.

- Replace the existing dry weather force main with a new larger diameter force main downstream of the new dry weather pump station. Utility coordination and/or relocation may be necessary with the replacement of the

force main.

- Establish MOU or apply for encroachment permit for temporary construction easement within SF Port's jurisdiction.

- Conduct public outreach to the community, including SF Port and its stakeholders.

CWWSIPCSPS04 - Cesar Chavez Pump Station (Completed)

Under this project, stormwater and groundwater that collects under the Cesar Chavez freeway underpass within a bounded area will be conveyed to SEP. As this is not an all-weather pump station, WWE determined that this project is a lower priority than other all-weather pump stations. The remaining needs of the project may be added to the WWE R&R program list for consideration. After the NAR and the Draft AAR were completed, it was determined that this project is less critical than other dry-weather or all-weather pump station improvements. Therefore, this project will complete the Draft AAR and any remaining work is to be deferred to the WWE R&R program for consideration. This SSIP project will end at the Draft AAR phase.

CWWSIPCSPS05 - Marin Street Sewer Replacement

The purpose of the project is to upsize the existing 24-inch diameter sewers (located between the intersection of 3rd Street and Marin Street and the Marin Street Outfall Structure, or Project Location) to handle additional dry-weather flows projected from the tributary area. The wet-weather conveyance associated with this sewer system would also be evaluated but no wet-weather conveyance issues were included in this project.

Hydraulic studies of the watershed area was performed to determine the hydraulic adequacy of the pipelines in the area based on expected flows from approved developments, as well as to confirm the necessary pipe size. Based on the results from the hydraulic studies, the existing 24-inch diameter sewers at the Project Location were replaced with 30-inch diameter sewers. CEQA approval was obtained, along with other necessary permits such as BCDC and Caltrans permits. A MOU was executed with the SFMTA

to execute this work as a portion of the Project Location is located within SFMTA jurisdiction.

CWWSIPCSPS06 - Griffith Pump Station Improvements

The proposed project consists of:

- Replacing the dry weather pumps and rebuilding the wet weather pump, including installation of new sump pumps to maintain the existing capacity of 11.5 MGD and 120 MGD.
- Installation of new bar screens (including motors, VFDs, housing, control panel, hardware, etc.).
- Installation of two new bridge cranes in the manifold room and main pump area.
- Replacement of the bar rack room crane with a new monorail system.
- Perform structural modifications, as necessary, in support of mechanical systems installations, including: Replacement of the dry weather manifold piping and associated appurtenances with HDPE pipes (associated appurtenances include check valves and knife gate valves, and pipe supports [flowmeter will be salvaged]).
- Modification of the manifold room stairway and catwalk to accommodate a new crane system, and widening of manifold room access hatch.
- Downsize the OCU exhaust fans to match capacity rating of OCU (to better facilitate removal of hydrogen sulfide).
- Modification of the HVAC system to increase the hourly air changes in the bar rack area, in accordance with WWE standards and NFPA 820.
- Removal of most of the dry weather manifold piping in manifold room. This would include check valves and knife gate valves, while flowmeters would be salvaged.
- Construction of two canopy systems to protect outdoor equipment, including chemical tanks, metering pumps, ultraviolet light, and associated deteriorating elements.
- Installation of a tamper-proof roof access ladder.
- Replace and improve electrical work; including a new station switchgear, MCCs, one ATS, and refurbish existing standby generator.
- Upgrade existing station with new automation and instrumentation equipment, control devices, and programmable controllers.

- Obtain CEQA approval (CatEx is assumed) and other necessary permits for the project.

CWWSIPNC01 - North Shore to Channel F M Drainage Improvement (Completed)

North Shore Force Main (NSFM) provides critical conveyance of combined sewage and stormwater flows from the northeastern quadrant of San Francisco to SEP. Before this project, this force main did not have any redundancy and could only be taken out of service for no more than 22-hours to meet the NPDES permit requirements. Approximately 2,750 LF of the 8,000 LF of this force main were located in The Embarcadero Roadway and either constructed of steel pipe or ductile iron pipe (both are susceptible to corrosion). After emergency repairs in 2008, a project was initiated under the Wastewater Capital Improvement Program to construct a redundant force main (North Shore to Channel Force Main [NSCFM]), so the 2,750 LF of the existing NSFM may be taken out of service for a complete repairs. As the construction work progressed, many unforeseen site conditions, including discovery of seven underground storage tanks, caused significant delays to the project and additional funding was needed to complete the construction contract. Since the project contributes to the SSIP Level of Service of ensuring critical functions are built with redundant infrastructure, the project team obtained approval from SFPUC to reallocate funds from SSIP to provide additional construction and construction management funds.

The NSCFM is now in service and combined sewage flows are diverted to the NSCFM; thereby, allowing the remaining 240 LF of the DIP section of the NSFM to be rehabilitated. The construction contract became a joint-project between SFPUC Wastewater Enterprise and SFPW Paving Program and was led by SFPUC.

CSD AND TRANSPORT/STORAGE STRUCTURES

CWWSIPCSCD01 - Richmond Transport/Storage Tunnel Rehabilitation

Under the Richmond Transport Modeling Project,

recommendations for handling the reported issues within this system were developed. The purpose of this project is to execute the recommendations of the Modeling Project. The scope of this project includes the evaluation of rehabilitation methods for the Richmond/Transport Storage Tunnel to confirm the previous findings and recommendations included in the physical modeling performed by PMC and presented in October 2013 to resolve historical surge issues identified. The model identified the causes of geysering through vent holes and dislodged manhole covers in various areas, and included modification recommendations including odor solutions that will be verified during the Planning Phase of this project.

CWWSIPCSCD03 - Beach and Sansome Street CSD Rehabilitation

Scope of work for these CSDs are based on historical performance and WWE Operations video inspection records include:

Beach Street CSD:

- Cleaning and specific condition assessment of the asset
- Provide necessary ventilation
- Inspection of baffles and restore baffle, if needed
- Inspect weirs and repair crack at the weir
- Repair corroded metal ceiling
- Install a backflow prevention system

Sansome Street CSD:

- Cleaning and specific condition assessment of the asset
- Provide necessary ventilation
- Repair necessary concrete crack and spalling, exposed rebar, and an I-beam
- Replace butterfly valve seals
- Install a backflow prevention system

CWWSIPCSCD04 - CSD Backflow Prevention and Monitoring

Collection system assets that contribute to saltwater intrusion fall into two categories: conveyance (groundwater infiltration through defects) and CSD structures (tidal backflow, inflow through defects, or groundwater infiltration). A component of this project involves

developing and implementing a CSD and conveyance monitoring plan to gather data on the salinity in the whole collection network to be able to locate potential infiltration sources in the collection system and then verify performance once improvements (implemented through SFPUC's R&R Program) have been completed. It is anticipated that the monitoring program will consist of CSD monitoring, as well as monitoring of conveyance systems (pump stations, trunk-line, and mobile sites).

The scope also includes planning, design and installation backflow preventers at selected CSD outfalls, which may include engineering survey of CSD weir elevations and lengths. Backflow preventers will be installed in a phased and monitored approach, with the following priority CSD outfalls considered based on locations with the potential for highest inflow in the system for the same tide:

- CSD 17 - Jackson Street
- CSD 10 - Pierce Street
- CSD 40 - Griffith Street
- CSD 31A - Islais Creek North
- CSD 32 - Marin Street
- CSD 33 - Selby Street
- CSD 41 - Yosemite
- CSD 35 - 3rd Street South

The project scope will be fluid and subject to change based on monitoring results.

CWWSIPCSCD05 - 5th, North 6th and Division Street CSD Rehabilitation

Hydraulic modeling of the three CSDs will be performed as their functions are related. Scope of work for these CSDs are based on historical performance and WWE Operations video inspection records and include:

- Cleaning and specific condition assessment of the asset
- Provide necessary ventilation
- Repair necessary concrete crack and spalling and exposed rebar

In addition to the work common to all three CSDs noted above, the following will also be completed:

- Provide safe access, rehab/replace the flap gate at 5th St. CSD and North 6th St. CSD
- Refurbish gates at Division CSD
- Repair the baffle at Division CSD

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- Installation of a backflow prevention system at the 5th Street CSD structure
- Installation of a backflow prevention system at the 6th Street CSD structure

STORMWATER MANAGEMENT

EARLY IMPLEMENTATION PROJECTS

CWWLID01 - Cesar Chavez Green Infrastructure (Completed)

The purpose of this streetscape and sewer improvement project, which focused on the segment between Guerrero Street and Hampshire Street, was to improve the safety, aesthetics, and infrastructure and transit efficiency of the corridor. This project also turned Cesar Chavez into a sustainable “green street” by increasing the number of street trees, implementing Low Impact Development (LID) practices, and installing stormwater planters to add green landscaping pockets and provide for stormwater management. The project widened the existing median to allow for many more street trees and landscaping; provided left turn pockets for turning vehicles; widened the sidewalk at the corners; and upgraded the street lighting along the corridor to LED to provide brighter, whiter light and reduce energy consumption. Permeable paving and bioretention were also integrated into the street design. This strategy fuses infrastructure with urban design, allowing the streetscape to become part of the solution to drainage problems. This project has been completed.

CWWLID02/FCDB09 - Islais Creek Green Infrastructure (Completed)

This project incorporates green stormwater management into an urban design to meet the neighborhood’s needs and the stormwater performance goals for the Islais Creek watershed (i.e. manage the first 0.75 inch of rainfall for a 5-year, 3-hour storm event within the 2.2 acre drainage management area). The project will also provide secondary benefits by creating new plazas that can serve as neighborhood gathering spaces, greening of the neighborhood by adding more vegetated areas within the right-of-way (ROW), and adding curb bulb-outs to enhance pedestrian and bicyclist safety. Additional work

includes construction of bioretention and a subsurface infiltration gallery, and developing parking spaces and traffic lane configurations based on recommendations from SFMTA & SF Planning.

CWWSIPFCDB01 - Sunset Green Infrastructure (Completed)

Sunset Boulevard is a large arterial roadway with three lanes of traffic in each direction, a central vegetated median, and large City-owned landscaped parcels with walking paths fronting either side. The Sunset Boulevard Greenway project will construct a series of tiered bioretention rain gardens in the western stretch of landscaped parcels along 12 blocks stretching from Golden Gate Park to Lake Merced. The rain gardens will manage stormwater runoff on the west side of Sunset Boulevard from the street, paths, and a portion of the landscaped parcel area. The project will also incorporate a “Learning Lab” to supplement elementary school curriculum.

CWWSIPFCDB02 - North Shore Green Infrastructure

Stormwater will route to flow-through bioretention planters with surfaces set lower than the surrounding grade. During large storm events, ponded water at the surface of the planters will reach a maximum depth of 6 inches before it crests an overflow weir, either to a lower planter tier or to a concrete valley gutter running the length of the alley. To protect the adjacent building foundations, an impermeable waterproof liner will be placed along the bottom and sides of the planters. New street surfacing and furnishings will provide improved community space for local residents and visitors. The project is designed to manage runoff from 0.1 acres, removing around 300,000 gallons of stormwater in a typical year.

CWWSIPFCDB03 - Lake Merced Green Infrastructure (Completed)

Holloway Avenue was chosen as the Lake Merced watershed EIP based on its cost effectiveness and potential to provide socio-economic benefits. The project starts at the Ashton Avenue intersection and extends along

eight blocks to the Lee Avenue intersection. Corner bulb-outs containing bioretention planters will be installed on the downstream end of six of the blocks. On the remaining two blocks, roadside bioretention planters adjacent to the curb will manage stormwater in lieu of corner bulb-out planters, which are infeasible due to driveway conflicts. The bioretention planters are sized to manage stormwater runoff from the sidewalk and only a portion of intersection areas in order to minimize their size and the associated parking loss from the new bulb-outs. Permeable concrete installed within the existing parking lanes on both sides of Holloway Avenue will manage runoff from the roadway. The project is designed to manage runoff from 2.1 acres, removing 1.0 million gallons of stormwater in a typical year.

