

SSIP PHASE 1 PROGRAM EXECUTIVE SUMMARY

JULY - SEPTEMBER 2019

Demolition of existing Headworks Building at Southeast Treatment Plant.



COMMUNICATIONS

JULY - SEPTEMBER 2019

In the News

Six (6) media mentions of SSIP-related projects, including stories on: opening of new Bayview Bistro food truck park, the new Headworks facility in the Bayview honored with Envision Gold status by the Institute for Sustainable Infrastructure, and EPA warning letter regarding water safety.

256,000+

IMPRESSIONS

Impressions were recorded this quarter through social media outlets (Facebook, Twitter, Instagram, YouTube, Nextdoor, and LinkedIn), SSIP webpage views, and community meeting attendees.

Highlights of Conducted Outreach

- Tabled Sunday Streets in the Mission to promote Rain Guardians program and educate residents on the Mission and Valencia Streets Green Gateway Project.
- Hosted Adopt a Drain Volunteer Appreciation Event at the California Academy of Sciences.
- Presented at the Dogpatch Neighborhood Association meeting to provide update on the Mariposa Pump Station Improvements Project and implementation of traffic control plans.
- Bayview Bistro launched July 10th, empowering Bayview culinary vendors to expand their customer base to the construction workers, businesses, and residents in neighborhoods surrounding SFPUC infrastructure and projects.



San Francisco residents at the Adopt a Drain Volunteer Appreciation Event learn about the various upgrades and projects the Sewer System Improvement Program is implementing citywide.

Upcoming Outreach Events

- October 9th – Sunset Boulevard Community Meeting: Present construction update on Sunset Boulevard Greenway Project.
- November 1st – 6th Annual Women in Construction Expo
- November 9th – 12th Annual Health and Harvest Fair
- November 14th – Adopt a Drain/Rain Guardians Tool Giveaway Volunteer Appreciation Event
- December 19th – 8th Annual Winter Wonderland



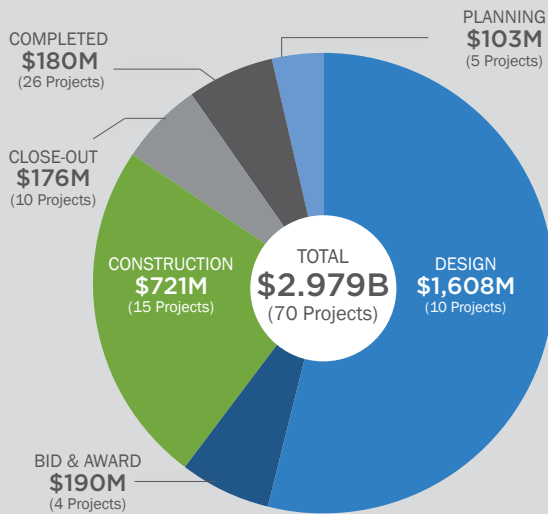
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**SEWER
SYSTEM**
IMPROVEMENT PROGRAM
Grey. Green. Clean.

PHASE 1 METRICS

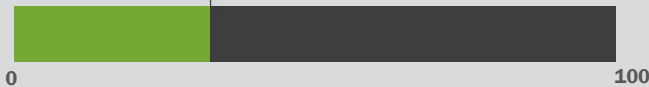
AS OF SEPTEMBER 2019

Projects by Phase



Percent Complete

34.7%



RECENTLY ADVERTISED & UPCOMING CONTRACTS

- Ongoing: WW-628, SEP New Headworks Facility Project, Various Trade Packages
<https://secure.smartbidnet.com/LAPW>
- Ongoing: WW-647R, SEP Biosolids Digester Facilities Project, Various Trade Packages
[https://mwhconstructors.com/sfpuc_biosolids_project/\[mwhconstructors.com\]](https://mwhconstructors.com/sfpuc_biosolids_project/[mwhconstructors.com])
- Oct 2019: WW-696, Cargo Way Sewer Box Odor Reduction, \$3M
- Oct 2019: WW-685, North Shore Pump Station Wet Weather Improvements, \$27M-\$30M
- Oct 2019: TBD, Combined Sewer Discharge Structure Backflow Prevention at Jackson and Griffith Streets, \$2.3M
- Oct 2019: CSD Backflow Prevention at Pierce st., \$4M
- Winter 2019: RFQ for DB-131, Kansas and Marin Streets Wet Weather Conveyance Tunnel, \$14M
- Sept 2019: WW-687, Force Main Rehabilitation at Embarcadero and Jackson, \$5.5M

KEY UPDATES

JULY - SEPTEMBER 2019

Programmatic

- Conducted Commission Workshop on SSIP, specifically related to CM/GC delivery model, and provide in-depth updates on BDFP and New Headworks Facility Project

Biosolids Digester Facilities Project (BDFP)

- Issued Notice-to-Proceed for construction phase
- Issued RFP for Early Out Package (EOP1) for utility relocation and demolition/site preparation

SEP New Headworks Facility Project

- Submitted Water Infrastructure Finance and Innovation Act (WIFIA) loan Letter of Interest to the State
- Completed Scope II.C (SEP-005 Lift Station) 95% design
- Advertised Scope II.B (Influent Sewer) bid packages and Scope III (Main Headworks) bid packages (3rd wave)
- Issued Scope III (Main Headworks) NTP

Southeast Treatment Plant (SEP)

- Conducted Commissioner tour of Southeast Treatment Plant and construction activities for New Headworks Facility Project and BDFP
- Received Top Projects award by 2019 Water and Wastes Digest (Southeast Treatment Plant Sewer System Upgrades)

Oceanside Treatment Plant (OSP)

- Achieved substantial completion of WW-606R2 OSP930 Awning and Exterior Improvements funded under OSP Condition Assessment Repairs Project
- Completed 35% design for WW-645R Westside Reliability Improvements Project

Collection System Reliability

- Completed 65% design of Sewer Improvement Project: Mission St, 16th to Cesar Chavez, Brick Sewer Rehab
- Bids received in September 2019 for the Force Main at Embarcadero & Jackson contract
- Construction of WW-683R Sansome, 5th, 6th North and Division CSD Rehabilitation and Backflow Prevention is at 30% completion
- Contract documents for WW-702 Jackson, Griffith, and Pierce CSD Rehabilitation and Backflow Prevention is at 95% completion

Stormwater Management

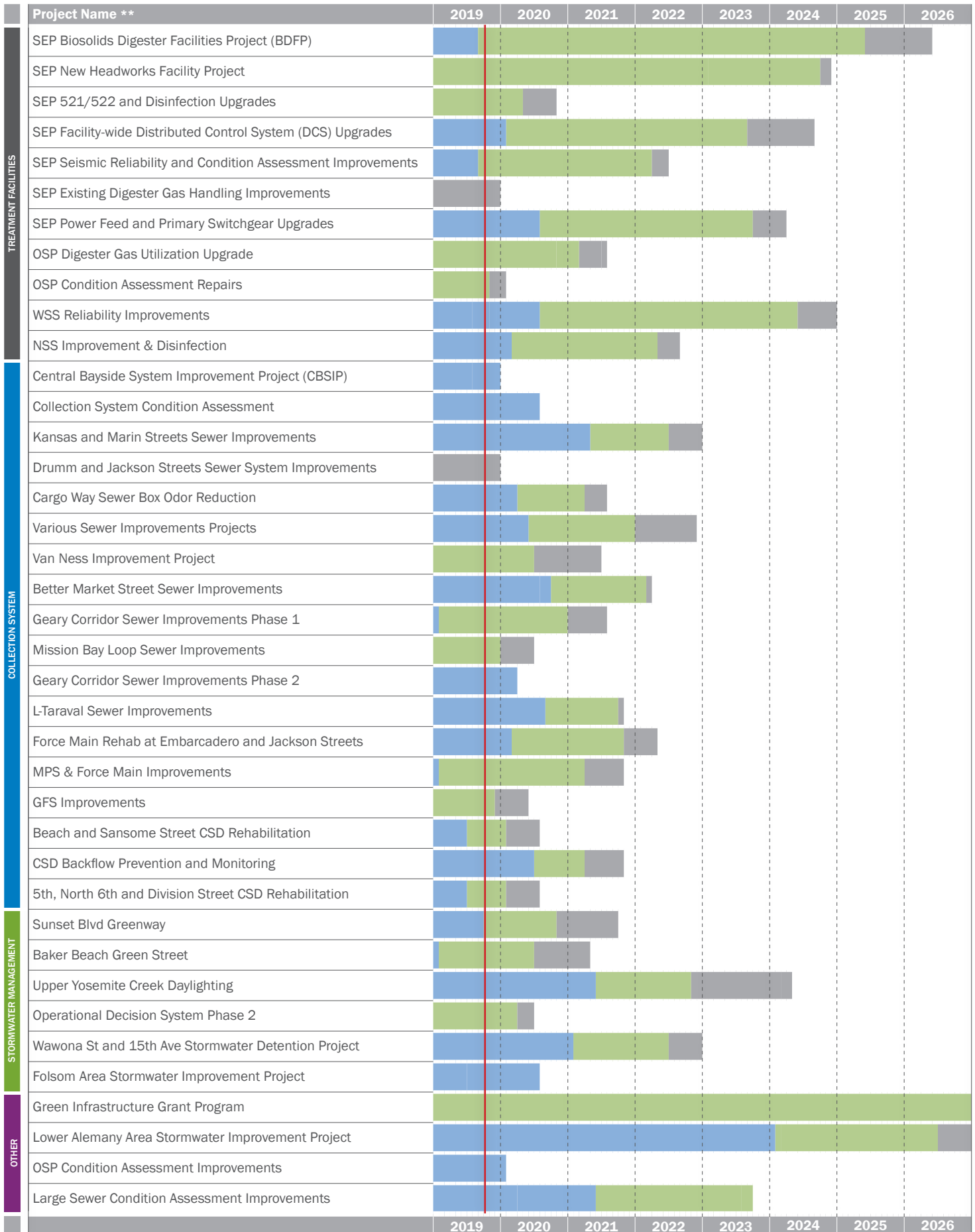
- In July 2019, Commission awarded construction contract for WW-691 Sunset Blvd Greenway Phase 2 – Irving Street to Ulloa Street. In September 2019, NTP was issued for WW-691
- Completed 65% design documents for Wawona Area Stormwater Improvement
- Completed geotechnical, survey and hydraulic studies for Folsom Area Stormwater Improvement
- Completed geotechnical field investigation and traffic counts for alternatives analysis for the Lower Alemany Area Stormwater Improvement

Interdepartmental

- SFMTA issued Notice-to-Proceed for L Taraval Segment A in July 2019

KEY SSIP PHASE 1 CAPITAL PROJECTS

AS OF THE WWE QUARTERLY REPORT, JULY - SEPTEMBER 2019



Project Phases: Planning - Bid & Award Construction Close-out

**Completed Projects Not Shown

LOOKING AHEAD

OCTOBER - DECEMBER 2019

Programmatic

- Participate in 6th Annual Women in Construction Expo
- Welcome new Wastewater Capital Program Director

Biosolids Digester Facilities Project (BDFP)

- CM/GC will advertise four bid packages focusing on utility and sewer relocations and demolition of existing infrastructure at site of new facilities
- Continue coordination/collaboration between the construction contractor and the design staff to discuss constructability and site challenges

SEP New Headworks Facility Project

- Commission approval of Mitigated Negative Declaration amendment and addition of Scope II.B/C (Influent Sewer / New Lift Station)
- Issue of Notice-To-Proceed for Scope II.B (Influent Sewer)
- Completion of Scope II.C (New Lift Station) 100% design
- CM/GC complete of Scope III (Main Headworks) bid packages (4th wave)

Southeast Treatment Plant (SEP)

- Issue Notice-to-Proceed and begin construction on Seismic Reliability and Condition Assessment Improvements

Oceanside Treatment Plant (OSP)

- Complete construction of WW-606R2 OSP930 Awning and Exterior Improvements funded under OSP Condition Assessment Repairs Project
- WW-639 OSP Digester Gas Utilization Upgrade construction activities are on-going at the site

Collection System Reliability

- Complete 6th North and Division CSD Rehabilitation and Backflow Prevention, as a part of WW-683R
- Complete 100% contract documents for WW-702 Jackson, Griffith, and Pierce CSD Rehabilitation and Backflow Prevention

Stormwater Management

- Continue preparing 95% design documents for Wawona Area Stormwater Improvement
- Start 35% design for Folsom Area Stormwater Improvement
- Prepare RFP for Engineering Services for CER and detail design for the Lower Alemany Area Stormwater Improvement
- Award GI Grant for Bessie Carmichael Middle School
- Begin construction on the Sunset Blvd Greenway Phase 2 Project

CONSTRUCTION PHOTOS



Demolition of existing Headworks Building at Southeast Treatment Plant



Baker Beach Green Streets Crews construct the subsurface infiltration gallery trenches across the roadway (an underground stormwater storage structure filled with gravel that receives runoff through horizontal pipes below the pavement surface)



Survey, Scan and Inspection of a Combined Sewer Overflow Structure

For more information, visit: sfwater.org/ssip





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 3, 2019

TO: Commissioner, Ann Moller Caen, President
Commissioner, Francesca Viotor, Vice President
Commissioner, Anson Moran
Commissioner, Sophie Maxwell
Commissioner, Tim Paulson

FROM: Harlan L. Kelly, Jr., General Manager *(MKC)*

RE: Wastewater Enterprise Capital Improvement Program
1st Quarter/ Fiscal Year 2019-2020

Enclosed please find the Wastewater Enterprise Capital Improvement Program (CIP) Quarterly Report for the 1st Quarter (Q1) of Fiscal Year (FY) 2019-2020. 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, 2019 to September 30, 2019.

This quarterly report incorporates the 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 the active Other SSIP projects can be found in its respective sections in this report.

It should be noted that this report does not include all the expenditures accrued for the work completed from July 1, 2017 through September 30, 2019 due to challenges associated with the migration as of July 1, 2017 of the City financial system from FAMIS to PeopleSoft. We are working diligently with the Controller's Office, Public Works, and Municipal Transportation Agency to address these challenges.

The highlights of this reporting period are stated below:

SEWER SYSTEM IMPROVEMENT PROGRAM (SSIP)

STATUS AND PERFORMANCE SUMMARY

Overall, SSIP Phase 1 is 34.7% complete as of September 2019. Other SSIP projects are 1.4% complete as of September 2019.

London N. Breed
Mayor

Ann Moller Caen
President

Francesca Viotor
Vice President

Anson Moran
Commissioner

Sophie Maxwell
Commissioner

Tim Paulson
Commissioner

Harlan L. Kelly, Jr.
General Manager



As of the end of the reporting period, there are no project in pre-planning, fifteen (15) projects in planning or design, four (4) projects in bid & award, fifteen (15) projects in construction, and thirty-six (36) projects in closeout or completed.

PROGRAM UPDATE

The highlights for this reporting period are as follows:

- Continued working on Levels of Service refinements, implementation strategies and recommended project's list beyond Phase 1.
- Concluded 8th year of the SSIP CityWorks paid summer internship program.
- Awarded 2019 Water & Wastes Digest Top Projects for two Southeast Treatment Plant projects.

Major program milestones reached during the reporting quarter include:

Planning and Design:

- Completed 95% Design for three (3) projects
 - SEP New Headworks (Grit) Replacement – Scope II. C (New Southeast Lift Station)
 - Cargo Way Sewer Box Odor Reduction – Cargo Way Flush Line
 - CSD Backflow Prevention and Monitoring

Environmental:

- Environmental approval (CATEX) is obtained for two (2) projects
 - Kansas and Marin Streets Sewer Improvements
 - Cargo Way Sewer Box Odor Reduction – Cargo Way Flush Line

Construction Contracts Advertised:

- One (1) construction contract was advertised during this quarter
 - WW-687, Force Main Rehab at Embarcadero and Jackson Streets

Construction Contracts Awarded:

- None.

Construction Notice to Proceed (NTP) Issued:

- Issued construction NTP for three (3) contracts
 - WW-647R, SEP Biosolids Digester Facilities Project (BDFP)
 - WW-628, SEP New Headworks (Grit) Replacement SCOPE III (Main Headworks)
 - WW-665, SEP Seismic Reliability and Condition Assessment Improvements

Construction Substantial Completion Issued:

- Achieved Substantial Completion for one (1) contract

- WW-606R2, OSP Condition Assessment Repairs – OSP Door and Building 930 Exterior and Awning Improvements

Construction Final Completion Issued:

- None.

Project Completion:

- None.

UPDATE ON PROJECTS IN PRE-CONSTRUCTION

Treatment Plant Projects:

- Continue working towards 35% Design of the SEP DCS Network Upgrades. Completed staff training for the new Ovation DCS hardware and software equipment related to the existing SEP Liquids and Solids DCS Upgrades.

Central Bayside System Improvement Project (CBSIP):

- Continued to hold design activities after 35% design until after program prioritization results in December 2019.

Collection System:

- Continued working on the 35% Design for Kansas and Marin Streets Sewer Improvements project while the Request for Qualification (RFQ) for the design-build contract is placed on hold due to concerns from the stakeholder, SFPW.
- Started the 100% Design and preparing the bid package for Cargo Way Box Odor Reduction Project. The team continues to coordinate to resolve utility conflicts identified during design.
- Continued working towards finalizing 95% Design for Better Market Street Sewer Improvements Phase 1A. The Phase 1A Project Pilot Blocks on Mid-Market has been extended from 5th to 8th Streets.

Stormwater Management:

- Continued with the Design Phase for a new stormwater sewer on Vicente St from Wawona to 35th Avenue for Wawona St and 15th Ave Stormwater Detention Project. 35% design completion was achieved this quarter.

Flood Resilience:

- Continued with Design Phase for the Folsom Area Stormwater Improvement Project. The design phase has been extended due to conflict with Caltrans' facility. The project

team is actively developing alternatives for SFPUC Management and Caltrans' consideration.

UPDATE ON PROJECTS IN CONSTRUCTION

SEP Biosolids Digester Facilities Project

Construction NTP was issued during this reporting quarter. The first trade package will be issued in the upcoming months. Similar to last quarter's report, the schedule and cost variances reflect the one-year delay to the start of the construction phase. At this time, the forecasted cost variance of \$39M is associated with the design and pre-construction support services (soft costs) due to the 1-year extension. Further cost and schedule impacts are being evaluated.

SEP New Headworks (Grit) Replacement

Construction work continued, and NTP was issued on Scope III – Main Headworks during this reporting quarter. Project Team continues to evaluate construction cost impacts associated with current market conditions. As multiple waves of bid packages are scheduled to be opened for Scope II B and Scope III in the next few quarters, project team will continue to provide updates to the Commission via regular monthly project updates and through quarterly reports.

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

Contractor continues to demolish the existing No. 3 water system components including the related piping, strainers and supports at SEP 540. Contractor also made modifications to the Interposing Relay Panel for local control of the Strainer and Bypass Knife Gates; installed time delay relays inside each VFD to eliminate nuisance vibration trips; installed sampling equipment with the associated piping inside SEP 521; installed (N) overhead light fixtures inside SEP 521; continues to install conduits and pull in new wires for the various electrical distribution and control panels inside SEP 521; and tested and commissioned the new lighting control system inside Bldg. 522.

SEP Seismic Reliability and Condition Assessment Improvements

Construction NTP was issued this quarter on Contract WW-662 for the seismic work along the south side of building SEP 042. Contractor has begun mobilization on site and has started conducting preconstruction survey work. The seismic work on the north side of building SEP 042 is being constructed under the SEP New Headworks contract.

OSP Digester Gas Utilization Upgrade:

Construction activities including selective demolition, temporary power utility installation and site utility installation are on-going.

WWE Capital Improvement Program (CIP)

Three (3) projects in close-out; forecast completion by December 2019.

WWE Facilities and Infrastructure Program

Four (4) projects are on-going: one (1) project in construction, two (2) projects in design, and one (1) project in planning.

WWE Renewal and Replacement (R&R) Program

Twenty-three (23) Collection System projects and sixteen (16) Treatment Facilities project are in construction.

Triple Bottom Line (TBL) Report

None was completed in this quarter.

Enclosure



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



QUARTERLY REPORT

Wastewater Enterprise Programs

July 2019 – September 2019

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, WWE 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

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, 2019. The number of projects currently active in each phase is shown in parentheses.

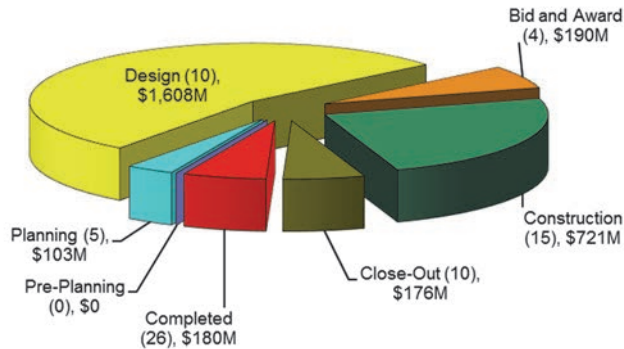


Figure 2.1 Total Current Approved Budget for SSIP Phase 1 Projects Active in Each Phase

Figure 2.2 shows the number of SSIP Phase 1 projects in the following stages of the program as of September 30, 2019: Pre-construction, Construction, and Post-construction.

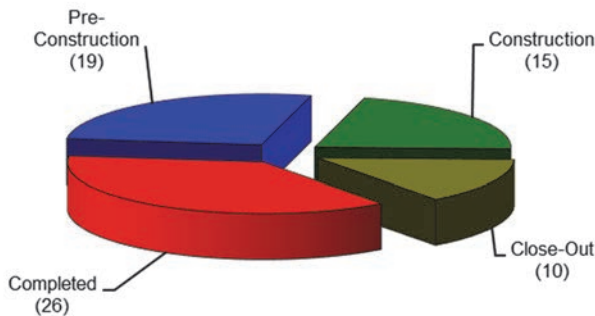


Figure 2.2 Number of SSIP Phase 1 Projects in Pre-construction, Construction, and Post-construction

Figure 2.3 summarizes the environmental review and permitting status of the SSIP Phase 1 projects as of September 30, 2019.

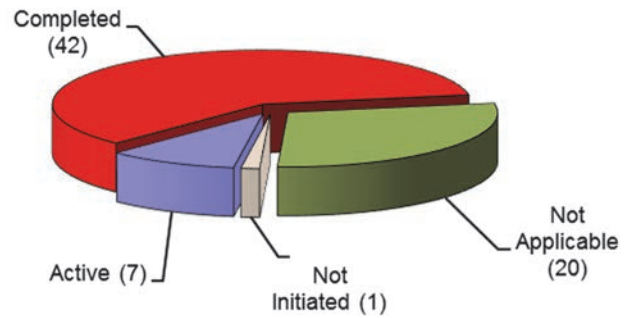


Figure 2.3 Program Environmental and Permitting Status of the SSIP Phase 1 Projects

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, 2019. The number of projects currently active in each phase is shown in parentheses.

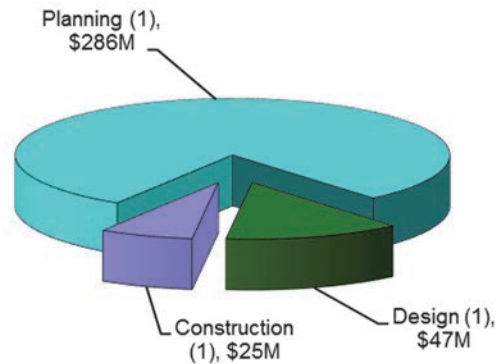


Figure 2.4 Total Current Approved Budget for Other SSIP Projects Active in Each Phase

Figure 2.5 shows the number of Other SSIP projects in the following stages of the program as of September 30, 2019: 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, 2019.

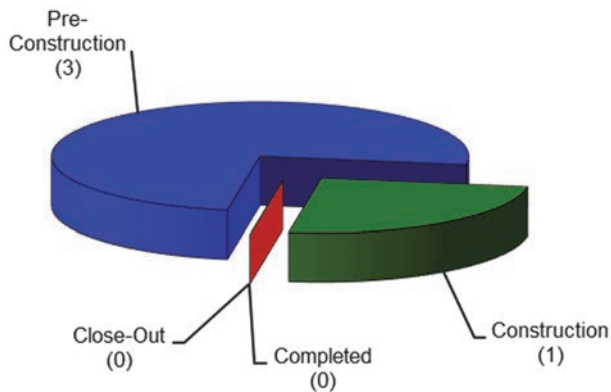


Figure 2.5 Number of Other SSIP Projects in Pre-construction, Construction, and Post-construction

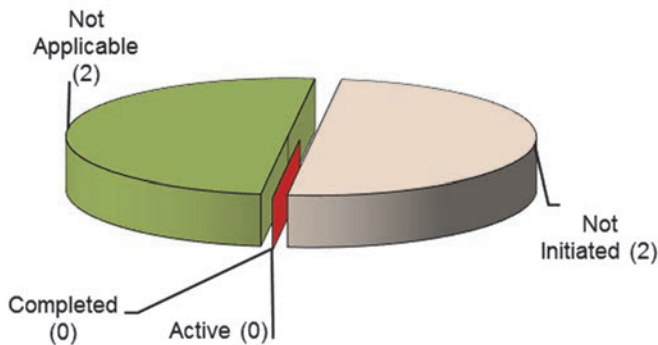


Figure 2.6 Program Environmental and Permitting Status of the Other SSIP Projects

KEY ACCOMPLISHMENTS

Programmatic

- Continued working on Levels of Service refinements, implementation strategies and recommended project’s list beyond Phase 1.
- Concluded 8th year of the SSIP CityWorks paid summer internship program
- Awarded 2019 Water & Wastes Digest Top Projects for two Southeast Treatment Plant projects.

- Attended and presented Keynote at Water Environment Federation's Technical Exhibition and Conference (WEFTEC)

COMMUNICATIONS

In the news

- Six (6) media mentions of SSIP-related projects, including stories on: opening of the new Bayview Bistro food truck park, the New Headworks Facility being named an Envision Gold recipient for sustainability excellence, and recent EPA attention on our combined sewer system.
- Over 2214,000+ impressions were recorded this quarter through social media outlets (Facebook, Twitter, Instagram, YouTube, Nextdoor, and LinkedIn), SSIP webpage views, and community meeting attendees.

Outreach

- July 14th – Community Engagement at Sunday Streets: Mission
- July 24th – Presentation to Southern Waterfront Advisory Group on Cargo Way Sewer Box Odor Reduction Project
- August 8th – Ocean Beach Projects Community Meeting
- August 9th – CityWork Internship Capstone Presentation
- August 28th – Southeast Community Facility Commission Meeting & Presentation on Headworks Construction and the Bayview Artist Registry
- September 5th – Know Your Contract Workshop at Contractors Assistance Center
- September 9th – Dogpatch Neighborhood Association Presentation on Mariposa Pump Station
- September 9 – Green Infrastructure Update to SPUR Sustainability Committee
- September 10th – Stakeholder meeting for Folsom Area Stormwater Improvement Project staging location alternative
- September 21 – SFPUC and PMC staff volunteered for the WEF Community Service Project

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- September 24 – WEFTEC Keynote “San Francisco’s Collection System: Past, Present, & Future” presented by Harlan L. Kelly, Jr.
- September 25 – WEFTEC presentation “Discover Your Watershed today: Community Engagement and Education via Historic Watershed Mapping”

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 \$2,995.3 million (\$16 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.

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	\$499.2	\$2,250.7	\$2,276.2	(\$25.5)
Biosolids Digester Facilities Project	\$178.6	\$1,276.4	\$1,315.3	(\$38.9)
SEP New Headworks (Grit) Replacement	\$99.2	\$418.8	\$418.8	-
Southeast Plant (SEP) Improvements	\$157.8	\$340.6	\$328.1	\$12.5
Oceanside Plant (OSP) Improvements	\$41.2	\$139.6	\$141.3	(\$1.7)
North Point Facility (NPF) Improvements	\$22.4	\$75.2	\$72.6	\$2.6
Collection System	\$208.3	\$504.8	\$502.5	\$2.3
Central Bayside System Improvement Project (CBSIP)	\$33.8	\$64.0	\$64.0	-
Interceptors/Tunnels/Odor Control	\$18.4	\$65.2	\$60.3	\$4.9
Interdepartmental Projects	\$23.0	\$87.5	\$87.5	-
Pump Stations and Force Main Improvements	\$48.7	\$77.6	\$80.6	(\$2.9)
CSD and Transport/Storage Structures	\$7.0	\$27.0	\$27.0	-
Stormwater Management	\$61.0	\$95.8	\$93.2	\$2.5
Flood Resilience Projects	\$16.3	\$87.7	\$89.9	(\$2.2)
Land Reuse Projects	\$85.1	\$98.2	\$89.6	\$8.6
Program Management (PM)	\$106.3	\$125.0	\$127.0	(\$2.0)
SSIP Phase 1 Total	\$898.9	\$2,978.7	\$2,995.3	(\$16.4)

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	\$72.0	-
Oceanside Plant (OSP) Improvements*	-	\$72.0	\$72.0	-
Collection System	\$0.5	\$358.5	\$358.5	-
Interceptors/Tunnels/Odor Control	\$0.0	\$47.0	\$47.0	-
Stormwater Management	\$0.0	\$25.0	\$25.0	-
Flood Resilience Projects	\$0.5	\$286.5	\$286.5	-
Other SSIP Total	\$0.5	\$430.5M	\$430.5M	-

* \$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 projects 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 forecasted completion of the SSIP Phase 1 is in May 2026 (12-month behind schedule).

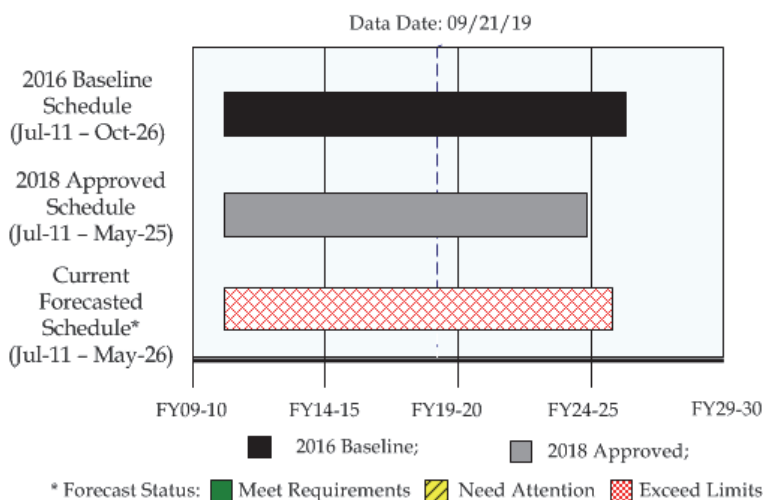


Figure 4.1 SSIP Phase 1 Schedule Summary

5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 09/21/19

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	DS	\$ 1,276,447	\$ 1,276,447	\$ 1,276,447	\$ 1,315,312	\$ 178,643	(\$38,865)	⚠	05/01/25	05/01/25	05/01/25	05/01/26	12.0 mo. Late	●	See Section 6
New Headworks (Grit) Replacement															
CWWSIPSE02 - SEP New Headworks (Grit) Replacement	CN	\$ 358,631	\$ 418,835	\$ 418,835	\$ 418,835	\$ 99,153	-	★	12/29/23	09/30/24	09/30/24	09/30/24	-	★	See Section 10
Southeast Plant (SEP) Improvements															
CWWSIPSE05 - SEP 521/522 and Disinfection Upgrades (SEP Building 521 Replacement)	CN	\$ 41,614	\$ 41,614	\$ 41,614	\$ 44,705	\$ 43,026	(\$3,092)	⚠	01/18/19	09/04/19	09/04/19	10/13/20	13.3 mo. Late	●	See Section 6
CWWSIPSE07 - SEP Facility-wide Distributed Control System Upgrade	PL	\$ 62,988	\$ 62,988	\$ 62,988	\$ 62,988	\$ 6,435	-	★	08/31/23	08/31/23	08/31/23	08/30/24	12.0 mo. Late	●	See Section 6
CWWSIPSE08 - SEP Seismic Reliability and Condition Assessment Improvements	CN	\$ 53,152	\$ 53,152	\$ 53,152	\$ 44,152	\$ 13,929	\$ 9,000	★	12/31/19	09/30/21	09/30/21	06/30/22	9.0 mo. Late	●	See Section 6
CWWSIPSE10 - SEP Power Feed and Primary Switchgear Upgrades	BA	\$ 69,841	\$ 84,340	\$ 84,340	\$ 84,340	\$ 7,472	-	★	07/31/20	12/30/22	12/30/22	03/29/24	15.0 mo. Late	●	See Section 6
Oceanside Plant (OSP) Improvements															
CWWSIPTPOP02 - Westside Pump Station Reliability Improvements	DS	\$ 70,500	\$ 71,500	\$ 71,500	\$ 71,500	\$ 16,793	-	★	12/02/21	06/30/23	06/30/23	12/04/24	17.2 mo. Late	●	See Section 6
CWWSIPTPOP03 - OSP Digester Gas Utilization Upgrade	CN	\$ 39,688	\$ 45,888	\$ 45,888	\$ 54,388	\$ 10,035	(\$8,500)	●	06/15/20	06/04/21	06/04/21	07/29/21	1.8 mo. Late	★	See Section 6
CWWSIPTPOP05 - OSP Condition Assessment Repairs	CN	\$ 15,843	\$ 15,843	\$ 15,843	\$ 12,643	\$ 11,961	\$ 3,200	★	06/28/21	06/28/19	06/28/19	01/31/20	7.1 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.
- ⚠ 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%.
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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															
CWWSIPTNP02 - North Shore Pump Station Wet Weather Improvements	BA	\$ 69,803	\$ 55,000	\$ 55,000	\$ 55,000	\$ 4,809	-	★	12/31/20	07/30/21	07/30/21	08/24/22	12.8 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	\$ 33,832	-	★	06/30/17	12/31/18	12/31/18	12/31/19	12.0 mo. Late	●	See Section 6
Interceptors / Tunnels and Odor Control															
10033745 - SSIP Sewer Improvements Projects	DS	\$ 20,462	\$ 20,462	\$ 20,462	\$ 16,039	\$ 275	\$ 4,423	★	11/22/22	11/22/22	11/22/22	11/22/22	-	★	See Section 10
CWWSIPCSSR02 - Collection System Condition Assessment	PL	\$ 10,912	\$ 10,912	\$ 10,912	\$ 4,958	\$ 4,943	\$ 5,954	★	04/09/20	04/09/20	04/09/20	04/09/20	-	★	See Section 10
CWWSIPCSSR03 - Kansas and Marin Streets Sewer Improvements	DS	\$ 7,734	\$ 17,477	\$ 17,477	\$ 24,160	\$ 3,630	(\$6,683)	●	11/27/18	12/15/21	12/15/21	12/30/22	12.5 mo. Late	●	See Section 6
CWWSIPCSSR11 - Cargo Way Sewer Box Odor Reduction	DS	\$ 6,442	\$ 6,442	\$ 6,442	\$ 7,123	\$ 1,574	(\$681)	●	02/11/20	07/12/21	07/12/21	07/12/21	-	★	See Section 6
Interdepartmental Projects															
10033106 - Geary BRT Sewer Improvements Phase 2	PL	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 26	-	★	01/08/18	03/30/20	03/30/20	03/31/21	12.0 mo. Late	●	See Section 6
CWWSIPCSSR04 - Van Ness BRT Sewer Improvements	CN	\$ 14,957	\$ 21,100	\$ 21,100	\$ 21,100	\$ 9,939	-	★	06/04/20	06/30/21	06/30/21	06/30/21	-	★	See Section 10
CWWSIPCSSR05 - Better Market Street Sewer Improvements - Phase 1	DS	\$ 32,405	\$ 9,753	\$ 9,753	\$ 9,753	\$ 680	-	★	01/24/23	03/31/22	03/31/22	03/31/22	-	★	See Section 10
CWWSIPCSSR06 - Geary BRT Sewer Improvements Phase 1	CN	\$ 17,043	\$ 12,900	\$ 12,900	\$ 12,900	\$ 4,149	-	★	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	\$ 373	-	★	11/01/17	12/31/18	12/31/18	06/30/20	18.0 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.

‡ The Current 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

+ Cost and Schedule Status

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

Q1-FY2019-2020 (07/01/19 - 09/30/19)

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	BA	\$ 20,400	\$ 33,136	\$ 33,136	\$ 33,136	\$ 1,790	-	★	10/19/20	04/09/21	04/09/21	10/28/21	6.6 mo. Late	●	See Section 6
Pump Stations and Forcemain Improvements															
CWWSIPCSPS02 - Force Main Rehab at Embarcadero and Jackson Streets	BA	\$ 5,845	\$ 9,909	\$ 9,909	\$ 9,909	\$ 1,322	-	★	12/12/18	10/29/21	10/29/21	04/22/22	5.8 mo. Late	⚠	See Section 6
CWWSIPCSPS03 - Mariposa Dry-Weather Pump Station & Force Main Improvements	CN	\$ 28,221	\$ 28,221	\$ 28,221	\$ 31,940	\$ 9,612	(\$3,719)	●	01/21/21	06/21/21	06/21/21	10/12/21	3.7 mo. Late	⚠	See Section 6
CWWSIPCSPS06 - Griffith Pump Station Improvements	CN	\$ 7,029	\$ 14,977	\$ 14,977	\$ 14,977	\$ 14,068	-	★	07/19/19	12/10/19	12/10/19	05/18/20	5.3 mo. Late	●	See Section 6
CSD and Transport/Storage Structures															
CWWSIPCSCD03 - Beach and Sansome Street CSD Rehabilitation	CN	\$ 2,523	\$ 3,150	\$ 3,150	\$ 4,200	\$ 2,028	(\$1,050)	●	12/20/19	04/30/20	04/30/20	07/13/20	2.4 mo. Late	⚠	See Section 6
CWWSIPCSCD04 - CSD Backflow Prevention and Monitoring	DS	\$ 15,000	\$ 13,617	\$ 13,617	\$ 16,708	\$ 2,475	(\$3,090)	●	10/01/21	10/01/21	10/01/21	10/01/21	-	★	See Section 6
CWWSIPCSCD05 - 5th, North 6th and Division Street CSD Rehabilitation	CN	\$ 4,635	\$ 5,390	\$ 5,390	\$ 5,390	\$ 1,949	-	★	07/13/20	07/13/20	07/13/20	07/13/20	-	★	See Section 10
Early Implementation Projects															
CWWSIPFCDB01 - Sunset Green Infrastructure	CN	\$ 10,746	\$ 8,439	\$ 8,439	\$ 8,439	\$ 4,660	-	★	12/31/20	09/30/21	09/30/21	09/30/21	-	★	See Section 10
CWWSIPFCDB05 - Richmond Green Infrastructure	CN	\$ 10,119	\$ 12,060	\$ 12,060	\$ 12,812	\$ 7,733	(\$751)	⚠	04/30/21	04/30/21	04/30/21	04/30/21	-	★	See Section 6
CWWSIPFCDB06 - Yosemite Green Infrastructure	PL	\$ 12,804	\$ 16,050	\$ 16,050	\$ 16,050	\$ 2,967	-	★	12/21/21	04/05/24	04/05/24	04/05/24	-	★	See Section 10
Watershed Stormwater Management															
CWWSIPFCDB12 - Wawona St and 15th Ave Stormwater Detention Project	DS	\$ 22,710	\$ 22,710	\$ 22,710	\$ 39,008	\$ 1,176	(\$16,298)	●	04/07/20	12/30/21	12/30/21	12/30/22	12.0 mo. Late	●	See Section 6

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+ Cost and Schedule Status	
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I. SSIP Quarterly Report

Q1-FY2019-2020 (07/01/19 - 09/30/19)

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 (cont'd)															
CWWSIPFCGI01 - Watershed Stormwater Management (Planning Only)	PL	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 2,041	-	★	07/12/19	12/30/20	12/30/20	12/30/20	-	★	See Section 10
Advanced Rainfall and Operation Decision System															
CWWSIPFCRP03 - Operational Decision System Phase 2	CN	\$ 7,798	\$ 8,721	\$ 8,721	\$ 6,721	\$ 1,881	\$ 2,000	★	06/26/20	06/26/20	06/26/20	06/26/20	-	★	See Section 10
Flood Resilience Projects															
CWWSIPFCDB14 - Folsom Area Stormwater Improvement Project	DS	\$ 36,265	\$ 38,411	\$ 38,411	\$ 38,411	\$ 2,912	-	★	11/01/19	06/01/20	06/01/20	05/28/21	11.9 mo. Late	●	See Section 6
Sewer/Collection System (Other SSIP)															
Collection System - Interceptors / Tunnels / Odor Control															
10034718 - Large Sewer Improvements	DS		\$ 47,000	\$ 47,000	\$ 47,000	\$ 32	-	★		05/20/24	05/20/24	05/20/24	-	★	See Section 10
Stormwater Management/Flood Control (Other SSIP)															
Green Infrastructure for Stormwater Mgmt (Grant)															
10034553 - Green Infrastructure Grant Program (GIGP)	CN		\$ 25,000	\$ 25,000	\$ 25,000	\$ 3	-	★		06/30/28	06/30/28	06/30/28	-	★	See Section 10
Flood Resilience															
10034360 - Lower Alemany Area Stormwater Improvement Project	PL		\$ 286,460	\$ 286,460	\$ 286,460	\$ 463	-	★		12/31/26	12/31/26	12/31/26	-	★	See Section 10

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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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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: Design	Environmental Status: Active (EIR)
Project Cost: Approved  \$1,276.45 Forecast*  \$1,315.31 Actual  \$178.64 M		Project Schedule: Approved Jul-11  May-25 Forecast* Jul-11  May-26 Project Percent Complete: 14.0%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	10/12/18✓	N/A	08/26/19✓	05/01/25

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

Progress and Status:

Issuance of the Notice to Proceed for the project construction phase was issued in August 2019. The Construction Manager/General Contractor (CM/GC) advertised four (4) bid packages in September and October 2019 focusing on utility and sewer relocations, and demolition of existing infrastructure. Coordination meetings are continuing between the Construction Manager/General Contractor (CM/GC), and the design staff to optimize scope of work and discuss constructability and site challenges. Overall schedule and cost estimates based on the latest design documents and anticipated site conditions are under review.



Rendering of the new biosolids digester facilities and improvements on Jerrold Avenue




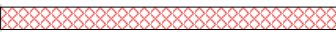






Issues and Challenges:

Similar to the last quarter's report, the schedule and cost variances reflect the one-year delay to the start of the construction phase. At this time, the forecasted cost variance of \$39M is associated with the design and pre-construction support services (soft costs) due to the 1-year extension. Further cost and schedule impacts are being evaluated.

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

Description: 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.

Program: Southeast Plant (SEP) Improvements		Project Status: Construction		Environmental Status: Completed (CatEx)	
Project Cost:			Project Schedule:		
Approved		\$41.61 M	Approved Jun-13		Sep-19
Forecast*		\$44.71 M	Forecast* Jun-13		Oct-20
Actual		\$43.03 M	Project Percent Complete: 96.9%		
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits					
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion	
Current Forecast	08/18/15✓	10/29/15✓	03/07/16✓	04/13/20	

Progress and Status:

WWCI, Contractor continues to demolish the old W3 system and the related piping, strainers and supports at SEP 540. Contractor implemented the modifications to the Interposing Relay Panel for local controls of the Strainer and Bypass Knife Gates. Contractor installed time delay relays inside each of 6 VFDs to eliminate nuisance vibration trips. Contractor continued to install and mount various sampling equipment with the associated piping inside SEP 521. Contractor installed (N) overhead light fixtures inside SEP 521. Contractor continues to install conduits and pull in new wires for the various electrical distribution and control panels inside SEP 521. Contractor tested and commissioned the new lighting control system inside Bldg. 522.

Issues and Challenges:







Similar to last quarter's report, due to significant amount of electrical changes and modifications of the electrical equipment for SEP 522 and also changes to the HVAC units resulted in additional modifications to the electrical equipment, including underground electrical conduits and materials, causing the project cost and schedule variance. In addition, project team experienced significant issues with newly installed strainers, which is causing more delays. Due to these delays, project soft cost also increased.



Demo Abandoned Sump Pump System

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: Planning	Environmental Status: Not Applicable
Project Cost:		Project Schedule:
Approved  \$62.99 M	Approved Feb-14  Aug-23	
Forecast*  \$62.99 M	Forecast* Feb-14  Aug-24	
Actual  \$6.43 M	Project Percent Complete: 19.3%	
		

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	See Note	See Note+	04/01/20	08/31/23

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

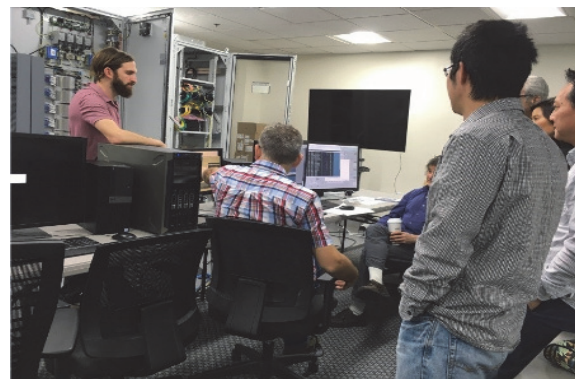
** BEM has determined upgrades to the DCS Controls involves primarily computer hardware and software which do not fall within the definition of a "project" under CEQA because there would be no physical change in the environment.

Progress and Status:

Project team continues to work on 35% design of the SEP DCS Network Upgrades. Completed staff training for the new Ovation DCS hardware and software equipment related to the existing SEP Liquids and Solids DCS Upgrades. Coordination efforts with BDFP and New Headworks project ongoing.

Issues and Challenges:

There is a forecast project finish delay of about 1 year due to this project's interdependency with CWWSIPDP01 Biosolids Digester Project (BDFP).













Bruce Flynn Pump Station Ovation DCS Equipment Operation Readiness Test (Factory Test)

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  Jun-22	
Actual  \$13.93 M	Project Percent Complete: 59.4%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	03/25/16✓	(A) 07/01/17✓ (B) 03/04/19✓	09/04/18✓ 09/09/19✓	02/05/20 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:

For WW-665 contract; Project team issued Notice to Proceed on September 9, 2019. Contractor is mobilizing within their designated staging areas. CMIS Unifier has been set up for key Project staff. Project team is conducting preconstruction survey of the SEP 044 Primary Influent Conduits “C”, “D” and “E”, and SEP 525 Primary Effluent discharge conduits.

Project team continued reviewing submittals and RFIs for the pile concretion on the north side of SEP 042.

Issues and Challenges:











Similar to last quarter's report, schedule variance reflects additional design efforts to further analyze 7 separate seismic events to refine the design in order to improve the constructability, which also affects the start of construction. Therefore, the project team is also expecting longer construction duration, in order to accommodate dry season constraints of the project. In addition, project team lost time due to protest to bids.



Seismic Piles on the North of SEP 042

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*  \$84.34 M	Forecast* Jun-14  Mar-24	
Actual  \$7.47 M	Project Percent Complete: 7.3%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP	Construction Final Completion
Current Forecast	02/22/18✓	03/05/19✓ - 01/06/20	07/13/20	09/25/23

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

Progress and Status:

The project team was in the process of repackaging the construction documents for rebid and concurrently of developing a project specific Request for Qualifications for Construction Services including related safety qualifications to pre-qualify potential bidders for this medium voltage electrical project. Project team also continues to coordinate with Power Enterprise and PG&E for delivery of 12 kV services to SEP, BFS and BPS.

Issues and Challenges:

Project team will be evaluating the cost and schedule impacts of re-bidding the contract. Additional time is needed to re-advertise and re-bid the project.













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: Design	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved  \$71.50 M	Approved Jun-13  Jun-23	
Forecast*  \$71.50 M	Forecast* Jun-13  Dec-24	
Actual  \$16.79 M	Project Percent Complete: 22.7%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 06/13/13✓ (B) 04/20/17✓	05/06/14✓ 01/15/20	10/15/14✓ 07/06/20	03/27/17✓ 05/06/24

+ 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 35% design milestone was completed in August 2019.

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 35% 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 including public art mural installation on new electrical building.

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  Jul-21
Actual 	\$10.03 M	Project Percent Complete: 22.5%
		

Key Milestones:	Environmental+ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	06/14/17✓	04/25/18✓	11/26/18✓	02/22/21

+ 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 selective demolition, temporary power utility installation and site utility installation 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 forecasted schedule variance reflects delays in contract certification that impacted NTP issuance. The project team is evaluating the potential schedule impacts with the overall project completion date.









WW-639 Contractor installing yard underground utilities and infilling openings at Building 820

I. SSIP Quarterly Report

CWWSIPTPOP05 - OSP Condition Assessment Repairs

Description: 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.

Program: Oceanside Plant (OSP) Improvements	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved  \$15.84 M	Approved Jul-14  Jun-19	
Forecast*  \$12.64 M	Forecast* Jul-14  Jan-20	
Actual  \$11.96 M	Project Percent Complete: 97.9%	
		

Key Milestones:	Environmental** Approval	Bid** Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 12/19/18✓ (B) 07/03/13✓ (C) 12/19/15✓	N/A 01/15/16✓ 09/23/16✓	N/A 07/25/16✓ 03/14/17✓	N/A 12/31/19 10/01/19

+ Project includes multiple construction contracts.

(B) WW-570 Oceanside Water Pollution Control Plant and Westside Pump Station HVAC Upgrades and (C) WW-606R2 Oceanside Water Pollution Control Plant Building 930 Exterior and Awning Improvements

** The Environmental Approval & Bid Advertisement for Contract B were achieved in Project CWWRNRTF48, and the Environmental Approval & Bid Advertisement for Contract C were achieved in Project CWWRNRTF67. The Environmental Approval shown in the above table refers to other improvements to the Oceanside Water Pollution Control Plant.

Progress and Status:

(A) The Oceanside Water Pollution Control Plant Condition Assessment Repairs final CER was issued in October 2018. Technical Steering Committee Presentation was completed in July 2019; which concluded the project planning phase.

(B) Construction Contract WW-570 OSP-WSS HVAC Upgrades achieved project substantial completion in April 2019. The testing and commissioning of the HVAC systems to the existing Building Management System (BMS) computer interface experienced some time delays have resulted in impacts to the contract final completion date.

(C) Construction Contract WW-606R2 OSP Door and Building 930 Exterior and Awning Improvements – the Contractor achieved substantial completion in August 2019.









WW-606R2 Building 930 Upper Awning substantially complete in August 2019.

Issues and Challenges:

Similar to the last quarterly report, as a result of the stainless steel material delivery delays associated with the awning assembly, has resulted in an overall project schedule delay.

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  Aug-22	
Actual  \$4.81 M	Project Percent Complete: 17.4%	
		

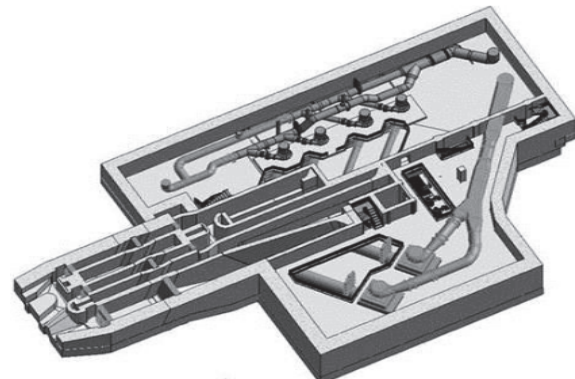
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/13/17✓	06/14/19✓ - 10/22/19	04/06/20	04/29/22

Progress and Status:

The advertisement of contract WW-685 was canceled due to a need to incorporate a critical safety requirement. The appropriate language is being prepared by Contract Management and City Attorney. As determined, the re-advertisement of the contract will go through a request for qualification (RFQ) process for a pool of qualified bidders.

Issues and Challenges:

The re-advertisement and RFQ process resulted in requiring additional time.













North Shore Pump Station Wet Weather Improvements

I. SSIP Quarterly Report

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  Dec-19	
Actual  \$33.83 M	Project Percent Complete: 67.0%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid** Advertisement	Construction NTP**	Construction** Final Completion
Current Forecast	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.

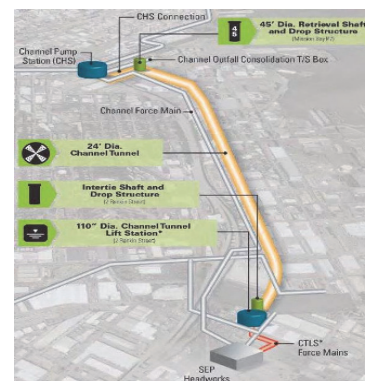
Progress and Status:

The 35% Design has been completed. Baseline (CEQA consultant) is continuing work on the Draft EIR.

The completion of design is outside of SSIP Phase 1, and the initiation of 65% tunnel design effort is now targeted for early 2020, pending approval by SFPUC Senior Management.

Issues and Challenges:







Design activities are on hold after 35% Design and project is extended till to December 2019 pending program prioritization results.



CBSIP Site Map

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* 	\$24.16 M	Forecast* Jun-13  Dec-22
Actual 	\$3.63 M	Project Percent Complete: 20.6%
		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/23/19✓	N/A	04/26/21	06/27/22

**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:

During this quarter, San Francisco Public Works (SFPW) expressed concerns with constructing the tunnel under their maintenance yard. While the project team identify and address SFPW's concerns, the Request for Qualification (RFQ) for the design-build contract has been placed on-hold. In addition, the project team continued to work on the 35% design, which will be part of the tender set in the upcoming request for bid.

Issues and Challenges:

The schedule variance reflects the potential delays to address SFPW's concerns before the project may proceed with the RFQ. The cost variance reflects the selected tunneling methodology to complete the project and will be balanced through savings from projects CWWSIPCSSR02 and 10033745.













KM MTBM Receiving Area

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: Design	Environmental Status: Active (CatEx)
Project Cost:		Project Schedule:
Approved 	\$6.44 M	Approved Apr-15  Jul-21
Forecast* 	\$7.12 M	Forecast* Apr-15  Jul-21
Actual 	\$1.57 M	Project Percent Complete: 23.1%
 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✓	11/15/19	03/23/20	03/24/21

Progress and Status:

During this quarter, the project team completed the 95% design and is preparing the bid package. The team continues to coordinate with other utilities to resolve identified conflicts. Staff has prepared draft agreements with SFMTA for bus substitution (or other transit mitigation) since construction activities requires temporary shutdown for 1-block of the Third Street Light Rail, and with SF Port, since the project is located within SF Port's jurisdiction. These agreements are pending concurrence from SFMTA and SF Port. It has been challenging to obtain a commitment from SF Port on the timeline for the review and concurrence of the agreement with them.

Issues and Challenges:











Although the current project completion date is maintained, key milestone dates have been updated to reflect anticipated delays to resolve utility conflicts between the project alignment and other existing utilities. In addition, the pending agreement with SF Port, which is needed at the bid & award phase, may cause future delays to the project.



Booster pump manifold pit illuminated before sunrise

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  Mar-21
Actual 	\$0.03 M	Project Percent Complete: 1.8%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	01/05/21	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 is currently put 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:

Currently, the project delay is at one year to reflect project hold by SFMTA.

I. SSIP Quarterly Report

CWWSIPCSSR06 - 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  \$4.15 M	Project Percent Complete: 32.6%	
		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/17/17✓	03/21/18✓	01/07/19✓	12/01/20

** 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.

Progress and Status:

The NTP was issued to JMB Construction on January 7, 2019. Construction activities are on-going near Scott Street. Sewer work is approximately 30% complete.

Issues and Challenges:







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  Jun-20	
Actual  \$0.37 M	Project Percent Complete: 49.3%	
		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP+	Construction Final Completion
Current Forecast	N/A	N/A	03/10/17✓	12/31/19

** 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:

The physical construction has been substantially completed and the project team is waiting to obtain the cathodic protection report, as-builts and other punch-list items related to the sewer work from SFMTA’s construction management group.

Issues and Challenges:

Final completion and closeout of sewer contract work continued to be delayed while staff continues to follow-up on this project with the contract’s lead agency (SFMTA).









Insertion of the HDPE Force Main

I. SSIP Quarterly Report

CWWSIPCSSR13 - 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: Bid and Award	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved  \$33.14 M	Approved Mar-16  Apr-21	
Forecast*  \$33.14 M	Forecast* Mar-16  Oct-21	
Actual  \$1.79 M	Project Percent Complete: 8.3%	
		

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 04/17/17✓ (B) TBD	10/02/18✓ 06/20/19✓	07/01/19✓ 08/03/20	04/20/21 10/01/21

+ Segment A (SF Zoo to Sunset Blvd – No 1306) and Segment B (Sunset Blvd to West Portal – No 1308)

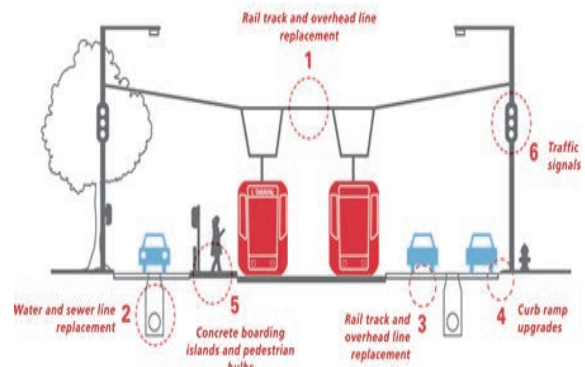
** SFMTA is the project lead. The San Francisco County Transportation Authority (SFCTA) prepared the CEQA approval, except for the sewer and water scopes, which were separately completed by SFPUC.

Progress and Status:

Segment A construction is on-going. Contractor is currently constructing sewers between 45th to 46th Avenues. The Segment B Contract bids were received by SFMTA on September 12, 2019. However, SFMTA rejected all bids on September 19th and will re-advertise for bids in early 2020.

Issues and Challenges:







Key milestones have slipped due to SFMTA's direction to separate this project into two segments (A and B). The SSIP schedule for Segment B will be revised upon receiving updated schedule from SFMTA.



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 Forcemain Improvements	Project Status: Bid and Award	Environmental Status: Completed (MPM)
Project Cost:		Project Schedule:
Approved 	\$9.91 M	Approved Jul-14  Oct-21
Forecast* 	\$9.91 M	Forecast* Jul-14  Apr-22
Actual 	\$1.32 M	Project Percent Complete: 13.6%
		

Key Milestones:	Environmental Approval	Bid** Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/16/16✓	08/06/19✓	02/03/20	10/19/21

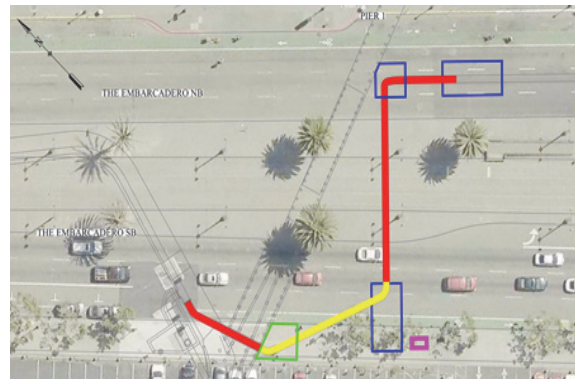
** Contract was originally advertised on 5/15/17 and will be re-bid after the field investigations are completed under CWWSIPCSSR09.

Progress and Status:

During the past quarter, the project team received bids for the contract and is continuing to pursue right-of-way agreements with SF Port. The apparent low bidder is slightly higher than the forecasted cost by the engineer.

Issues and Challenges:

Award of the construction contract is delayed while the project team awaits for agreements from SF Port, which has the jurisdictional rights over the project area; and in turn, this is delaying the NTP.









Force Main Rehabilitation at Embarcadero and Jackson Site Plan

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* 	\$31.94 M	Forecast* Jul-14  Oct-21
Actual 	\$9.61 M	Project Percent Complete: 30.0%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/25/17✓	04/04/18✓	01/28/19✓	03/17/21

Progress and Status:

During this quarter, construction work continues to progress for Contract WW-667, Mariposa Dry-Weather Pump Station Improvements. However, the contract work relies on obtaining temporary electrical services from PG&E, which has been delayed, which is affecting the critical path work.

Under the existing and separate design/build contract (DB-128R2), construction of the dry-weather force main has been completed and the design-builder is working on punchlist items for the sewer force main.

The project schedule reflects the delay during the bid-and-award phase caused by bid protests and longer-than usual contract certification duration. The forecast budget reflects the actual higher bid received in addition to unanticipated additional permit fees and right-of-way costs required to perform work in the public-right-of-way areas that are within the jurisdiction of SF Port.

Issues and Challenges:











The cost and budget variance reflect the actual bid received and the extended bid-and-award phase. The shortfall in budget is addressed by utilizing savings from another SSIP project CWWSIPCSSR02.



Insulation for Relocated Dewatering Line

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*  \$14.98 M	Forecast* Mar-16  May-20	
Actual  \$14.07 M	Project Percent Complete: 98.1%	
 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✓	11/14/19

Progress and Status:

During this quarter, the contractor has completed over 92% of the contract work at the pump station. Final completion is anticipated to be delayed because of scheduling issues with PG&E due to outstanding electrical work that requires a one-week long electrical shutdown.

Issues and Challenges:

The schedule variance reflects a negotiated time extension for the contractor to complete major electrical work that was deferred by one dry-weather season due to delays in the delivery of critical electrical equipment. Major electrical work was restricted to dry-weather season to keep the pump station operational during the wet-weather and to help comply with the NPDES permit.









New W2 Pump Control Panel

I. SSIP Quarterly Report

CWWSIPCSCD03 - 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* 	\$4.20 M	Forecast* Mar-16  Jul-20
Actual 	\$2.03 M	Project Percent Complete: 68.8%
		

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✓ 01/13/20

+ 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) The installed back-flow valve has been leaking. Manufacturer provided a new valve and replaced the faulty one in the last quarter, but it is still not fixed. Staff will hold meetings with the manufacturer in the next quarter to resolve the issue.

(B) Construction work at Sansome St. under WW-683R is underway. The project team and contractor are assessing the changes that are necessary for the concrete repair.

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. The schedule variance is due to the time needed to re-advertise WW-683R, which delayed the NTP for the construction contract. The project is now showing a six month duration for close-out and is consistent with completion of project CWWSIPCSCD05.



Completed weir repair and corrosion in 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: Design	Environmental Status: Active (CatEx)
Project Cost:		Project Schedule:
Approved 	\$13.62 M	Approved Jul-16  Oct-21
Forecast* 	\$16.71 M	Forecast* Jul-16  Oct-21
Actual 	\$2.47 M	Project Percent Complete: 17.0%
		

Key Milestones:	Environmental+ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 10/30/19 (B) 10/30/19	01/02/20 01/02/20	06/01/20 06/01/20	03/04/21 03/04/21

+ In addition to monitoring, this project includes multiple construction contracts: (A) Pierce Street and (B) Jackson & Griffith Street.

Progress and Status:

(A) The design phase for Pierce CSD started in this quarter, 95% completion was achieved and the 100% design will be completed in the upcoming quarter. The project will be advertised under contract WW-702 with Jackson and Griffith CSDs.

(B) The 95% level design for Jackson and Griffith CSDs was completed in this quarter. The independent review was completed as well, and team started to work on 100% level design, which is expected to be completed in the upcoming quarter. The project will be advertised under contract WW-702 with Pierce CSD.

Issues and Challenges:

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-702.













Typical backflow preventer device installed over the weir

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*  \$12.81 M	Forecast* Dec-12  Apr-21	
Actual  \$7.73 M	Project Percent Complete: 92.2%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

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

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

Progress and Status:

The contractor completed construction of the infiltration galleries on El Camino del Mar in Lincoln Park, and repaved portions of the asphalt roadway that were disturbed by construction. Planting of the bioretention planters on El Camino del Mar will commence next quarter. Demolition of the south parking strip on Sea Cliff Avenue commenced. SFPUC received NTP from the National Park Service to begin construction on property within the Golden Gate National Recreation Area. During excavation along El Camino del Mar in Lincoln Park, construction crews encountered human remains associated with the former City Cemetery that occupied the site until the turn of the 20th century. Per San Francisco Planning Department requirements, the SFPUC engaged a consultant to conduct archeological monitoring for the remaining work, record and analyze the human remains, and prepare a Final Archeological Resources Report. After the archaeological work is complete, the human remains will be interred in Colma.

Issues and Challenges:







The ongoing cost variance is based on actual bid received.



Bioretention planter at north side of El Camino del Mar

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: Active (CatEx)
Project Cost:		Project Schedule:
Approved 	\$22.71 M	Approved Jul-16  Dec-21
Forecast* 	\$39.01 M	Forecast* Jul-16  Dec-22
Actual 	\$1.18 M	Project Percent Complete: 11.1%
		

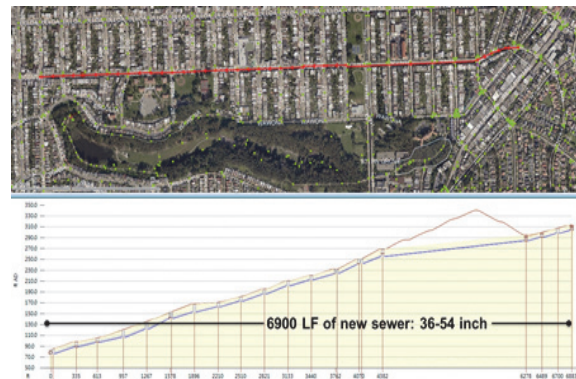
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/30/20	08/06/20	01/04/21	06/30/22

Progress and Status:

Project team continued the design for a new stormwater sewer on Vicente St from Wawona to 34th Ave. to improve the stormwater management on Wawona. The 35% design level was completed in this quarter. The 35% construction cost estimate shows a significant cost increase to the project, due to complexity in trenchless portion as well as cut/cover scope of work. Team will review the cost with independent reviewers and asses and forecast the actual cost increase.

Issues and Challenges:

There are few water main replacements that are added to this project, based on CDD request. The community will be more impacted if the water work will not occur at the same time. This addition however will add to the project duration. Project teams are coordinating to mitigate the impact on schedule as much as possible.













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

I. SSIP Quarterly Report

CWWSIPFCDB14 - Folsom Area Stormwater Improvement Project

Description: The overall schedule is delayed by 12 months because of delay in consultant contract certification, as well as extended 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.

Program: Flood Resilience Projects	Project Status: Design	Environmental Status: Active (ENV)
Project Cost:		Project Schedule:
Approved  \$38.41 M	Approved Jul-16  Jun-20	
Forecast*  \$38.41 M	Forecast* Jul-16  May-21	
Actual  \$2.91 M	Project Percent Complete: 44.3%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	07/31/20	N/A	N/A	N/A

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

Progress and Status:

City design team and consultants continued with the design in this quarter; however, the 35% level design that was anticipated in late September of this year has been delayed due to a significant conflict between a Caltrans facility and the proposed tunnel. The project team is developing a suite of design alternatives for SFPUC management review and Caltrans consideration. Once this is resolved with Caltrans, the 35% level design can continue. The geotechnical field investigation and utility survey were completed in this quarter.