CWWSIPFCDB04 - Sunnydale Green Infrastructure

The Visitacion Valley Green Nodes project is comprised of two subprojects (“nodes”) at different locations within the neighborhood. The first node, identified as the Leland Avenue Rain Garden, is on an open-space parcel owned by the San Francisco Recreation and Park Department at the end of Leland Avenue. The project creates a large terraced bioretention facility that will capture, store, and infiltrate runoff from the impervious roadway and an adjacent vegetated sloped area. This location will also provide community benefits by enhancing an adjacent existing community vegetable garden and creating a pedestrian connection to McLaren Park. The second node, identified as the Sunnydale Avenue Mini-Plaza, consists of large midblock and corner bulb-outs containing bioretention planters at a busy T-intersection at Rutland Street in front of a church/school. The planters remove stormwater while also providing traffic calming and pedestrian safety. The small urban plaza and landscaping will provide a pleasant community space for the neighborhood. The project is designed to manage runoff from 1.8 acres, removing 0.8 million gallons of stormwater in a typical year. Approximately one block of local sewer work on Rutland Street will be included into the construction contract to minimize construction impact. The project cost of that sewer

improvement is accounted for separately.

CWWSIPFCDB05 - Richmond Green Infrastructure

At El Camino Del Mar, the following will be completed under this project:

- New pedestrian crosswalk.
- Sixteen terraced rain gardens adjacent to crosswalks from the Legion of Honor parking lot down to the Lands End Trailhead, including debris traps at the inlets to capture the abundant vegetative litter.
- Subsurface infiltration galleries connected to the northern and southern planters on either side of the road.
- Soil stabilization techniques in selected locations on the southern slope of El Camino Del Mar.
- Sewer main upsizing between Lands End Trailhead and manhole east of 32nd Avenue.
- Upgrade existing crosswalks to comply with the Americans with Disabilities Act. At Beach Terrace, the following will be completed under this project:
 - Sea Cliff Avenue:
 - Permeable pavement in the parking strips between 25th & 26th Avenues.
 - Three rain garden bulb outs at the eastern & western ends of the permeable pavement
 - One flow-through (under-drained) rain garden at the southeast corner of the intersection with 26th Ave., where soils were found to have low infiltration rates
 - Two traditional (infiltrative) rain garden bulb-outs at the southwest corner and eastern edge of the intersection with 25th Ave., where infiltration rates are much higher
 - Improved catch basins on Sea Cliff Avenue west of the 26th Ave. intersection
 - GGNRA land:
 - One large, traditional rain garden at the top of the stairway to Baker Beach from the 25th Ave. North cul-de-sac

CWWSIPFCDB06 - Yosemite Green Infrastructure

Reach 1 - Yosemite Marsh:

- Overflow structure to direct Yosemite Marsh overflow into creek channel (with CSS backup).

Appendix 1 - SSIP Quarterly Report

- Earthen channel constructed within McLaren Park flow from the Yosemite Marsh to the streetscape right-of-way (ROW) approximately mid-block on Oxford Street between Bacon & Wayland St. & then south along Oxford St. & east along Wayland St.
- Small tributary channel extending southwest from intersection of Oxford & Wayland St.
- Periodic drop structures downstream of the confluence along Wayland St.
- Proposed path running east along Wayland between creek channel and street.
- Conversion of 500 block of Oxford St. & 1400 block of Wayland St. to one-way streets.
- Relocation of a low-pressure fire hydrant from McLaren Park at the corner of Oxford & Wayland St. to the ROW directly across the street.
- Underground creek channel from southwest corner of Wayland and Cambridge St. to McLaren Park east of Yale St.

Reach 2 - Louis Sutter Softball Fields:

- Bioretention facility located near the west side of the soccer field.
- Earthen channel that meanders across the southern edge of the soccer field.
- Subsurface storage tanks located west of soccer field and northwest of ball field.
- Regraded slopes north and east of the ball field.
- Soccer field will be reset with drainage improvements and replaced irrigation system.
- New overflow structure (to creek channel with CSS backup) constructed on the northern side of McNab Lake.
- Earthen creek channel conveying flows eastward in the ROW north of the ball field to University St., then south down toward Woolsey St.
- Series of channel drop structures on University St.
- Culvert under University St.
- Removal of trees in poor health.
- Wooden deck northwest of the ball field on Wayland.
- Bioretention/ponding area northwest of the intersection of University and Woolsey.
- Provide plant establishment and/or monitoring for the following GI Projects: Islais Creek, Sunset, North Shore, Lake Merced, Sunnydale, Richmond, Channel, and Yosemite.

CWWSIPFCDB08 - Channel Green Infrastructure (Completed)

The Wiggle neighborhood is a collection point for stormwater flow, both from surface runoff and from the collection system. It is also the focus of a project by the SFMTA to repair roadways and aid the flow of motor vehicles, bicycles, and pedestrians. Many of these traffic calming features provide opportunities for the inclusion of green infrastructure. The purpose of the Wiggle Neighborhood Green Corridor project is to implement low impact stormwater management along the Wiggle bike route between Oak and Baker Streets, along Scott and Page Streets, ending at Waller and Steiner Streets. The project is designed to manage runoff from 4 acres, removing 1.1 million gallons of stormwater in a typical year. Key features of this project will include installation of bulb-outs on selected street corners, bioretention planters, and permeable pavement.

WATERSHED STORMWATER MANAGEMENT

CWWSIPFCGI01 - Watershed Stormwater Management (Planning Only)

This project includes planning and preliminary design support for the watershed stormwater management and implementation of green infrastructure projects in Phase 2 of SSIP.

CWWSIPFCDB12 - Wawona St and 15th Ave Stormwater Detention Project

The neighborhood surrounding the intersection of 15th Avenue and Wawona Street is topographically lower in elevation compared to its adjacent neighborhoods, and has been subjected to flooding during large storms. When the capacity of the sewers are exceeded during large storms, significant volumes of overland flow upstream of the intersection cannot enter the catch basins and sewer system, causing flooding and property damage. The purpose of this project is to convert the Arden Wood Natural Area to a flood water detention basin by collecting the upstream surface water and diverting it into the area, using a series of pipe and inlet systems on the upstream, and a large pipe/micro-tunnel at

the intersection of Wawona Street and 15th Avenue.

URBAN WATERSHED ASSESSMENT

CWWSIPUW00 - Urban Watershed Assessment and Planning Initiation (Completed)

Many of the SSIP's proposed projects are focused on improvements to surface drainage and collection system management in San Francisco. The SSIP Urban Watershed Assessment Task will evaluate and recommend alternatives that balance the use of grey (for example, pipelines) versus green infrastructure (for example, low impact design) for improvements to watershed surface drainage and collection system management. The SSIP will utilize an integrated watershed management approach to investigate the health of the City's watershed and identify potential opportunities for stormwater capture, conveyance, detention and possible reuse to address issues of flooding as well as combined sewage conveyance and storage. Project implementation will require the hydrologic and hydraulic analysis of each of the eight drainage basins and will include: identification of various solutions to each basin's unique set of flooding challenges; evaluation of the social, economic and environmental values of alternatives that meet the level of service with a triple bottom line tool and the optimization and prioritization of projects for each basin. The work will address life cycle costs and detailed operation and maintenance requirements.

CWWSIPUW01 - Urban Watershed Assessment and Planning (Completed)

The UWA is the comprehensive watershed-based planning process developed to diagnose challenges and design solutions for the surface drainage and collection/conveyance portion of the City's sewer system. The UWA emphasizes holistic urban watershed-scale planning and the development of multiple-function solutions to sewer system challenges. These solutions are evaluated using a comprehensive Triple Bottom Line (TBL) tool that employs societal and environmental benefits and costs with the goal of delivering more holistic investment decisions. Project implementation will require the

hydrologic and hydraulic analysis of each of the eight drainage basins and will include identification of various solutions to each basin's unique set of flooding and other challenges; evaluation of the social, economic and environmental values of alternatives using the TBL tool; optimization and prioritization of projects for each basin; and life cycle costs with detailed operation and maintenance requirements

ADVANCED RAINFALL AND OPERATION DECISION SYSTEM

CWWSIPFCRP01 - Advanced Rainfall Prediction - Part 1 (Completed)

The purpose of this project was to provide rainfall forecast information to SFPUC WWE staff automatically in real-time. This project included planning, design, and environmental review for three new radar equipment stations to collect additional data that would feed into the rainfall prediction modeling for short-term and long-term precipitation forecasts. In September 2017, this project was cancelled and recommended to be placed on hold as the potential benefit of the project to Wastewater Operations did not merit the significant project costs.

CWWSIPFCRP02 - Operational Decision System Phase 1 (Completed)

SFPUC desires a more consistent and transparent basis for making decisions that make best use of available data in an automated way. This project would integrate available data in the collection system (levels, flows, pump status, etc.) with rainfall prediction data (from National Oceanic and Atmospheric Administration, or in the future improved through the Advanced Rainfall Prediction project). The real-time data will be coupled with WWE's collection system hydraulic model to project the likely impact of approaching storms and generate specific operational recommendations for managing flows.

CWWSIPFCRP03 - Operational Decision System Phase 2

This project would integrate available data in the collection system (levels, flows, pump status, etc.) with rainfall prediction data (from National Oceanic and Atmospheric Administration). The

rainfall prediction data will be coupled with WWE's collection system hydraulic model to project the likely impact of approaching storms and generate specific operational recommendations for managing flows. Phase 2 builds upon Phase 1 (CWWSIPFCRP02) for a citywide installation.

FLOOD RESILIENCE PROJECTS

CWWSIPFCDB07 - 17th and Folsom Wet Weather Storage (Completed)

The neighborhood surrounding 17th Street, 18th Street and Folsom Street has been experiencing over a foot of water on the streets, sidewalks and into their houses during rain events, resulting in property damages to the residents. The 17th and Folsom Wet Weather Storage project was originally intended to provide interim flood mitigation to the neighborhood while SSIP is working on identifying long-term solutions through capital improvement projects. The proposed interim flood mitigation alternatives consisted of a storage basin, pump station, and collection facilities to be built underneath the proposed future 17th & Folsom Park. However, the project was cancelled and defunded except for residual funds for ongoing response activities as directed by management, including certain outreach activities related to flooding.

CWWSIPFCDB10 - Flood Resilience Analysis (Planning Phase Only) (Completed)

The Flood Resilience Analysis Project will focus on developing a framework for identifying multiple storm scenarios; quantifying risks and cost implications associated with mitigating flooding across the aforementioned storm scenarios; and defining the extent and scope of the City's responsibility, based on consequences of extreme storms. To minimize flood risks citywide and meet SFPUC objectives, this project will also develop programs and policies beyond what the collection system can manage, and make recommendations on prioritization of structural, non-structural, and operational measures.

CWWSIPFCDB11 - Flood Resilience - Early Projects (Planning Phase Only; Completed)

The City of San Francisco has experienced

multiple significant storms in the last decade, which have led to flooding in various parts of the City. While Flood Resilience Analysis is being conducted by SFPUC, early infrastructure projects are being planned at three critical areas (Cayuga, Wawona, and Folsom neighborhoods) subjected to high flood risk. This project focuses on planning and developing stormwater detention and conveyance concepts specific to each of the aforementioned critical neighborhoods.

CWWSIPFCDB13 - Cayuga Ave Stormwater Detention Project

The neighborhood surrounding the northeastern end of Cayuga Avenue has been susceptible to recurring flooding associated with moderate to heavy storms. Due to its low land topography, the area can experience up to a few feet of water on the streets and sidewalks during rain events. This project will improve the stormwater detention by re-grading the I-280 embankment at the foot of Cayuga to create a low lying detention field. This project will provide surface detention of flows during flooding and includes an overflow relief connection into the College Hill Tunnel as well and a retaining wall to support the roadway.

CWWSIPFCDB14 - Folsom Area Stormwater Improvement Project

The neighborhood surrounding Folsom Street from 14th to 18th has been susceptible to recurring flooding associated with moderate to heavy storms. This project will include planning and design to improve stormwater conveyance away from the 17th and Folsom neighborhood to minimize flooding in the Level of Service storm. This project is to be developed based on the preferred alternative identified in Flood Resilience - Early Projects.