Issues and Challenges:

The overall schedule is delayed by 12 months because of delay in consultant contract certification, as well as extended 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.



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

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	
New Headworks (Grit) Replacement								
CWWSIPSE02 - Southeast Water Pollution Control Plant New Headworks Facility - SCOPE I (issued POs for 12 Packages)	11/15/17	02/05/20	04/25/20	\$ 30,769,167	\$ 32,890,441	(80)	(\$2,121,274)	43.7%
CWWSIPSE02 - Southeast Water Pollution Control Plant New Headworks Facility - SCOPE II.A (issued POs for 12 of 15 Packages)	12/17/18	11/14/20	11/14/20	\$ 16,921,445	\$ 17,472,621	-	(\$551,176)	50.1%
CWWSIPSE02 - Southeast Water Pollution Control Plant New Headworks Facility - SCOPE III (issued POs for 1 of 62 Packages)	07/22/19	08/25/23	08/25/23	\$ 61,711,112	\$ 61,711,112	-	-	0.0%
Southeast Plant (SEP) Improvements								
CWWSIPSE08 - SEP Seismic Reliability and Condition Assessment Improvements (WW-628)	09/04/18	07/30/20	02/05/20	\$ 13,200,000	\$ 13,200,000	176	-	0.0%
CWWSIPSE08 - SEP Seismic Reliability and Condition Assessment Improvements (WW-665)	09/09/19	03/31/21	03/08/22	\$ 9,079,210	\$ 9,079,210	(342)	-	1.0%
SEP 521/522 and Disinfection Upgrades (SEP Building 521 Replacement)	03/07/16	08/10/19	04/13/20	\$ 30,075,669	\$ 30,659,429	(247)	(\$583,760)	97.0%

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-FY2019-2020 (07/01/19 - 09/30/19)

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	
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	\$ 38,449,000	\$ 38,449,000	-	-	7.1%
CWWSIPTPOP05 - Oceanside Water Pollution Control Plant & Westside Pump Station HVAC Upgrades	07/25/16	06/02/19	12/31/19	\$ 6,281,918	\$ 6,281,918	(212)	-	97.8%
CWWSIPTPOP05 - OWPCP Building 930 Exterior and Awning Improvements	03/14/17	10/01/19	10/01/19	\$ 3,234,044	\$ 3,234,044	-	-	99.1%
Interdepartmental Projects ***								
CWWSIPCSSR04 - Van Ness Corridor Transit Improvement Project (sewer only)	01/16/18	01/15/20	06/30/20	\$ 14,314,631	\$ 14,314,631	(167)	-	67.0%
CWWSIPCSSR06 Geary Boulevard Sewer and Water Improvements	01/07/19	12/01/20	12/01/20	\$ 7,295,208	\$ 7,295,208	-	-	23.0%
Pump Stations and Forcemain Improvements								
CWWSICSPS03 Mariposa Dry Weather Pump Station Improvements	01/28/19	03/17/21	03/17/21	\$ 17,031,000	\$ 17,031,000	-	-	11.0%
CWWSICSPS06 - Griffith Pump Station Improvements	10/16/17	11/14/19	11/14/19	\$ 11,236,282	\$ 11,236,282	-	-	92.0%

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.

*** Contracts performed under SFMTA/SFPW.

I. SSIP Quarterly Report

Q1-FY2019-2020 (07/01/19 - 09/30/19)

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	06/22/20	06/22/20	\$ 6,952,217	\$ 6,952,217	-	-	53.0%
CSD and Transport/Storage Structures								
CWWSICSCD03 & CD05 Sansome, 5th, 6th (North) and Division Street CSD Rehabilitation and Backflow Prevention	06/17/19	01/13/20	01/13/20	\$ 4,907,090	\$ 4,907,090	-	-	30.0%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	\$ 271,457,993	\$ 274,714,203	(\$3,256,210)	(1.2%)

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								
CWWSIPSE09 - SEP Existing Digester Gas Handling Improvements	10/01/18	05/18/19	05/18/19	05/18/19	\$ 15,388,647	\$ 10,896,100	\$ 15,249,647	\$ 10,830,216
CWWSIPSE11 - SEP Oxygen Generation Plant 01	10/01/18	05/20/19	05/20/19	05/20/19	\$ 6,381,375	\$ 7,201,700	\$ 7,201,700	\$ 6,531,668
Interceptors / Tunnels and Odor Control								
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
Pump Stations and Forcemain Improvements								
CWWSIPCSPS05 - Marin Street Sewer Replacement	02/05/18	05/01/18	05/01/18	08/21/18	\$ 2,852,000	\$ 5,351,275	\$ 5,351,275	\$ 5,004,601
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
Early Implementation Projects								
CWWSIPFCDB04 - Sunnydale Green Infrastructure	11/04/20	08/30/18	08/30/18	10/30/18	\$ 2,021,000	\$ 2,148,620	\$ 2,148,620	\$ 2,111,256
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								
CWWSIPRPL91 - Land Reuse of 1800 Jerrold Avenue	07/31/18	08/24/18	08/24/18	N/A	\$ 37,700,000	\$ 3,654,355	\$ 3,646,972	\$ 0
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								
CWWSIPTPOP06 - OSP Odor Control Optimization	04/13/21	03/23/20	03/23/20	N/A	\$ 2,912,919	\$ 2,912,919	\$ 2,912,919	\$ 0
TOTAL					\$ 82,591,540	\$ 53,375,332	\$ 57,976,209	\$ 32,398,087

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	\$ 32,551,126
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	\$ 17,566,344
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	\$ 2,890,578
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	\$ 3,176,551
Pump Stations and Forcemain Improvements								
CWWSIPCPSP01 - 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
CWWSIPCPSP04 - Cesar Chavez Pump Station	05/26/16	05/26/16	05/26/16	05/26/16	\$ 185,000	\$ 179,728	\$ 179,727	\$ 178,360
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	\$ 5,322,426
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	\$ 2,102,721
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	\$ 6,348,006
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	\$ 2,170,009
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

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
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	\$ 1,462,493
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	\$ 966,580
CWWSIPFCDB10 - Flood Resilience Analysis (Planning Phase Only)	05/31/17	02/28/17	02/28/17	02/28/17	\$ 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	\$ 4,015,633
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	\$ 428,078
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	\$ 176,151
TOTAL					\$ 186,533,956	\$ 168,994,049	\$ 168,994,046	\$ 148,713,346

10. PROJECTS WITHIN BUDGET AND SCHEDULE (THRESHOLD LIMITS)

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*  \$418.83 M	Forecast* Mar-13  Sep-24	
Actual  \$99.15 M	Project Percent Complete: 25.3%	
		

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	(A) 11/15/17✓ (B) 12/17/18✓ (C) 07/22/19✓ (D) 03/20/24	(A) 04/25/20 (B) 01/01/22 (C) 08/25/23 (D) 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

Progress and Status:

Scope I (Site Preparation) - CM/GC continued construction activities. This includes demolition of the existing Headworks facility (building SEP-011). All drilled pier work complete (~100 drilled piers).

Scope II.A (BFS Improvements) - Completed installation and welding of two watertight doors. Completed installation of new bar screens and supports.

Scope II.B/C (SEP-005 Lift Station) - Bid packages (3 total) associated with Scope II.B (influent Sewer) advertised on 7/19/19. Completed Scope II.C (Lift Station) 95% design on 8/9/19.

Scope III (Main Headworks) - Third wave of bid packages (12 total) advertised on 7/19/19. Notice to Proceed (NTP) issued on 7/22/19.

Issues and Challenges:

Project Team continues to evaluate construction cost impacts associated with current market conditions. As













Scope II.A (Bruce Flynn Station Improvements)

the multiple waves of bid packages are scheduled to be opened for Scope II B and Scope III in next few quarters, project team will continue to provide updates to the Commission via regular monthly project updates and through quarterly report.

I. SSIP Quarterly Report

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: Design	Environmental Status: Not Applicable (StatEx)
Project Cost:		Project Schedule:
Approved  \$20.46 M	Approved May-18  Nov-22	
Forecast*  \$16.04 M	Forecast* Jul-18  Nov-22	
Actual  \$0.27 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	11/27/19	01/02/20	06/01/20	06/02/21

Progress and Status:

During the last quarter, the project team completed the 65% design of "Mission Street Brick Sewer Rehabilitation" and is proceeding towards 95% design.

Issues and Challenges:











The overall forecast cost was reduced to reflect the status above, which will partially compensate for the budget increase of CWWSIPCSSR03, Kansas and Marin Sewer System Improvements.



Schematic for Large Sewers – Mission BSR

CWWSIPCSSR02 - Collection System Condition Assessment

Description: 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.

Program: Interceptors / Tunnels and Odor Control	Project Status: Planning	Environmental Status: Not Applicable
Project Cost:		Project Schedule:
Approved  \$10.91 M	Approved May-13  Apr-20	
Forecast*  \$4.96 M	Forecast* May-13  Apr-20	
Actual  \$4.94 M	Project Percent Complete: 97.8%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

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

** Future projects recommended by this assessment will have new project numbers and BEM anticipates CEQA Documentation for these projects as CATEXs or MNDs.

Progress and Status:

During this quarter, the Commission approved the final payment for the as-needed inspection contract, WW-658. Based on the work completed to date, no additional condition assessment work will be needed at this time, yielding savings that may be reallocated to other collection system projects.







Issues and Challenges:

The overall forecast cost was reduced to reflect the status above, and this will compensate for the budget increase of CWWSIPCSPS03, Mariposa Pump Station Improvements and partially compensate the budget increase of CWWSIPCSSR03, Kansas and Marin Sewer System Improvements.

I. SSIP Quarterly Report

CWWSIPCSSR04 - 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*  \$21.10 M	Forecast* Oct-13  Jun-21	
Actual  \$9.94 M	Project Percent Complete: 51.0%	
		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP***	Construction Final Completion
Current Forecast	See Note	N/A	01/16/18✓	06/30/20

** 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 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 completed Phase 1A and 1B sewer scope. Contractor is continuing Phase 1C sewer work. Sewer work is approximately 67% complete.

Issues and Challenges:











Claim/delay 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.



Van Ness BRT – Rendering of proposed project

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: Active (EIR)
Project Cost:		Project Schedule:
Approved  \$9.75 M	Approved Jan-14  Mar-22	
Forecast*  \$9.75 M	Forecast* Jan-14  Mar-22	
Actual  \$0.68 M	Project Percent Complete: 7.2%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/10/19	05/11/20	09/08/20	03/09/22

** SFPW is the project lead and will prepare the CEQA approval, including SFPUC funded sewer improvements.

Progress and Status:

Project team has completed the 65% Design milestone for Phase 1A and is progressing toward 95% Design set for December 2019. Phase 1A Advertisement is now targeted for mid-2020. The Full Corridor project milestones are deferred pending negotiations between SFPW and SFMTA.

Issues and Challenges:

SFPW still needs to resolve project-wide cost sharing on Phase 1A with partner departments, including SFPUC.









Better Market Street – Rendering of proposed project

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	 Jul-20
Actual		\$1.95 M	Project Percent Complete: 51.1%	
				

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/06/18✓	12/10/18✓	06/17/19✓	01/13/20

Progress and Status:

Construction work is underway with Division St. CSD progressing on schedule.

Issues and Challenges:











None at this time.



Concrete weir repair at 6th St. CSD

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*  \$8.44 M	Forecast* Dec-12  Sep-21	
Actual  \$4.66 M	Project Percent Complete: 62.1%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

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✓ 10/28/20

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

Progress and Status:

The SFPUC Commission awarded the Sunset Blvd Greenway Phase 2 - Irving to Ulloa Street to Minerva Construction, Inc. on July 23, 2019. Notice to Proceed was issued to the contractor on September 30, 2019. Construction will commence next quarter.

Issues and Challenges:

None at this time.













Sunset Green Infrastructure – Rendering of proposed project

I. SSIP Quarterly Report

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, Sunnydale, 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*  \$16.05 M	Forecast* Dec-12  Apr-24	
Actual  \$2.97 M	Project Percent Complete: 19.7%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/15/17✓	10/29/20	05/03/21	10/03/22

Progress and Status:

Consultant completed the Draft CER in October 2018.

Issues and Challenges:

Similarly to last quarter’s report, SFRPD is reluctant to approve the use of an innovative stormwater storage and re-use system. The project is on hold while SFPUC upper management discusses with SFRPD management the scope and responsibility of post-construction landscape maintenance.













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

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* 	\$7.00 M	Forecast* Jul-16 	Dec-20
Actual 	\$2.04 M	Project Percent Complete: 58.0%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits			

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

Progress and Status:

This past quarter, the project team coordinated with City Administrator’s office and Interdepartmental working group on flood resilient building code modification and the Hazard and Climate Resilience Plan update. In addition, work continued on 100-year Flood Map notification, parcel review process, and interagency data sharing. Next quarter, work on these efforts will continue.







Issues and Challenges:

None at this time.

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  \$8.72 M	Approved Feb-17  Jun-20	
Forecast*  \$6.72 M	Forecast* Feb-17  Jun-20	
Actual  \$1.88 M	Project Percent Complete: 24.9%	
		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	N/A	12/18/17✓	02/22/18✓	03/30/20

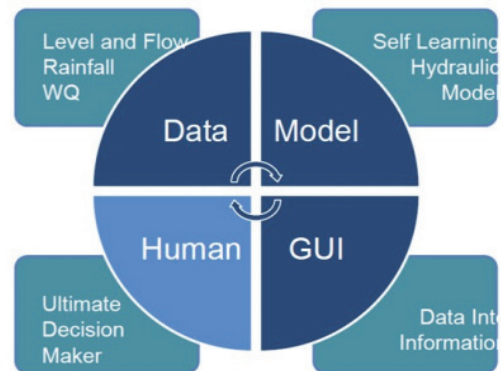
+This is a software development project. NTP represents the date of award for software development agreement.

Progress and Status:

The Operational Decision System (ODS) development team conducted three training sessions with Operations staff from Oceanside and Southeast wastewater facilities to discuss use of software for 2019-2020 wet-weather season. ODS project team continued to facilitate discussions between Information Technology Services and development team regarding deployment strategies and system security. Software will be deployed next quarter for the 2019-2020 wet-weather season.

Issues and Challenges:










Additional flow monitoring at multiple sites may be needed to optimize ODS software. Project team is evaluating cost and schedule impacts.



ODS Graphic Screen Mock-up

10034718 - Large Sewer 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: Collection System - Interceptors/Tunnels/Odor Control (Other SSIP)	Project Status: Design	Environmental Status: Not Initiated
Project Cost:		Project Schedule:
Approved  \$47.00 M	Approved Aug-19  May-24	
Forecast*  \$47.00 M	Forecast* Aug-19  May-24	
Actual \$0.03 M	Project Percent Complete: 0.2%	
 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) 07/13/21 (B) 09/24/20 (C) 08/24/21 (D) TBD	10/25/21 12/17/20 11/17/21 TBD	05/16/22 07/07/21 06/08/22 TBD	11/16/23 01/11/23 09/08/23 TBD

+Project includes multiple construction contracts: (A) Channel Force Main Intertie; (B) New Montgomery, Mission, Jessie & Minna Streets Brick Sewer Rehabilitation; (C) 7th Ave, Cole, Fell, Oak & Stanyan Streets Brick Sewer Rehabilitation and (D) Golden Gate, Eddy, Geary, Hyde Streets Brick Sewer Rehabilitation (partially funded).

Progress and Status:

Design has started for subproject (B), New Montgomery, Mission, Jessie & Minna Streets Brick Sewer Rehabilitation, with official kickoff scheduled for November 4, 2019. Team anticipates to start project kickoff for subproject (A) Channel Force Main Intertie by next quarter.






Issues and Challenges:

None at this time.

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: Green Infrastructure for Stormwater Mgmt (Grant; Other SSIP)	Project Status: Construction	Environmental Status: Not Applicable
Project Cost:		Project Schedule:
Approved 	\$25.00 M	Approved Jul-18  Jun-28
Forecast* 	\$25.00 M	Forecast* Jul-18  Jun-28
Actual	\$0.00 M	Project Percent Complete: 9.8%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/30/28	N/A	N/A	N/A

Progress and Status:

The Green Infrastructure Grant Program (GIGP) was launched in the first quarter of 2019. During the past quarter, a grant application from the San Francisco Unified School District for the Bessie Carmichael Middle School project was approved. One other grant application was received. Program staff conducted 10 sites visits and 7 pre-application meetings with potential grantees this quarter. Next quarter, the project team forecasts that two grants will be awarded the Commission.

Issues and Challenges:







None at this time.



View of green infrastructure at SFUSD elementary school

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 (Other SSIP)	Project Status: Planning	Environmental Status: Not Initiated
Project Cost:		Project Schedule:
Approved  \$286.46 M	Approved Jan-19  Dec-26	
Forecast*  \$286.46 M	Forecast* Jan-19  Dec-26	
Actual  \$0.46 M	Project Percent Complete: 0.6%	
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/31/23	08/03/23	01/02/24	06/30/26

Progress and Status:

Project team is working on developing alternatives to mitigate the flooding during LOS storms for this area. There are two main alternatives that are being developed; auxiliary pipeline on Alemany, and a tunnel along Gaven St. toward the Islais Creek system. The geotechnical consultant has completed the preliminary geotechnical investigation for the planning phase. The traffic engineering consultant has also completed the existing traffic conditions report. These two studies are necessary for selecting the best alternative during AAR and to carry it to CER.

Issues and Challenges:

The project team has been drafting the request for proposal (RFP) to solicit engineering support for CER and design phase. The project team has also been participating in multi-agency coordination meetings to discuss the coordinated outreach effort for Alemany related projects.



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

II. Wastewater Capital Improvement Program

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 December 2019. No

changes to the overall program budget, but a three-year delay to the program schedule. All construction activities have been completed for the program. The program has been extended to end of December 2019 to perform financial closeout of the projects, reconcile F&P issues and finalize the Prop 1E Grant reimbursement invoices.

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

II. WWE CIP Quarterly Report

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) 2019-2020 presents the progress made on the WWE CIP projects for the period of July 1, 2019 through September 21, 2019. The program's schedule and budget were last reported to SFPUC on August 27, 2019.

Figure 2.1 shows the total Approved Budget for the projects remaining in each phase of the program as of September 21, 2019. The number of projects in each phase is shown in parenthesis.

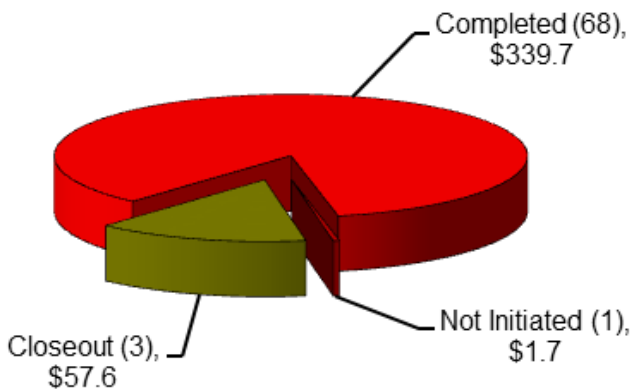
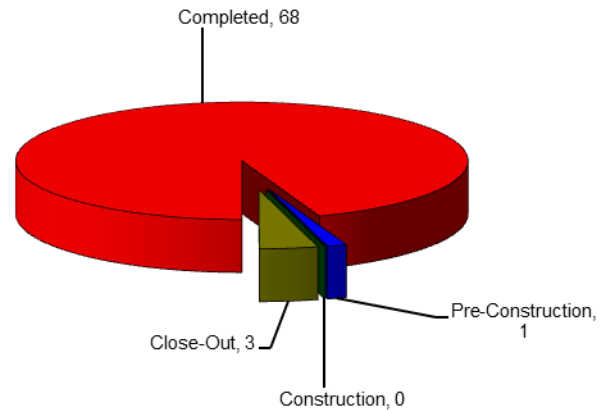


Figure 2.1 Total Approved Budget for Projects Each Phase (\$ Million)

Figure 2.2 shows the number of projects in the following stages of the program as of September 21, 2019: 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	\$300.6	\$0.8
Program Delivery Cost	\$94.0	\$37.0	\$95.7	\$94.8	(\$0.9)
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 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 December 2019, a three-year delay. Refer to Appendix 2.2 (Section II) for a graphical presentation of the WWE CIP 2014 Project-Level Schedule.

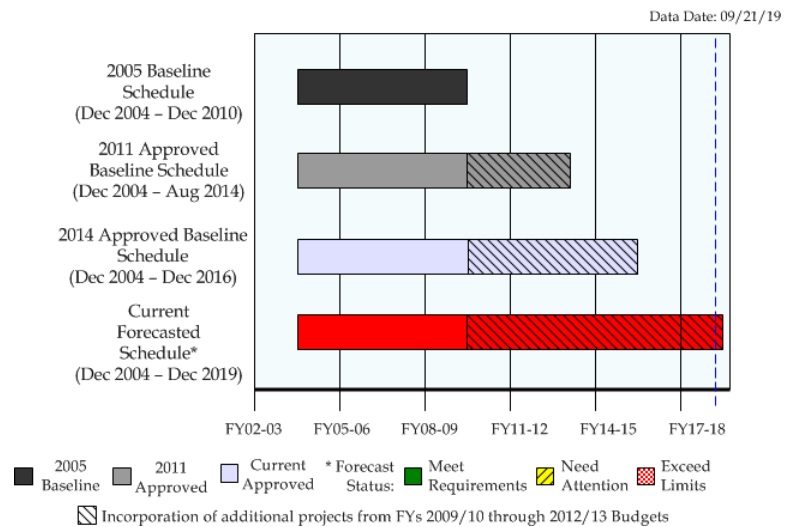


Figure 4.1 Program Schedule Summary

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	12/31/19	36

5. PROJECT PERFORMANCE SUMMARY

No projects to report under this section.

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 WWE Facility Reliability Impr - SEP Northside		08/29/16	08/29/16	12/26/17		\$ 36,303,511	\$ 36,303,511	\$ 35,894,595
CENMSCIC47 WWE Mechanical / Electrical Upgrade		09/08/16	09/08/16	11/30/17		\$ 5,253,825	\$ 5,253,825	\$ 4,672,818
CENMSCIC72 Facility Security Upgrades Contract 2		11/23/16	11/23/16	09/15/17		\$ 1,557,720	\$ 1,557,720	\$ 173,750
TOTAL						\$ 43,115,056	\$ 43,115,056	\$ 40,741,163

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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	\$ 32,200,265
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
CENMSCIC70 OS Plant Improvements - Aeration Syst Upgrade		12/31/15	12/31/15	09/25/15		\$ 1,362,452	\$ 1,362,452	\$ 321,132
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
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

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								
CENMSCIC61 North Shore Force Main Emergency		04/04/13	04/04/13	04/04/13		\$ 721,739	\$ 721,739	\$ 721,561
CENMSCIC62 Emergency NSFM 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	\$ 276,434
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
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

II. WWE CIP Quarterly Report

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								
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	\$ 723,789
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/Lo mbard 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	\$ 339,713,630	\$ 339,713,630	\$ 333,444,114

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, 2019 and September 30, 2019.

The approved project budget and schedule were developed and approved by the appropriate Wastewater Enterprise Manager on September 30, 2019. 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 also \$450.3 million.

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	\$61.80	\$450.27	\$450.27	-

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.

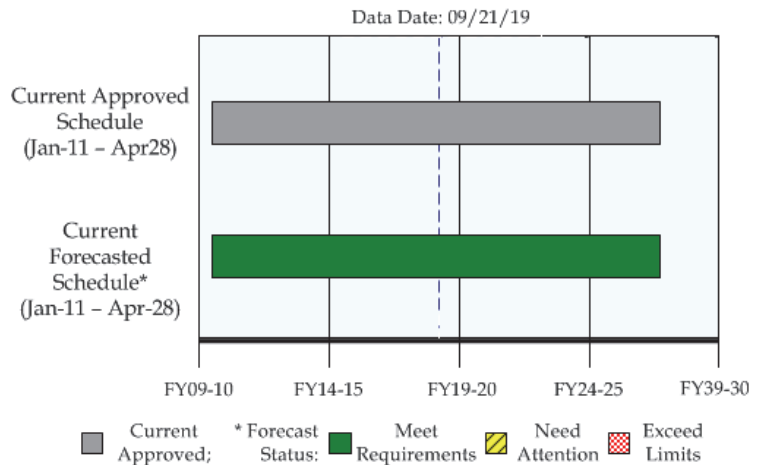


Figure 4.1 Program Schedule Summary

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	04/04/28	-

P

5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 09/21/19

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											
CWP11001 - New Treasure Island Wastewater Treatment Plant	PL	\$ 67,398	\$ 67,398	\$ 3,300	-	★	09/01/23	10/23/24	13.7 mo. Late	●	See Section 6
CWWFAC01 - Ocean Beach Project	CN	\$ 126,765	\$ 126,765	\$ 9,012	-	★	01/30/26	01/30/26	-	★	See Section 10
CWWFAC03 - Southeast Community Center @ 1550 Evans	DS	\$ 108,500	\$ 108,500	\$ 8,822	-	★	12/29/23	12/29/23	-	★	See Section 10
CWWFAC04 - Southeast Bay Outfall Islais Creek Crossing Replacement	DS	\$ 35,000	\$ 35,000	\$ 3,480	-	★	07/29/24	03/28/25	8.0 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.

III. WWE F&I Quarterly Report

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

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: Planning		Environmental Status: Completed (EIR)	
Project Cost:			Project Schedule:		
Approved		\$67.40 M	Approved Jan-11		Sep-23
Forecast*		\$67.40 M	Forecast* Jan-11		Oct-24
Actual		\$3.30 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	04/18/19✓	N/A	07/25/22	04/19/24	

Progress and Status:

The new wastewater treatment plant and associated recycled water facility are in the planning portion of the project. The Conceptual Engineering Report (CER) is underway and is projected to be completed later this year. The team concluded the project delivery method evaluation and has recommended a Design-Build-Operate approach with the RFQ currently under development. 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 report, the latest CIP budget does not accurately reflect the anticipated cost of the Treasure Island WWTP Project. Costs are trending significantly higher and a more accurate cost estimate will be available during the fall of 2019. The schedule variance reflects additional time require to evaluate and select the project delivery method.



At the Existing Wastewater Treatment Plant, installation of a new rock trickle filter rotary distributor arm was completed in the Summer of 2016.







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* 	\$35.00 M	Forecast* Sep-16  Mar-25
Actual 	\$3.48 M	Project Percent Complete: 10.6%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/13/20	06/25/20	11/23/20	09/20/24

Progress and Status:

The project team continued on the 95% design. The project team continued with coordination progress with city agencies; Port of San Francisco for staging areas, SFPW for Islais Creek Bridge project, and SFMTA for MUNI impacted project area. The design consultant presented proposals for design changes and added scope for vibration analysis, condition assessment of kayak dock, and geotechnical work compliant to Maher Ordinance.

Issues and Challenges:

Similar to the previous quarterly report, the schedule variance is due to design changes, added scope and incorporation of the emergency bypass project.



SEO Islais Creek Crossing Replacement

7. ON-GOIN CONSTRUCTION

No projects are currently under construction.

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	\$ 16,540,250
TOTAL					\$ 0	\$ 27,361,789	\$ 27,361,789	\$ 16,540,250







9. COMPLETED PROJECTS

No projects are currently completed.

10. PROJECTS WITHIN BUDGET AND SCHEDULE (THRESHOLD LIMITS)

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*  \$126.76 M	Forecast* Jul-12  Jan-26	
Actual  \$9.01 M	Project Percent Complete: 6.8%	
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	(A) 09/10/14✓ (B) 10/22/20 (C) 10/12/22	09/14/15✓ N/A 07/14/22	01/07/16✓ 12/30/20 01/03/23	03/01/21 07/02/21 07/28/25

(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: WW-663 is an as-needed contract. Annual monitoring indicated the need to place 65,000 CY of sand to protect the Lake Merced Tunnel. Design documents have been prepared and are under review by Coastal Commission Staff and GGNRA for approval. Work anticipated in November.

B) ACOE: The Design Agreement for Beneficial Reuse of dredged sand at South Ocean Beach is fully executed. Funding has been provided. Design work has been initiated by the ACOE.

C) LTI: This is the first CCSF Climate Change Adaptation Project requiring a high level of coordination with other CCSF Agencies; Federal Government shutdown and slow progress with the CCSF Agencies delayed the final CER by 3 months; Final CER completed on 9/30/19. Moving into Design Phase with approval from Technical Steering Committee and Management Oversight Committee.



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











Issues and Challenges:

Similar to the previous quarterly report, SFPUC is continuing on-going discussions with the SF Zoo regarding affected egress and ingress to the SF Zoo parking lot.

III. WWE F&I Quarterly Report

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: Design	Environmental Status: Active (CatEx)
Project Cost:		Project Schedule:
Approved  \$108.50 M	Approved Jul-12  Dec-23	
Forecast*  \$108.50 M	Forecast* Jul-12  Dec-23	
Actual  \$8.82 M	Project Percent Complete: 6.5%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

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

Progress and Status:

Design was completed in August. The general contractor, Pankow, issued RFQ for the first three bid packages, Demo, Structural Steel, and Piles. Construction Management contract was awarded to The Allen Group in September. The Project is on schedule to start construction early 2020. Efforts to maximize Local Participation is ongoing.

Issues and Challenges:

None at this time.



1550 Evans rendering



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, 2019 and September 30, 2019.

The approved project budget and schedule were developed and approved by the appropriate Wastewater Enterprise Manager on September 30, 2019. 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, 2019.

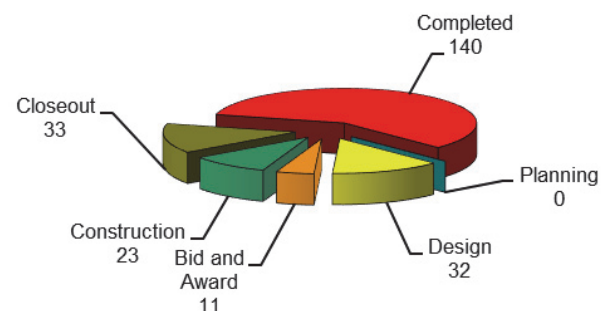


Figure 2.1 Total Number of Active R&R Collection Systems Projects in R&R Program

IV. WVE R&R Quarterly Report

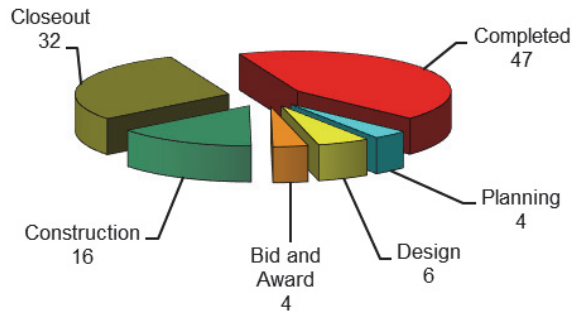
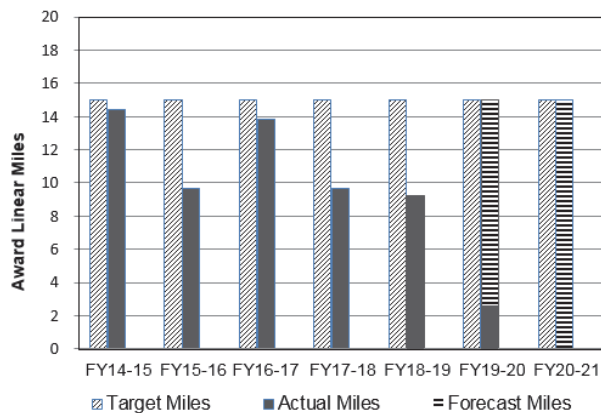


Figure 2.2 Total Number of Active R&R Treatment Facilities Projects in R&R Program

The Wastewater R&R Collection System Sewer Replacement Program has an annual budget of \$64.8 million in FY20 to award a target of 15 miles of sewer replacement work in San Francisco.

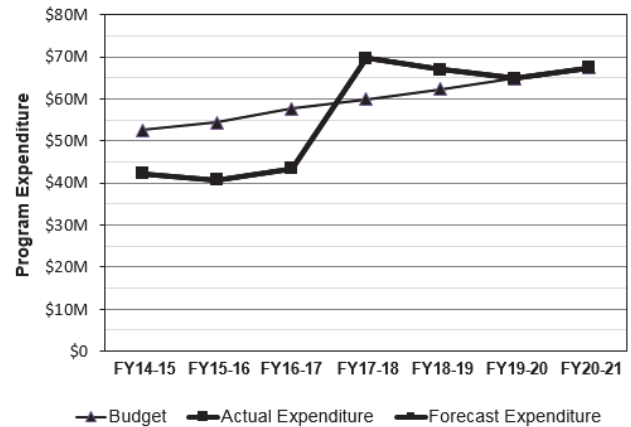
Figure 2.3 shows the target and actual award miles of sewer improvement projects that have been awarded to date and are forecasted to be awarded. The Wastewater R&R Collection System Sewer Replacement Program has been awarded 2.6 miles of sewer replacement work in FY20.



	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	15.0
Actual Miles	14.4	9.7	13.8	9.7	9.2	2.6	15.0
Forecast Miles						15.0	15.0

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	\$67.4M
Actual Expenditure	\$42.1M	\$40.8M	\$43.4M	\$69.7M	\$67.0M	\$7.2M	
Forecast Expenditure						\$64.8M	\$67.4M

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 \$824 million and the Current Forecasted Cost at completion is also \$824 million.

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	\$493.85	\$686.54	\$686.54	-
R&R Treatment Facilities	\$95.01	\$137.68	\$137.68	-
Program Total	\$588.86	\$824.22	\$824.22	-

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 2021. The overall R&R Program is currently forecasted to be completed in March 2021.

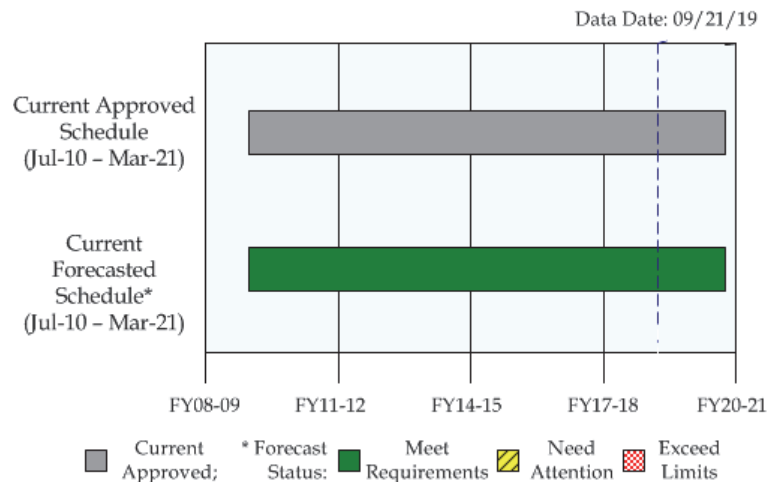


Figure 4.1 Program Schedule Summary

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✓	03/31/21	03/31/21	-
R&R Treatment Facilities	07/01/10	07/01/10✓	02/12/21	02/12/21	-
Overall Program	07/01/10	07/01/10✓	03/31/21	03/31/21	-

5. PROGRAM PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 09/21/19

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	\$ 686,540	\$ 686,540	\$ 493,853	-	★	03/31/21	03/31/21	-	★	See Section 10
CWWRNRTF - R&R Treatment Facilities	MP	\$ 137,678	\$ 137,678	\$ 95,007	-	★	02/12/21	02/12/21	-	★	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.

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								
10015671-As-Needed Main Sewer Replacement No. 7 (WW-655)	06/10/19	08/13/20	08/13/20	\$ 6,705,115	\$ 6,705,115	-	-	26.0%
10015675-Various Locations Sewer Replacement No. 4 (WW-634)	06/11/18	10/13/19	10/13/19	\$ 6,499,859	\$ 6,499,859	-	-	97.3%
10015681-As-Needed Sewer Sealing (WW-644)	02/06/17	05/05/20	05/05/20	\$ 3,834,500	\$ 3,834,500	-	-	81.6%
10030784-As-Needed Spot Sewer Replacement No. 37 (WW-656)	10/15/18	11/18/19	11/18/19	\$ 8,198,256	\$ 8,198,256	-	-	87.7%
10034352-As-Needed Spot Sewer Replacement No. 38 (WW-686)	06/10/19	08/13/20	08/13/20	\$ 9,205,823	\$ 9,205,823	-	-	26.0%
10034564-As-Needed Sewer Cleaning and Inspection (FY20) (WW-695)	09/03/19	03/25/21	03/25/21	\$ 1,747,550	\$ 1,747,550	-	-	4.7%

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-FY2019-2020 (07/01/19 - 09/30/19)

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	07/24/20	07/24/20	\$ 1,981,334	\$ 1,981,334	-	-	0.0%
10015762 North Point Wet Weather Facility Sedimentation Tank Influent Gate Upgrades (WW-664)	01/14/19	07/06/20	07/06/20	\$ 2,741,000	\$ 2,741,000	-	-	7.0%
10015770 - Southeast Water Pollution Control Gas Holder Evacuation System (WW-642)	03/05/18	12/24/19	12/24/19	\$ 3,247,000	\$ 3,247,000	-	-	99.0%
10015779 - Oceanside Water Pollution Control Plant - Building 620 Safety Improvements (WW-643R)	03/26/18	07/23/19	01/23/20	\$ 2,156,000	\$ 2,156,000	(184)	-	86.0%
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	-	-	7.0%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	\$ 53,343,437	\$ 53,343,437	\$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 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 in combination with the WWE Renewal and Replacement Program (R&R) Spot Sewer Repair replaces aging failed portions of the collection system. The portions of the collection system are identified utilizing an asset management approach, which factors in: physical condition, age, location, risk, public safety, paving schedule and other factors.

Program: Renewals and Replacements		Program Status: Multiple Phases		Environmental Status: Completed	
Project Cost:			Project Schedule:		
Approved		\$686.54 M	Approved Jul-10		Mar-21
Forecast*		\$686.54 M	Forecast* Jul-10		Mar-21
Actual		\$493.85 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, 2019.

The two hundred thirty nine (239) WWE Collection Systems projects are distributed as follows:

Planning: 0
 Design: 32
 Bid & Award: 11
 Construction: 23
 Closeout: 33
 Completed: 140











During this Quarter, 7 new projects were initiated, 2 projects were advertised, 4 projects were awarded/awaiting NTP, 3 projects received NTP, 5 projects completed construction and 2 projects closed out.

Issues and Challenges:

None at this time.

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  \$137.68 M	Approved Jul-10  Feb-21	
Forecast*  \$137.68 M	Forecast* Jul-10  Feb-21	
Actual  \$95.01 M	Project Percent Complete: 83.0%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental++ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	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, 2019.

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

- Planning: 4
- Design: 6
- Bid/Award: 4
- Construction: 16
- Closeout: 32
- Completed: 47

Issues and Challenges:

None at this time.

APPENDICES

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

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 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.

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)

CWWSIPCT01 - 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

CWWSIPCSSR_N02 - 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.

CWWSIPCSSR01 - 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, WWE 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.

CWWSIPCSSLR03 - 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.

CWWSIPCSSLR09 - 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.

CWWSIPCSSLR11 - 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 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.

CWWSIPCSSLR12 - 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

CWWSIPCSSR_N03 - 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 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 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

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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 WVE 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

CWWSIPCSD04 - 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
- Installation of a backflow prevention system at the 5th Street CSD structure
- Installation of a backflow prevention system at the 6th Street CSD structure

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

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 Sunnysdale 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).
- 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

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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

OP05-2 - 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

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 Ecline 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)

Appendix 1 - SSIP Quarterly Report

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

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

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 Program 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. These projects in combination with the WWE Renewal and Replacement Program (R&R) Spot Sewer Repair replace aging failed portions of the collection system. The portions of the collection system are identified utilizing an asset management approach, which factors in: physical condition, age, location, risk, public safety, paving schedule and other factors.

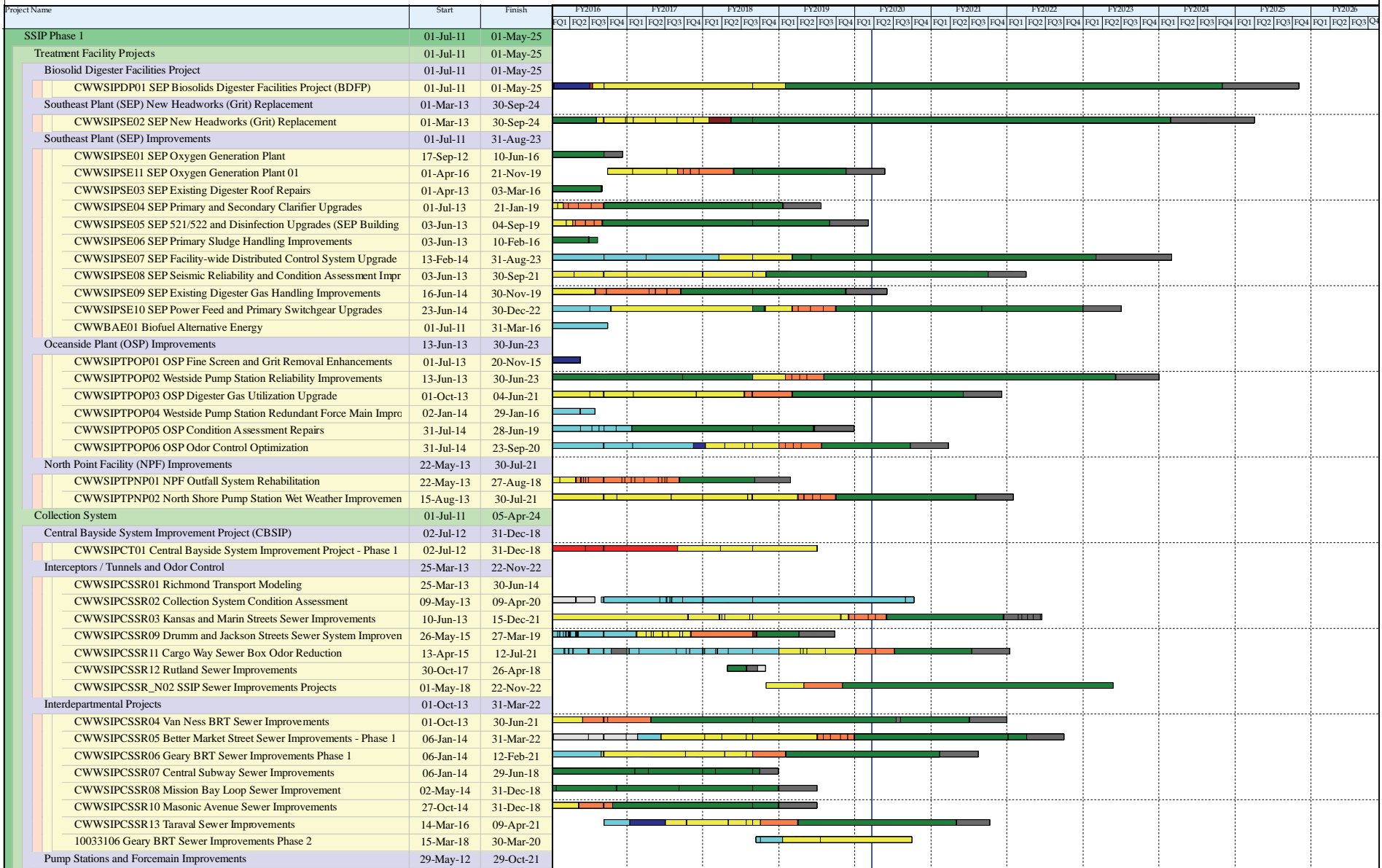
CWWRNRTF - R&R Treatment Facilities

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			
			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				
CWWSIPPCSP01 Hudson Ave Pump Station and Outfall Improvements	31-Mar-14	31-Oct-17	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPPCSP02 Force Main Rehab at Embarcadero and Jackson Street	07-Jul-14	29-Oct-21	[Gantt bar showing project phases from FY2016 to FY2021]																																											
CWWSIPPCSP03 Mariposa Dry-Weather Pump Station & Force Main I	01-Jul-14	21-Jun-21	[Gantt bar showing project phases from FY2016 to FY2021]																																											
CWWSIPPCSP04 Cesar Chavez Pump Station	08-Sep-14	26-May-16	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPPCSP05 Marin Street Sewer Replacement	01-Jul-15	02-Nov-18	[Gantt bar showing project phases from FY2016 to FY2019]																																											
CWWSIPPCSP06 Griffith Pump Station Improvements	14-Mar-16	10-Dec-19	[Gantt bar showing project phases from FY2017 to FY2020]																																											
CWWSIPNC01 North Shore to Channel F M Drainage Improvement	29-May-12	06-Jun-17	[Gantt bar showing project phases from FY2016 to FY2017]																																											
Combined Sewer Discharge (CSD) and Transport/Storage Structures	01-Jun-15	01-Oct-21	[Gantt bar showing project phases from FY2016 to FY2021]																																											
CWWSIPPCSD01 Richmond Transport/Storage Tunnel Rehabilitation	01-Jun-15	13-May-19	[Gantt bar showing project phases from FY2016 to FY2019]																																											
CWWSIPPCSD02 Baker/Laguna/Pierce CSD & Outfall	29-Jun-15	20-Nov-15	[Gantt bar showing project phases from FY2016 to FY2016]																																											
CWWSIPPCSD03 Beach and Sansome Street CSD Rehabilitation	14-Mar-16	30-Apr-20	[Gantt bar showing project phases from FY2017 to FY2020]																																											
CWWSIPPCSD04 CSD Backflow Prevention and Monitoring	25-Jul-16	01-Oct-21	[Gantt bar showing project phases from FY2017 to FY2021]																																											
CWWSIPPCSD05 5th, North 6th and Division Street CSD Rehabilitatic	01-Jul-16	13-Jul-20	[Gantt bar showing project phases from FY2017 to FY2020]																																											
Stormwater Management	01-Jul-11	05-Apr-24	[Gantt bar showing project phases from FY2016 to FY2024]																																											
Early Implementation Projects	04-Sep-12	05-Apr-24	[Gantt bar showing project phases from FY2016 to FY2024]																																											
CWWSIPLD01 Cesar Chavez Green Infrastructure	01-Apr-13	28-Jun-13	[Gantt bar showing project phases from FY2016 to FY2016]																																											
CWWSIPLD02 FCDB09 Islais Creek Green Infrastructure	04-Sep-12	24-Apr-18	[Gantt bar showing project phases from FY2016 to FY2018]																																											
CWWSIPFCDB01 Sunset Green Infrastructure	03-Dec-12	30-Sep-21	[Gantt bar showing project phases from FY2016 to FY2021]																																											
CWWSIPFCDB02 North Shore Green Infrastructure	03-Dec-12	31-Dec-18	[Gantt bar showing project phases from FY2016 to FY2018]																																											
CWWSIPFCDB03 Lake Merced Green Infrastructure	03-Dec-12	24-Apr-18	[Gantt bar showing project phases from FY2016 to FY2018]																																											
CWWSIPFCDB04 Sunnydale Green Infrastructure	03-Dec-12	28-Feb-19	[Gantt bar showing project phases from FY2016 to FY2019]																																											
CWWSIPFCDB05 Richmond Green Infrastructure	03-Dec-12	30-Apr-21	[Gantt bar showing project phases from FY2016 to FY2021]																																											
CWWSIPFCDB06 Yosemite Green Infrastructure	03-Dec-12	05-Apr-24	[Gantt bar showing project phases from FY2016 to FY2024]																																											
CWWSIPFCDB08 Channel Green Infrastructure	21-Feb-14	31-Aug-18	[Gantt bar showing project phases from FY2016 to FY2018]																																											
Watershed Stormwater Management	01-Jul-16	30-Dec-21	[Gantt bar showing project phases from FY2016 to FY2021]																																											
CWWSIPFCGI01 Watershed Stormwater Management (Planning Only)	11-Jul-16	30-Dec-20	[Gantt bar showing project phases from FY2016 to FY2021]																																											
CWWSIPFCDB12 Wawona St and 15th Ave Stormwater Detention Proj	01-Jul-16	30-Dec-21	[Gantt bar showing project phases from FY2016 to FY2021]																																											
Urban Watershed Assessment	01-Jul-11	30-Jun-17	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPUW00 Urban Watershed Assessment and Planning Initiation	01-Jul-11	28-Jun-13	[Gantt bar showing project phases from FY2016 to FY2016]																																											
CWWSIPUW01 Urban Watershed Assessment and Planning	07-Oct-11	30-Jun-17	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPUW02 Fulton St Sewer	01-Jul-11	31-Oct-12	[Gantt bar showing project phases from FY2016 to FY2016]																																											
CWWSIPUW03 Lake Merced Drainage	01-Jul-11	31-Oct-12	[Gantt bar showing project phases from FY2016 to FY2016]																																											
CWWSIPUW04 Major Trunk Sewers	01-Jul-11	31-Oct-12	[Gantt bar showing project phases from FY2016 to FY2016]																																											
Advanced Rainfall and Operation Decision System	01-Apr-13	26-Jun-20	[Gantt bar showing project phases from FY2016 to FY2020]																																											
CWWSIPFCRP01 Advanced Rainfall Prediction - Part 1	01-Apr-13	29-Jun-18	[Gantt bar showing project phases from FY2016 to FY2018]																																											
CWWSIPFCRP02 Operational Decision System Phase 1	01-Aug-13	30-Sep-16	[Gantt bar showing project phases from FY2016 to FY2016]																																											
CWWSIPFCRP03 Operational Decision System Phase 2	01-Feb-17	26-Jun-20	[Gantt bar showing project phases from FY2017 to FY2020]																																											
Flood Resilience Projects	01-Apr-13	28-Feb-22	[Gantt bar showing project phases from FY2016 to FY2022]																																											
CWWSIPFCDB07 17th and Folsom Wet Weather Storage	01-Apr-13	06-May-16	[Gantt bar showing project phases from FY2016 to FY2016]																																											
CWWSIPFCDB10 Flood Resilience Analysis (Planning Phase Only)	30-Jun-15	28-Feb-17	[Gantt bar showing project phases from FY2016 to FY2016]																																											
CWWSIPFCDB11 Flood Resilience - Early Projects (Planning Phase On	26-Oct-15	30-Dec-16	[Gantt bar showing project phases from FY2016 to FY2016]																																											
CWWSIPFCDB13 Cayuga Ave Stormwater Detention Project	01-Jul-16	28-Feb-22	[Gantt bar showing project phases from FY2016 to FY2022]																																											
CWWSIPFCDB14 Folsom Area Stormwater Improvement Project	01-Jul-16	01-Jun-20	[Gantt bar showing project phases from FY2016 to FY2020]																																											
CWWSIPFCDB15 17th and Folsom Permanent Barriers	20-May-16	31-Jul-19	[Gantt bar showing project phases from FY2016 to FY2019]																																											
CWWSIPFCDB16 Hydraulic and Drainage Sewer Improvements	01-Jul-16	31-Dec-18	[Gantt bar showing project phases from FY2016 to FY2018]																																											
Land Reuse Projects	17-Sep-13	01-Feb-19	[Gantt bar showing project phases from FY2016 to FY2019]																																											
CWWSIPRPL91 Land Reuse of 1800 Jerrold Avenue	17-Sep-13	01-Feb-19	[Gantt bar showing project phases from FY2016 to FY2019]																																											
CWWSIPRPL92 Land Reuse of 1801 Jerrold Avenue	30-Sep-13	31-Aug-18	[Gantt bar showing project phases from FY2016 to FY2018]																																											
SSIP Phase 1 Program Management	01-Sep-11	31-Jul-23	[Gantt bar showing project phases from FY2016 to FY2023]																																											



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							
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4								
CWWSIPPL01, PRPL01 SSIP Program Management	01-Sep-11	31-Jul-23	[Program Mgmt]																																															
Other SSIP	01-Jul-18	30-Jun-28	[Program Mgmt]																																															
Treatment Facilities	23-Sep-19	16-May-28	[Program Mgmt]																																															
Oceanside Plant	23-Sep-19	16-May-28	[Program Mgmt]																																															
OP05-2 OSP Condition Improvement - Phase 2	23-Sep-19	16-May-28	[Program Mgmt]																																															
Sewer/Collection System	01-Aug-19	20-May-24	[Program Mgmt]																																															
Collection System - Interceptors / Tunnels / Odor Control	01-Aug-19	20-May-24	[Program Mgmt]																																															
10034718 Large Sewer Improvements	01-Aug-19	20-May-24	[Program Mgmt]																																															
Stormwater Management/Flood Control	01-Jul-18	30-Jun-28	[Program Mgmt]																																															
Green Infrastructure for Stormwater Mgmt (Grant)	01-Jul-18	30-Jun-28	[Program Mgmt]																																															
10034553 Green Infrastructure Grant Program	01-Jul-18	30-Jun-28	[Program Mgmt]																																															
Flood Resilience	02-Jan-19	31-Dec-26	[Program Mgmt]																																															
10034360 Lower Alemany Area Stormwater Improvement Project	02-Jan-19	31-Dec-26	[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	
			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	25-Feb-05	10-Jan-14																																								
CENMSCIC05 Oceanside WPCP HVAC Imprv	25-Feb-05	13-Apr-10																																								
CENMSCIC07 Chemical Feed Sys Imprv - Ph 1	16-May-05	10-Apr-07																																								
CENMSCIC16 WS PS VFDs and Pumps	26-Sep-05	14-Jul-09																																								
CENMSCIC20 Chemical Feed Sys Imprv - Ph 2	16-Mar-06	30-Aug-07																																								
CENMSCIC22 Embarcadero Vent Elements Ph 1	17-Sep-05	28-Sep-07																																								
CENMSCIC28 SEWPCP Bldg 010 Odor Control Improvment	20-Apr-07	16-Aug-12																																								
CENMSCIC31 SEWPCP 620 & 680 Digester Compressor	06-Mar-08	08-Jan-13																																								
Int12 Embarcadero Vent Elements Phase 2	01-Jul-08	10-Jan-14																																								
Int14 Embarcadero Box Hydraulic Modifications	05-Apr-08	05-Apr-08																																								
Int15 OSP Mixing, Withdrawal and Dewatering Improvment	02-Jul-07	01-Jul-09																																								
Treatment Facilities	20-Jan-05	08-Dec-16																																								
CENMSCIC06 SEP Gas Handling Imprv	20-Jun-05	22-Sep-09																																								
CENMSCIC08 SEP Secondary Clarifiers Concrete Repairs	20-Jan-05	28-Sep-07																																								
CENMSCIC09 SEP Mixed Liquor and Odor Control Imprv	30-Jun-05	31-Jul-07																																								
CENMSCIC17 OSP / WS Bar Screens	03-Oct-05	14-Jul-09																																								
CENMSCIC29 SEWPCP Gas Handling Improvements - Ph 2	08-Jan-07	08-Jun-10																																								
CENMSCIC36 WWE Facility Security/Emergency Response	07-Jan-10	09-Jul-14																																								
CENMSCIC37 WWE Facility Reliability Impr - SEP Norths	07-Jan-10	08-Dec-16																																								
CENMSCIC38 SEP Solid Handling (Digester Roof, Gas Mi)	07-Jan-10	31-Dec-15																																								
CENMSCIC39 OSP Solids Handling and Coating	22-Jan-10	20-May-16																																								
CENMSCIC41 MV-SWGR SEP Electrical Reliability	22-Jan-10	30-Sep-15																																								
CENMSCIC42 GHW Stabilization Emergency	19-Jan-10	02-Sep-12																																								
CENMSCIC45 OPS: FOG to Biodiesel	01-Mar-10	31-Dec-14																																								
CENMSCIC47 WWE Mechanical / Electrical Upgrade	23-Apr-10	08-Dec-16																																								
CENMSCIC70 OS Plant Improvements - Aeration Syst Upg	12-Dec-12	31-Dec-15																																								
CENMSCIC72 Facility Security Upgrades Contract 2	01-Jul-13	08-Dec-16																																								
CENMSCIC74 SETP Effluent Force Main	01-Mar-16	30-Nov-16																																								
Int02 Future Major Electrical and Mech Equip Replacement	31-Dec-08	10-Jan-14																																								
Int03 Contract 4 OSP Gas Compressors (\$ included in IC17)	15-Sep-06	10-Jan-14																																								
Int35 SWOO Cleaning & Backflow Prevention	05-Apr-08	05-Apr-08																																								
Int41 SEP Centrifuge Replacements	02-Jul-12	02-Jul-12																																								
Pump Stations	03-Oct-05	27-May-16																																								
CENMSCIC19 Tennessee Pump Station Reliability - Ph 1	03-Oct-05	30-Aug-07																																								
CENMSCIC21 Channel Pump Station Odor Control	03-Jan-06	31-Oct-07																																								
CENMSCIC30 Channel Pump Station Odor Control - Phase	02-Jul-07	11-Oct-12																																								
CENMSCIC33 North Shore to Channel Force Main Improv	01-Oct-09	14-Jul-11																																								
CENMSCIC40 North Shore and Mariposa Pump Station In	22-Jan-10	30-Jun-14																																								
CENMSCIC48 Channel Pump Sta Improvements Phase 3	23-Apr-10	12-Nov-13																																								
CENMSCIC52 North Shore Force Main, Phase 2	07-Sep-10	27-May-16																																								
CENMSCIC61 North Shore Force Main Emergency	20-Mar-12	04-Apr-13																																								
CENMSCIC62 Emergency NSFM Rehabilitation	04-Jun-12	01-Jul-14																																								
Int17 Tennessee PS Areawide Sewer Improvement - Phase 2	05-Apr-08	05-Apr-08																																								
Sewer/Collection System	31-Dec-04	06-Dec-16																																								

Planning
 Right-of-Way
 Construction
 Environmental
 Design

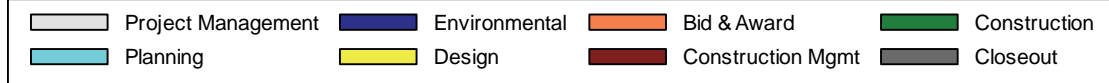
APPENDIX 2.3. WWE F&I Project-Level Approved Schedule

Project Name	Start	Finish	FY2018				FY2019				FY2020				FY2021				FY2022				FY2023				FY2024				FY2025				FY2026				FY2027				FY2028			
			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				
WWE Facilities and Infrastructure	01-Jan-11	04-Apr-28																																												
10033820 Southeast Outfall Condition Assessment & Reha	28-Jan-19	30-Apr-27																																												
CWP11001 New Treasure Island Wastewater Treatment Plant	01-Jan-11	01-Sep-23																																												
CWWFAC01 Ocean Beach Project	23-Jul-12	30-Jan-26																																												
CWWFAC02 Collection Division Consolidation (Griffith Y)	01-Mar-13	28-Jun-19																																												
CWWFAC03 Southeast Community Center @ 1550 Evans	26-Jul-12	29-Dec-23																																												
CWWFAC04 Southeast Bay Outfall Islais Creek Crossing R	26-Sep-16	29-Jul-24																																												
SWO0 Southwest Ocean Outfall (SWOO)	17-Aug-20	04-Apr-28																																												

Project Management	Environmental	Bid & Award	Construction
Planning	Design	Construction Mgmt	Closeout

APPENDIX 2.4. WVE R&R Project-Level Approved Schedule

Project Name	Start	Finish	FY2012				FY2013				FY2014				FY2015				FY2016				FY2017				FY2018				FY2019				FY2020				FY2021				FY2022
			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	FQ1
WVE Renewal & Replacement Program	01-Jul-10	31-Mar-21																																									
CWWRNRTF R&R Treatment Facilities	01-Jul-10	12-Feb-21																																									
CWWRNRCS R&R Collection Systems	01-Jul-10	31-Mar-21																																									



Appendix 3. Acronyms

APPENDIX 3. LIST OF ACRONYMS

AAR	Alternative Analysis Report	EPA	Environmental Protection Agency
ACOE	Army Corps of Engineers (also shown as USACE)	F&I	Facilities and Infrastructure
BAAQMD	Bay Area Air Quality Management District	FAMIS	Financial Accounting and Management Information System
BCDC	Bay Conservation and Development Commission	FOG	Fats, Oils, and Grease
BDFP	Biosolids Digester Facilities Project	FTA	Federal Transit Administration
BEM	Bureau of Environmental Management	FY	Fiscal Year
BFS	Bruce Flynn Pump Station	GFS	Griffith Pump Station
BMS	Better Market Street	GGNRA	Golden Gate National Recreation Area
BRT	Bus Rapid Transit	GI	Green Infrastructure
Caltrans	California Department of Transportation	GIGP	Green Infrastructure Grant Program
CAR	Condition Assessment Report	GPS	Griffith Pump Station
CATEX	Categorical Exemption	HDPE	High Density Polyethylene
CBSIP	Central Bayside System Improvement Project	HPO	High Purity Oxygen
CCSF	City and County of San Francisco	HSW	High-Strength Waste
CCTV	Closed-Circuit Television	HVAC	Heating, Ventilation and Air Conditioning
CEQA	California Environmental Quality Act	IC	Internal Combustion
CER	Conceptual Engineering Report	ICM	Integrated Catchment Model
CHFM	Channel Force Main	ICT	Islais Creek Transport/Storage
CHS	Channel (Street) Pump Station	IKG	Inedible Kitchen Grease
CIP	Capital Improvement Program; Cast-Iron Pipe	JOC	Job Order Contract
CM/GC	Construction Manager/General Contractor	JST	Jackson Street Transport/Storage Box
CMIS	Construction Management Information System	KV	Kilovolt
CPAS	Combined Primary Activated Sludge	LED	Light-Emitting Diode
CPMC	California Pacific Medical Company	LF	Linear Feet
CSAMP	Collection System Asset Management Program	LID	Low Impact Development
CSD	Combined Sewer Discharge	LOS	Levels of Service
CSR	Collection System Reliability	LOX	Liquid Oxygen
CTLS	Channel Tunnel Lift Station	LTI	Long-term Improvements
DCS	Distributed Control System	MCC	Motor Control Center
DIP	Ductile Iron Pipe	MG	Million Gallons
DW	Dry Weather	MGD	Million Gallons per Day
EIP	Early Implementation Project	MND	Mitigated Negative Declaration
EIR	Environmental Impact Report	MOU	Memorandum of Understanding
EIS	Environmental Impact Statement	MPM	Minor Project Modification
EMMS	Energy Monitoring and Management System	MPS	Mariposa Pump Station
		MTA	Municipal Transportation Agency (also shown as SFMTA)
		MV PDS	Medium Voltage Power Distribution System
		MW	Megawatt
		N/A	Not Applicable
		NAR	Needs Assessment Report

NEG DEC	Negative Declaration (also shown as ND)	SFCTA	San Francisco County Transportation Authority
NOD	Notice of Determination	SFMTA	San Francisco Municipal Transportation Agency (also shown as MTA)
NPDES	National Pollutant Discharge Elimination System	SFPUC	San Francisco Public Utilities Commission
NPF	Northpoint (Wet-Weather) Facility	SFPW	San Francisco Public Works (formerly SFDPW)
NSCFM	North Shore to Channel Force Main	SFRPD	San Francisco Recreation & Parks Department (also shown as RPD)
NSFM	North Shore Force Main	SSIP	Sewer System Improvement Program
NSS	Northshore Pump Station (also shown as NSPS)	SSMP	Sewer System Master Plan
NTP	Notice to Proceed	STATEX	Statutory Exemption
O&M	Operations and Maintenance	STI	Short-term Improvements
OBMP	Ocean Beach Master Plan	SWOO	Southwest Ocean Outfall
OCA	Office of Contract Administration	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	USEPA	United States Environmental Protection Agency
PMC	Program Management Consultant	UWA	Urban Watershed Assessment
PS	Pump Station	VCP	Vitrified Clay Pipe
PUC	Public Utilities Commission	VFD	Variable Frequency Drives
R&R	Renewal and Replacement (also shown as RnR)	VWS	Vactor Waste Station
RCP	Reinforced Concrete Pipe	WAS	Waste Activated Sludge
RFI	Request for Information	WEF	Water Environment Federation
RFP	Request for Proposal	WEFTEC	Water Environment Federation's Annual Technical Exhibition and Conference
RFQ	Request for Qualification	WSPS	West Side Pump Station (also shown as WSS)
ROW	Right-of-Way	WSS	Westside Pump Station (also shown as WSPS)
RPD	San Francisco Recreation & Parks Department (also shown as SFRPD)	WWE	Wastewater Enterprise
RWQCB	Regional Water Quality Control Board	WWE CIP	Wastewater Enterprise Capital Improvement Program
SELS	Southeast Lift Station	WWTP	Wastewater Treatment Plant
SEP	Southeast Plant; Southeast Water Pollution Control Plant		
SEWPCP	Southeast Water Pollution Control Plant		
SF	San Francisco		

SSIP PHASE 1 PROGRAM EXECUTIVE SUMMARY

OCTOBER - DECEMBER 2019

Oceanside Wastewater Treatment Plant



Services of the San Francisco
Public Utilities Commission

**SEWER
SYSTEM**
IMPROVEMENT PROGRAM
Grey. Green. Clean.

COMMUNICATIONS

OCTOBER - DECEMBER 2019

In the News

Sixteen (16) media mentions of SSIP-related projects, including stories on: SFPUC invitation to apply for WIFIA loans, sand backpass and climate change adaption work at Ocean Beach, impact of heavy rains throughout San Francisco, and recognition of the Biosolids Digester Facilities Project as Water & Wastes Digest "WWD 2019 Top Project Winners."

175,000+

IMPRESSIONS

Impressions were recorded this quarter through social media outlets (Facebook, Twitter, Instagram, YouTube, Nextdoor, and LinkedIn), SSIP webpage views, and community meeting attendees.

Highlights of Conducted Outreach

- Sunset Boulevard Community Meeting presentation on Sunset Boulevard Greenway Project.
- 6th Annual Women in Construction Expo.
- 12th Annual Southeast Community Facility Health and Harvest Fair.
- Adopt a Drain/Rain Guardians Tool Giveaway Volunteer Appreciation Event.
- 8th Annual Winter Wonderland.



As part of the 6th Annual Women in Construction Expo, attendees participated in presentations and panel discussions including topics such as diversity and inclusion, connecting with female mentors in a male dominated industry, and women owned business certification.