CWWSIPFCDB15 - 17th and Folsom Permanent Barriers

SFPUC has purchased off-the-shelf plastic temporary flood barriers for 2015 and 2016 wet seasons. At locations where temporary plastic flood barriers were installed and proven effective in mitigating floods, SFPUC plans to install more durable custom aluminum or steel barriers before a permanent solution (Folsom Area Stormwater

Improvement Project) can be implemented. The aluminum or steel barriers would be installed during wet seasons and removed during dry seasons. The sidewalk would be graded and outfitted with recessed and covered receptacles for mounting flood barrier poles. Interlocking aluminum logs would be installed between the poles. The flood barrier system would be custom built based on site-specific pole intervals, barrier height, and other characteristics.

CWWSIPFCDB16 - Hydraulic and Drainage Sewer Improvements

This project includes implementing small stormwater capture and conveyance improvements at critical flood-prone neighborhoods. The scope of construction includes improvement of drainage features, upsizing/expansion of sewer pipes, and surface grading modifications in Joost/Foerster/Mangels and Urbano/Victoria neighborhoods.

LAND REUSE

CWWSIPRPL91 - Land Reuse of 1800 Jerrold Avenue

This project includes jurisdictional transfer of 1800 Jerrold Avenue property ("Central Shops") from the Office of Contract Administration (OCA) to SFPUC. This 6.04-acre site is located adjacent to the SEP at the northwest corner of Quint Street/Jerrold Avenue intersection, and is currently used by OCA as central shops for city vehicle maintenance and repair.

A new location to move the existing Central Shops to was identified, and planning is underway to complete design and construction. Upon approval of the Jurisdictional Transfer, the relocation will involve the purchase of two properties, lease of a third property, and construction agreements to complete improvements. This requires extensive coordination and cooperation between multiple City departments.

Subsequent to the relocation of the Central Shops by the OCA, the 1800 Jerrold Avenue property would be acquired by SFPUC. Upon completion of geotechnical and environmental hazardous material investigations, a demolition and remediation plan will be developed. The site is

currently being considered for construction of the new SEP biosolids facilities.

CWWSIPRPL92 - Land Reuse of 1801 Jerrold Avenue

Reuse of the site requires a negotiated transfer of the site and subsequent demolition of the abandoned asphalt plant facilities and site remediation. Following the completion of geotechnical and environmental hazardous materials investigations, a demolition and remediation plan will be developed. Demolition will include the removal of all of the structures currently occupying the space including the existing asphalt plant equipment, storage silos and outbuildings. The remediation plan will be dependent on findings from the site investigation. Presently, the relocation of SFPW's Street Repair from the Asphalt Plant site to a property adjacent to the SFPW Yard is pending the relocation of SFPUC Sewer Operations (Sewer Ops) from 160 Napoleon (on a portion of Lot 31). Planning is currently underway to relocate Sewer Ops to a new location at Griffith Yard, and then to move the Asphalt Plant occupants to 160 Napoleon.

Project costs are estimated at \$8.2M, consisting of \$3.7M for demolition, \$2.5M for Quint Street, and a contingency of \$2M. Planning and CEQA will be completed in 2016. This project will be completed by June 30, 2017.

OTHER SSIP PROJECTS

10034360 - Lower Alemany Area Stormwater Improvement Project

The Lower Alemany area surrounding the US 101 and I-280 interchange has been susceptible to recurring flooding associated with moderate and heavy storms and do not meet the defined SSIP level of service (LOS). The primary objective of the Lower Alemany Area Stormwater Improvement Project is to address the SSIP LOS goals of managing stormwater and minimizing flooding from a 5-year 3-hour storm. This project will include planning, design and construction to improve stormwater conveyance away from the Lower Alemany area neighborhood and consequently to minimize flooding during the LOS storm.

10034553- Green Infrastructure Grant Program

The Green Infrastructure Grant Program (GIGP) offers grants to large public and private property owners to manage stormwater onsite and improve the performance of the collection system during wet weather. The Green Infrastructure Grant Program (GIGP) was established with several objectives: to manage stormwater using green infrastructure, to manage stormwater cost effectively, and to provide customers impacted by the anticipated stormwater cost allocation a mechanism to reduce their stormwater runoff and fees. The grant will cover the costs of design and construction of an approved stormwater management feature, such as rain gardens, permeable pavement, cisterns, and vegetated roofs. The maximum grant award is \$765,000 per acre of impervious surface managed, up to \$2 million in funding. Maintenance responsibility for the GI lies with the property owner and inspection responsibility with the SFPUC. In order for an application to be considered for funding, the project must meet minimum criteria including: managing stormwater runoff from a minimum impervious area of 0.5 acres; capturing the 90th percentile storm (0.75-inch depth) with the proposed green infrastructure features; and providing co-benefits to the community. The SFPUC has allocated \$25M from FY18 - FY27 for the program. The program will be administered by the SFPUC Wastewater Enterprise with project management support from the Infrastructure Division.

10034718 - Large Sewer Improvements

This is a collection of sewer improvement projects that will rehabilitate and/or replace Large Sewers (sewers greater than 36-inches in diameter or equivalent diameter) that has been prioritized using Collection System Asset Management Program (CSAMP) data with the highest risk level for failure. The collection of projects (or subprojects) were identified from the efforts of SSIP Phase 1 projects, CWWSIPCSSR02 - Collection System Condition Assessment. Included as one subproject will be to construct an intertie between the existing 66-inch diameter Channel Force Main (CHFM) sewage conveyance line to the Islais Creek Transport/Storage (ICT)

Box.

OSP-4 - OSP Condition Improvement - Phase 2

A condition assessment of the Oceanside Water Pollution Control Plant (OSP) was completed under the SSIP in 2013 (OSP 2013 Condition Assessment Report [CAR]). This evaluation included visual inspection of equipment systems and structures and review of existing seismic evaluations. The results of this evaluation included recommendations for seismic, structural and equipment improvements. The condition assessment findings, conclusions and recommendations were reviewed in detail with WWE OEM and Infrastructure staff in a series of workshops conducted on 2/27/13, 3/5/13, 10/14/14, 11/17/14 and input was incorporated into the Final Condition Assessment Report.

The OSP 2013 CAR also provided prioritization and recommended time frames for improvements based on remaining asset life and risk evaluation. Risks were analyzed based on condition ratings developed during inspections and operational criticality ratings previously developed by OEM staff. The NAR was completed in August 2015; tabulated the facility equipment deficiencies and seismic improvement needs. The AAR was completed in February 2017 and included an evaluation of viable alternatives to group repair and/or replacement work for certain assets at OSP (identified for the 0- to 5-year time frame), into various contract packages. The CER was completed in October 2018; prioritized improvements for the initial implementation phase and concluded the planning phase as part of SSIP Phase 1.

The scoped improvements and priority of this project are detailed in the CER as well as incorporate input on needs and prioritization from WWE staff.

The improvements identified through the process described above were phased considering a range of factors, including:

- Health and Safety of plant personnel and visitors.
- Priority based on the timing of equipment repairs needed (remaining useful life)
- Risk ranking & seismic performance criteria of primary treatment facilities

Project efficiencies, such as, grouping seismic upgrades and structural condition repairs together

- Reducing impacts to operations by grouping all improvements to a process building together

Condition Assessment Repairs at OSP will be implemented in stages, with the first stage addressing the most critical needs.

The project will target the project management, detail design, environmental, bid/award, construction and construction management of critical needs, high priority projects.

These primarily include health and safety improvements, primary clarifier improvements, selective building seismic retrofits, gravity belt thickener equipment replacement and associated process improvements.

APPENDIX 1.2. WWE CAPITAL IMPROVEMENT PROGRAM

ODOR CONTROL

CENMSCIC05 - Oceanside WPCP HVAC Improvements (Completed)

The objective of this project is to correct HVAC design and operation deficiencies at the Oceanside Water Pollution Control Plant (OSWPCP). The scope of work includes HVAC system improvements of eight process buildings, one administration building, and one parking structure. Some specific areas of improvements will be made that includes the indoor air quality of Administration Building 930 and corrosion problems associated with the ventilation and odor equipment throughout the facility. The marine environment has been very harsh on the mechanical and electrical equipments.

CENMSCIC07 - Chemical Feed Systems Imp - Phase 1 (Completed)

The objective of this project is to effectively mitigate odors from the local gravity sewers around the Southeast Plant. The scope of work includes new chemical feed system at Griffith Pump Station (GPS) and associated electrical and instrument control systems. The implementation of this project will also reduce odors at Southeast Plant's influent control structure and throughout the treatment processes.

CENMSCIC16 - WS PS VFDs and Pumps (Completed)

The objective of this project is to improve reliability of critical and aging mechanical and electrical equipments at the West Side Pump Station (WSPS). The equipment improvement includes replacement of variable frequency drives and sewage lift pumps at the WSPS. The implementation of this project will require a combination of pre-purchases and a construction contract. This project has been combined with CENMSCIC17 OSP / WS Bar Screens project for construction contract.

CENMSCIC20 - Chemical Feed Systems

Improvements - Phase 2 (Completed)

The objective of this project is to effectively mitigate odors from transport/storage facilities around the City. The scope of work includes: (1) installing chemical feed system and related sewer work at the abandoned Drumm Street Pump Station, (2) replacing the existing chemical feed system at Brannan Pump Station, (3) installing a chemical feed system upstream of the Marina transport sewer, (4) improve the instrumentation and monitoring system for existing chemical feed systems at North Shore Pump Station, and (5) installing chemical feed system at Lake Merced Pump Station.

CENMSCIC22 - Embarcadero Vent Elements Phase 1 (Completed)

The objective of the project is to effectively mitigate odors emanating from the transport/storage facility under the Embarcadero Roadway. The Phase 1 scope includes installation of 12 dispersion elements along the Embarcadero. These dispersion elements will ventilate odors at a higher elevation away from human receptors, allowing better wind dispersion, and minimizing impacts to the community. The future phases of this project will concentrate in the areas around the City based on historical odor occurrences.

CENMSCIC28 - SEWPCP Bldg 010 Odor Control Improvements (Completed)

The objective of the project is to reduce the odor impacts to surrounding community at the Southeast Treatment Plant. The project consists of enclosing sewage influent control structure, channels connecting to old headworks, and other process areas of Bldg 011. Foul odors contained in these structures will be ventilated and treated with odor control units. Aging electrical, mechanical equipment upgrades, and structure coatings will be included under this project.

CENMSCIC31 - SEWPCP 620 & 680 Digester Compressor (Completed)

The objective of this project is to remove eight existing digester gas recirculation compressors units and furnishing and installing eight new digester gas recirculation rotary lobe blowers. The proposed project will improve the efficiency and

performance of the digester sludge mixing and improvement in gas handling operation.

TREATMENT FACILITIES

CENMSCIC06 - SEP Gas Handling Improvements (Completed)

The goal of this project is to cost effectively integrate the digester gas handling system at the Southeast Water Pollution Control Plant, improve the reliability of the cogeneration facility, and provide a backup fuel source for the boilers. The best viable alternative is to refurbish the currently defunct Digester 5 by providing a gas storage facility. This project will improve the reliability of the cogeneration facility by installing a gas filtration and treatment system. The backup fuel source for the boiler will be achieved by replacing existing burners with dual-fuel burners, which will burn natural gas in the absence of sufficient digester gas. The new control system will provide a positive control over the interaction between the flares and the digester gas fuel supply and reduce the odor complaints.

CENMSCIC08 - SEP Secondary Clarifiers Concrete Repairs (Completed)

The objective of this project is to repair concrete corrosion in the secondary clarifiers at the Southeast Water Pollution Control Plant (SEWPCP). The scope of work includes cleaning and applying a protective coating to the concrete surfaces of the secondary clarifier overflow weirs/channels. Concrete spall and crack repair will be performed as needed to restore a proper bonding surface. A protective coating such as Enduraflex, Epoxy coating will be used to coat the concrete surfaces. There are a total of sixteen 120-foot diameter secondary clarifiers at the SEWPCP. The total of 80,000 square feet of concrete surface will be addressed as a part of this project.

CENMSCIC09 - SEP Mixed Liquor and RAS Odor Control Improvements (Completed)

The project objective is to cover, vent, and treat odors from the secondary treatment process at the Southeast Water Pollution Control Plant (SEWPCP). The scope of work includes: (1)

replacing temporary enclosure at mixed liquor channels, ventilating contained odors in these structures, and treating foul odors with carbon or bioscrubber odor control units, (2) replacing temporary enclosure at RAS sumps, ventilating and treating foul odors, and (3) an Emergency Generator for Operations Control Center and Administrative Building. This work is carried out with construction contract under IC28.

CENMSCIC17 - OSP / WS Bar Screens (combined with Int03) (Completed)

The objective of this project is to replace three bar screens at Oceanside Plant and two bar screens at the West Side Pump Station. These upgrades will enhance the efficiency of the grit collection and handling at these facilities. In addition the instrumentation, control and HVAC systems will be upgraded. The implementation of these projects will require a combination of pre-purchase and construction contracts. This project has been combined with CENMSCIC16 WS PS VFDs and Pumps project for construction contract.

CENMSCIC29 - SEWPCP Gas Handling Improvements Phase 2 (Completed)

Install new digester gas piping between the two digester groups and the gas booster facility. The existing piping is severely corroded and needs to be replaced. By adding the bypass piping, redundancy is gained for the system that will facilitate future maintenance of the existing pipe. A failure in the existing piping would lead to the digesters continuously venting digester gas to the neighborhood until a replacement was installed. Work includes new piping, valving, and concrete vaults.

CENMSCIC36 - Facility Security / Emergency Response (Completed)

This project will identify the enterprise wide need of the security and emergency response measures. Based on vulnerability analysis, the projects in this category will include installing electric/electronic security devices, physical barrier (fencing), and similar facility access control features. The plan will also include the means and methods for responding to incidents

in order to minimize disruption of service, protect employees and the public, and mitigate adverse environmental impacts.

CENMSCIC37 - WWE Facility Reliability Improvements (SEP Northside)

The southeast plant northside reliability project will be done in multiple phases. Phase 1 will address the Bldg 040/041 corrosion and ventilation issues. Phase 2 will include, Bldg 260 WAS/RAS pumps and associated VFDs, and secondary treatment aging electrical and mechanical major equipments. The future work will address the Southeast Plant's hypochlorite, bisulfite disinfection system, and oxygen regeneration facility.

CENMSCIC38 - SEP Solid Handling (Completed)

This project will address the immediate need to address the digester roof corrosion and severe corrosion at Bldg 840/860 sludge dewatering facility. The major mechanical and electrical infrastructure has reached its expected life. The solids handling process is very critical component of the wastewater treatment and without upgrades the risk to the enterprise will be too high. These limited upgrades will make this facility run till new solids handling facility will be built.

CENMSCIC39 - OSP Solids Handling and Coating (Completed)

The scope of work consists of repairing external surface of 4 (four) egg shape digesters at Oceanside Treatment Plant and converting biosolids to the Class A grade. This Class-A press change will require installation of heat exchangers and other mechanical and electrical infrastructure. In addition, two new screw presses will be installed for improved biosolids dewatering.

CENMSCIC41 - MV-SWGR SEP Electrical Reliability (Completed)

The Southeast Plant (SEP) main electrical power service consists of a single 12kV circuit provided by Pacific Gas and Electric Company (PG&E). This service is fed to the plant's main distribution switchgear via an underground duct bank. The

project will install secondary feeder and replace the aging medium voltage switchgear system.

CENMSCIC42 - GHW Stabilization Emergency (Completed)

Storm damage response at the Great Highway between Sloat and Skyline Boulevards. This project consists of three phases: 1) bluff toe stabilization; 2) roadway opening, bluff top stabilization and bluff face stabilization; and 3) emergency bluff stabilization work at Ocean Beach to protect the Great Highway and Lake Merced Tunnel area south of Sloat Blvd.

CENMSCIC45 - OPS: FOG to Biodiesel (Completed)

This project consists of two phases. Phase A is for the procurement and construction of the FOG which was completed and tested in 2013. The second phase will refurbish the Trap Waste (aka FOG) receiving station that was originally installed to provide feedstock to the FOG to Biodiesel skid. While the second step of the process was not successful, the Wastewater Enterprise has documented that Trap Waste receiving and subsequent digestion has substantial benefits to the enterprise in terms of energy production and to continue this practice, the receiving station needs to be updated to operate safely & to continue its useful life. Phase B funding is for the planning and design phase of these upgrades.

CENMSCIC47 - Major Electrical / Mechanical Reliability

The objective of this project is to replace major electrical and mechanical equipments that have reached beyond the expected life. The mechanical equipments consists of pumps, bar screens, mixers, HVAC components, conveyers, valves, gates etc. The electrical equipments consist of motor control center, switchgears, variable frequency drives, and basic electrical infrastructure. Work under WW-580 is for the selective material abatement and demolition work at OSP, replacement of existing W3 Water Strainer assemblies, furnishing and installing new W2 Water Filter assembly, W2 Water magnetic flowmeter assemblies, and new crossover

connection piping, butterfly valves, and check valves.

CENMSCIC70 - Oceanside Plant Aeration System Upgrade (Completed)

The objective of this project is to provide 4 (four) blower/motor sets at Oceanside Treatment Plant. This project is for the planning and design efforts and is part of the Oceanside Plant Solids Handling and Coating Improvements (CENMSCIC39).

CENMSCIC72 - Facility Security Upgrades Contract 2

The objective of this project is to provide security improvements to protect the facilities, personnel and processes at these possible locations: (1) North Point Wet Weather Facility (NPF); (2) Griffith Pump Station (GFS); (3) Bruce Flynn Pump Station (BFS); (4) Mariposa Pump Station (MPS); and 5) Mission Bay Storm Water Pump Station No. 1 (M1S), No. 4 (M4S) and No. 6 (M6S). This project is a continuation of the WWE Facility Security/Emergency Response (CENMSCIC36) project.

Int03 - Contract 4 - OSP Gas Compressors (Combined with CENMSCIC17) (Completed)

The project objective is to replace the aged compressors with new efficient compressors that will enhance mixing in the digesters and improve the digester gas production.

PUMP STATIONS

CENMSCIC19 - Tennessee Pump Station Reliability - Phase 1 (Completed)

The objective of this project is to improve the reliability of the pump station. The scope of work includes modifying the existing pump station to provide redundancy for failsafe operation during both dry and wet weather flow. It is anticipated that new sump and electrical upgrades will be required to achieve redundant pump capacity.

CENMSCIC21 - Channel Pump Station Odor Control (Completed)

The project objective is to minimize the odor release and maximize the reliability of one of the

most critical pump stations of the Wastewater Enterprise. The scope of work includes refurbishing bar screens, enclosing the screening storage area, and enclosing the influent channel to the pump station. Foul odors contained in these areas will be ventilated and treated with the best available odor control technology. Electrical and maintenance equipment upgrades and structure coating will be included in the contract to maximize the reliability of the pump station operation and minimize the concrete corrosion.

CENMSCIC30 - Channel Pump Station Odor Control - Phase 2 (Completed)

The phase 2 improvements will include maximizing odor control at the Channel Pump Station and upstream of Pump Station in the collection system. The scope of work also includes improving reliability of major mechanical and electrical equipments. The project will address some of the immediate security concerns. The project will install the carbon odor control unit to handle the contained odors and new chemical feed systems for the upstream collection system odor control. All the scope identified in IC21 will be constructed under this project.

CENMSCIC33 - North Shore to Channel Force Main Improvement (Completed)

The objective of this project was to install a redundant force main to the most vulnerable portion of the existing North Shore Force Main, which had failed twice in 2008. Work included constructing two valve-vaults in The Embarcadero near Washington Street, and installing new HDPE force mains on Drumm Street, between Jackson and California Street, across the Market Street pedestrian plaza between California and Spear Street, on Spear Street, between Market and Howard Streets, and on Howard Street, between Spear and Steuart Streets. Unfortunately, during construction of the project, numerous utilities were found in Drumm and Spear Streets, and they occupied the area where the new force main was to be installed. Utility companies expressed that they would need additional time to relocate their facilities, which would have created a substantial delay to the contract. Therefore, under the advice from the

City Attorney's Office, SFPUC terminated the construction contract for convenience to minimize any additional costs incurred due to the utilities' failure to notify the City of their facilities during the project's planning and design phases. A new project, CENMSCIC52, is initiated for the coordination effort with utilities and re-design and execution of the work.

CENMSCIC40 - North Shore and Mariposa Pump Station Improvements (Completed)

This project will replace the majority of suction, discharge, and force main lines with HDPE (high density polyethylene), with several sections of steel pipe rehabilitated in place at North Shore Pump Station. The work scope also includes the new pump isolation, check valves and refurbish plug valves. The scope of work at the Mariposa Pump station includes installing new dry weather pumps. The flow meter will also be replaced to account for higher flow readings. The scope also includes installing a new gate valve, a new 12-inch knife gate valve, stem extension, and manual handwheel. It will also replace the existing Bubbler System as Operations reported that the existing bubbler system has issues with debris and sand. And finally, this project includes upgrading the electrical and controls System, the switchgear to 480V and installing variable frequency drives for the new dry weather pumps.

CENMSCIC48 - Channel Pump Station Improvements - Phase 3 (Completed)

The project will replace aged emergency generator to meet new Bay Area Air Quality Management standards on diesel generator. The scope will include security improvements, replacement of corroded main lift pumps piping system, the enhancement of odor control features, and instrumentation and control work.

CENMSCIC52 - North Shore Force Main, Phase 2 (Completed)

This project will provide a redundant force main to the portion of the existing North Shore Force Main (NSFM), which has no redundancy and is most vulnerable for failure. The vulnerable portion of the existing NSFM failed in 2006, 2008, and most recently, in March 2012 and June 2012.

Separate emergency contracts were issued in 2012 and emergency repairs on the existing force main have been completed; however, a portion of the existing force main cannot be fully-rehabilitated until the redundant main is available. The scope of work for this project includes installation of approximately 3,000 linear-feet of force mains on Drumm Street and Spear Street and construction of valve-vault(s) in the sidewalk area on The Embarcadero, between Washington and Broadway Streets. Only the CIP funds are reported in this project.

CENMSCIC61 - North Shore Force Main Emergency Repair (Completed)

On March 20, 2012, Wastewater Enterprise declared an emergency due to sewer leaks of the North Shore Force Main, identified at the intersection of The Embarcadero and Mission Street. An existing contractor from the SFPUC Job-Order-Contract, Cal State Contractors, was selected to assist in identifying and repairing the leak. The regulatory agencies were notified of the force main failure, and the fact that the force main must be operated at a reduced capacity in order for SFPUC to maintain sewer services and not cause a more substantial sanitary overflow. Funds for this emergency project were reallocated from CENMSCIC52.

CENMSCIC62 - Emergency North Shore Force Main Rehabilitation (Completed)

Subsequent to the emergency repair work (project CENMSCIC61) declared from the March 20, 2012 emergency declaration. Wastewater Enterprise declared another emergency on June 20, 2012 after confirming that the existing force main was still leaking but the source of the leak could not be easily identified. Given the life of the existing force main, Wastewater Enterprise determined that the entire directly buried portion of the force main needs to be rehabilitated by lining. In order to expedite the work, an emergency design/build contract was issued to rehabilitate approximately 3,000 feet of the existing North Shore Force Main. The section of NSFM to be rehabilitated is located on The Embarcadero, between Jackson and Howard Streets, and on Howard Street, between The Embarcadero and Steuart Street. Funds for

this emergency project were reallocated from CENMSCIC52 and CENMSCIC61.

SEWER / COLLECTION SYSTEM

CENMSCIC01 - Vicente St. Sewer System Improvement Phase 2 (Completed)

The project involves increasing the capacity of the sewer system along Vicente Street from 26th Avenue to 32nd Avenue, Ulloa Street from 45th Avenue to the Great Highway, and at the intersection of 44th Avenue and Wawona Street.

CENMSCIC02 - Teresita Blvd "South" Sewer Replacement (Completed)

The project involves increasing the capacity of the sewer system along Teresita Blvd, Foerester Street, Molimo Drive, El Sereno Ct, Bella Vista Way, Gaviota Way, Arroyo Way, and Vernas Street.