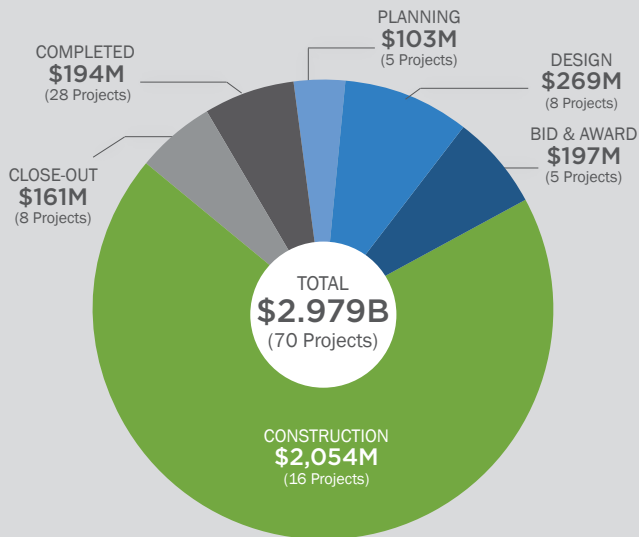
Upcoming Outreach Events

- January 6th - Southeast Community Center Plaza Sculpture Artist Review Panel
- January 27th - Tree Removal Hearing for Sunset Boulevard Greenway Project
- February 24th - Sirron Norris Cartooning Workshop
- March 7th - Southeast Community Center Groundbreaking Block Party

PHASE 1 METRICS

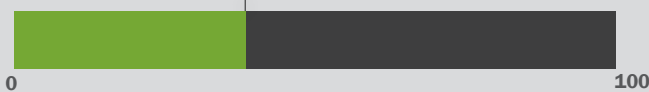
AS OF DECEMBER 2019

Projects by Phase



Percent Complete

37.1%



RECENTLY ADVERTISED & UPCOMING CONTRACTS

- Ongoing: WW-628, SEP New Headworks Facility Project, Various Trade Packages
<https://secure.smartbidnet.com/LAPW>
- Ongoing: WW-647R, SEP Biosolids Digester Facilities Project, Various Trade Packages
[https://mwhconstructors.com/sfpuc_biosolids_project/\[mwhconstructors.com\]](https://mwhconstructors.com/sfpuc_biosolids_project/[mwhconstructors.com])
- Oct 2019: WW-696, Cargo Way Flush Line, \$3.3M
- March 2020: WW-702, Jackson, Griffith, and Pierce Streets Combined Sewer Discharge Rehabilitation and Backflow Prevention, \$4M-\$5M
- March 2020: WW-645R & WW-685R, RFQ for Selected Wastewater Pump Stations, WW-645R:\$50-\$55 / WW-685R: \$28M-\$32M
- April 2020: Southeast Water Pollution Control Plant Power Feed and Primary Switchgear Upgrades, \$29M-\$34M

KEY UPDATES

OCTOBER - DECEMBER 2019

Programmatic

- Welcomed new Wastewater Capital Program Director
- Participated in 6th Annual Women in Construction Expo
- Published 5th edition of Jobs and Contracts Report - sfwater.org/jobsreport

Biosolids Digester Facilities Project (BDFP)

- CM/GC advertised four bid packages focusing on utility and sewer relocations and demolition of existing infrastructure at site of new facilities
- Continued coordination/collaboration between the construction contractor and the design staff to discuss constructability and site challenges

SEP New Headworks Facility Project

- Commission approved Mitigated Negative Declaration amendment and addition of Scope II.B/C (Influent Sewer / New Lift Station)
- Issued of Notice-To-Proceed for Scope II.B (Influent Sewer)
- Completed Scope II.C (New Lift Station) 100% design
- CM/GC completed Scope III (Main Headworks) bid packages (4th wave)

Southeast Treatment Plant (SEP)

- Issued Notice-to-Proceed and began construction on Seismic Reliability and Condition Assessment Improvements

Oceanside Treatment Plant (OSP)

- Completed construction of WW-606R2 OSP930 Awning and Exterior Improvements funded under OSP Condition Assessment Repairs Project
- Completed 95% design for WW-645R Westside Pump Station Reliability Improvements Project

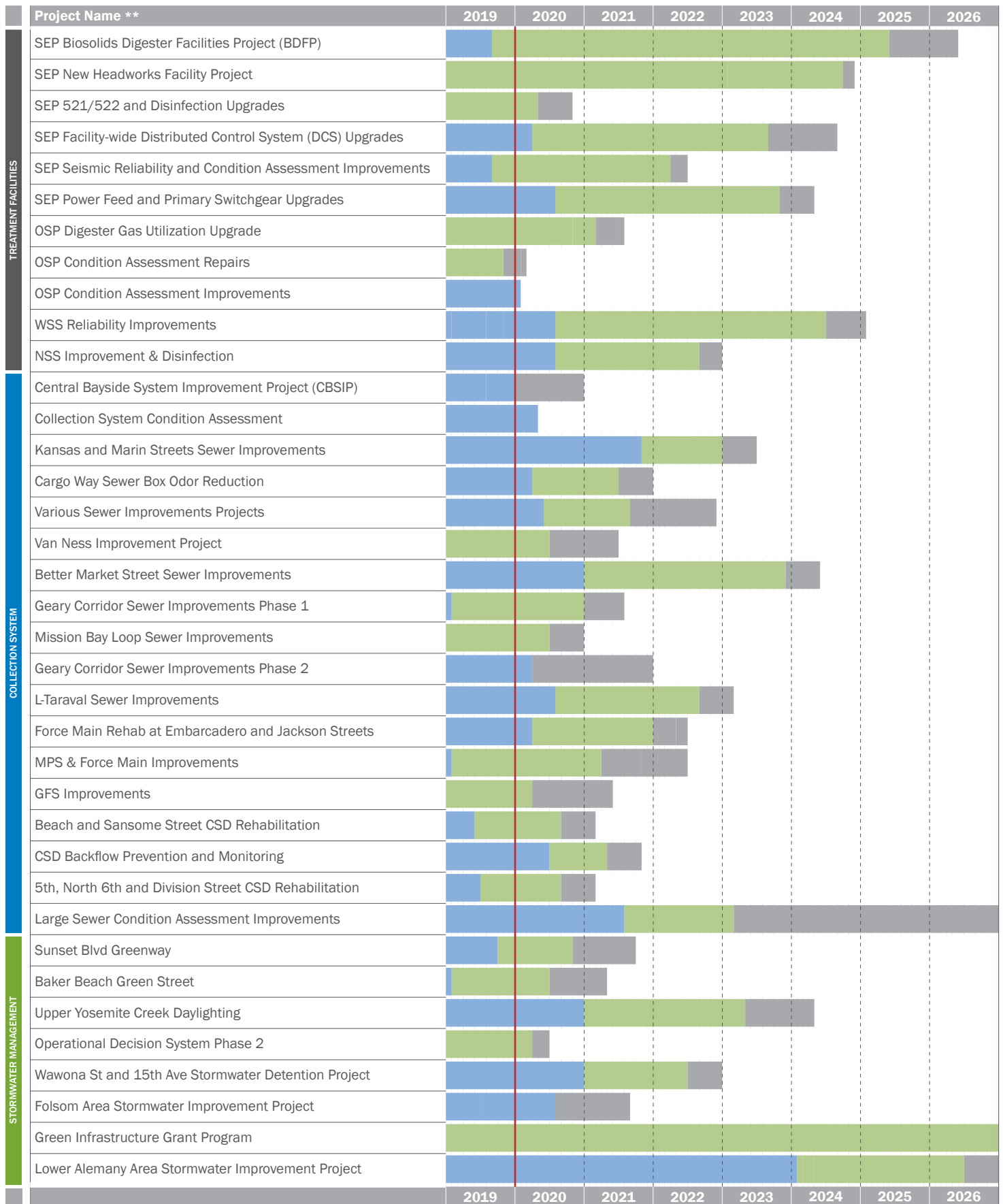
Collection System Reliability

- Completed 6th North and Division CSD Rehabilitation and Backflow Prevention, as a part of WW-683R
- Bids received for the Force Main at Embarcadero & Jackson contract
- Bids received for Cargo Way Flush Line contract
- Completed 35% design of the New Montgomery, Jessie, Minna, and Mission Streets Brick Sewer Rehabilitation
- Completed 95% design for WW-702 Jackson, Griffith, and Pierce CSD Rehabilitation and Backflow Prevention

Stormwater Management

- Began construction on WW-691 Sunset Boulevard Greenway Phase 2 November
- Completed 65% design for Wawona St and 15th Ave Stormwater Detention Project
- Awarded Green Infrastructure Grant for Bessie Carmichael Middle School

ACTIVE SSIP PHASE 1 CAPITAL PROJECTS | AS OF THE WWE QUARTERLY REPORT, OCTOBER - DECEMBER 2019



Project Phases: ■ Planning - Bid & Award ■ Construction ■ Close-out

**Completed Projects Not Shown

CONSTRUCTION PHOTOS



Southeast Wastewater Treatment Plant: Headworks project demolition.



Baker Beach Green Streets Project: Sea Cliff Avenue 25th Street Avenue to 26th Avenue. Pervious concrete installation: A special type of porous concrete that allows stormwater to pass through and soak into the ground in contrast to hard surfaces such as asphalt or traditional concrete where stormwater runoff flows into the sewer system.



Geary Boulevard Water Main Installation and Sewer Replacement Project (Segment B): Replacing and repairing aging sewer mains.

LOOKING AHEAD

JANUARY - MARCH 2020

Programmatic

- Provide quarterly update to Commission
- Present 2-Year and 10-Year Capital Program budgets

Biosolids Digester Facilities Project (BDFP)

- Present update to Commission on scope of work, cost estimates and results of coordination between construction contractor and design staff

SEP New Headworks Facility Project

- Submit Water Infrastructure Financing and Innovation Act (WIFIA) loan application
- Scope I (Site Preparation) substantial completion
- Scope III (Main Headworks) - Begin drilled pier work and continue to advertise remaining bid package

Southeast Treatment Plant (SEP)

- Determine list of qualified bidders (from RFQ) for WW-662R SEP Power Feed and Primary Switchgear Upgrades

Oceanside Treatment Plant (OSP)

- Issue RFQ for construction services for WW-645R Westside Pump Station Reliability Improvements Project

North Point Wet Weather Facility (NPF)

- Issue RFQ for construction services for WW-685R North Shore Pump Station Wet Weather Improvements

Collection System Reliability

- Complete demolition of the existing pump station for WW-667, Mariposa Dry-Weather Pump Station Improvements.
- Advertise WW-702 Jackson, Griffith and Pierce CSD Backflow Prevention and Monitoring for construction
- Award construction contract for WW-687, Force Main Rehab at Embarcadero and Jackson Streets
- Award construction contract for WW-696, Cargo Way Flush Line
- Complete 95% design for Mission Street, 16th to Cesar Chavez St, Brick Sewer Rehabilitation contract

Stormwater Management

- Complete 35% design documents for Folsom Area Stormwater Improvement
- Finalize evaluation criteria for alternative analysis and complete geotechnical and traffic studies for Lower Alemany Area Stormwater Improvement
- Complete draft 95% design documents for Wawona Area Stormwater Improvement
- Issue RFP for Engineering Services for Conceptual Engineering Report (CER) and detail design for Lower Alemany Area Stormwater Improvement

Interdepartmental

- SFMTA to re-advertise for construction bids for Taraval Sewer Improvements Project Segment B (Sunset Blvd. to West Portal)

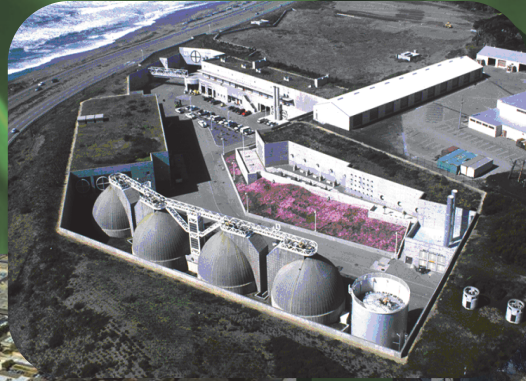
For more information, visit: sfwater.org/ssip





San Francisco
Water Power Sewer

Services of the San Francisco Public Utilities Commission



QUARTERLY REPORT

Wastewater Enterprise Programs

October 2019 – December 2019

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, WWE 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 December 31, 2019. The number of projects currently active in each phase is shown in parentheses.

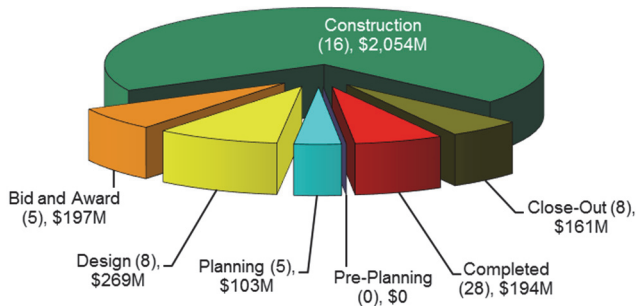


Figure 2.1 Total Current Approved Budget for SSIP Phase 1 Projects Active in Each Phase

Figure 2.2 shows the number of SSIP Phase 1 projects in the following stages of the program as of December 31, 2019: Pre-construction, Construction, and Post-construction.

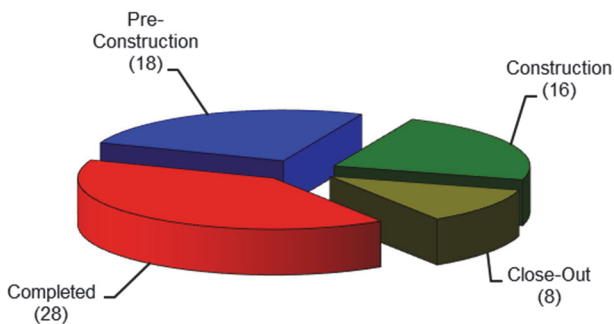


Figure 2.2 Number of SSIP Phase 1 Projects in Pre-construction, Construction, and Post-construction

Figure 2.3 summarizes the environmental review and permitting status of the SSIP Phase 1 projects as of December 31, 2019.

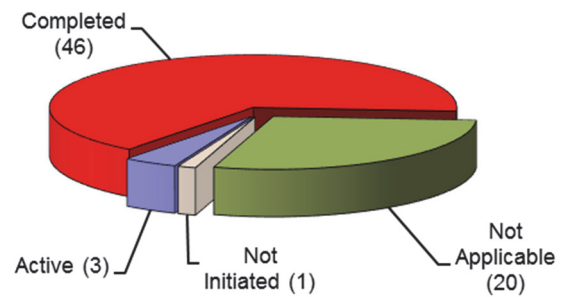


Figure 2.3 Program Environmental and Permitting Status of the SSIP Phase 1 Projects

Figure 2.4 shows the total Current Approved Budget for the Other SSIP projects remaining in each phase of the program as of December 31, 2019. The number of projects currently active in each phase is shown in parentheses.

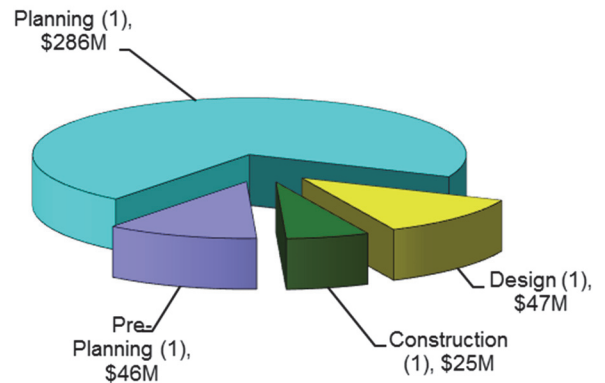


Figure 2.4 Total Current Approved Budget for Other SSIP Projects Active in Each Phase

Figure 2.5 shows the number of Other SSIP projects in the following stages of the program as of December 31, 2019: Pre-construction, Construction, and Post-construction.

Figure 2.6 summarizes the environmental review and permitting status of the Other SSIP projects as of December 31, 2019.

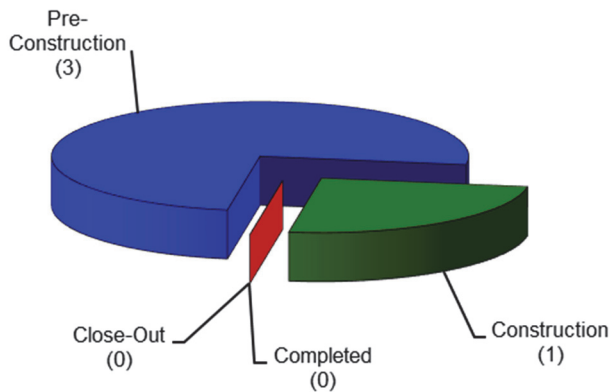


Figure 2.5 Number of Other SSIP Projects in Pre-construction, Construction, and Post-construction

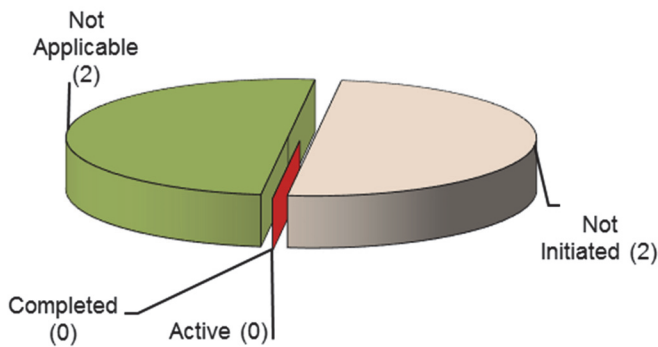


Figure 2.6 Program Environmental and Permitting Status of the Other SSIP Projects

KEY ACCOMPLISHMENTS

Programmatic

- New Wastewater Capital Program Director Stephen Robinson joined the SFPUC
- Participated in the 6th annual Women in Construction Expo
- Published 5th edition of Jobs and Contracts Report - sfwater.org/jobsreport
- Continued working on Levels of Service refinements, implementation strategies and recommended project’s list as part of budgeting process and development of capital plan.

COMMUNICATIONS

In the news

- Sixteen (16) media mentions of SSIP-related projects, including stories on: SFPUC Response to EPA issued violations notices, EPA invitation to apply for WIFIA loan, sand backpass efforts at Ocean Beach as part of the Ocean Beach Climate Change Adaptation Project, and response to flooding instances during heavy winter rains.
- Over 180,000+ impressions were recorded this quarter through social media outlets (Facebook, Twitter, Instagram, YouTube, Nextdoor, and LinkedIn), SSIP webpage views, and community meeting attendees.

Outreach

- October 4th – Bayview Bistro Tabling
- October 6th – Sunset Boulevard Community Meeting
- October 22nd – Bayview Merchants Association Mixer
- October 20th – Sunday Streets: Excelsior
- November 1st – 6th Annual Women in Construction Expo
- November 17th – Southeast Community Facility Health and Harvest Fair
- November 9th – Bayview Business Day
- November 9th – 12th Annual Health and Harvest Fair
- November 14th – Adopt a Drain & Rain Guardian Tool Giveaway
- December 19th – 8th Annual Winter Wonderland

I. SSIP Quarterly Report

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 \$3,292.7 million (\$314 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 \$480.0 million, respectively (\$50 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	\$541.0	\$2,250.7	\$2,504.9	(\$254.2)
Biosolids Digester Facilities Project	\$190.1	\$1,276.4	\$1,315.3	(\$38.9)
SEP New Headworks (Grit) Replacement	\$118.3	\$418.8	\$618.8	(\$200.0)
Southeast Plant (SEP) Improvements	\$163.7	\$340.6	\$339.3	\$1.3
Oceanside Plant (OSP) Improvements	\$44.5	\$139.6	\$158.8	(\$19.3)
North Point Facility (NPF) Improvements	\$24.4	\$75.2	\$72.6	\$2.6
Collection System	\$222.5	\$504.8	\$522.7	(\$17.9)
Central Bayside System Improvement Project (CBSIP)	\$34.6	\$64.0	\$64.0	-
Interceptors/Tunnels/Odor Control	\$18.9	\$65.2	\$61.1	\$4.1
Interdepartmental Projects	\$29.3	\$87.5	\$96.6	(\$9.1)
Pump Stations and Force Main Improvements	\$50.7	\$77.6	\$81.0	(\$3.3)
CSD and Transport/Storage Structures	\$8.9	\$27.0	\$26.8	\$0.3
Stormwater Management	\$62.4	\$95.8	\$97.0	(\$1.2)
Flood Resilience Projects	\$17.6	\$87.7	\$96.2	(\$8.6)
Land Reuse Projects	\$85.1	\$98.2	\$90.1	\$8.1
Program Management (PM)	\$109.9	\$125.0	\$175.0	(\$50.0)
SSIP Phase 1 Total	\$958.5	\$2,978.7	\$3,292.7	(\$314.0)

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	\$72.0	-
Oceanside Plant (OSP) Improvements*	-	\$72.0	\$72.0	-
Collection System	\$1.4	\$358.5	\$408.0	(\$49.5)
Interceptors/Tunnels/Odor Control	\$0.2	\$47.0	\$96.5	(\$49.5)
Stormwater Management	\$0.2	\$25.0	\$25.0	-
Flood Resilience Projects	\$1.0	\$286.5	\$286.5	-
Other SSIP Total	\$1.4	\$430.5M	\$480.0M	(\$49.5M)

* \$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 projects 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 forecasted completion of the SSIP Phase 1 is in May 2026 (12-month behind schedule).

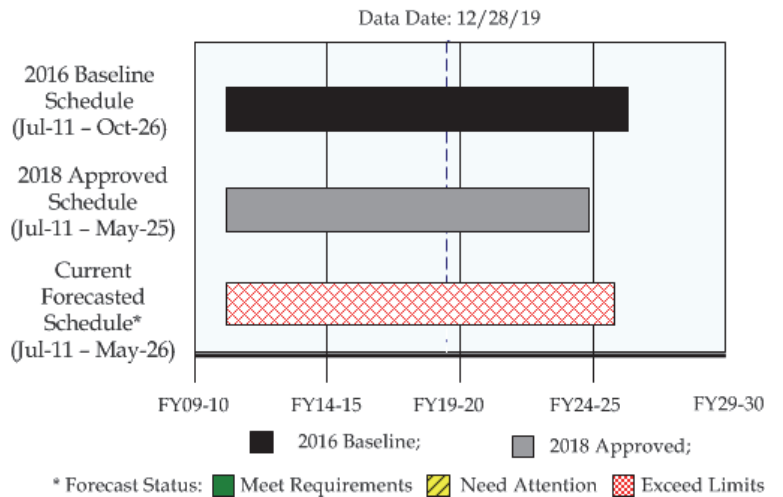


Figure 4.1 SSIP Phase 1 Schedule Summary

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5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 12/28/19

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	\$ 1,315,312	\$ 190,093	(\$38,865)	⚠	05/01/25	05/01/25	05/01/25	05/01/26	12.0 mo. Late	●	See Section 6
New Headworks (Grit) Replacement															
CWWSIPSE02 - SEP New Headworks (Grit) Replacement	CN	\$ 358,631	\$ 418,835	\$ 418,835	\$ 618,835	\$ 118,346	(\$200,000)	●	12/29/23	09/30/24	09/30/24	09/30/24	-	★	See Section 6
Southeast Plant (SEP) Improvements															
CWWSIPSE05 - SEP 521/522 and Disinfection Upgrades (SEP Building 521 Replacement)	CN	\$ 41,614	\$ 41,614	\$ 41,614	\$ 44,705	\$ 43,413	(\$3,092)	⚠	01/18/19	09/04/19	09/04/19	10/13/20	13.3 mo. Late	●	See Section 6
CWWSIPSE07 - SEP Facility-wide Distributed Control System Upgrade	PL	\$ 62,988	\$ 62,988	\$ 62,988	\$ 62,988	\$ 6,674	-	★	08/31/23	08/31/23	08/31/23	08/30/24	12.0 mo. Late	●	See Section 6
CWWSIPSE08 - SEP Seismic Reliability and Condition Assessment Improvements	CN	\$ 53,152	\$ 53,152	\$ 53,152	\$ 44,152	\$ 18,827	\$ 9,000	★	12/31/19	09/30/21	09/30/21	06/30/22	9.0 mo. Late	●	See Section 6
CWWSIPSE10 - SEP Power Feed and Primary Switchgear Upgrades	BA	\$ 69,841	\$ 84,340	\$ 84,340	\$ 95,875	\$ 7,812	(\$11,535)	●	07/31/20	12/30/22	12/30/22	04/12/24	15.4 mo. Late	●	See Section 6
Oceanside Plant (OSP) Improvements															
CWWSIPTPOP02 - Westside Pump Station Reliability Improvements	DS	\$ 70,500	\$ 71,500	\$ 71,500	\$ 87,800	\$ 17,534	(\$16,300)	●	12/02/21	06/30/23	06/30/23	01/06/25	18.3 mo. Late	●	See Section 6
CWWSIPTPOP03 - OSP Digester Gas Utilization Upgrade	CN	\$ 39,688	\$ 45,888	\$ 45,888	\$ 54,388	\$ 12,297	(\$8,500)	●	06/15/20	06/04/21	06/04/21	07/29/21	1.8 mo. Late	★	See Section 6
CWWSIPTPOP05 - OSP Condition Assessment Repairs	CN	\$ 15,843	\$ 15,843	\$ 15,843	\$ 13,848	\$ 12,159	\$ 1,995	★	06/28/21	06/28/19	06/28/19	02/14/20	7.6 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.
- ⚠ 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%.
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I. SSIP Quarterly Report

Q2-FY2019-2020 (10/01/19 - 12/31/19)

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															
CWWSIPTNP02 - North Shore Pump Station Wet Weather Improvements	BA	\$ 69,803	\$ 55,000	\$ 55,000	\$ 55,000	\$ 6,812	-	★	12/31/20	07/30/21	07/30/21	12/28/22	17.0 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	\$ 34,623	-	★	06/30/17	12/31/18	12/31/18	12/31/20	24.0 mo. Late	●	See Section 6
Interceptors / Tunnels and Odor Control															
10033745 - SSIP Sewer Improvements Projects	DS	\$ 20,462	\$ 20,462	\$ 20,462	\$ 10,990	\$ 484	\$ 9,473	★	11/22/22	11/22/22	11/22/22	11/22/22	-	★	See Section 10
CWWSIPCSSR02 - Collection System Condition Assessment	PL	\$ 10,912	\$ 10,912	\$ 10,912	\$ 4,933	\$ 4,928	\$ 5,979	★	04/09/20	04/09/20	04/09/20	04/09/20	-	★	See Section 10
CWWSIPCSSR03 - Kansas and Marin Streets Sewer Improvements	DS	\$ 7,734	\$ 17,477	\$ 17,477	\$ 28,380	\$ 3,718	(\$10,903)	●	11/27/18	12/15/21	12/15/21	06/30/23	18.5 mo. Late	●	See Section 6
CWWSIPCSSR11 - Cargo Way Sewer Box Odor Reduction	BA	\$ 6,442	\$ 6,442	\$ 6,442	\$ 8,743	\$ 1,771	(\$2,301)	●	02/11/20	07/12/21	07/12/21	12/02/21	4.7 mo. Late	⚠	See Section 6
Interdepartmental Projects															
10033106 - Geary BRT Sewer Improvements Phase 2	PL	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 27	-	★	01/08/18	03/30/20	03/30/20	12/30/21	21.0 mo. Late	●	See Section 6
CWWSIPCSSR04 - Van Ness BRT Sewer Improvements	CN	\$ 14,957	\$ 21,100	\$ 21,100	\$ 25,000	\$ 11,949	(\$3,900)	●	06/04/20	06/30/21	06/30/21	06/30/21	-	★	See Section 6
CWWSIPCSSR05 - Better Market Street Sewer Improvements - Phase 1	DS	\$ 32,405	\$ 9,753	\$ 9,753	\$ 15,000	\$ 1,747	(\$5,247)	●	01/24/23	03/31/22	03/31/22	05/17/24	25.6 mo. Late	●	See Section 6
CWWSIPCSSR06 - Geary BRT Sewer Improvements Phase 1	CN	\$ 17,043	\$ 12,900	\$ 12,900	\$ 12,900	\$ 7,076	-	★	07/15/19	02/12/21	02/12/21	07/12/21	4.9 mo. Late	⚠	See Section 6

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* 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

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I. SSIP Quarterly Report

Q2-FY2019-2020 (10/01/19 - 12/31/19)

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															
Interdepartmental Projects															
CWWSIPCSSR08 - Mission Bay Loop Sewer Improvement	CN	\$ 1,794	\$ 718	\$ 718	\$ 718	\$ 509	-	★	11/01/17	12/31/18	12/31/18	12/31/20	24.0 mo. Late	●	See Section 6
CWWSIPCSSR13 - Taraval Sewer Improvements	BA	\$ 20,400	\$ 33,136	\$ 33,136	\$ 33,136	\$ 1,946	-	★	10/19/20	04/09/21	04/09/21	02/10/23	22.1 mo. Late	●	See Section 6
Pump Stations and Forcemain Improvements															
CWWSIPCSPS02 - Force Main Rehab at Embarcadero and Jackson Streets	BA	\$ 5,845	\$ 9,909	\$ 9,909	\$ 9,909	\$ 1,416	-	★	12/12/18	10/29/21	10/29/21	06/30/22	8.0 mo. Late	●	See Section 6
CWWSIPCSPS03 - Mariposa Dry-Weather Pump Station & Force Main Improvements	CN	\$ 28,221	\$ 28,221	\$ 28,221	\$ 31,940	\$ 11,055	(\$3,719)	●	01/21/21	06/21/21	06/21/21	06/30/22	12.3 mo. Late	●	See Section 6
CWWSIPCSPS06 - Griffith Pump Station Improvements	CN	\$ 7,029	\$ 14,977	\$ 14,977	\$ 15,427	\$ 14,540	(\$450)	⚠	07/19/19	12/10/19	12/10/19	05/07/21	16.9 mo. Late	●	See Section 6
CSD and Transport/Storage Structures															
CWWSIPCSCD03 - Beach and Sansome Street CSD Rehabilitation	CN	\$ 2,523	\$ 3,150	\$ 3,150	\$ 4,200	\$ 2,602	(\$1,050)	●	12/20/19	04/30/20	04/30/20	02/26/21	9.9 mo. Late	●	See Section 6
CWWSIPCSCD04 - CSD Backflow Prevention and Monitoring	DS	\$ 15,000	\$ 13,617	\$ 13,617	\$ 16,708	\$ 2,759	(\$3,090)	●	10/01/21	10/01/21	10/01/21	10/01/21	-	★	See Section 6
CWWSIPCSCD05 - 5th, North 6th and Division Street CSD Rehabilitation	CN	\$ 4,635	\$ 5,390	\$ 5,390	\$ 5,139	\$ 3,008	\$ 251	★	07/13/20	07/13/20	07/13/20	02/26/21	7.5 mo. Late	●	See Section 6
Early Implementation Projects															
CWWSIPFCDB01 - Sunset Green Infrastructure	CN	\$ 10,746	\$ 8,439	\$ 8,439	\$ 9,027	\$ 4,955	(\$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	\$ 8,366	(\$948)	⚠	04/30/21	04/30/21	04/30/21	04/30/21	-	★	See Section 6
CWWSIPFCDB06 - Yosemite Green Infrastructure	PL	\$ 12,804	\$ 16,050	\$ 16,050	\$ 17,101	\$ 3,007	(\$1,051)	⚠	12/21/21	04/05/24	04/05/24	04/05/24	-	★	See Section 6

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* 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

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I. SSIP Quarterly Report

Q2-FY2019-2020 (10/01/19 - 12/31/19)

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	\$ 1,455	(\$22,290)	●	04/07/20	12/30/21	12/30/21	12/30/22	12.0 mo. Late	●	See Section 6
CWWSIPFCG101 - Watershed Stormwater Management (Planning Only)	PL	\$ 7,000	\$ 7,000	\$ 7,000	\$ 9,000	\$ 2,261	(\$2,000)	●	07/12/19	12/30/20	12/30/20	12/30/20	-	★	See Section 6
Advanced Rainfall and Operation Decision System															
CWWSIPFCRP03 - Operational Decision System Phase 2	CN	\$ 7,798	\$ 8,721	\$ 8,721	\$ 6,721	\$ 1,995	\$ 2,000	★	06/26/20	06/26/20	06/26/20	06/26/20	-	★	See Section 10
Flood Resilience Projects															
CWWSIPFCDB14 - Folsom Area Stormwater Improvement Project	DS	\$ 36,265	\$ 38,411	\$ 38,411	\$ 38,411	\$ 3,973	-	★	11/01/19	06/01/20	06/01/20	08/31/21	15.0 mo. Late	●	See Section 6
Sewer/Collection System (Other SSIP)															
Collection System - Interceptors / Tunnels / Odor Control															
10034718 - Large Sewer Condition Assessment and Improvements	DS		\$ 47,000	\$ 47,000	\$ 96,520	\$ 179	(\$49,520)	●		05/20/24	05/20/24	12/07/26	30.6 mo. Late	●	See Section 6
Stormwater Management/Flood Control (Other SSIP)															
Green Infrastructure for Stormwater Mgmt (Grant)															
10034553 - Green Infrastructure Grant Program (GIGP)	CN		\$ 25,000	\$ 25,000	\$ 25,000	\$ 168	-	★		06/30/28	06/30/28	06/30/28	-	★	See Section 10
Flood Resilience															
10034360 - Lower Alemany Area Stormwater Improvement Project	PL		\$ 286,460	\$ 286,460	\$ 286,460	\$ 1,023	-	★		12/31/26	12/31/26	12/31/26	-	★	See Section 10

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* 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.

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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, meet current and future demands, satisfy present and future seismic and structural requirements, and improve the quality of life 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* \$1,315.31 Actual \$190.09 M		Project Schedule: Approved Jul-11 May-25 Forecast* Jul-11 May-26 Project Percent Complete: 17.7%
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✓	N/A	08/26/19✓	05/01/25

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

Progress and Status:

The Construction Manager/General Contractor (CM/GC) advertised four (4) bid packages in September and October 2019 focusing on utility and sewer relocations, and demolition of existing infrastructure. Three out of the four packages have been awarded and construction work has been initiated. The fourth package will be awarded in January 2020. Coordination meetings are continuing between the CM/GC, and the design staff to review scope of work and discuss constructability and site challenges.