CENMSCIC03 - Shotwell & 18th St. Sewer Drainage Improvement (Completed)

This project would increase the capacity of the sewer system on Shotwell Street between 17th and 18th Streets, and on 18th Street between Shotwell Street and Treat Ave. The scope of work includes three key elements: (1) a large storage structure to hold combined sewage (rainwater and sewage) during a high intensity storm, (2) a pump station to pump the combined sewage from the storage back into the sewer system after the rains subside, and (3) an isolated sewer system to maximize use of the storage and prevent backflows from the downstream sewer. Previously there were two projects: 18th Street Sewer Replacement, and Shotwell Drainage Improvement, but due to the proximity of the projects, they were combined to reduce disruption to the public.

CENMSCIC04 - Cayuga North Sewer Improvements, Phase 1 (Completed)

Cayuga Street Sewer Improvement Phase I work was added to the construction contract, CW-387 (under CENMSCIC12, Vicente St Sewer System Improvement Phase 1). The change order work involved connecting the existing system to College Hill Tunnel to maximize storm water

storage in the vicinity of Cayuga and Milton Streets.

CENMSCIC10 - Brotherhood Way/St Charles Ave Sewer Improvement (Completed)

The purpose of the project was to improve the sewer system along Brotherhood Way, from Head Street to Highway 280, including St. Charles Avenue (between Belle Street and Brotherhood Way), and Alemany Blvd (between Orizaba Street and St. Charles Avenue). Actual contract work consisted of replacing existing sewer pipelines on Brotherhood Way from Ralston St. to St. Charles Ave., and from Ramsell St. to Head St., and on St. Charles Ave. from Belle Ave. to Payson St., and on Ramsell St. from Brotherhood Way to Alemany Blvd, and on Head St. from Brotherhood Way to Alemany Blvd.

CENMSCIC11 - Cesar Chavez Sewer System Improvement Phase 1 (Completed)

The project will provide area-wide improvements for the sewer system in the Cesar Chavez area. The improvements include sewer work on Cesar Chavez Street, from Hampshire to Guerrero Street; on Valencia Street, from Cesar Chavez to Mission Street; on Fair Street; and on Coleridge Street. As a part of coordination with other improvements in San Francisco, SFPUC entered into an agreement to provide funds for improvements to be made in SFPW's streetscape project. This additional cost is reflected in this project.

Other funding sources for this project are not reflected in this report. This project received grant from Federal Earmark Funds (administered by U.S. EPA) and the State Department Funds (administered by Department of Water Resources). SFPUC also entered into an agreement to allow California Pacific Medical Company (CPMC) to fund the design and construction of sewer improvements, as part of this project and in anticipation of the potential construction of St Luke's Hospital.

CENMSCIC12 - Vicente St. Sewer Improvement Phase 1 (Completed)

The project involved increasing the capacity of the sewer system along Vicente Street from 34th Ave

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to Sunset Blvd, 42nd Ave to 44th Ave, and 44th Ave to 45th Avenues.

Cayuga Street Sewer Improvement Phase I work was added to the construction contract for CENMSCIC12. The additional work involved connecting the existing system to College Hill Tunnel to maximize storm water storage in the vicinity of Cayuga and Milton Streets.

CENMSCIC13 - Monterey, Baden, & Circular Sewer Improvement (Completed)

This project involved increasing the capacity of the sewer system on Monterey Blvd, between Congo St and Baden St; on Baden St, between Monterey Blvd and Circular Ave, and Circular Ave, between Baden St and Santa Rosa Ave (near Congo St.).

CENMSCIC14 - Mission & Foote Sewer Improvement (Completed)

The project involved increasing the capacity of sewer collection system along Mission Street from Russia Avenue to Onondaga and at the intersections of Mission and Foote Avenue and Mission and Ellington.

CENMSCIC15 - Mission & Mt. Vernon Sewer Improvements Ph 1 (Completed)

The project involved improving sewer drainage system for wastewater collected and transmitted on Mission Street, Mount Vernon Avenue, Ellington Avenue, and Foote Avenue in San Francisco. This project is expected to provide area-wide drainage improvement.

CENMSCIC18 - Justin Dr./Marietta Ave/Del Vale Ave Sewer Improvement (Completed)

The project involved increasing the capacity and improving the sewer system along Justin Drive from College Ave to Murray Street and on Bentton Avenue from College Avenue to East end. The sewers were also replaced on Marietta Drive from Teresita Blvd to Encline Ct. and on Del Vale Avenue to O'Shaughnessy Blvd.

CENMSCIC23 - Sunnydale Auxiliary Sewer Phase 1 (Completed)

This project consists of the construction of a new auxiliary sewer tunnel between the Sunnydale

drainage basin (Visitacion Valley District) and the Sunnydale Transport/Storage Facility located just southwest of Candlestick Park. The new sewer tunnel will increase the capacity of the sewer collection system for the Visitacion Valley District during heavy rain periods. The proposed scope of work includes installation of approximately 5,000 lf of 11.5 feet diameter sewer tunnel and 8 feet diameter microtunnel from Harney Way to Schwerin Street.

CENMSCIC24 - Phelps St/ Topeka Ave/ Pomona St Sewer System Improvement (Completed)

The original project included evaluating and improving the sewer system on Toland Street from Evans Ave/Napoleon St to Jerrold Ave, on Hudson Avenue from Toland Street to Selby Street, and on Phelps Street from Donner Avenue to Williams Avenue. However, engineering evaluation concluded that the Toland and Hudson Streets drainage system could not be improved by a gravity solution. Therefore, additional hydraulic evaluation will be necessary, and a separate project may be initiated to address the hydraulic capacity of this portion of the sewer system.

However, the sewer system along Phelps Street can be improved with a gravity solution; therefore, this portion of the project will proceed. This project would include evaluation of Phelps Street from Donner to Williams Avenue, on Topeka Ave from Maddox Ave to Apollo St and on Pomona Street from Bayview St to Thorton Ave.

The construction contract for this project includes work and funding from SFPW Paving Program and SFPUC R&R Sewer Programs, and the lead agency is the SFPUC Interim CIP. This report only covers the financial information related to the Interim CIP portion of work.

CENMSCIC25 - Colon / Greenwood / Plymouth / Southwood / Miramar Sewer Improvement and Pavement Renovation (Completed)

This project is hydraulically tied to the original scope of work for CENMSCIC27. Upon completion of hydraulic studies for both projects, a combined solution for both projects was presented, which would allow improvements to

be made within the public right-of-way and would minimize flooding in the subject area. The combined scope of work includes improvements on Colon Avenue, Greenwood Avenue, Plymouth Drive, and Southwood Avenue to minimize flooding in the vicinity. In addition, Miramar Street was found to have structural damage which warrants replacement and SFPW Paving Program is joining to repave all affected streets curb-to-curb.

CENMSCIC26 - Alemany & Sickles Sewer Improvements (Completed)

The intent of this project is to review and improve the sewer system in the vicinity of Alemany Blvd near the Daly City limits. This project will be placed in the completed category starting from the March 2008 Quarterly Report. During the planning phase of the project, we found that immediate improvements have been made in the project vicinity; therefore, the criticality of the project has been reduced. In addition, alternatives in the Sewer System Master Plan (SSMP) may provide further improvements in the area. Therefore, this project is considered completed for the Interim CIP and any further work would be deferred to the SSMP and SSIP, as appropriate.

CENMSCIC27 - Ocean Ave Sewer Improvement (Completed)

The intent of this project is to review and improve the sewer system in the vicinity of Ocean Avenue and Faxon Streets. This project is hydraulically tied to CENMSCIC25 (IC25) because the sewers on Ocean Avenue are downstream of the sewer system for IC25.

Therefore, the hydraulic study performed included both projects and a combined solution was proposed. This project will be considered completed starting from the March 2008 Quarterly Report. The scope of work for this project is combined with IC25 and all future reporting would be included in IC25.

CENMSCIC32 - Spot Sewer Repair Contract #23 (Completed)

The objective of the project is to repair existing sewer piping, on an as-needed basis, at various locations throughout San Francisco.

CENMSCIC34 - Folsom St Sewer Replacement (Completed)

The objective of the project is to replace/rehabilitate the existing sewers on Folsom Street from 12th Street to 13th Street and from 14th Street to 19th Street.

CENMSCIC35 - Minna/Natoma/Russ Sewer Replacement (Completed)

The objective of the project is to replace the existing sewers on Minna Street from 7th Street to Russ Street, on Natoma Street from 6th Street to Russ Street, on Russ Street from Minna Street to Folsom Street and on Harriet Street from Howard Street to Folsom Street.

CENMSCIC43 - Richmond Drainage Improvement, Phase 2 (Completed)

This project will evaluate and provide improvements to rehabilitate the Old-Richmond Tunnel, which was re-activated in 2008, to provide additional sewer capacity to the Richmond Drainage Basin. As a result of validation effort in the Sewer System Improvement Program (SSIP), the rehabilitation of the Old-Richmond Tunnel will be deferred until Urban Watershed Analysis is conducted for the Richmond Drainage Basin. Therefore, only the tunnel cleaning and obvious repair work would be completed in this project.

CENMSCIC44 - Cesar Chavez Sewer Improvements, Phase 2 (Completed)

This project will be renamed to "Marin and Kansas Streets Sewer Improvements" to reflect the approximate location of the project in the next quarterly report. The objective of the project is to provide improvements to the sewer system conveyance from Islais Creek Watershed east of Highway 101 to the Selby Sewer Box. Following improvements from CENMSCIC11, Cesar Chavez Sewer Improvements Phase 1, additional conveyance needs were identified at this project location. Preliminary planning will be completed in this project and the final planning, design, environmental review and construction of the sewer improvements will be completed in the Sewer System Improvement Program (SSIP).

CENMSCIC46 - Fell St Sewer Replacement (Completed)

The objective of the project is to replace the existing sewer on Fell Street from Webster Street to Fillmore Street.

CENMSCIC49 - Vallejo St Emergency St Replacement (Completed)

PUC General Manager declared emergency on May 24, 2010 to replace existing main sewer on Vallejo Street from Steiner Street to Pierce Street.

CENMSCIC50 - As Needed Sewer Replacement Contract 1 (Completed)

The objective of the project is to repair existing sewer piping from manhole to manhole segments, on an as-needed basis, at various locations throughout San Francisco.

CENMSCIC51 - Spot Sewer Repair Contract #25 (Completed)

The objective of the project is to repair existing sewer piping, on an as-needed basis, at various locations throughout San Francisco.

CENMSCIC53 - Downtown District Aging Sewer Replacement (Completed)

The objective of the project is to rehabilitate existing brick sewers at the following locations: John Street from Powell Street to Mason Street, Spofford Street from Washington Street to Clay Street, Sutter Street from Larkin Street to Hyde Street, Post Street from Hyde Street to Jones Street, Post Street from Grant Avenue to Mason Street, Geary Street from Hyde Street to Jones Street and O'Farrell Street from Powell Street to Mason Street.

CENMSCIC54 - Sunnydale Auxiliary Sewer Phase 2 (Completed)

This project consists of the construction of new sewers within the Sunnydale drainage basin (Visitacion Valley District). The proposed scope of work is as follows: installation of a new auxiliary wet weather sewer by means of microtunneling; and replacement of existing local sewers. Contract work location is on Schwerin Street, between Sunnydale Avenue and Kellogg Avenue.

CENMSCIC55 - Church St/Duboce Sewer Replacement (Completed)

The objective of the project is to replace/rehabilitate the existing sewers on Church Street from Duboce Avenue to Hermann Street and from Reservoir Street to Duboce Avenue and on Duboce Avenue from Church Street to Fillmore Street. This is a joint venture with Municipal Transportation Agency (MTA) Contract No. 1239. MTA is the lead agency and will manage this contract. This project is for the construction phase. The project cost is for the sewer work only.

CENMSCIC56 - Powell and Mason Sewer Replacement (part of Sewer Hydraulic Improvement) (Completed)

This project will replace structurally and hydraulically inadequate sewers on Mason Street, between Columbus Avenue and Jefferson Street, on Powell Street, between Francisco and North Point Streets, and on Bay Street, between Powell and Mason Streets. The construction contract will be a joint-effort between SFPUC Wastewater Capital Improvement Program, SFPUC, Wastewater R&R program, and SFPW, Paving Program. Only the Wastewater CIP funding information is provided in this report.