Rendering of the new biosolids digester facilities and improvements on Jerrold Avenue

Issues and Challenges:

Similar to the last quarter's report, the schedule and cost variances reflect the one-year delay to the start of the construction phase. At this time, the forecasted cost variance of \$39M is associated with the design and pre-construction support services (soft costs) due to the 1-year extension. Further cost and schedule impacts are being evaluated.











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 impact. The project will also improve visual aesthetics of the facility.

APPROVED

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 	\$118.35 M	Project Percent Complete: 30.0%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	05/31/17✓	(A) N/A (B) N/A (C) N/A (D) TBD	(A) 11/15/17✓ (B) 12/17/18✓ (C) 07/22/19✓ (D) 03/20/24	(A) 04/25/20 (B) 01/01/22 (C) 08/25/23 (D) 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

Progress and Status:

Quarterly partnering session (field staff and executive team) held on 10/17/19. Project team continues to work on Water Infrastructure Finance and Innovation Act (WIFIA) loan application.

Scope I (Site Preparation) – CM/GC continued construction activities. This includes successful completion and usage of re-route pipe on Evans Ave.

Scope II.A (BFS Improvements) – Completed installation of the Sump No. 1 knife gate and odor control units. Successful start-up and operation of 150 MGD for wet weather with new pumps and bar screen. Estimated physical construction completion 77%.

Scope II.B/C (SEP-005 Lift Station) – Commission approved MND amendment and addition of Scope II.B/C and authorized team to proceed with construction on 10/8/19. Scope II.B NTP was issued on 10/25/19. Scope II.C 100% design completed on 12/6/19.

Scope III (Main Headworks) – CM/GC provided updated bid package plan. Seven (7) work release

request (WRR) issued to date. NTP was issued on 7/22/19.

Issues and Challenges:

The forecast project cost reflects latest construction efforts related to Scope I, Scope II.A and Scope III. Scopes II.B/C are being further considered for scope reduction. Project Team continues to evaluate construction cost impacts associated with current market conditions and continues to explore cost reduction approaches to mitigate cost impacts.

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

Description: 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, the W3 pumps and associated piping will be replaced and relocated the non-potable (W3) pump system by replacing four existing W3 pumps and associated piping with four new higher flow capacity pumps.



Program: Southeast Plant (SEP) Improvements	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved \$41.61 M	Approved Jun-13 Sep-19	
Forecast* \$44.71 M	Forecast* Jun-13 Oct-20	
Actual \$43.41 M	Project Percent Complete: 97.6%	
Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/18/15✓	10/29/15✓	03/07/16✓	04/13/20

Progress and Status:

Contractor completed demolition of the old W3 system and the related piping, strainers and supports at SEP 540. Contractor continued to install and mount various sampling equipment with the associated piping and conduit inside SEP 521. Contractor continues to install conduits and pull in new wires for the various electrical distribution and control panels inside SEP 521. Contractor set in place the new DCS workstation inside Bldg. 521 as well as continue to perform punch list item work at SEP 920.

Issues and Challenges:

Forecast project cost and schedule has increased due to issues associated with newly installed strainers, as well as electrical and mechanical modifications related to electrical equipment within building SEP 522.













Demo Abandoned Sump Pump System

I. SSIP Quarterly Report

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

APPROVED

Program: Southeast Plant (SEP) Improvements	Project Status: Planning	Environmental Status: Not Applicable
Project Cost:		Project Schedule:
Approved  \$62.99 M	Approved Feb-14  Aug-23	
Forecast*  \$62.99 M	Forecast* Feb-14  Aug-24	
Actual  \$6.67 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	See Note	See Note+	04/01/20	08/31/23

+ 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:

Project team continues to work on 35% design of the SEP DCS Network Upgrades. Ongoing coordination with WWE DCS and SFPUC IT for network architecture and cybersecurity. Engineering support for WW-628-02A BFS, WW-628-02C SEP 005, and WW-685R NSS is ongoing. Contract Amendment #1 is in development. Coordination efforts with BDFP and New Headworks project ongoing.

Issues and Challenges:

There is a forecast project finish delay of about 1 year due to this project's interdependency with CWWSIPDP01 Biosolids Digester Project (BDFP).



DCS Contractor Testing Control Loops at Bruce Flynn Pump Station

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' 540 to Booster Pump Station, Conduits C/D/E, SEP 525 Box Channel, and 9' 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 Jun-22	
Actual \$18.83 M	Project Percent Complete: 49.0%	
Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

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

For WW-665, south side of SEP 042 (Southeast Plant All-weather Primary Sedimentation Building), demolition and pre-excavation required for installation of the drill piers were completed. The drill pier subcontractor mobilized and commenced drilling in December.

For WW-628, north side of SEP 042, sheet pile shoring and bracing were completed this quarter. Installation of bottom/top rebar mats for the six slab on grade sections, installation and pull testing of the seismic shelf wall dowels, and installation of the dewatering system were also completed.



5' Diameter Drill Pier Installation

Issues and Challenges:











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.

I. SSIP Quarterly Report

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, and integration with other SEP projects (particularly BDFP) to plan the need for emergency generator. Construction includes construction of a new duct bank from the main switchgear to an electrical manhole.

APPROVED

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*  \$95.88 M	Forecast* Jun-14  Apr-24	
Actual  \$7.81 M	Project Percent Complete: 7.3%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP	Construction Final Completion
Current Forecast	02/22/18✓	03/05/19✓ - 02/03/20	07/27/20	10/10/23

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

Progress and Status:

The project team continued repackaging the construction documents for rebid of Contract WW-662R. The Request for Qualifications (RFQ) for construction services was issued on 11/20/19. One addendum to RFQ package was issued in December 2019. The list of qualified bidders is anticipated to be determined next quarter. Project team also continues to coordinate with Power Enterprise and PG&E for delivery of 12 kV services to SEP, BFS and BPS.

Issues and Challenges:

The forecast project cost has increased based on the revised engineers estimate. The forecast project schedule duration has increased due to the additional time needed to re-advertise/Pre-Qualification and rebid.




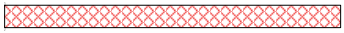




SEP Building 032 Conceptual Rendering

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, increasing the capacity of the wet weather pumping capacity and provide a reliable redundant power source, and replacement of the existing odor control units at the WSS with dilution ventilation fans and ducting.

APPROVED

Program: Oceanside Plant (OSP) Improvements	Project Status: Design	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved  \$71.50 M	Approved Jun-13  Jun-23	
Forecast*  \$87.80 M	Forecast* Jun-13  Jan-25	
Actual  \$17.53 M	Project Percent Complete: 22.7%	
		

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 06/13/13✓ (B) 04/20/17✓	05/06/14✓ 03/16/20	10/15/14✓ 08/04/20	03/27/17✓ 06/05/24

+ 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 95% design milestone was completed in November 2019. In January 2020, the SFPUC is targeting advertisement of Request for Qualifications (RFQ) for construction services for prospective candidates with selected wastewater pump station qualifications. Qualified candidates will be eligible to respond to forthcoming request for bids for selected wastewater pump stations including WW-645R Westside Pump Station Reliability Improvements & WW-685R North Shore Pump Station Wet Weather Improvements.

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 95% design construction cost estimate is trending above the baseline budget. SFPUC is continuing discussions



Proposed Westside Reliability Improvements architectural rendering of project site improvements







with SF Zoo staff regarding real estate license agreement for construction staging areas required for the project.

I. SSIP Quarterly Report

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 system reliability. A 500 kw standby diesel generator and diesel fuel storage will be installed to provide electrical redundancy of critical plant electrical loads.

APPROVED

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  Jul-21
Actual 	\$12.30 M	Project Percent Complete: 26.5%
		

Key Milestones:	Environmental+ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	06/14/17✓	04/25/18✓	11/26/18✓	02/22/21

+ 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 selective demolition, temporary power utility installation and site utility installation are on-going. Contractor has received electrical gear MCC820 onsite and is preparing field installation of equipment.

Issues and Challenges:

Similar to the last quarterly report, the forecasted cost variance reflects a higher construction contract award beyond baseline budget.









WW-639 Contractor activities including installing site underground utilities on-going

CWWSIPTPOP05 - OSP Condition Assessment Repairs

Description: 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 SIP projects. This project includes rehabilitation of building structures, rehabilitation or replacement of mechanical systems, 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.

APPROVED

Program: Oceanside Plant (OSP) Improvements	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved  \$15.84 M	Approved Jul-14  Jun-19	
Forecast*  \$13.85 M	Forecast* Jul-14  Feb-20	
Actual  \$12.16 M	Project Percent Complete: 98.4%	
		

Key Milestones:	Environmental** Approval	Bid** Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 12/19/18✓ (B) 07/03/13✓ (C) 12/19/15✓	N/A 01/15/16✓ 09/23/16✓	N/A 07/25/16✓ 03/14/17✓	N/A 02/14/20 10/01/19✓

+ Project includes multiple construction contracts.

(B) WW-570 Oceanside Water Pollution Control Plant and Westside Pump Station HVAC Upgrades and (C) WW-606R2 Oceanside Water Pollution Control Plant Building 930 Exterior and Awning Improvements

** The Environmental Approval & Bid Advertisement for Contract B were achieved in Project CWWRNRTF48, and the Environmental Approval & Bid Advertisement for Contract C were achieved in Project CWWRNRTF67. The Environmental Approval shown in the above table refers to other improvements to the Oceanside Water Pollution Control Plant.

Progress and Status:

(A) The Oceanside Water Pollution Control Plant Condition Assessment Repairs final CER was issued in October 2018. Technical Steering Committee Presentation was completed in July 2019; which concluded the project planning phase.

(B) Construction Contract WW-570 OSP-WSS HVAC Upgrades achieved project substantial completion in April 2019. The testing and commissioning of the HVAC systems to the existing Building Management System (BMS) computer interface experienced some time delays have resulted in impacts to the contract final completion date.

(C) Construction Contract WW-606R2 OSP Door and Building 930 Exterior and Awning Improvements – the Contractor achieved final completion in October 2019. The contract is targeting Commission closeout in February 2020.



WW-606R2 Building 930 Upper Awning substantially complete in August 2019.

Issues and Challenges:











The testing and commissioning of the HVAC systems to the existing Building Management System (BMS) computer interface experienced some time delays that have resulted in impacts to the contract final completion date, that has resulted in an overall project schedule delay.

I. SSIP Quarterly Report

CWWSIPTNP02 - 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 regulatory compliance.

DRAFT

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-22	
Actual  \$6.81 M	Project Percent Complete: 17.4%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

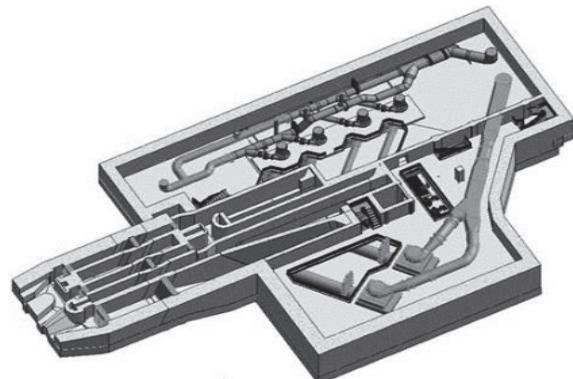
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/13/17✓	06/14/19✓ - 03/16/20	08/04/20	08/29/22

Progress and Status:

In January 2020, the SFPUC is targeting advertisement of Request for Qualifications (RFQ) for construction services from prospective candidates with selected wastewater pump stations. Qualified candidates will be eligible to bid on the selected projects. The design team is anticipated to re-package the bid documents for contract WW-685R, incorporating appropriate addenda and responses to questions on bid documents.

Issues and Challenges:

The schedule variance is due to addition of RFQ process to the standard design-bid-build contract.



North Shore Pump Station Wet Weather Improvements

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 outside 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 Dec-20	
Actual \$34.62 M	Project Percent Complete: 57.7%	

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.

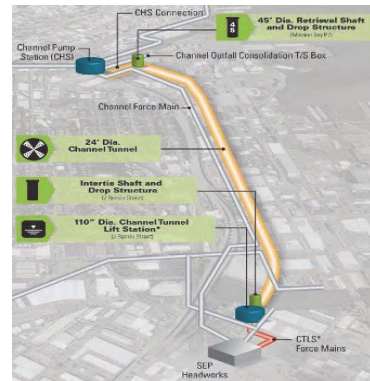
Progress and Status:

The 35% Design has been completed. Baseline (CEQA consultant) is continuing work on the Draft Initial Study.

The completion of design is outside of SSIP Phase 1, and the initiation of 65% tunnel design effort is pending direction from SFPUC Senior Management.

Issues and Challenges:

Project activities are on hold after 35% Design and project is extended to December 2020 for completion of preliminary CEQA documents.













CBSIP Site Map

I. SSIP Quarterly Report

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 new tunnel to the existing sewers, along with surface restoration work associated with construction of the tunnel. **APPROVED**

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  Jun-23
Actual 	\$3.72 M	Project Percent Complete: 20.9%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/23/19✓	N/A	10/14/21	12/19/22

**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:

During this quarter, the project team continued to work on the 35% design, which will be part of the tender set for a request for bid. However, San Francisco Public Works (SFPW) continues to express concerns with the proposed sewer tunnel under their maintenance yard; therefore, the Request for Qualification (RFQ) for the design-build tunnel contract continues to be on-hold.

Issues and Challenges:

The schedule variance reflects the additional delays related to SFPW's concerns before the project may proceed with the RFQ. 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.









KM MTBM Receiving Area

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 a backflow preventer inside 18-inch steel casing beneath SFMTA tracks, installation of 3,950 LF of trenchless pipe, and installation of backflow preventer and control valves.

APPROVED

Program: Interceptors / Tunnels and Odor Control	Project Status: Bid and Award	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-21
Actual 	\$1.77 M	Project Percent Complete: 24.2%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/23/19✓	11/18/19✓	04/27/20	06/01/21

Progress and Status:

During this quarter, the project team completed the 100% design, prepared the bid package and advertised in November 2019. Actual bids were received on December 12, 2019. The team continues to coordinate with other utilities to resolve identified conflicts. Staff finalized agreements with SFMTA for bus substitution (or other transit mitigation) since construction activities requires temporary shutdown of the Third Street Light Rail. Since the project is located within SF Port’s jurisdiction, agreement with SF Port is ongoing. It has been challenging to obtain a commitment from SF Port on the timeline for the review and concurrence of the agreement with them.

Issues and Challenges:

Project forecast increase is based on actual bids received and longer project duration and will be balanced from project CWWSIPCSSR03. Key milestone dates have been updated to reflect anticipated delays to resolve utility conflicts between the project alignment and other existing utilities. In addition, the project is pending agreement with SF Port, which is needed at the bid & award phase. As a result, the project completion has been extended for the anticipated future delays.













Booster pump manifold pit illuminated before sunrise

I. SSIP Quarterly Report

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 replacement, will be undertaken as part of SFMTA's project. Only initial costs for planning and design of this project under Phase 1 of SSIP.

DRAFT

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-21
Actual 	\$0.03 M	Project Percent Complete: 1.8%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	07/02/21	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:

Currently, the project delay is 21 months to reflect project hold by SFMTA.

CWWSIPCSSR04 - 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 sewer mains. Closed-circuit television (CCTV) technology will be used to inspect the newly constructed sewer mains 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  Jun-21
Actual 	\$11.95 M	Project Percent Complete: 60.1%
		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP***	Construction Final Completion
Current Forecast	See Note	N/A	01/16/18✓	06/30/20

** 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 completed Phase 1A, 1B and 1C sewer scope. Contractor is continuing Phase 1D sewer work. Sewer work is approximately 80% complete.

Issues and Challenges:

Claim/delay tracking and 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

I. SSIP Quarterly Report

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 SSIP to replace aging sewer infrastructure beneath Market Street, especially between 6th Street and 8th Street. **APPROVED**

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  May-24
Actual 	\$1.75 M	Project Percent Complete: 7.7%
		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/18/19✓	08/03/20	01/08/21	11/14/23

** 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 is progressing towards the revised 90% Design milestone in May 2020. Phase 1A Advertisement is still targeted for summer 2020. The Full Corridor project milestones are deferred due to pending negotiations between SFPW and SFMTA.

Issues and Challenges:

SFPW still needs to resolve project-wide cost sharing on Phase 1A with partner departments, including SFPUC. The project cost variance is due to the anticipated high cost sharing amounts for construction mitigations, traffic control/rerouting, bus substitution, etc. Key milestones have slipped due to SFMTA and SFPW design changes/delays. Budget and schedule have also been adjusted to reflect an added block of 5th St. to 6th St. and a proposed 2.8 years construction duration.



Better Market Street – Rendering of proposed project

CWWSIPCSSR06 - 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 water and sewer utilities (6-inch to 18-inch diameter circular sewers and 3-foot by 5-foot egg-shaped corrugated metal 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	Forecast* \$12.90 M	Approved Jan-14 Feb-21
Actual \$7.08 M		Forecast* Jan-14 Jul-21
		Project Percent Complete: 57.9%

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/17/17✓	03/21/18✓	01/07/19✓	12/01/20

** SFMTA is the project lead but SFPUC is the contracting authority for Phase 1. The San Francisco County Transportation Authority (SFCTA) prepared the CEQA approval, except for the sewer and water scopes, which were separately completed by SFPUC.

Progress and Status:

Construction activities are on-going near Fillmore and Webster Streets. The Segment A Sewer work is completed and JMB is finishing Segment A Water work.

Issues and Challenges:

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

I. SSIP Quarterly Report

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 sewer will need to be relocated and/or replaced to avoid future conflicts with the light rail project. The sewer improvement project includes planning, environmental review, design, and construction phases.



Program: Interdepartmental Projects	Project Status: Construction	Environmental Status: Completed (EIR)
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Project Cost:		Project Schedule:	
Approved	\$0.72 M	Approved May-14	Dec-18
Forecast*	\$0.72 M	Forecast* May-14	Dec-20
Actual	\$0.51 M	Project Percent Complete: 76.2%	

Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP+	Construction Final Completion
Current Forecast	N/A	N/A	03/10/17✓	06/30/20

** 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:

The project team continues to wait for the cathodic protection report, as-builts and other punch-list items related to the sewer work from SFMTA’s construction management group.

Issues and Challenges:

Final completion and closeout of sewer contract work continued to be delayed while staff continues to follow-up on this project with the contract’s lead agency (SFMTA).



Insertion of the HDPE Force Main

CWWSIPCSSR13 - 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 RCP, or concrete sewers along Taraval Street between 15th Avenue and 46th Avenue. The project also includes replacing 12-inch RCP, or concrete sewers along Taraval Street between 15th Avenue and 46th Avenue and 15th Avenue for a twin sewer system.



Program: Interdepartmental Projects	Project Status: Bid and Award	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved \$33.14 M	Approved Mar-16 Apr-21	
Forecast* \$33.14 M	Forecast* Mar-16 Feb-23	
Actual \$1.95 M	Project Percent Complete: 10.1%	

Key Milestones:	Environmental** Approval	Bid*** Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 04/17/17✓ (B) 04/17/17✓	10/02/18✓ 06/20/19✓	07/01/19✓ 08/03/20	04/20/21 08/08/22

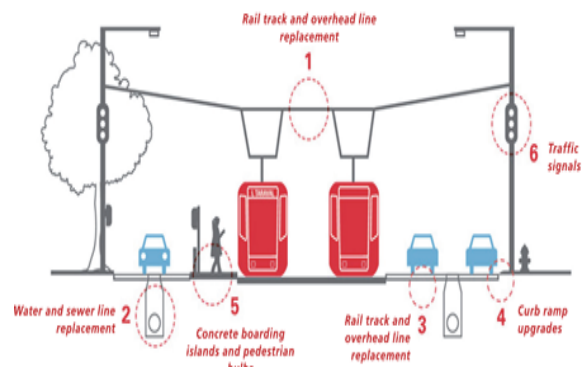
+ Segment A (SF Zoo to Sunset Blvd – No 1306) and Segment B (Sunset Blvd to West Portal – No 1308)
 ** SFMTA is the project lead and contracting authority. The San Francisco County Transportation Authority (SFCTA) prepared the CEQA approval, except for the sewer and water scopes, which were separately 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 early 2020.

Progress and Status:

Segment A construction is on-going. Contractor is currently constructing water lines between 45th to 46th Avenues and sewer work between 40th and 37th Avenue. SFMTA rejected all Segment B contract bids in September 2019 and will re-advertise for bids in early 2020.

Issues and Challenges:

Key milestones have slipped due to SFMTA’s direction to separate this project into two segments/contracts (A and B). The SSIP schedule for Segment B will be further revised upon receiving updated schedule from SFMTA. The project completion has been adjusted to reflect a two-year construction for Segment B. The Segment A construction contract schedule may be delayed due to PG&E relocation challenges.



Cross Section Rendering of Taraval Improvement Project

I. SSIP Quarterly Report

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 use of the NSFM asset. CEQA approval will need to be obtained. Public outreach has been conducted, including stakeholders along SF Port’s waterfront area.



Program: Pump Stations and Forcemain Improvements	Project Status: Bid and Award	Environmental Status: Completed (MPM)
Project Cost:		Project Schedule:
Approved \$9.91 M	Approved Jul-14 Oct-21	Forecast* Jul-14 Jun-22
Forecast* \$9.91 M	Project Percent Complete: 14.9%	
Actual \$1.42 M		
 Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental Approval	Bid** Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/16/16✓	08/06/19✓	04/06/20	12/27/21

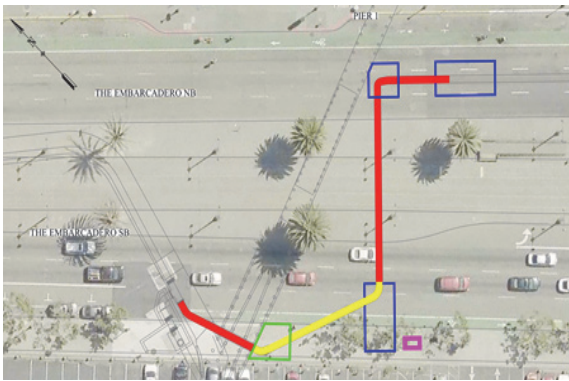
** Contract was originally advertised on 5/15/17 and will be re-bid after the field investigations are completed under CWWSIPCSSR09.

Progress and Status:

During the past quarter, the project team has reached an agreement with the SF PORT regarding right-of-way access. The project is scheduled to be presented for Award at the January 14, 2020 Commission meeting.

Issues and Challenges:

Award of the construction contract has been delayed while the project team awaited for agreements from SF Port, which has the jurisdictional rights over the project area. The project completion has been extended due to the delay of NTP.



Force Main Rehabilitation at Embarcadero and Jackson Site Plan

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 utility 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	Forecast* \$31.94 M	Approved Jul-14 Jun-21
Actual \$11.05 M		Forecast* Jul-14 Jun-22
		Project Percent Complete: 35.5%

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/25/17✓	04/04/18✓	01/28/19✓	03/17/21

Progress and Status:

During this quarter, construction work 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 contractor was directed to proceed with the critical path work by using temporary electrical generators. Construction duration for WW-667 has been delayed due to PG&E but the impacts would need to be evaluated and reported in future reports.

Under the existing and separate design/build contract (DB-128R2), punchlist work related to the construction of the dry-weather force main continues.

The project schedule reflects the delay during the bid-and-award phase caused by bid protests and longer-than usual contract certification duration. The forecast budget reflects the actual higher bid received in addition to unanticipated additional permit fees and right-of-way costs required to perform work in the public-right-of-way areas that are within the jurisdiction of SF Port.



Station Abatement

Issues and Challenges:











The cost and budget variance reflect the actual bid received and the extended bid-and-award phase. The shortfall in budget is addressed by utilizing savings from another SSIP project CWWSIPCSSR02.

I. SSIP Quarterly Report

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 lighting, ultraviolet light, and associated deteriorating elements. The project will also include electrical connections needed due to a PG&E transformer failure.

APPROVED

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  May-21
Actual 	\$14.54 M	Project Percent Complete: 98.9%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

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

Progress and Status:

During this quarter, the contractor has completed over 95% of the contract work at the pump station. Final completion will be delayed because of scheduling issues with PG&E, which is required to complete outstanding electrical work that requires a one-week long electrical shutdown from PG&E power.

Issues and Challenges:







The schedule variance reflects a negotiated time extension for the contractor to complete major electrical work that was deferred by one dry-weather season due to delays in the delivery of critical electrical equipment. Major electrical work was restricted to dry-weather season to keep the pump station operational during the wet-weather and to help comply with the NPDES permit.



HPU cylinders showing new sluice gates

CWWSIPCSCD03 - 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 WWE 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* 	\$4.20 M	Forecast* Mar-16  Feb-21
Actual 	\$2.60 M	Project Percent Complete: 79.9%
		

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✓ 08/31/20

+ 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) Manufacturer provided a new back-flow valve and replaced the faulty one in the last quarter, but it still leaks. Staff continues to hold meetings with the manufacturer to resolve the issue.

(B) Construction work at Sansome St. under WW-683R continues. The project team and contractor are assessing the changes that are necessary for the concrete repair.

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. The schedule variance is due to the time needed to re-advertise WW-683R, which delayed the NTP for the construction contract. 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 the dry season. The extent of structural deficiency for this project requires substantial rehabilitation, for which the cost and duration will be determined later.













Completed weir repair and corrosion in the ceiling of Sansome CSD

I. SSIP Quarterly Report

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 - Marin Street, 32 - Creek North, 32 - Marin Street, 33 - Selby Street, and 41 - Yosemite. The project will be completed in a phased approach to change based on monitoring results.

APPROVED

Program: CSD and Transport/Storage Structures	Project Status: Design	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved 	\$13.62 M	Approved Jul-16  Oct-21
Forecast* 	\$16.71 M	Forecast* Jul-16  Oct-21
Actual 	\$2.76 M	Project Percent Complete: 23.5%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental+ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 10/29/19✓ (B) 10/29/19✓	02/18/20 02/18/20	07/20/20 07/20/20	04/21/21 04/21/21

+ In addition to monitoring, this project includes multiple construction contracts: (A) Pierce Street and (B) Jackson & Griffith Street.

Progress and Status:

(A) The 100% design for Pierce CSD is expected to be completed in the upcoming quarter. The project will be advertised under contract WW-702 with Jackson and Griffith CSDs.

(B) The 100% design for Jackson and Griffith CSDs is expected to be completed in the upcoming quarter. The project will be advertised under contract WW-702 with Pierce CSD.

Issues and Challenges:

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-702. Key milestones and project completion has slipped due to delay in design.









Typical backflow preventer device installed over the weir

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 Division CSD and repair the baffle at Division CSD. Backflow prevention system at 5th Street and 6th Street CSD structures.

APPROVED

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* 	\$5.14 M	Forecast* Jul-16  Feb-21
Actual 	\$3.01 M	Project Percent Complete: 70.0%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/06/18✓	12/10/18✓	06/17/19✓	08/31/20

Progress and Status:

Construction work continues with Division St. CSD and is progressing on schedule.

Issues and Challenges:

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).













Concrete rehabilitation and protective coating at 5th St CSD

I. SSIP Quarterly Report

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 and a portion of the landscaped parcel area. The project will also incorporate elementary school curriculum. This project is also referred to as "Sunset Boulevard Greenway."

APPROVED

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  \$4.95 M	Project Percent Complete: 62.7%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	12/02/14✓	(A) N/A (B) 04/17/19✓	08/10/15✓ 09/30/19✓	02/24/18✓ 10/28/20

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

Progress and Status:

Notice to Proceed was issued to the contractor on September 30, 2019. This quarter, starting at the north end of the Sunset Blvd at Irving Street, the contractor began installation of drain inlets, HDPE pipes and bubblers. In coordination with SFPW Bureau of Urban Forestry, ten trees that will be removed as part of the project, were posted.

Issues and Challenges:

Residents protested the removal of four trees. A hearing will be held on January 27, 2020 to determine the outcome of the tree removal protests. Cost variance reflects higher anticipated cost as reflected in the 10-year CIP.









Drain inlet installation on Sunset Blvd. between Judah and Kirkham St.

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 the other end of the project includes the installation of the pervious concrete at the intersection of the Beach Terrace includes permeable pavement, rain garden bulb outs at the intersection of the Beach Terrace includes permeable pavement, a flow-through rain garden, traditional (infiltrative) rain garden, and a traditional rain garden. This project is also referred to as "Baker Beach Green Street".

APPROVED

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  Apr-21	
Actual  \$8.37 M	Project Percent Complete: 93.1%	
		

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✓	06/22/20

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

Progress and Status:

At the El Camino del Mar in Lincoln Park work site, the contractor opened the road to traffic during non-working hours in December. Slope stabilization on the south side of the street commenced along with planting of the bioretention planters. The pervious paving on the south parking strip on Sea Cliff Avenue was installed.

Issues and Challenges:

Shallow PG&E gas lines on the north side of Sea Cliff Avenue have resulted in a one-month delay to the installation of the pervious paving though no delay to substantial completion is forecasted at this time. The ongoing cost variance is based on actual bid received.













Pervious concrete installation on the south side of Sea Cliff Ave.

I. SSIP Quarterly Report

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 "Creek Daylighting". This project will provide plant establishment and/or projects, Islais Creek, Sunset, North Shore, Lake Merced, Sunnydale, Richmond Channel and Yosemite.

APPROVED

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  Apr-24
Actual 	\$3.01 M	Project Percent Complete: 19.7%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/15/17✓	08/16/21	01/21/22	04/05/23

Progress and Status:

For the past four quarters, the project has been on-hold. This quarter, the SFPUC General Manager and the San Francisco Recreation and Park Department General Manager resolved to test an innovative stormwater capture and re-use system at the Louis Sutter Soccer Field. Work will progress to finalize the CER and work on the RFP for design services will re-commence.

Issues and Challenges:

Cost variance reflects higher anticipated cost as reflected in the 10-year CIP. Schedule variance reflects the delay resulting from the 12-months the project was on hold.




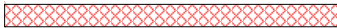




Yosemite Station along Wayland Street provides outdoor educational opportunities for creek restoration and ecology.

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 detention basin by collecting the upstream surface water and diverting it into inlet systems on the upstream, and a large pipe/micro-tunnel at the intersection of Wawona and 15th Avenue.

APPROVED

Program: Watershed Stormwater Management	Project Status: Design	Environmental Status: Active (CatEx)
Project Cost:		Project Schedule:
Approved 	\$22.71 M	Approved Jul-16  Dec-21
Forecast* 	\$45.00 M	Forecast* Jul-16  Dec-22
Actual 	\$1.45 M	Project Percent Complete: 11.2%
		

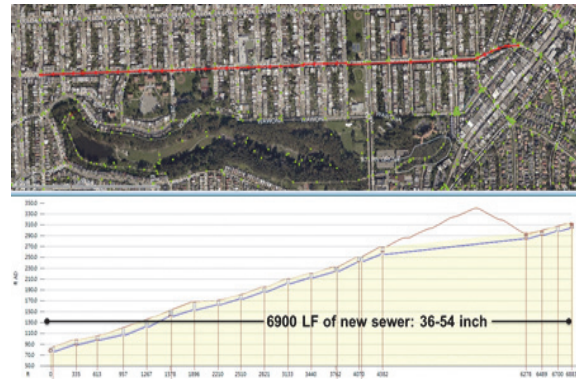
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/30/20	08/06/20	01/04/21	06/30/22

Progress and Status:

Project team completed the 65% design documents, including the water main replacement drawings. The 65% construction cost estimate is consistent with the 35% and it shows a significant cost increase to the project, due to complexity in trenchless portion as well as cut/cover scope of work.

Issues and Challenges:

There are few water main replacements that are added to this project, based on CDD request. The community will be more impacted if the water work does not occur at the same time. This addition however will add to the project duration. The variance in the schedule and cost forecast reflect the additional scope. Project teams are coordinating to mitigate the impact on schedule as much as possible.



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

I. SSIP Quarterly Report

CWWSIPFCGI01 - Watershed Stormwater Management (Planning Only)

Description: This project will address the City's stormwater management needs as prioritized in the Collection System Plan. NOT APPROVED DRAFT

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	Dec-20
Actual	\$2.26 M	Project Percent Complete: 58.4%	
 Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits			

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











Progress and Status:
 During this quarter, the project team provided ongoing technical support for 100-year Flood Map notification, parcel review process, and interagency data sharing. Other ongoing activities funded through GI01 this quarter included: coordination with Interdepartmental working group, including the City Administrator's Office, Office of Resilience, Department of Building Inspection, and Planning Department, on FEMA requirements and flood resilient building code modifications; development of flood elevations, and implementation options, for parcels within the SFPUC's 100-Year Storm Flood Risk Map ; and analysis to inform development of a potential residential Downspout Disconnect grant program.

Issues and Challenges:
 Cost variance reflects higher anticipated cost as reflected in the 10-year CIP.

CWWSIPFCDB14 - 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 by the Flood Resilience - Early Projects.

DRAFT

Program: Flood Resilience Projects	Project Status: Design	Environmental Status: Active (ENV)
Project Cost:		Project Schedule:
Approved  \$38.41 M	Approved Jul-16  Jun-20	
Forecast*  \$38.41 M	Forecast* Jul-16  Aug-21	
Actual  \$3.97 M	Project Percent Complete: 45.1%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	11/20/20	N/A	N/A	N/A

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

Progress and Status:

City design team and consultants continued with the design in this quarter; however, the 35% level design that was anticipated in late September of this year has been delayed due to a significant conflict between a Caltrans facility and the proposed tunnel. The project team has developed a suite of design alternatives and presented them to Caltrans for their consideration. Once this is resolved with Caltrans, the 35% level design can continue. The geotechnical field investigation was completed last quarter and the geotechnical report is underway.