CENMSCIC57 - Sewer Staff Facility Improvements (Completed)

The objective of the project is to consolidate WWE Collection System Division Administrative and Sewer Operations staff to a centralized location, and to maximize operational efficiency and functionality. The project will serve multiple functions: office spaces; a secure warehouse facility for equipment and material storage; an area for staging and operation of sewer cleaning vehicles; a vehicle maintenance bay; a fueling station; vehicle and equipment parking areas; and a hydraulic modeling facility to develop the physical modeling components related to current and future Sewer System Improvement Program (SSIP) projects.

CENMSCIC58 - Vactor Waste Staging Area (Completed)

The objective of the project is to consolidate WWE Collection System Division Administrative and Sewer Operations staff to a centralized location, and to maximize operational efficiency and functionality. The project will serve multiple functions: office spaces; a secure warehouse facility for equipment and material storage; an area for staging and operation of sewer cleaning vehicles; a vehicle maintenance bay; a fueling station; vehicle and equipment parking areas; and a hydraulic modeling facility to develop the physical modeling components related to current and future Sewer System Improvement Program (SSIP) projects.

CENMSCIC59 - Spot Sewer Repair Contract #26 (Completed)

The objective of the project is to repair existing sewer piping, on an as-needed basis, at various locations throughout San Francisco. This project is the second of the two spot repair contracts that are issued each calendar year.

CENMSCIC60 - Spot Sewer Repair Contract #27 (Completed)

The objective of the project is to repair existing sewer piping, on an as-needed basis, at various locations throughout San Francisco. This project is the first of the two spot repair contracts that are issued each calendar year. This contract/project will be the first contract advertised in the 2012 calendar year.

CENMSCIC63 - Plymouth Avenue Sewer Replacement (Completed)

The objective of this project is to replace the existing sewers at the following locations: Plymouth Avenue from Lobos Street to Minerva Street and from Graton Street to Ocean Avenue. This is a joint venture with San Francisco Public Works (SFPW) Contract No. 1643. SFPW is the lead agency and will manage this contract. This project is for the construction contract cost only. Construction management cost will be funding under R&R Collection System program project. The construction cost is for the sewer work only.

CENMSCIC64 - As-Needed Main Sewer Replacement (Completed)

The objective of the project is to replace existing sewer piping, from manhole to manhole segments, on an as-needed basis, at locations to be determined throughout San Francisco.

CENMSCIC65 - Western Addition/Beach/Marina District Sewer Replacement (Completed)

The objective of this project is to replace the existing sewers and existing street pavement from curb to curb at the following locations: (1) Lombard Street from Lyon Street to Richardson Avenue; (2) Lombard Street from Divisadero Street to Webster Street; (3) Lombard Street from Octavia Street to Franklin Street; (4) Chestnut Street from Stockton Street to Grant Avenue; (5) Green Street from Columbus Avenue/Stockton Street to Grant Avenue; (6) Broadway from Battery Street to Front Street; (7) Broadway from Mason Street to Himmelmann Place; and (8) Scott Street from Clay Street to Sacramento Street. This project is for the construction contract cost only. Construction management cost will be funded under R&R Collection System project CWWRNRC508.

CENMSCIC66 - Greenwich/ Leavenworth/ Lombard Sewer Replacement (Completed)

The objective of this project is to replace the existing sewers at the following locations: Greenwich Street from Baker Street to Lyon Street; Leavenworth Street from Clay Street to Washington Street; Lombard Street from Stockton Street to Powell Street. This is a joint venture with Department of San Francisco Public Works (SFPW) Contract No. 1975J. SFPW is the lead agency and will manage this contract. This project is for the construction contract cost only. Construction management cost will be funded under R&R Collection System program project. The construction cost is for the sewer work only.

CENMSCIC67 - Block 2169 Emergency Easement Sewer Replacement (Completed)

The objective of this project is the emergency replacement of the existing sewer located within the existing sewer easement on Block 2169 (between Levant Street and Ord Court) in San Francisco. This project is for the construction

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contract cost only. Construction management cost will be funded under a R&R Collection System program project.

CENMSCIC68 - 24th Street Sewer Replacement (Completed)

The objective of this project is to replace the existing sewers at the following locations: 24th Street from Valencia Street to Guerrero Street, from Florida Street to Bryant Street and from Capp Street to Bartlett Street. This is a joint venture with San Francisco Public Works (SFPW) Contract No. 1933J. SFPW is the lead agency and will manage this contract. This project is for the construction contract cost only. Construction management cost will be funded under R&R Collection System program project. The construction cost is for the sewer work only.

CENMSCIC69 - Various Location Sewer Replacements No. 4 (Completed)

The objective of this project is to replace the existing sewer at the following locations: Union Street from Columbus Avenue to Stockton Street; Webster Street from Clay Street to Washington Street; Church Street from 18th Street to Liberty Street; 19th Street from Hartford Street to Sanchez Street; Douglass Street from 23rd Street to Alvarado Street; 23rd Street from Eureka Street to Douglass Street; Mission Street from College Avenue to Richland Avenue; Rousseau Street from Cayuga Avenue to Still Street; and 35th Avenue from Pacheco Street to Quintara Street. This project is for the construction contract cost only. Construction management cost will be funded under R&R Collection System program project.

CENMSCIC71 - Folsom Street Sewer Replacement (Completed)

The objective of this project is to replace the existing sewers at the following locations: Folsom Street from Precita Avenue to Bernal Height Blvd and from Powhattan Avenue to Alemany Blvd. This is a joint venture with San Francisco Public Works (SFPW) Contract No. 1911J. SFPW is the lead agency and will manage this contract. This project is for the construction contract cost only. Construction management cost will be funded

under R&R Collection System program project. The construction cost is for the sewer work only.

Int42 - Aging Sewer Improvements (Not Initiated)

The objective of the project is to replace/rehabilitate aging and hydraulically deficient sewers at various locations throughout San Francisco.

APPENDIX 1.3. FACILITIES AND INFRASTRUCTURE

10033820 - Southeast Outfall Condition Assessment & Rehabilitation

This Wastewater Enterprise Capital Improvement Program project will include extensive condition assessment and rehabilitation of the Southeast Water Pollution Control Plant (SEP) effluent force main. The Booster pump station was constructed in 1967 and last upgraded in 2002. The Booster Pump Station receives treated effluent from Southeast Treatment Plant via 72" gravity conduit. The discharge system from Booster Pump Station consists of 42" and 36" parallel force mains under Islais Creek that ultimately discharge into 60" Southeast Outfall. The effluent outfall discharges into the San Francisco Bay through the series of pipes at Pier 80. The outfall ends with 36" pipe and diffuser system that was replaced in 2012 using JOC Contract. The treated effluent flow conveyance is 50-60 million gallons per day (MGD) average and 110 MGD peak through the Southeast Outfall System. The underwater crossings have exhibited leaks 3 times in past 6 years and were repaired with JOC Contracts. The last limited condition assessment was performed in 2010-2011 and the report recommended the near-term and long-term actions for the entire Outfall system. The short-term action recommended that Islais Creek Underwater Crossings replacement within 5 years and long-term action recommended the re-inspection and re-habilitation of the remaining system within 10 years. The Islais Creek underwater crossings replacement is currently at 35% design phase under separate project FAC04 Facilities and Infrastructure Program. This new project will thoroughly and completely evaluate the condition and remaining life expectancy of the Southeast Outfall System and implement the rehabilitation solutions to extend the useful life.

CWP11001 - Treasure Island - Existing Wastewater Facilities

The new wastewater treatment plant and associated recycled water facility are in the planning portion of the project. The Alternatives Analysis Report (AAR) continues as the team evaluates different liquid, solids, and effluent

treatment options for the new WWTP. The final AAR is expected to be issued by January 4, 2019. Coordination is ongoing with site preparation, geotechnical improvements, and other project activities with Treasure Island Community Development (TICD), Treasure Island Development Authority (TIDA), and the project team.

CWWFAC01 - Ocean Beach Project

The project will develop a comprehensive shoreline management and protection plan against bluff erosion and climate-change induced sea level rise along Ocean Beach south of Sloat Boulevard consistent with the recommendations in the 2012 Ocean Beach Master Plan (OBMP). This project is necessary to protect the integrity of wastewater assets built to protect public health and the environment, including the Lake Merced Tunnel, the Westside Pump Station and the Oceanside Treatment Plant. The project includes a) Short-term Improvements [STI] to provide interim (2015-2022) erosion protection and improved beach access [e.g., sand backpass/stabilization and placement of sand bags], b) Army Corps of Engineers Section 204 beach nourishment [ACOE] (e.g., beneficial reuse of dredged sand to provide erosion protection), and c) Long-term Improvements [LTI] that will address a comprehensive shoreline management and protection plan.

CWWFAC02 - Collection Division Consolidation (Griffith Yard Improvements)

The initial WWE Collection System Division Facilities Consolidation Project intended to consolidate the Collection System Division Administrative and Sewer Operations staff to a centralized location at 1550 Evans. The current plan is to relocate Sewer Operations to the WWE Griffith Yard Facility, adjacent to the Griffith Yard Pump Station. The project is now the Griffith Yard Improvement Project. Relocating the 107 employees currently dispatched from Napoleon Yard to Griffith Yard is required in order to exchange the Napoleon Yard for SFPW's Asphalt Plant property at the Southeast Plant (SEP) through an inter-department jurisdictional transfer. The project will also include relocation of

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the Vector Waste Station (VWS), currently located at SEP, to co-locate the VWS with Sewer Operations and reduce overcrowding at SEP; a Confined Space Training Facility; and a bio-retention system for stormwater control. This project is critical path for making space available for SSIP Projects at the Southeast Plant. Improvements to the 4.4 acre yard will transform the underutilization of this property from storage and stockpiling to productive operations.

The second part of this project includes Greenhouses Demolition. In 2015, an assessment of current condition of the Greenhouses was conducted. It was determined that the facilities, in their current state of disrepair weren't salvageable. An interim grant program was established until a permanent replacement plan is determined. The interim use of the site is part of the modernization of the Southeast Water Pollution Treatment Plant through the Sewer System Improvement Program (SSIP). The Greenhouses demolition project will demolish the existing greenhouses, attached ancillary building, and prepare the site for staging to be used by other SSIP projects in the area.

CWWFAC03 - Southeast Community Center @ 1550 Evans

The Southeast Community Center project will serve to address the SFPUC's commitment to the mitigation measure for the expansion of the Southeast Plant (SEP) by constructing a new community center at 1550 Evans. The project will include a childcare center, café, multipurpose space for meetings, events, and workshops, and co-working office and classroom space for community-based organizations providing workforce development services. It will also include parking and over two acres of landscaped open space, with play areas, an amphitheater, picnic areas and gardens. The new center will provide a wide range of social services supporting workforce development and education for Southeast residents of all ages.

CWWFAC04 - SEP Southeast Outfall

This Wastewater Enterprise Capital Improvement Program project will include improvements to the Southeast Water Pollution Control Plant (SEP)

effluent force main crossings at Islais Creek and modifications to the Booster Pump Station. SEP is the SFPUC's largest wastewater facility treating almost 80% of the City's dry and wet weather flows.

Major improvements are planned to ensure that the SEP facilities maintain permit compliance and operate reliably. This project primarily addresses the portion of effluent discharge outfall into the San Francisco Bay through the series of pipes at Pier 80. Following improvements are needed to address aging infrastructure:

- Pipeline replacement within the Islais Creek
- Restoration of access manholes for future inspection and maintenance
- Improving flow velocity with new pipeline material
- Providing redundancy and flexibility for operation
- Piping isolation improvements to the Booster Pump Station

SWOO- Southwest Ocean Outfall (SWOO)

The Southwest Ocean Outfall was last inspected in 1996, although sediments prevented a full internal inspection. An exterior inspection was performed in 2005 (diffusers, caps, etc.). This project includes the condition assessment of the outfall, as well as an allowance to perform repairs.

APPENDIX 1.4. RENEWALS AND REPLACEMENTS

CWWRNRCS - R&R Collection Systems

The purpose of the Wastewater Enterprise (WWE) Renewal and Replacement Program (R&R) Collection System Sewer Improvements project is to maintain the existing functionality of the sewage collection system and address planned and emergency projects for repair and replacement of structurally inadequate sewers. This project consists of the following sub-projects: small diameter (less than and equal to 36-inch) sewer improvements, small diameter (less than and equal to 36-inch) sewer condition assessment, spot sewer replacement, large diameter (greater than 36-inch) sewer condition assessment, large diameter (greater than 36-inch) sewer improvements and sewer transport storage box condition assessment. By utilizing an asset management approach, which factors in: physical condition, age, location, risk, public safety, paving schedule and other factors, aging and failed portions of the collection system are identified and replaced.