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.



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










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, CWWSSIP-CSSR02 Collection System Condition Assessment.

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

DRAFT

Program: Collection System - Interceptors/Tunnels/Odor Control (Other SSIP)	Project Status: Design	Environmental Status: Not Initiated
Project Cost:		Project Schedule:
Approved 	\$47.00 M	Approved Aug-19  May-24
Forecast* 	\$96.52 M	Forecast* Aug-19  Dec-26
Actual	\$0.18 M	Project Percent Complete: 0.3%
 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) 12/14/21 (B) 07/30/20 (C - H) TBD	07/28/22 01/21/21 TBD	02/17/23 08/06/21 TBD	08/19/24 02/13/23 TBD

- +Project includes multiple construction contracts: (A) Channel Force Main Intertie; (B) New Montgomery, Mission, Jessie & Minna Streets Brick Sewer; (C) Oak, Fell, Cole, Stanyan Streets and 7th Ave Large Sewer Rehabilitation; (D) Tenderloin and Nob Hill Large Sewer Rehabilitation; (E) SOMA Large Sewer Rehabilitation; (F) Mission, 8th, 9th, Howard and Natoma Streets Large Sewer Rehabilitation; (G) Chinatown and North Beach Large Sewer Rehabilitation; and (H) South Van Ness Ave and Folsom St Large Sewer Rehabilitation (partially funded).

Progress and Status:

During this quarter, project (A) was initiated with a kick-off meeting held in December 2019 and the design phase was initiated for subproject (B).

Issues and Challenges:

The variance in project schedule and budget is due to the additions of scopes of work, reflected by the additional subprojects listed above and as reflected in the 10-year CIP.

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	
New Headworks (Grit) Replacement								
CWWSIPSE02 - Southeast Water Pollution Control Plant New Headworks Facility - SCOPE I (issued POs for 12 Packages)	11/15/17	02/05/20	04/25/20	\$ 30,686,372	\$ 31,016,372	(80)	(\$330,000)	68.0%
CWWSIPSE02 - Southeast Water Pollution Control Plant New Headworks Facility - SCOPE II.A (issued POs for 12 of 13 Packages)	12/17/18	11/14/20	11/14/20	\$ 17,015,903	\$ 17,390,903	-	(\$375,000)	77.0%
CWWSIPSE02 - Southeast Water Pollution Control Plant New Headworks Facility - SCOPE III (issued POs for 6 of 62 Packages)	07/22/19	08/25/23	08/25/23	\$ 69,644,635	\$ 69,644,635	-	-	0.0%
Southeast Plant (SEP) Improvements								
CWWSIPSE05 - SEP 521/522 and Disinfection Upgrades (SEP Building 521 Replacement)	03/07/16	08/10/19	04/13/20	\$ 30,075,669	\$ 30,659,429	(247)	(\$583,760)	98.0%
CWWSIPSE08 - SEP Seismic Reliability and Condition Assessment Improvements (WW-628)	09/04/18	07/30/20	04/25/20	\$ 13,200,000	\$ 13,200,000	96	-	82.2%
CWWSIPSE08 - SEP Seismic Reliability and Condition Assessment Improvements (WW-665)	09/09/19	03/31/21	03/08/22	\$ 9,079,210	\$ 9,079,210	(342)	-	10.9%

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

Q2-FY2019-2020 (10/01/19 - 12/31/19)

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	
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	\$ 38,449,000	\$ 38,449,000	-	-	12.2%
CWWSIPTPOP05 - Oceanside Water Pollution Control Plant & Westside Pump Station HVAC Upgrades	07/25/16	06/02/19	02/14/20	\$ 6,281,918	\$ 6,281,918	(257)	-	97.8%
Interdepartmental Projects ***								
CWWSIPCSSR04 - Van Ness Corridor Transit Improvement Project (sewer only)	01/16/18	01/15/20	06/30/20	\$ 14,314,631	\$ 14,314,631	(167)	-	80.0%
CWWSIPCSSR06 Geary Boulevard Sewer and Water Improvements	01/07/19	12/01/20	12/01/20	\$ 7,295,208	\$ 7,295,208	-	-	56.0%
Pump Stations and Forcemain Improvements								
CWWSICSPS03 Mariposa Dry Weather Pump Station Improvements	01/28/19	03/17/21	03/17/21	\$ 17,031,000	\$ 17,031,000	-	-	15.0%
CWWSICSPS06 - Griffith Pump Station Improvements	10/16/17	03/11/20	03/11/20	\$ 11,390,660	\$ 11,390,660	-	-	95.0%

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.

*** Contracts performed under SFMTA/SFPW.

I. SSIP Quarterly Report

Q2-FY2019-2020 (10/01/19 - 12/31/19)

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								
CWWSIPFCDB01 Sunset Green Infrastructure (Sunset Boulevard Greenway P2 Irving)	09/30/19	10/28/20	10/28/20	\$ 2,572,351	\$ 2,572,351	-	-	0.0%
CWWSIPFCDB05 Richmond Green Infrastructure (Baker Beach Green Streets)	01/10/19	06/22/20	06/22/20	\$ 7,168,590	\$ 7,168,590	-	-	60.6%
CSD and Transport/Storage Structures								
CWWSICSCD03 & CD05 Sansome, 5th, 6th (North) and Division Street CSD Rehabilitation and Backflow Prevention	06/17/19	01/13/20	08/31/20	\$ 4,907,090	\$ 4,907,090	(231)	-	67.0%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	\$ 279,112,238	\$ 280,400,998	(\$1,288,760)	(0.5%)

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.

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								
CWWSIPSE09 - SEP Existing Digester Gas Handling Improvements	10/01/18	05/18/19	05/18/19	05/18/19	\$ 15,388,647	\$ 10,896,100	\$ 15,249,647	\$ 10,830,216
Interceptors / Tunnels and Odor Control								
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
Pump Stations and Forcemain Improvements								
CWWSIPCSPS05 - Marin Street Sewer Replacement	02/05/18	05/01/18	05/01/18	08/21/18	\$ 2,852,000	\$ 5,351,275	\$ 5,351,275	\$ 5,004,601
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								
CWWSIPRPL91 - Land Reuse of 1800 Jerrold Avenue	07/31/18	08/24/18	08/24/18	N/A	\$ 37,700,000	\$ 3,654,355	\$ 3,646,972	\$ 0
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								
CWWSIPTPOP06 - OSP Odor Control Optimization	04/13/21	03/23/20	03/23/20	N/A	\$ 2,912,919	\$ 2,912,919	\$ 2,912,919	\$ 0
TOTAL					\$ 74,189,165	\$ 44,025,012	\$ 48,625,889	\$ 23,755,162

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	\$ 32,550,993
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	\$ 8,662,232
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	\$ 17,566,344
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	\$ 2,890,578
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								
CWWSIPSPS01 - 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
CWWSIPSPS04 - Cesar Chavez Pump Station	05/26/16	05/26/16	05/26/16	05/26/16	\$ 185,000	\$ 179,728	\$ 179,727	\$ 178,360
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	\$ 2,102,721
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	\$ 6,359,549
CWWSIPFCDB04 - Sunnydale Green Infrastructure	11/30/20	02/28/19	02/28/19	09/30/19	\$ 4,950,001	\$ 4,298,843	\$ 4,298,843	\$ 4,728,494
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
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	\$ 1,462,493

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
Advanced Rainfall and Operation Decision System								
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	\$ 966,580
CWWSIPFCDB10 - Flood Resilience Analysis (Planning Phase Only)	05/31/17	02/28/17	02/28/17	02/28/17	\$ 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	\$ 4,016,043
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	\$ 428,078
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	\$ 176,151
TOTAL					\$ 183,150,548	\$ 165,779,806	\$ 165,779,803	\$ 144,904,313

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, the project team will rehabilitate or replace the most critical major sewer lines. The project is expected to include planning, environmental approval, design, and construction phases.

NOT APPROVED

Program: Interceptors / Tunnels and Odor Control	Project Status: Design	Environmental Status: Not Applicable (StatEx)
Project Cost:		Project Schedule:
Approved 	\$20.46 M	Approved May-18 Nov-22
Forecast* 	\$10.99 M	Forecast* Jul-18 Nov-22
Actual 	\$0.48 M	Project Percent Complete: 11.2%
 Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

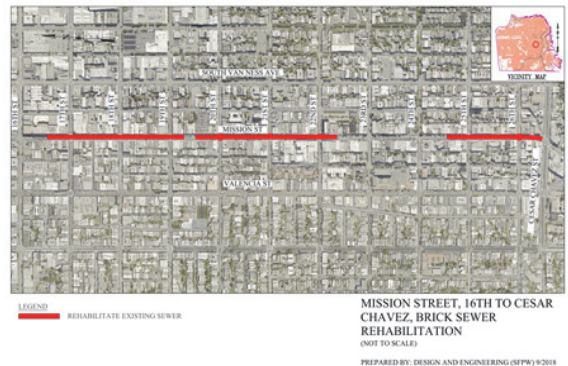
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	12/02/19✓	03/23/20	08/27/20	08/30/21

Progress and Status:

During the last quarter, the project team completed the 65% design of “Mission Street Brick Sewer Rehabilitation” and completed 95% design in this quarter. Project cost was adjusted to reflect project cost for only one project, as the design and construction for the second project has been moved to project 10034718 - Large Sewers.

Issues and Challenges:

Key milestone dates have been updated to reflect design delays by approximately two months. Project completion is maintained.













Schematic for Large Sewers – Mission BSR

I. SSIP Quarterly Report

CWWSIPCSSL02 - Collection System Condition Assessment

Description: 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 locations throughout San Francisco, and fulfill the Needs Assessment effort in the completion of the condition assessment, the needs and methods of rehabilitation or replacement used to initiate sewer improvement projects in SSIP Sewer Improvement Projects.

DRAFT

Program: Interceptors / Tunnels and Odor Control	Project Status: Planning	Environmental Status: Not Applicable
Project Cost:		Project Schedule:
Approved  \$10.91 M	Approved May-13  Apr-20	
Forecast*  \$4.93 M	Forecast* May-13  Apr-20	
Actual  \$4.93 M	Project Percent Complete: 97.8%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

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

** Future projects recommended by this assessment will have new project numbers and BEM anticipates CEQA Documentation for these projects as CATEXs or MNDs.

Progress and Status:

During this quarter, final payment for WW-658 is being processed and the project team will be closing out this project.

Issues and Challenges:

The overall forecast cost was reduced to reflect the status above, and this will compensate for the budget increase of CWWSIPCSPS03, Mariposa Pump Station Improvements and partially compensate the budget increase of CWWSIPCSSL03, Kansas and Marin Sewer System Improvements.

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 generate specific operational recommendations for approaching storms and generate specific operational recommendations for 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 \$8.72 M	Approved Feb-17 Jun-20	
Forecast* \$6.72 M	Forecast* Feb-17 Jun-20	
Actual \$1.99 M	Project Percent Complete: 28.0%	

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	N/A	12/18/17✓	02/22/18✓	03/30/20

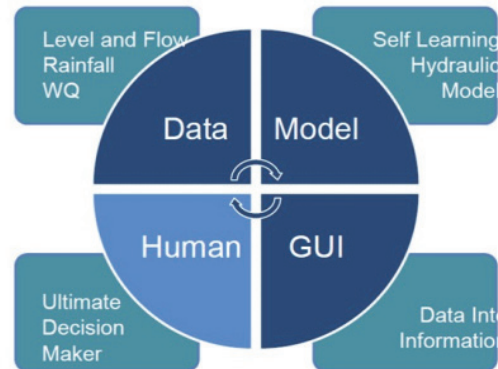
+This is a software development project. NTP represents the date of award for software development agreement.

Progress and Status:

The Operational Decision System (ODS) project team developed a user manual that SFPUC Operations staff reviewed and provided comments on. Project team is preparing to deploy the software in test most for the ongoing 2019-2020 wet-weather season. Project team received approval for the WWE Collection System Division (CSD) team to install and maintain 30+ flow meters for improving the ODS software recommendations.

Issues and Challenges:

None at this time.













ODS Graphic Screen Mock-up

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. 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.

DRAFT

Program: Green Infrastructure for Stormwater Mgmt (Grant; Other SSIP)	Project Status: Construction	Environmental Status: Not Applicable
Project Cost:	Project Schedule:	
Approved  \$25.00 M	Approved Jul-18  Jun-28	
Forecast*  \$25.00 M	Forecast* Jul-18  Jun-28	
Actual  \$0.17 M	Project Percent Complete: 9.8%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/30/28	N/A	N/A	N/A

Progress and Status:

On October 8, 2019, the Commission approved pre-construction funding in the amount of \$70,000 to San Francisco Unified School District (SFUSD) for the Bessie Carmichael Middle School project. During the past quarter, the Commission also authorized release of construction funding for Lafayette Elementary School on December 10, 2019. This quarter two grant applications were received: one for work at Holy Trinity Greek Orthodox Church and the other for Crocker Amazon Park. Both applications are under review. Program staff conducted 4 sites visits and 2 pre-application meetings with potential grantees this quarter.



View of green infrastructure at SFUSD elementary school







Issues and Challenges:

None at this time.

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 current Statewide Stormwater Management (LOS). The primary objective of the Lower Alemany Area Stormwater Improvement Project is to meet the current Statewide Stormwater Management (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.

APPROVED

Program: Flood Resilience (Other SSIP)	Project Status: Planning	Environmental Status: Not Initiated
Project Cost:		Project Schedule:
Approved  \$286.46 M	Approved Jan-19  Dec-26	
Forecast*  \$286.46 M	Forecast* Jan-19  Dec-26	
Actual  \$1.02 M	Project Percent Complete: 0.8%	
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/31/23	08/03/23	01/02/24	06/30/26

Progress and Status:

In this quarter, the project team continued working on finalizing the evaluation criteria and initiating the triple bottom line analysis for the two main alternatives: auxiliary pipeline on Alemany and a tunnel along Gaven St. The geotechnical consultant has completed the draft geotechnical data and interpretation reports for the AAR. The traffic engineering consultant is in the process of conducting traffic impact analysis based on potential construction scenario. These two studies are necessary for selecting the best alternative during AAR and to carry it to CER. The project team is also finalizing the request for proposal (RFP) to solicit engineering support for CER and design phase. The project team has also been participating in multi-agency coordination meetings to discuss the coordinated outreach effort for Alemany related projects.

Issues and Challenges:

The RFP is anticipated to be advertised by next quarter, which is delayed as compared to baseline schedule and may postpone the forecast start date for CER. The team will initiate some activities such as coordination with Caltrans prior to CER to minimize overall schedule impacts.



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

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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 June 2020. No

changes to the overall program budget, but a three-and-half-year delay to the program schedule. All construction activities have been completed for the program. The program has been extended to mid 2020 to perform financial closeout of the projects, reconcile F&P issues and finalize the Prop 1E Grant reimbursement invoices.

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

II. WWE CIP Quarterly Report

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 second (2nd) quarterly report for Fiscal Year (FY) 2019-2020 presents the progress made on the WWE CIP projects for the period of September 22, 2019 through December 28, 2019. The program's schedule and budget were last reported to SFPUC on December 3, 2019.

Figure 2.1 shows the total Approved Budget for the projects remaining in each phase of the program as of December 28, 2019. The number of projects in each phase is shown in parenthesis.

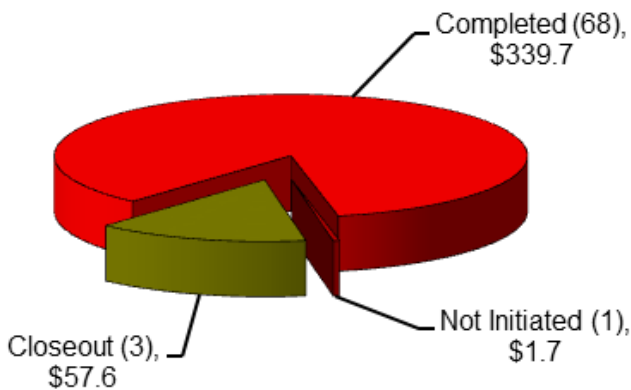
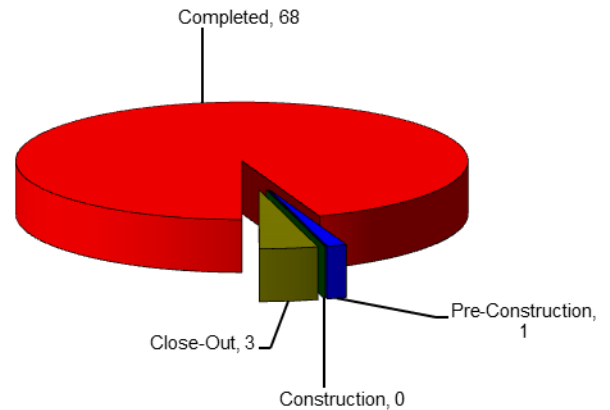


Figure 2.1 Total Approved Budget for Projects Each Phase (\$ Million)

Figure 2.2 shows the number of projects in the following stages of the program as of December 28, 2019: 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	\$300.6	\$0.8
Program Delivery Cost	\$94.0	\$37.0	\$95.7	\$94.8	(\$0.9)
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 June 2020, a three-and-one-half year delay. Refer to Appendix 2.2 (Section II) for a graphical presentation of the WWE CIP 2014 Project-Level Schedule.

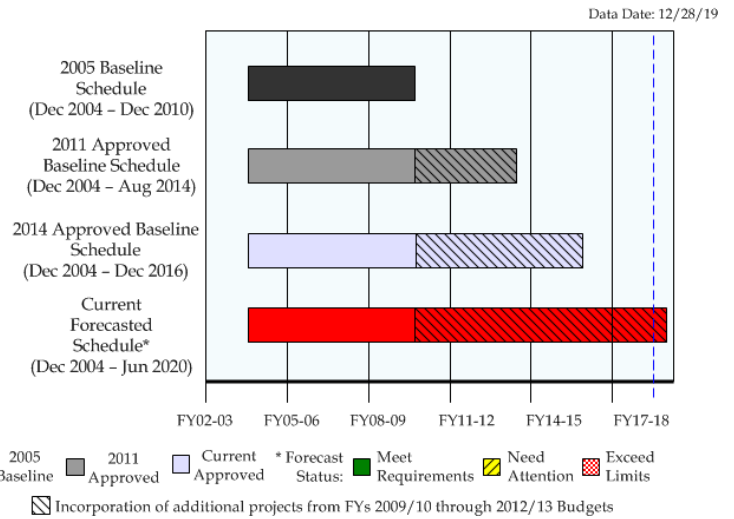


Figure 4.1 Program Schedule Summary

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	06/30/20	42

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 WWE Facility Reliability Impr - SEP Northside		08/29/16	08/29/16	12/26/17		\$ 36,303,511	\$ 36,303,511	\$ 35,894,595
CENMSCIC47 WWE Mechanical / Electrical Upgrade		09/08/16	09/08/16	11/30/17		\$ 5,253,825	\$ 5,253,825	\$ 4,672,818
CENMSCIC72 Facility Security Upgrades Contract 2		11/23/16	11/23/16	09/15/17		\$ 1,557,720	\$ 1,557,720	\$ 173,750
TOTAL						\$ 43,115,056	\$ 43,115,056	\$ 40,741,163

II. WWE CIP Quarterly Report

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	\$ 32,200,374
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
CENMSCIC70 OS Plant Improvements - Aeration Syst Upgrade		12/31/15	12/31/15	09/25/15		\$ 1,362,452	\$ 1,362,452	\$ 321,132
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
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

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								
CENMSCIC61 North Shore Force Main Emergency		04/04/13	04/04/13	04/04/13		\$ 721,739	\$ 721,739	\$ 721,561
CENMSCIC62 Emergency NSFM 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	\$ 277,057
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
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

II. WWE CIP Quarterly Report

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								
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/Lo mbard 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	\$ 339,713,630	\$ 339,713,630	\$ 333,445,436

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 October 1, 2019 and December 31, 2019.

The approved project budget and schedule were developed and approved by the appropriate Wastewater Enterprise Manager on December 31, 2019. 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 \$661.9 million (\$212 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	\$72.40	\$450.27	\$661.89	(\$211.62)

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.

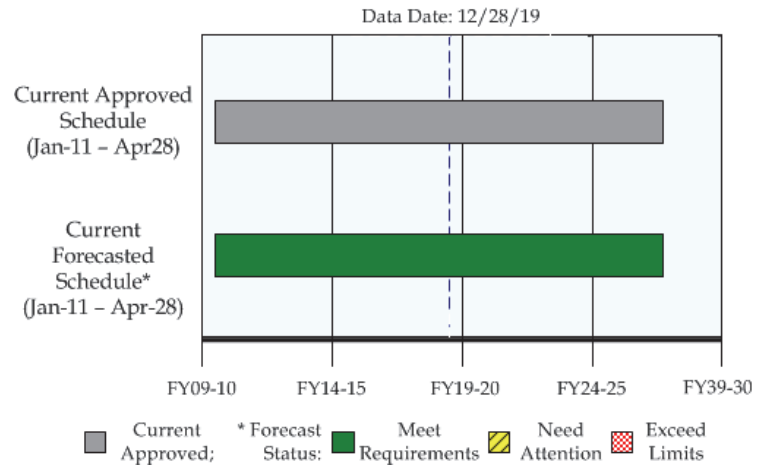


Figure 4.1 Program Schedule Summary

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	04/04/28	-

5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 12/28/19

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	\$ 33,825	\$ 91	(\$49)	★	04/30/27	03/27/28	10.9 mo. Late	●	See Section 6
CWP11001 - New Treasure Island Wastewater Treatment Plant	PL	\$ 67,398	\$ 202,208	\$ 4,104	(\$134,810)	●	09/01/23	01/17/25	16.6 mo. Late	●	See Section 6
CWWFAC01 - Ocean Beach Project	CN	\$ 126,765	\$ 169,923	\$ 10,055	(\$43,158)	●	01/30/26	01/30/26	-	★	See Section 6
CWWFAC03 - Southeast Community Center @ 1550 Evans	DS	\$ 108,500	\$ 109,500	\$ 14,449	(\$1,000)	★	12/29/23	12/29/23	-	★	See Section 10
CWWFAC04 - Southeast Bay Outfall Islais Creek Crossing Replacement	DS	\$ 35,000	\$ 67,600	\$ 6,404	(\$32,600)	●	07/29/24	03/28/25	8.0 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.






III. WWE F&I Quarterly Report

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 (SFP) effluent force main. The Booster pump station was constructed in 1967 and last upgraded in 2011. The 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.

NOT APPROVED

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*		\$33.82 M	Forecast* Jul-19		Mar-28
Actual		\$0.09 M	Project Percent Complete: 0.0%		
					
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion	
Current Forecast	TBD	04/26/23	09/25/23	09/24/27	

Progress and Status:

Consultants GHD/AGS-JV, continued with 35% design progress. for The geotechnical exploration work in the Islais Creek was commenced upon receipt of SFPORF encroachment permit and environmental permit. The substantial coordination with city and non-city agencies is on-going.







Issues and Challenges:

The project is encountering many challenges related to project site access and constructability. In addition, the multi-governmental jurisdiction of the project area will require extensive environmental review, potentially requiring an Environmental Impact Report. The existing pipeline has previously had several urgent temporary repairs at various locations due to deteriorating conditions.

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 and is no longer reliable. The existing facility is also not capable of providing recycled wastewater to meet the needs of the residents on the redeveloped island.

NOT APPROVED

Program: Facilities and Infrastructure	Project Status: Planning	Environmental Status: Completed (EIR)
Project Cost:		Project Schedule:
Approved 	\$67.40 M	Approved Jan-11  Sep-23
Forecast* 	\$202.21 M	Forecast* Jan-11  Jan-25
Actual 	\$4.10 M	Project Percent Complete: 3.1%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/18/19✓	N/A	07/25/22	07/17/24

Progress and Status:

The new wastewater treatment plant and associated recycled water facility are in the planning portion of the project. The Conceptual Engineering Report (CER) is underway and is projected to be completed in January 2020. The team concluded the project delivery method evaluation and has recommended a Design-Build-Operate approach with the RFQ currently under development. 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:

The cost and schedule variance represent the revised plan for design and construction, approved by the Technical Steering Committee (TSC) for the New Treasure Island Wastewater Treatment Plant.













At the Existing Wastewater Treatment Plant, installation of a new rock trickle filter rotary distributor arm was completed in the Summer of 2016.

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 [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.

NOT APPROVED

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  Jan-26
Actual 	\$10.05 M	Project Percent Complete: 7.1%
 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) 10/12/15✓ (B) 10/22/20 (C) 10/12/22	09/14/15✓ N/A 07/14/22	01/07/16✓ 12/30/20 01/03/23	03/01/21 07/02/21 07/28/25

(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: WW-663 is an as-needed contract. Annual monitoring indicated the need to place 65,000 CY of sand to protect the Lake Merced Tunnel. Work began in November 2019 and is expected to be complete by the end of December 2020.

B) ACOE: The construction phase contract agreement with ACOE for Beneficial Reuse of dredged sand at South Ocean Beach has been initiated by the City Attorney. Design work has been initiated by the ACOE. SF Planning is evaluating the 24/7 work schedule proposal to determine the required level of CEQA review.

C) LTI: This is the first CCSF Climate Change Adaptation Project requiring a high level of coordination with other CCSF Agencies. Design Phase started in October of 2019.

Issues and Challenges:

Like the previous quarterly report, SFPUC continues discussions with the SF Zoo regarding project impacts to their parking lot; further negotiations are needed. The project refinements developed at the conceptual engineering planning phase resulted in an increased forecasted budget and project schedule. Refined site geotechnical information has resulted in an anticipated higher cost and longer construction duration to stabilize site soil conditions. The project team will continue to evaluate the proposed construction activities during subsequent design development to mitigate potential impacts to the overall project cost and completion date.







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 treatment facility treating almost 80% of the City's dry and wet weather flows.

NOT APPROVED

Major improvements are planned to ensure that the SEP facility maintains permit compliance and operates 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  Mar-25
Actual 	\$6.40 M	Project Percent Complete: 12.2%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/13/20	06/25/20	11/23/20	09/20/24

Progress and Status:

The 95% design is progressing with additional design changes. The geotechnical consultants commenced vibration analysis. They submitted permit application for complying with Maher Ordinance to Department of health for pot holing at third street. As a part of continuing coordination efforts, additional meetings are scheduled with SFMTA, SFPORT and SFPW. A final draft of CEQA project description for MND (Mitigated Negative Declaration) is under review. The applications has been submitted to appropriate environmental regulatory agencies for permits.

Issues and Challenges:

The schedule variance is due to design changes, additional scope and incorporation of the emergency bypass project components. The forecast cost is trending higher due to market conditions, and handling/disposal of high level of contaminant sediment materials.



SEO Islais Creek Crossing Replacement

7. ON-GOING CONSTRUCTION

No projects are currently under construction.

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	\$ 16,619,709
TOTAL					\$ 0	\$ 27,361,789	\$ 27,361,789	\$ 16,619,709

9. COMPLETED PROJECTS











No projects are currently completed.

10. PROJECTS WITHIN BUDGET AND SCHEDULE (THRESHOLD LIMITS)

CWWFAC03 - Southeast Community Center @ 1550 Evans

Description: The Southeast Community Center project will serve to address the SEPUC'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, 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.

NOT APPROVED

Program: Facilities and Infrastructure	Project Status: Design	Environmental Status: Completed (CatEx)
Project Cost: Approved  \$108.50 M Forecast*  \$109.50 M Actual  \$14.45 M		Project Schedule: Approved Jul-12  Dec-23 Forecast* Jul-12  Dec-23 Project Percent Complete: 16.6%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

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

Approximately 65% of the construction has been bid out. Notice to Proceed (NTP) for construction will be issued in January. Demolition is scheduled to start in February. Efforts to maximize local participation is ongoing.

Issues and Challenges:

The cost variance reflects higher anticipated costs, as reflected in the 10-year CIP.



1550 Evans rendering

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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 October 1, 2019 and December 31, 2019.

The approved project budget and schedule were developed and approved by the appropriate Wastewater Enterprise Manager on December 31, 2019. 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 December 31, 2019.

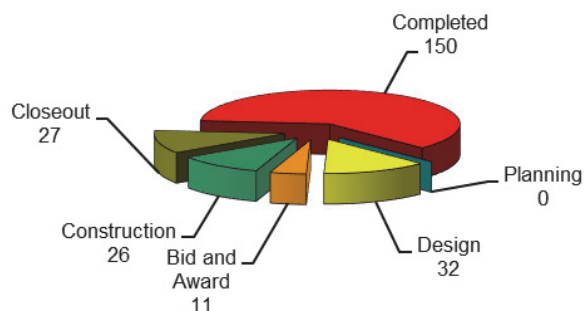


Figure 2.1 Total Number of Active R&R Collection Systems Projects in R&R Program

IV. WVE R&R Quarterly Report

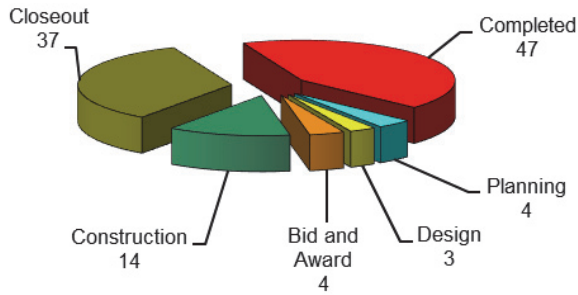
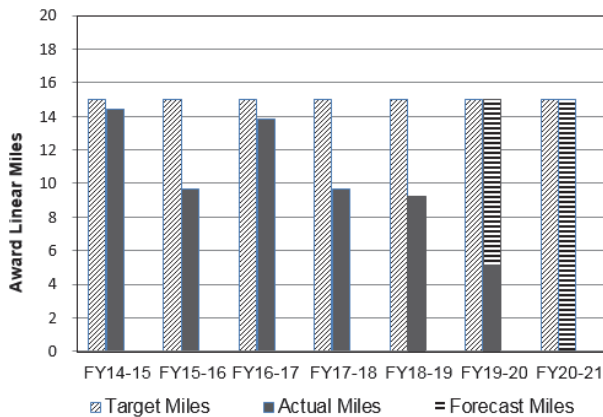


Figure 2.2 Total Number of Active R&R Treatment Facilities Projects in R&R Program

The Wastewater R&R Collection System Sewer Replacement Program has an annual budget of \$64.8 million in FY20 to award a target of 15 miles of sewer replacement work in San Francisco.

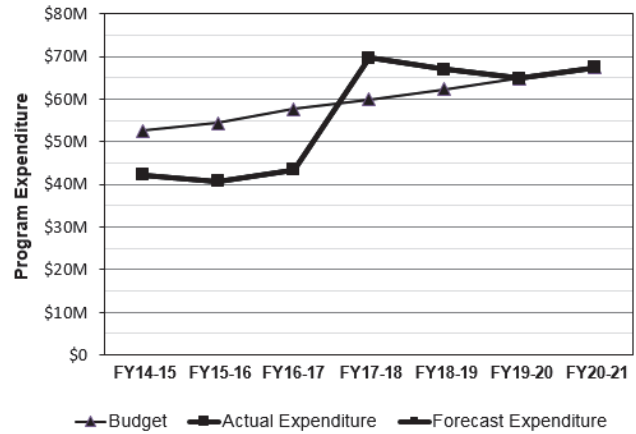
Figure 2.3 shows the target and actual award miles of sewer improvement projects that have been awarded to date and are forecasted to be awarded. The Wastewater R&R Collection System Sewer Replacement Program has been awarded 5.2 miles of sewer replacement work in FY20.



	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	15.0
Actual Miles	14.4	9.7	13.8	9.7	9.2	5.2	
Forecast Miles						15.0	15.0

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	\$67.4M
Actual Expenditure	\$42.1M	\$40.8M	\$43.4M	\$69.7M	\$67.0M	\$31.6M	
Forecast Expenditure						\$64.8M	\$67.4M

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 \$824 million and the Current Forecasted Cost at completion is also \$824 million.

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	\$518.72	\$686.54	\$686.54	-
R&R Treatment Facilities	\$100.93	\$137.68	\$137.68	-
Program Total	\$619.66	\$824.22	\$824.22	-

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 2021. The overall R&R Program is currently forecasted to be completed in March 2021.

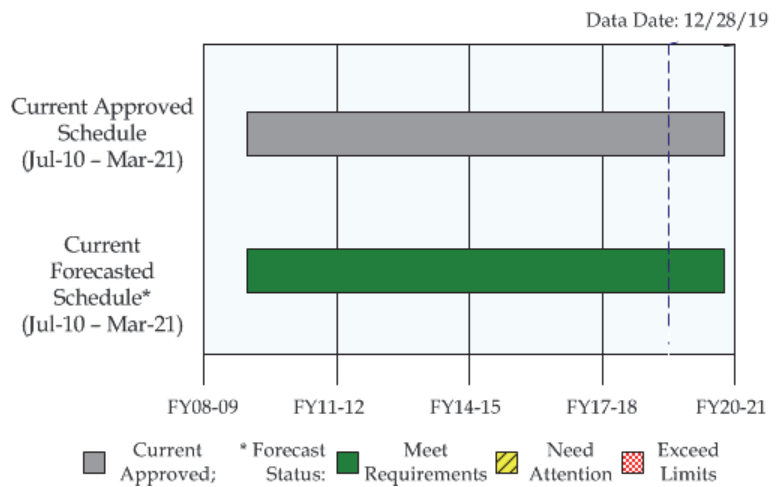


Figure 4.1 Program Schedule Summary

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✓	03/31/21	03/31/21	-
R&R Treatment Facilities	07/01/10	07/01/10✓	02/12/21	02/12/21	-
Overall Program	07/01/10	07/01/10✓	03/31/21	03/31/21	-

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5. PROGRAM PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 12/28/19

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	\$ 686,540	\$ 686,540	\$ 518,724	-	★	03/31/21	03/31/21	-	★	See Section 10
CWWRNRTF - R&R Treatment Facilities	MP	\$ 137,678	\$ 137,678	\$ 100,932	-	★	02/12/21	02/12/21	-	★	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.