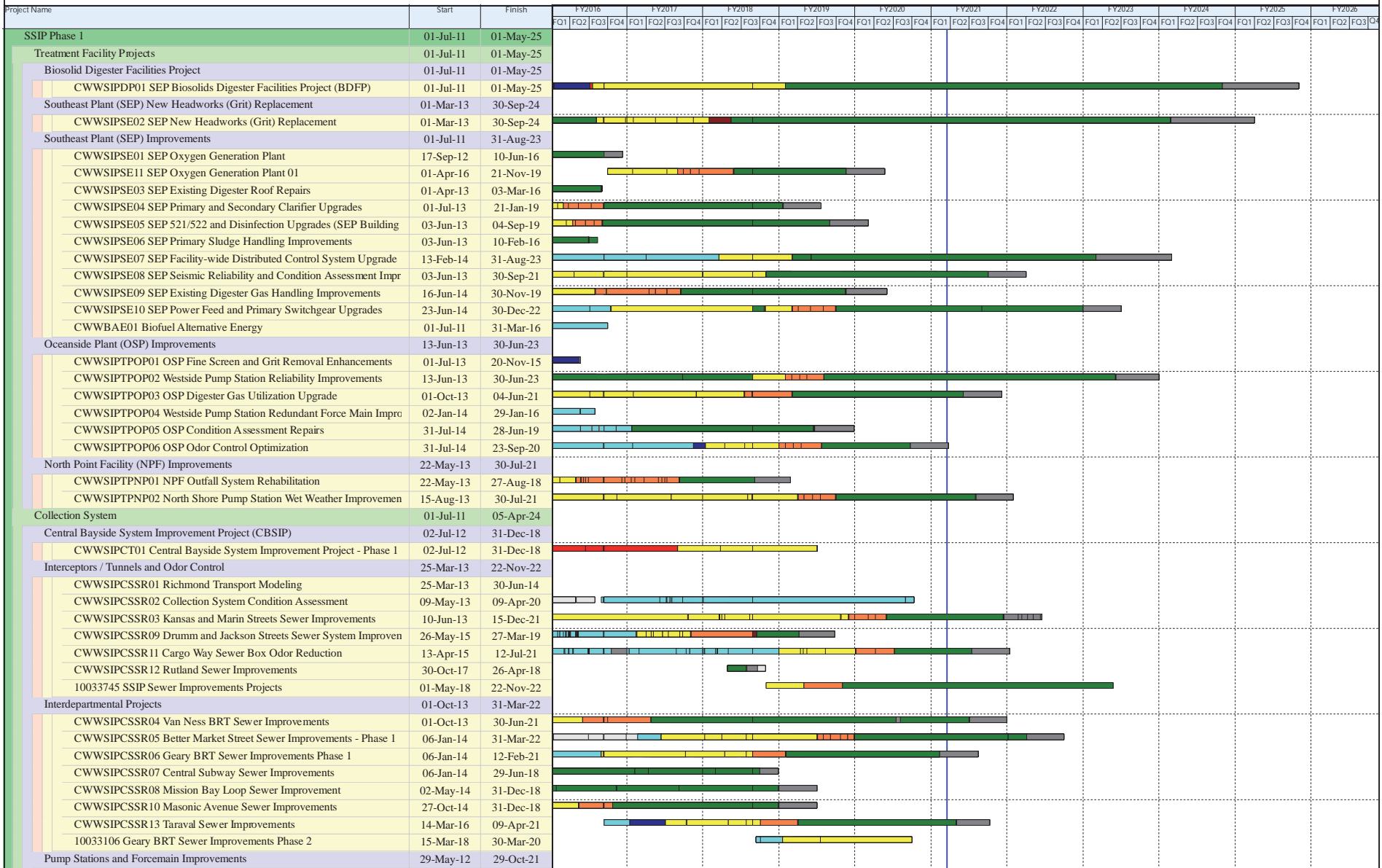
CWWRNRTF - R&R Treatment Facilities

The purpose of the Wastewater Enterprise (WWE) Renewal and Replacement (R&R) Program Treatment Plant Improvement projects is to maintain the capacity and reliable performance of the wastewater treatment facilities owned/operated by the Wastewater Enterprise. This is a continuing annual program to extend the useful life of the WWE treatment assets. Treatment Facility Wastewater Enterprise Assets include: Transport Boxes, Discharge Structures, Pump Stations, Force Mains, Tunnels and Treatment Plants. The R&R Treatment Facilities projects are prioritized based upon regulatory compliance, condition assessments, Operation staff recommendations and Level Of Service goals. Planned WWE R&R Program Treatment Plant Improvement projects will address aging infrastructure at the wastewater enterprise treatment facility assets.

Planned WWE R&R Program Treatment Plant Improvement projects are prioritized based on risk to permit compliance, safety and urgency.

The current list of projects includes: WWE Treatment Facility Repairs: Richmond hypochlorite pipe repair; Southeast Community Facility Hot Water Pipe Repairs; Southeast Building Roof repairs; Oceanside Bar Screen Repairs; Southeast Plant Fixed Gas Monitor Upgrades; Sunnydale Pump Station Adjustable Frequency Drive Upgrades; WWE Recycled Water Station Upgrades; Oceanside Plant Air Compressor Replacements; Griffith Pump Station Adjustable Frequency Drive Upgrades; Southeast Plant Building 062 Motor Starter Upgrades; and Oceanside Dry Polymer System Upgrades. Project priorities are revisited on a monthly basis.

Appendix 2.1 Sewer System Improvement Program (SSIP) - Approved Project-Level Schedules



Appendix 2.1 Sewer System Improvement Program (SSIP) - Approved Project-Level Schedules

Project Name	Start	Finish	FY2016				FY2017				FY2018				FY2019				FY2020				FY2021				FY2022				FY2023				FY2024				FY2025				FY2026			
			FO1	FO2	FO3	FO4	FO1	FO2	FO3	FO4	FO1	FO2	FO3	FO4	FO1	FO2	FO3	FO4	FO1	FO2	FO3	FO4	FO1	FO2	FO3	FO4	FO1	FO2	FO3	FO4	FO1	FO2	FO3	FO4	FO1	FO2	FO3	FO4	FO1	FO2	FO3	FO4				
CWWSIPSPS01 Hudson Ave Pump Station and Outfall Improvements	31-Mar-14	31-Oct-17	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPSPS02 Force Main Rehab at Embarcadero and Jackson Stree	07-Jul-14	29-Oct-21	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPSPS03 Mariposa Dry-Weather Pump Station & Force Main I	01-Jul-14	21-Jun-21	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPSPS04 Cesar Chavez Pump Station	08-Sep-14	26-May-16	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPSPS05 Marin Street Sewer Replacement	01-Jul-15	02-Nov-18	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPSPS06 Griffith Pump Station Improvements	14-Mar-16	10-Dec-19	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPNC01 North Shore to Channel F M Drainage Improvement	29-May-12	06-Jun-17	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
Combined Sewer Discharge (CSD) and Transport/Storage Structures	01-Jun-15	01-Oct-21	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPSCSD01 Richmond Transport/Storage Tunnel Rehabilitation	01-Jun-15	13-May-19	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPSCSD02 Baker/Laguna/Pierce CSD & Outfall	29-Jun-15	20-Nov-15	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPSCSD03 Beach and Sansome Street CSD Rehabilitation	14-Mar-16	30-Apr-20	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPSCSD04 CSD Backflow Prevention and Monitoring	25-Jul-16	01-Oct-21	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPSCSD05 5th, North 6th and Division Street CSD Rehabilitatic	01-Jul-16	13-Jul-20	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
Stormwater Management	01-Jul-11	05-Apr-24	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
Early Implementation Projects	04-Sep-12	05-Apr-24	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPID01 Cesar Chavez Green Infrastructure	01-Apr-13	28-Jun-13	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPLID02 FCDB09 Islais Creek Green Infrastructure	04-Sep-12	24-Apr-18	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCDB01 Sunset Green Infrastructure	03-Dec-12	30-Sep-21	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCDB02 North Shore Green Infrastructure	03-Dec-12	31-Dec-18	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCDB03 Lake Merced Green Infrastructure	03-Dec-12	24-Apr-18	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCDB04 Sunnydale Green Infrastructure	03-Dec-12	28-Feb-19	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCDB05 Richmond Green Infrastructure	03-Dec-12	30-Apr-21	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCDB06 Yosemite Green Infrastructure	03-Dec-12	05-Apr-24	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCDB08 Channel Green Infrastructure	21-Feb-14	31-Aug-18	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
Watershed Stormwater Management	01-Jul-16	30-Dec-21	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCGI01 Watershed Stormwater Management (Planning Only)	11-Jul-16	30-Dec-20	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCDB12 Wawona St and 15th Ave Stormwater Detention Proj	01-Jul-16	30-Dec-21	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
Urban Watershed Assessment	01-Jul-11	30-Jun-17	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPUW00 Urban Watershed Assessment and Planning Initiation	01-Jul-11	28-Jun-13	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPUW01 Urban Watershed Assessment and Planning	07-Oct-11	30-Jun-17	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPUW02 Fulton St Sewer	01-Jul-11	31-Oct-12	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPUW03 Lake Merced Drainage	01-Jul-11	31-Oct-12	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPUW04 Major Trunk Sewers	01-Jul-11	31-Oct-12	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
Advanced Rainfall and Operation Decision System	01-Apr-13	26-Jun-20	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCRP01 Advanced Rainfall Prediction - Part 1	01-Apr-13	29-Jun-18	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCRP02 Operational Decision System Phase 1	01-Aug-13	30-Sep-16	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCRP03 Operational Decision System Phase 2	01-Feb-17	26-Jun-20	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
Flood Resilience Projects	01-Apr-13	28-Feb-22	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCDB07 17th and Folsom Wet Weather Storage	01-Apr-13	06-May-16	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCDB10 Flood Resilience Analysis (Planning Phase Only)	30-Jun-15	28-Feb-17	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCDB11 Flood Resilience - Early Projects (Planning Phase On	26-Oct-15	30-Dec-16	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCDB13 Cayuga Ave Stormwater Detention Project	01-Jul-16	28-Feb-22	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCDB14 Folsom Area Stormwater Improvement Project	01-Jul-16	01-Jun-20	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCDB15 17th and Folsom Permanent Barriers	20-May-16	31-Jul-19	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPFCDB16 Hydraulic and Drainage Sewer Improvements	01-Jul-16	31-Dec-18	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
Land Reuse Projects	17-Sep-13	01-Feb-19	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPRPL91 Land Reuse of 1800 Jerrold Avenue	17-Sep-13	01-Feb-19	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPRPL92 Land Reuse of 1801 Jerrold Avenue	30-Sep-13	31-Aug-18	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
SSIP Phase 1 Program Management	01-Sep-11	31-Jul-23	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											



Appendix 2.1 Sewer System Improvement Program (SSIP) - Approved Project-Level Schedules

Project Name	Start	Finish	FY2016				FY2017				FY2018				FY2019				FY2020				FY2021				FY2022				FY2023				FY2024				FY2025				FY2026			
			FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4				
CWWSIPPL01, PRPL01 SSIP Program Management	01-Sep-11	31-Jul-23																																												
Other SSIP	01-Jul-18	30-Jun-28																																												
Treatment Facilities	23-Sep-19	16-May-28																																												
Oceanside Plant	23-Sep-19	16-May-28																																												
OP05-2 OSP Condition Improvement - Phase 2	23-Sep-19	16-May-28																																												
Sewer/Collection System	01-Aug-19	20-May-24																																												
Collection System - Interceptors / Tunnels / Odor Control	01-Aug-19	20-May-24																																												
10034718 Large Sewer Improvements	01-Aug-19	20-May-24																																												
Stormwater Management/Flood Control	01-Jul-18	30-Jun-28																																												
Green Infrastructure for Stormwater Mgmt (Grant)	01-Jul-18	30-Jun-28																																												
10034553 Green Infrastructure Grant Program	01-Jul-18	30-Jun-28																																												
Flood Resilience	02-Jan-19	31-Dec-26																																												
10034360 Lower Alemany Area Stormwater Improvement Project	02-Jan-19	31-Dec-26																																												

- Project Management
 Environmental
 Right-of-Way
 Construction Mgmt
 Closeout
- Planning
 Design
 Bid & Award
 Construction
 Program Mgmt

APPENDIX 2.2: WWE CIP Project-Level Approved Schedule

Project Name	Start	Finish	FY2010				FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017				FY2018				FY2019				FY2020				Total
			FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2	FQ3	FQ4	FQ1	FQ2									
Odor Control																																															
CENMSCIC05 Oceanside WPCPHVAC Imprv	25-Feb-05	10-Jan-14																																													
CENMSCIC07 Chemical Feed Sys Imprv - Ph 1	25-Feb-05	13-Apr-10																																													
CENMSCIC16 WS PS VFDs and Pumps	16-May-05	10-Apr-07																																													
CENMSCIC20 Chemical Feed Sys Imprv - Ph 2	26-Sep-05	14-Jul-09																																													
CENMSCIC22 Embarcadero Vent Elements Ph 1	16-Mar-06	30-Aug-07																																													
CENMSCIC28 SEWPCP Bldg 010 Odor Control Improven	17-Sep-05	28-Sep-07																																													
CENMSCIC31 SEWPCP 620 & 680 Digester Compressor	20-Apr-07	16-Aug-12																																													
Int12 Embarcadero Vent Elements Phase 2	06-Mar-08	08-Jan-13																																													
Int14 Embarcadero Box Hydraulic Modifications	01-Jul-08	10-Jan-14																																													
Int15 OSP Mixing, Withdrawal and Dewatering Improvem	05-Apr-08	05-Apr-08																																													
Int15 OSP Mixing, Withdrawal and Dewatering Improvem	02-Jul-07	01-Jul-09																																													
Treatment Facilities																																															
CENMSCIC06 SEP Gas Handling Imprv	20-Jan-05	08-Dec-16																																													
CENMSCIC08 SEP Secondary Clarifiers Concrete Repairs	20-Jun-05	22-Sep-09																																													
CENMSCIC09 SEP Mixed Liquor and Odor Control Imprv	20-Jan-05	28-Sep-07																																													
CENMSCIC17 OSP / WS Bar Screens	30-Jun-05	31-Jul-07																																													
CENMSCIC29 SEWPCP Gas Handling Improvements - Ph 2	03-Oct-05	14-Jul-09																																													
CENMSCIC36 WWE Facility Security/Emergency Response	08-Jan-07	08-Jun-10																																													
CENMSCIC37 WWE Facility Reliability Impr - SEP Norths	07-Jan-10	09-Jul-14																																													
CENMSCIC38 SEP Solid Handling (Digester Roof, Gas Mi	07-Jan-10	08-Dec-16																																													
CENMSCIC39 OSP Solids Handling and Coating	07-Jan-10	31-Dec-15																																													
CENMSCIC41 MV-SWGR SEP Electrical Reliability	22-Jan-10	20-May-16																																													
CENMSCIC42 GHW Stabilization Emergency	22-Jan-10	30-Sep-15																																													
CENMSCIC45 OPS: FOG to Biodiesel	19-Jan-10	02-Sep-12																																													
CENMSCIC47 WWE Mechanical / Electrical Upgrade	01-Mar-10	31-Dec-14																																													
CENMSCIC70 OS Plant Improvements - Aeration Syst Up	23-Apr-10	08-Dec-16																																													
CENMSCIC72 Facility Security Upgrades Contract 2	12-Dec-12	31-Dec-15																																													
CENMSCIC74 SETP Effluent Force Main	01-Jul-13	08-Dec-16																																													
Int02 Future Major Electrical and Mech Equip Replacement	01-Mar-16	30-Nov-16																																													
Int03 Contract 4 OSP Gas Compressors (\$ included in IC17)	31-Dec-08	10-Jan-14																																													
Int35 SWOO Cleaning & Backflow Prevention	15-Sep-06	10-Jan-14																																													
Int41 SEP Centrifuge Replacements	05-Apr-08	05-Apr-08																																													
Int41 SEP Centrifuge Replacements	02-Jul-12	02-Jul-12																																													
Pump Stations																																															
CENMSCIC19 Tennessee Pump Station Reliability - Ph 1	03-Oct-05	27-May-16																																													
CENMSCIC21 Channel Pump Station Odor Control	03-Oct-05	30-Aug-07																																													
CENMSCIC30 Channel Pump Station Odor Control - Phase	03-Jan-06	31-Oct-07																																													
CENMSCIC33 North Shore to Channel Force Main Improv	02-Jul-07	11-Oct-12																																													
CENMSCIC40 North Shore and Mariposa Pump Station In	01-Oct-09	14-Jul-11																																													
CENMSCIC48 Channel Pump Sta Improvements Phase 3	22-Jan-10	30-Jun-14																																													
CENMSCIC52 North Shore Force Main, Phase 2	23-Apr-10	12-Nov-13																																													
CENMSCIC61 North Shore Force Main Emergency	07-Sep-10	27-May-16																																													
CENMSCIC62 Emergency NSFM Rehabilitation	20-Mar-12	04-Apr-13																																													
Int17 Tennessee PS Areawide Sewer Improvement - Phase 2	04-Jun-12	01-Jul-14																																													
Int17 Tennessee PS Areawide Sewer Improvement - Phase 2	05-Apr-08	05-Apr-08																																													
Sewer/Collection System																																															
CENMSCIC01 Vicente St. Sewer Sys Imprv Ph 2	31-Dec-04	06-Dec-16																																													
CENMSCIC02 Teresita Blvd "South" Sewer Replc	03-Jan-05	30-Nov-07																																													
CENMSCIC03 Shotwell & 18th St. Drainage Imprv	03-Jan-05	15-Oct-07																																													
CENMSCIC10 Brotherhood Way/St Charles Sewer Improv	31-Dec-04	27-Mar-08																																													
CENMSCIC11 Cesar Chavez Sewer Imprv Ph 1	07-Sep-05	28-Dec-09																																													
CENMSCIC11 Cesar Chavez Sewer Imprv Ph 1	03-Oct-05	31-Dec-14																																													



APPENDIX 3. LIST OF ACRONYMS

AAR	Alternative Analysis Report	EIS	Environmental Impact Statement
ACOE	Army Corps of Engineers (also shown as USACE)	EMMS	Energy Monitoring and Management System
ADA	Americans with Disabilities Act	EPA	Environmental Protection Agency
BAAQMD	Bay Area Air Quality Management District	F&I	Facilities and Infrastructure
BCDC	Bay Conservation and Development Commission	FAMIS	Financial Accounting and Management Information System
BDFP	Biosolids Digester Facilities Project	FAT	Factory Acceptance Testing
BEM	Bureau of Environmental Management	FEMA	Federal Emergency Management Agency
BFS	Bruce Flynn Pump Station	FOG	Fats, Oils, and Grease
BMS	Better Market Street	FTA	Federal Transit Administration
BRT	Bus Rapid Transit	FY	Fiscal Year
CAC	Citizen's Advisory Committee	GFS	Griffith Pump Station
Caltrans	California Department of Transportation	GGNRA	Golden Gate National Recreation Area
CAR	Condition Assessment Report	GI	Green Infrastructure
CATEX	Categorical Exemption	GIGP	Green Infrastructure Grant Program
CBSIP	Central Bayside System Improvement Project	GPS	Griffith Pump Station
CCSF	City and County of San Francisco	HDPE	High Density Polyethylene
CCTV	Closed-Circuit Television	HPO	High Purity Oxygen
CDD	City Distribution Division	HSW	High-Strength Waste
CEQA	California Environmental Quality Act	HVAC	Heating, Ventilation and Air Conditioning
CER	Conceptual Engineering Report	IC	Internal Combustion
CHFM	Channel Force Main	ICM	Integrated Catchment Model
CHS	Channel (Street) Pump Station	ICT	Islais Creek Transport/Storage
CIP	Capital Improvement Program; Cast-Iron Pipe	IKG	Inedible Kitchen Grease
CM/GC	Construction Manager/General Contractor	JOC	Job Order Contract
COVID-19	Coronavirus Disease 2019	JST	Jackson Street Transport/Storage Box
CPAS	Combined Primary Activated Sludge	KV	Kilovolt
CPMC	California Pacific Medical Company	LED	Light-Emitting Diode
CSAMP	Collection System Asset Management Program	LF	Linear Feet
CSD	Combined Sewer Discharge	LID	Low Impact Development
CSR	Collection System Reliability	LOS	Levels of Service
CTLS	Channel Tunnel Lift Station	LOX	Liquid Oxygen
DCS	Distributed Control System	LTI	Long-term Improvements
DIP	Ductile Iron Pipe	MCC	Motor Control Center
DW	Dry Weather	MG	Million Gallons
EIP	Early Implementation Project	MGD	Million Gallons per Day
EIR	Environmental Impact Report	MND	Mitigated Negative Declaration
		MOA	Memorandum of Agreement
		MOU	Memorandum of Understanding
		MPM	Minor Project Modification
		MPS	Mariposa Pump Station

Appendix 3. Acronyms

MTA	Municipal Transportation Agency (also shown as SFMTA)	SEP	Southeast Plant; Southeast Water Pollution Control Plant
MV PDS	Medium Voltage Power Distribution System	SEWPCP	Southeast Water Pollution Control Plant
MW	Megawatt	SF	San Francisco
N/A	Not Applicable	SFCTA	San Francisco County Transportation Authority
NAR	Needs Assessment Report	SFMTA	San Francisco Municipal Transportation Agency (also shown as MTA)
NEG DEC	Negative Declaration (also shown as ND)	SFPORT	Port of San Francisco
NOD	Notice of Determination	SFPUC	San Francisco Public Utilities Commission
NPDES	National Pollutant Discharge Elimination System	SFPW	San Francisco Public Works (formerly SFDPW)
NPF	Northpoint (Wet-Weather) Facility	SFRPD	San Francisco Recreation & Parks Department (also shown as RPD)
NSCFM	North Shore to Channel Force Main	SFUSD	San Francisco Unified School District
NSFM	North Shore Force Main	SRF	State Revolving Funds
NSS	Northshore Pump Station (also shown as NSPS)	SSIP	Sewer System Improvement Program
NTP	Notice to Proceed	SSMP	Sewer System Master Plan
O&M	Operations and Maintenance	STATEX	Statutory Exemption
OBMP	Ocean Beach Master Plan	STI	Short-term Improvements
OCA	Office of Contract Administration	SWOO	Southwest Ocean Outfall
OCS	Overhead Control System	T/S	Transport and Storage
OCU	Odor Control Unit	TAP	Transient Analysis Program
ODS	Operational Decision System	TBD	To be determined
OEM	Operations, Engineering, and Maintenance	TBL	Triple Bottom Line
Ops	Operations	TICD	Treasure Island Community Development
OSP	Oceanside Water Pollution Control Plant	TIDA	Treasure Island Development Authority
OSWPCP	Oceanside Water Pollution Control Plant	TM	Technical Memorandum
PLC	Programmable Logic Controller	TPD	Tons Per Day
PM	Program Management; Project Manager	TSC	Technical Steering Committee
PMC	Program Management Consultant	UPS	Uninterruptable Power Supply
PS	Pump Station	USEPA	United States Environmental Protection Agency
PUC	Public Utilities Commission	UWA	Urban Watershed Assessment
R&R	Renewal and Replacement (also shown as RnR)	VCP	Vitrified Clay Pipe
RCP	Reinforced Concrete Pipe	VFD	Variable Frequency Drives
RFP	Request for Proposal	VWS	Vactor Waste Station
RFQ	Request for Qualification	WIFIA	Water Infrastructure and Innovation Finance Act
ROW	Right-of-Way	WRR	Work Release Request
RWQCB	Regional Water Quality Control Board	WSPS	West Side Pump Station (also shown as WSS)
SELS	Southeast Lift Station		

WSS Westside Pump Station (also shown
as WSPS)
WWE Wastewater Enterprise
WWE CIP Wastewater Enterprise Capital
Improvement Program
WWTP Wastewater Treatment Plant

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