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								
10015671-As-Needed Main Sewer Replacement No. 7 (WW-655)	06/10/19	08/13/20	08/13/20	\$ 6,705,115	\$ 6,705,115	-	-	46.7%
10015681-As-Needed Sewer Sealing (WW-644)	02/06/17	05/05/20	05/05/20	\$ 3,834,500	\$ 3,834,500	-	-	89.1%
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	-	-	6.5%
10034564-As-Needed Sewer Cleaning and Inspection (FY20) (WW-695)	09/03/19	03/25/21	03/25/21	\$ 1,747,550	\$ 1,747,550	-	-	20.4%

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.

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Q2-FY2019-2020 (10/01/19 - 12/31/19)

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	07/24/20	07/24/20	\$ 1,981,334	\$ 1,981,334	-	-	2.0%
10015762 North Point Wet Weather Facility Sedimentation Tank Influent Gate Upgrades (WW-664)	01/14/19	07/06/20	07/06/20	\$ 2,741,000	\$ 2,741,000	-	-	12.0%
10015779 - Oceanside Water Pollution Control Plant - Building 620 Safety Improvements (WW-643R)	03/26/18	02/24/20	02/24/20	\$ 2,156,000	\$ 2,156,000	-	-	89.0%
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	-	-	22.0%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	\$ 34,369,459	\$ 34,369,459	\$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 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 in combination with the WWE Renewal and Replacement Program (R&R) Spot Sewer Repair replaces aging failed portions of the collection system. The portions of the collection system are identified utilizing an asset management approach, which factors in: physical condition, age, location, risk, public safety, paving schedule and other factors.

Program: Renewals and Replacements		Program Status: Multiple Phases		Environmental Status: Completed	
Project Cost:			Project Schedule:		
Approved		\$686.54 M	Approved Jul-10		Mar-21
Forecast*		\$686.54 M	Forecast* Jul-10		Mar-21
Actual		\$518.72 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 December 31, 2019.

The two hundred forty six (246) WWE Collection Systems projects are distributed as follows:

Planning: 0
 Design: 32
 Bid & Award: 11
 Construction: 26
 Closeout: 27
 Completed: 150











During this Quarter, 8 new projects were initiated, 8 projects were advertised, 3 projects were awarded/awaiting NTP, 4 projects received NTP, 4 projects completed construction and 10 projects closed out.

Issues and Challenges:

None at this time.

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  \$137.68 M	Approved Jul-10  Feb-21	
Forecast*  \$137.68 M	Forecast* Jul-10  Feb-21	
Actual  \$100.93 M	Project Percent Complete: 83.0%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental++ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	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 December 31, 2019.

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

- Planning: 4
- Design: 3
- Bid/Award: 4
- Construction: 14
- Closeout: 37
- Completed: 47

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 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.

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)

CWWSIPCT01 - 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

CWWSIPCSSR_N02 - 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.

CWWSIPCSSR01 - 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, WWE 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 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

CWWSIPCSSR_N03 - 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 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 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 WVE 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

CWWSIPCSD04 - 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
- Installation of a backflow prevention system at the 5th Street CSD structure
- Installation of a backflow prevention system at the 6th Street CSD structure

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

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 Sunnysdale 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).
- 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

Appendix 1 - SSIP Quarterly Report

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, CWWSSIPSSR02 - 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

OP05-2 - 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

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

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

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 Program 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. These projects in combination with the WWE Renewal and Replacement Program (R&R) Spot Sewer Repair replace aging failed portions of the collection system. The portions of the collection system are identified utilizing an asset management approach, which factors in: physical condition, age, location, risk, public safety, paving schedule and other factors.

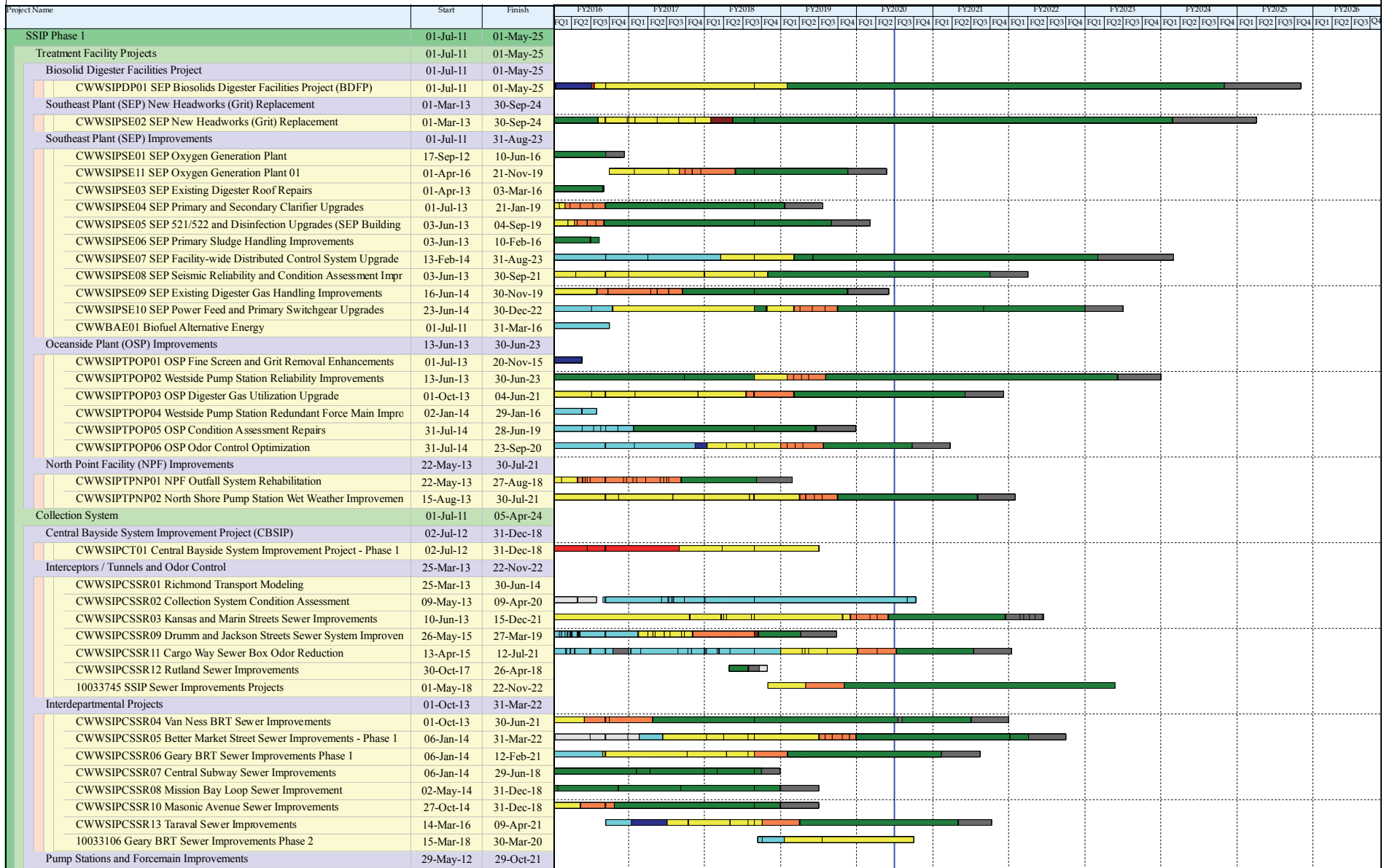
CWWRNRTF - R&R Treatment Facilities

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			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
CWWSIPSPS01 Hudson Ave Pump Station and Outfall Improvements	31-Mar-14	31-Oct-17	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPSPS02 Force Main Rehab at Embarcadero and Jackson Stree	07-Jul-14	29-Oct-21	[Gantt bar showing project phases from FY2016 to FY2021]																																											
CWWSIPSPS03 Mariposa Dry-Weather Pump Station & Force Main I	01-Jul-14	21-Jun-21	[Gantt bar showing project phases from FY2016 to FY2021]																																											
CWWSIPSPS04 Cesar Chavez Pump Station	08-Sep-14	26-May-16	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPSPS05 Marin Street Sewer Replacement	01-Jul-15	02-Nov-18	[Gantt bar showing project phases from FY2016 to FY2019]																																											
CWWSIPSPS06 Griffith Pump Station Improvements	14-Mar-16	10-Dec-19	[Gantt bar showing project phases from FY2017 to FY2020]																																											
CWWSIPNC01 North Shore to Channel F M Drainage Improvement	29-May-12	06-Jun-17	[Gantt bar showing project phases from FY2016 to FY2017]																																											
Combined Sewer Discharge (CSD) and Transport/Storage Structures	01-Jun-15	01-Oct-21	[Gantt bar showing project phases from FY2016 to FY2021]																																											
CWWSIPCSD01 Richmond Transport/Storage Tunnel Rehabilitation	01-Jun-15	13-May-19	[Gantt bar showing project phases from FY2016 to FY2019]																																											
CWWSIPCSD02 Baker/Laguna/Pierce CSD & Outfall	29-Jun-15	20-Nov-15	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPCSD03 Beach and Sansome Street CSD Rehabilitation	14-Mar-16	30-Apr-20	[Gantt bar showing project phases from FY2017 to FY2020]																																											
CWWSIPCSD04 CSD Backflow Prevention and Monitoring	25-Jul-16	01-Oct-21	[Gantt bar showing project phases from FY2017 to FY2021]																																											
CWWSIPCSD05 5th, North 6th and Division Street CSD Rehabilitatic	01-Jul-16	13-Jul-20	[Gantt bar showing project phases from FY2017 to FY2021]																																											
Stormwater Management	01-Jul-11	05-Apr-24	[Gantt bar showing project phases from FY2016 to FY2021]																																											
Early Implementation Projects	04-Sep-12	05-Apr-24	[Gantt bar showing project phases from FY2016 to FY2021]																																											
CWWSIPID01 Cesar Chavez Green Infrastructure	01-Apr-13	28-Jun-13	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPLID02/FCDB09 Islais Creek Green Infrastructure	04-Sep-12	24-Apr-18	[Gantt bar showing project phases from FY2016 to FY2020]																																											
CWWSIPFCDB01 Sunset Green Infrastructure	03-Dec-12	30-Sep-21	[Gantt bar showing project phases from FY2016 to FY2021]																																											
CWWSIPFCDB02 North Shore Green Infrastructure	03-Dec-12	31-Dec-18	[Gantt bar showing project phases from FY2016 to FY2019]																																											
CWWSIPFCDB03 Lake Merced Green Infrastructure	03-Dec-12	24-Apr-18	[Gantt bar showing project phases from FY2016 to FY2019]																																											
CWWSIPFCDB04 Sunnydale Green Infrastructure	03-Dec-12	28-Feb-19	[Gantt bar showing project phases from FY2016 to FY2020]																																											
CWWSIPFCDB05 Richmond Green Infrastructure	03-Dec-12	30-Apr-21	[Gantt bar showing project phases from FY2016 to FY2021]																																											
CWWSIPFCDB06 Yosemite Green Infrastructure	03-Dec-12	05-Apr-24	[Gantt bar showing project phases from FY2016 to FY2021]																																											
CWWSIPFCDB08 Channel Green Infrastructure	21-Feb-14	31-Aug-18	[Gantt bar showing project phases from FY2016 to FY2019]																																											
Watershed Stormwater Management	01-Jul-16	30-Dec-21	[Gantt bar showing project phases from FY2017 to FY2021]																																											
CWWSIPFCG101 Watershed Stormwater Management (Planning Only)	11-Jul-16	30-Dec-20	[Gantt bar showing project phases from FY2017 to FY2021]																																											
CWWSIPFCDB12 Wawona St and 15th Ave Stormwater Detention Proj	01-Jul-16	30-Dec-21	[Gantt bar showing project phases from FY2017 to FY2021]																																											
Urban Watershed Assessment	01-Jul-11	30-Jun-17	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPUW00 Urban Watershed Assessment and Planning Initiation	01-Jul-11	28-Jun-13	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPUW01 Urban Watershed Assessment and Planning	07-Oct-11	30-Jun-17	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPUW02 Fulton St Sewer	01-Jul-11	31-Oct-12	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPUW03 Lake Merced Drainage	01-Jul-11	31-Oct-12	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPUW04 Major Trunk Sewers	01-Jul-11	31-Oct-12	[Gantt bar showing project phases from FY2016 to FY2017]																																											
Advanced Rainfall and Operation Decision System	01-Apr-13	26-Jun-20	[Gantt bar showing project phases from FY2016 to FY2020]																																											
CWWSIPFCRP01 Advanced Rainfall Prediction - Part 1	01-Apr-13	29-Jun-18	[Gantt bar showing project phases from FY2016 to FY2019]																																											
CWWSIPFCRP02 Operational Decision System Phase 1	01-Aug-13	30-Sep-16	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPFCRP03 Operational Decision System Phase 2	01-Feb-17	26-Jun-20	[Gantt bar showing project phases from FY2017 to FY2020]																																											
Flood Resilience Projects	01-Apr-13	28-Feb-22	[Gantt bar showing project phases from FY2016 to FY2021]																																											
CWWSIPFCDB07 17th and Folsom Wet Weather Storage	01-Apr-13	06-May-16	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPFCDB10 Flood Resilience Analysis (Planning Phase Only)	30-Jun-15	28-Feb-17	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPFCDB11 Flood Resilience - Early Projects (Planning Phase Or	26-Oct-15	30-Dec-16	[Gantt bar showing project phases from FY2016 to FY2017]																																											
CWWSIPFCDB13 Cayuga Ave Stormwater Detention Project	01-Jul-16	28-Feb-22	[Gantt bar showing project phases from FY2017 to FY2021]																																											
CWWSIPFCDB14 Folsom Area Stormwater Improvement Project	01-Jul-16	01-Jun-20	[Gantt bar showing project phases from FY2017 to FY2020]																																											
CWWSIPFCDB15 17th and Folsom Permanent Barriers	20-May-16	31-Jul-19	[Gantt bar showing project phases from FY2017 to FY2020]																																											
CWWSIPFCDB16 Hydraulic and Drainage Sewer Improvements	01-Jul-16	31-Dec-18	[Gantt bar showing project phases from FY2017 to FY2019]																																											
Land Reuse Projects	17-Sep-13	01-Feb-19	[Gantt bar showing project phases from FY2016 to FY2019]																																											
CWWSIPRPL91 Land Reuse of 1800 Jerrold Avenue	17-Sep-13	01-Feb-19	[Gantt bar showing project phases from FY2016 to FY2019]																																											
CWWSIPRPL92 Land Reuse of 1801 Jerrold Avenue	30-Sep-13	31-Aug-18	[Gantt bar showing project phases from FY2016 to FY2019]																																											
SSIP Phase 1 Program Management	01-Sep-11	31-Jul-23	[Gantt bar showing project phases from FY2016 to FY2021]																																											



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			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
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																																												



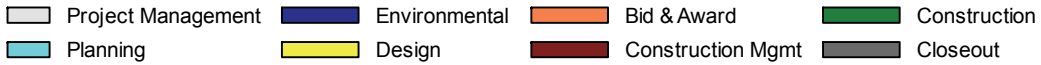
APPENDIX 2.2: WWE CIP Project-Level Approved Schedule

Project Name	Start	Finish	FY0		FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017				FY2018				FY2019				FY2020			
			Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
CENMSCIC23 Sunnydale Auxiliary Sewer	17-Jun-05	26-Mar-15	[Gantt bar showing construction from FY0 Q3 to FY2015 Q4]																																									
CENMSCIC24 Phelps/Topeka/Pomona Sewer Imprv	03-Apr-06	01-Jun-09	[Gantt bar showing construction from FY2011 Q1 to FY2011 Q4]																																									
CENMSCIC25 Colon/Greenwood/Plymouth/Southwood/Mirar	03-Jul-06	19-Jan-12	[Gantt bar showing construction from FY2011 Q1 to FY2012 Q4]																																									
CENMSCIC26 Alemany & Sickles Sewer Improvements	16-Apr-07	28-Mar-08	[Gantt bar showing construction from FY2011 Q1 to FY2011 Q2]																																									
CENMSCIC27 Ocean Ave Sewer Improvement	29-Jun-07	28-Feb-08	[Gantt bar showing construction from FY2011 Q2 to FY2011 Q3]																																									
CENMSCIC32 Spot Sewer Repair Contract #23	18-Aug-09	12-May-11	[Gantt bar showing construction from FY2011 Q3 to FY2012 Q1]																																									
CENMSCIC34 Folsom St Sewer Replacement	22-Mar-10	24-Feb-12	[Gantt bar showing construction from FY2011 Q4 to FY2012 Q2]																																									
CENMSCIC35 Minna/Natoma/Russ Sewer Replacement	19-Apr-10	19-Aug-11	[Gantt bar showing construction from FY2012 Q1 to FY2012 Q3]																																									
CENMSCIC43 Richmond Drainage Improvement Ph2	08-Feb-10	16-Jan-14	[Gantt bar showing construction from FY2011 Q4 to FY2014 Q1]																																									
CENMSCIC44 Cesar Chavez Sewer Improvements Ph2	08-Feb-10	07-Feb-14	[Gantt bar showing construction from FY2011 Q4 to FY2014 Q1]																																									
CENMSCIC46 Fell St Sewer Replacement	16-Aug-10	19-Aug-11	[Gantt bar showing construction from FY2012 Q1 to FY2012 Q2]																																									
CENMSCIC49 Vallejo St Emergency St Replacement	01-Jun-10	10-May-11	[Gantt bar showing construction from FY2011 Q4 to FY2012 Q1]																																									
CENMSCIC50 As Needed Sewer Replacement Contract #1	20-Sep-10	15-Nov-13	[Gantt bar showing construction from FY2012 Q1 to FY2013 Q4]																																									
CENMSCIC51 Spot Sewer Repair Contract #25	27-Sep-10	02-Apr-12	[Gantt bar showing construction from FY2012 Q1 to FY2012 Q3]																																									
CENMSCIC53 Downtown District Aging Sewer Replacemen	12-Oct-10	30-Dec-13	[Gantt bar showing construction from FY2012 Q1 to FY2013 Q4]																																									
CENMSCIC54 Sunnydale Auxiliary Sewer Phase 2	04-Jan-11	20-Jul-16	[Gantt bar showing construction from FY2011 Q4 to FY2016 Q1]																																									
CENMSCIC55 Church St/Duboce Sewer Replacement	28-Mar-11	09-Sep-13	[Gantt bar showing construction from FY2012 Q1 to FY2012 Q3]																																									
CENMSCIC56 Powell and Mason Sewer Improvements (SHI)	23-Nov-10	15-May-15	[Gantt bar showing construction from FY2012 Q1 to FY2015 Q1]																																									
CENMSCIC57 Sewer Staff Facility Improvements	21-Mar-11	30-May-14	[Gantt bar showing construction from FY2012 Q1 to FY2014 Q1]																																									
CENMSCIC58 Vactor Waste Staging Area	21-Mar-11	30-Sep-14	[Gantt bar showing construction from FY2012 Q1 to FY2015 Q1]																																									
CENMSCIC59 Spot Sewer Repair Contract #26	14-Feb-11	26-Dec-12	[Gantt bar showing construction from FY2012 Q1 to FY2012 Q4]																																									
CENMSCIC60 Spot Sewer Repair Contract #27	29-Jul-11	28-Jun-13	[Gantt bar showing construction from FY2012 Q3 to FY2013 Q4]																																									
CENMSCIC63 Plymouth Avenue Sewer Replacement	19-Nov-12	06-Jan-14	[Gantt bar showing construction from FY2013 Q4 to FY2014 Q1]																																									
CENMSCIC64 As-Needed Sewer Replacement	05-Nov-12	04-Nov-13	[Gantt bar showing construction from FY2013 Q4 to FY2014 Q1]																																									
CENMSCIC65 Western Addition/Beach/Marina District Sew	02-Jan-13	08-Sep-13	[Gantt bar showing construction from FY2014 Q1 to FY2014 Q2]																																									
CENMSCIC66 Greenwich/Leavenworth/Lombard Sewer Repl	15-Nov-12	13-May-13	[Gantt bar showing construction from FY2013 Q4 to FY2014 Q1]																																									
CENMSCIC67 Block 2169 Emergency Easement Sewer Repl	08-Oct-12	04-Nov-12	[Gantt bar showing construction from FY2013 Q4 to FY2013 Q4]																																									
CENMSCIC68 24th Street Sewer Replacement	03-Jan-13	29-Sep-13	[Gantt bar showing construction from FY2014 Q1 to FY2014 Q2]																																									
CENMSCIC69 Various Location Replacement No.4	14-Jan-13	04-Feb-14	[Gantt bar showing construction from FY2014 Q1 to FY2014 Q2]																																									
CENMSCIC71 Folsom Street Sewer Replacement	14-Jan-13	12-Jul-13	[Gantt bar showing construction from FY2014 Q1 to FY2014 Q1]																																									
Int24 Cayuga North Sewer Improvements, Phase II	07-Apr-08	10-Jan-14	[Gantt bar showing construction from FY2011 Q4 to FY2014 Q1]																																									
Int38 Spot Sewer Repair Contract #28	29-Jun-12	29-Jun-12	[Gantt bar showing construction from FY2016 Q1 to FY2016 Q1]																																									
Int42 Aging Sewer Replacements	01-Jul-15	06-Dec-16	[Gantt bar showing construction from FY2016 Q1 to FY2016 Q4]																																									

■ Planning ■ Right-of-Way ■ Construction
■ Environmental ■ Design

APPENDIX 2.3. WWT F&I Project-Level Approved Schedule

Project Name	Start	Finish	FY2018				FY2019				FY2020				FY2021				FY2022				FY2023				FY2024				FY2025				FY2026				FY2027				FY2028			
			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								
WWE Facilities and Infrastructure	01-Jan-11	04-Apr-28																																												
10033820 Southeast Outfall Condition Assessment & Reha	28-Jan-19	30-Apr-27																																												
CWP11001 New Treasure Island Wastewater Treatment Plant	01-Jan-11	01-Sep-23																																												
CWWFAC01 Ocean Beach Project	23-Jul-12	30-Jan-26																																												
CWWFAC02 Collection Division Consolidation (Griffith Y)	01-Mar-13	28-Jun-19																																												
CWWFAC03 Southeast Community Center @ 1550 Evans	26-Jul-12	29-Dec-23																																												
CWWFAC04 Southeast Bay Outfall Islais Creek Crossing R	26-Sep-16	29-Jul-24																																												
SWOO Southwest Ocean Outfall (SWOO)	17-Aug-20	04-Apr-28																																												



APPENDIX 2.4. WVE R&R Project-Level Approved Schedule

Project Name	Start	Finish	FY2012				FY2013				FY2014				FY2015				FY2016				FY2017				FY2018				FY2019				FY2020				FY2021				FY2022
			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	
WVE Renewal & Replacement Program	01-Jul-10	31-Mar-21																																									
CWWRNRTF R&R Treatment Facilities	01-Jul-10	12-Feb-21																																									
CWWRNRCS R&R Collection Systems	01-Jul-10	31-Mar-21																																									

- | | | | |
|--------------------|---------------|-------------------|--------------|
| Project Management | Environmental | Bid & Award | Construction |
| Planning | Design | Construction Mgmt | Closeout |

APPENDIX 3. LIST OF ACRONYMS

AAR	Alternative Analysis Report	EPA	Environmental Protection Agency
ACOE	Army Corps of Engineers (also shown as USACE)	F&I	Facilities and Infrastructure
BAAQMD	Bay Area Air Quality Management District	FAMIS	Financial Accounting and Management Information System
BCDC	Bay Conservation and Development Commission	FEMA	Federal Emergency Management Agency
BDFP	Biosolids Digester Facilities Project	FOG	Fats, Oils, and Grease
BEM	Bureau of Environmental Management	FTA	Federal Transit Administration
BFS	Bruce Flynn Pump Station	FY	Fiscal Year
BMS	Better Market Street	GFS	Griffith Pump Station
BRT	Bus Rapid Transit	GGNRA	Golden Gate National Recreation Area
Caltrans	California Department of Transportation	GI	Green Infrastructure
CAR	Condition Assessment Report	GIGP	Green Infrastructure Grant Program
CATEX	Categorical Exemption	GPS	Griffith Pump Station
CBSIP	Central Bayside System Improvement Project	HDPE	High Density Polyethylene
CCSF	City and County of San Francisco	HPO	High Purity Oxygen
CCTV	Closed-Circuit Television	HSW	High-Strength Waste
CDD	City Distribution Division	HVAC	Heating, Ventilation and Air Conditioning
CEQA	California Environmental Quality Act	IC	Internal Combustion
CER	Conceptual Engineering Report	ICM	Integrated Catchment Model
CHFM	Channel Force Main	ICT	Islais Creek Transport/Storage
CHS	Channel (Street) Pump Station	IKG	Inedible Kitchen Grease
CIP	Capital Improvement Program; Cast-Iron Pipe	JOC	Job Order Contract
CM/GC	Construction Manager/General Contractor	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
EIS	Environmental Impact Statement	MOU	Memorandum of Understanding
EMMS	Energy Monitoring and Management System	MPM	Minor Project Modification
		MPS	Mariposa Pump Station
		MTA	Municipal Transportation Agency (also shown as SFMTA)
		MV PDS	Medium Voltage Power Distribution System
		MW	Megawatt

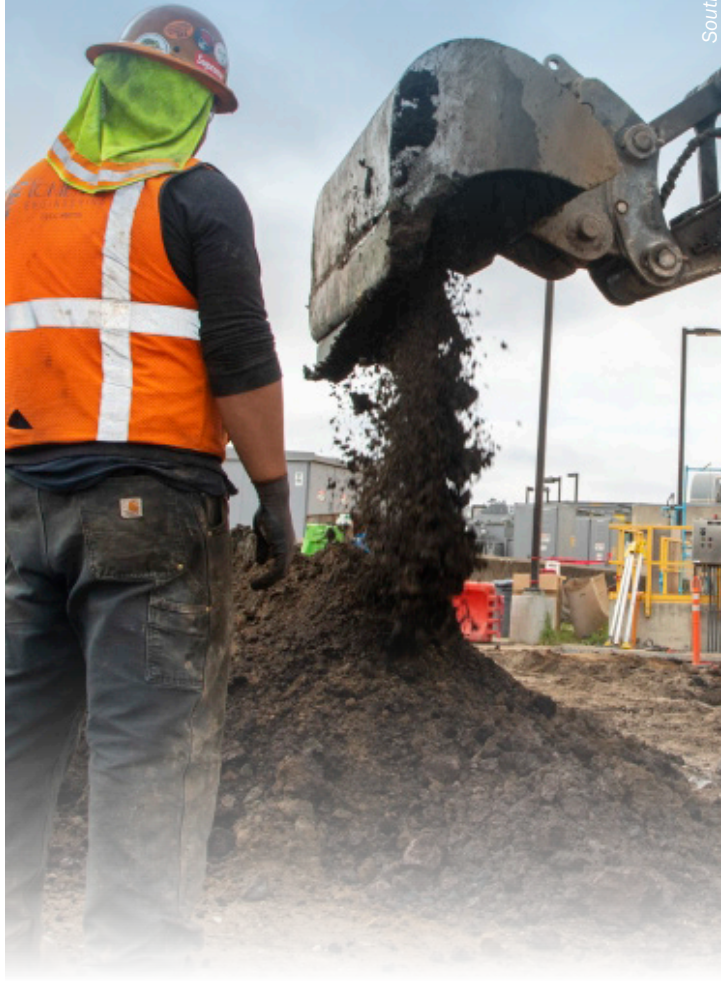
N/A	Not Applicable	SFMTA	San Francisco Municipal Transportation Agency (also shown as MTA)
NAR	Needs Assessment Report	SFPORT	Port of San Francisco
NEG DEC	Negative Declaration (also shown as ND)	SFPUC	San Francisco Public Utilities Commission
NOD	Notice of Determination	SFPW	San Francisco Public Works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

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SSIP PHASE 1 PROGRAM EXECUTIVE SUMMARY

JANUARY - MARCH 2020

Southeast Treatment Plant



Services of the San Francisco
Public Utilities Commission

**SEWER
SYSTEM**
IMPROVEMENT PROGRAM
Grey. Green. Clean.

COMMUNICATIONS

JANUARY - MARCH 2020

In the News

Sixteen (16) media mentions of SSIP-related projects, including stories on: SFPUC Response to EPA issued violations notices, EPA invitation to apply for WIFIA loan, sand backpass efforts at Ocean Beach as part of the Ocean Beach Climate Change Adaptation Project, and response to flooding instances during heavy winter rains.

180,000+

IMPRESSIONS

Impressions were recorded this quarter through social media outlets (Facebook, Twitter, Instagram, YouTube, Nextdoor, and LinkedIn), SSIP webpage views, and community meeting attendees.

Highlights of Conducted Outreach

- January 6th - Southeast Community Center Plaza Sculpture Artist Review Panel
- January 27th - Tree Removal Hearing for Sunset Boulevard Greenway Project
- February 24th - Sirron Norris Cartooning Workshop



Local artist Sirron Norris led several art workshops in the Bayview earlier this year.

Upcoming Outreach Events

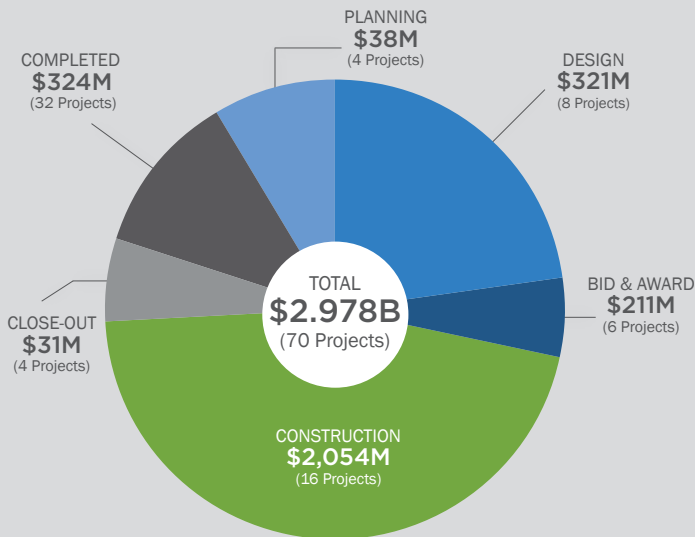
In March the Mayor and County Health Officials issued a Public Health Order requiring that residents remain at their place of residence, except to conduct essential activities, essential business, and essential government functions. This measure is necessary to slow the spread of novel coronavirus (COVID-19) in our community.

In compliance with this directive, all previously planned public events will be put on hold until the shelter in place ordinance is lifted. During this time we are continuing to engage and provide updates to our community and project stakeholders through emails, newsletters, stories featured on sfpucnewsroom.com, social media, webinars, and more. As we navigate this changing landscape, we will continue to provide information via these digital platforms and utilize new ways to interact an engage with our San Francisco communities.

PHASE 1 METRICS

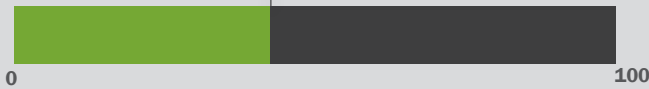
AS OF MARCH 2020

Projects by Phase



Percent Complete

39.7%



RECENTLY ADVERTISED & UPCOMING CONTRACTS

- Ongoing: WW-628, SEP New Headworks Facility Project, Various Trade Packages <https://secure.smartbidnet.com/LAPW>
- Ongoing: WW-647R, SEP Biosolids Digester Facilities Project, Various Trade Packages [https://mwhconstructors.com/sfpuc_biosolids_project/\[mwhconstructors.com\]](https://mwhconstructors.com/sfpuc_biosolids_project/[mwhconstructors.com])
- Ongoing: WW-667 Mariposa Dry-Weather Pump Station Improvements
- March 2020: WW-702, Jackson, Griffith, and Pierce Streets Combined Sewer Discharge Rehabilitation and Backflow Prevention, \$4M-\$5M
- March 2020: WW-645R & WW-685R, RFQ for Selected Wastewater Pump Stations, WW-645R:\$50-\$55 / WW-685R: \$28M-\$32M
- April 2020: Southeast Water Pollution Control Plant Power Feed and Primary Switchgear Upgrades, \$29M-\$34M
- Begin WW-683 Sansome Street CSD Rehabilitation
- Begin WW-687 Force Main Rehab at Embarcadero and Jackson Streets
- Re-commence WW-627R Baker Beach Green Streets
- Re-commence WW-691 Sunset Boulevard Greenway
- Notice of Preparation issue for Ocean Beach Climate Adaption Project in summer
- 100% Design WW-645R Westside Pump Station Reliability Project September 2020, Bid/Award October 2020

KEY UPDATES

JANUARY - MARCH 2020

Programmatic

- Responded to COVID-19 Shelter-in-Place Public Health Order and began developing site-specific safety and health plans for construction work.
- SFPUC Head Photographer Robin Scheswohl recognized by Engineering News-Record as contest submission winner for photos submitted as part of Headworks construction.

Biosolids Digester Facilities Project (BDFP)

- Began project redesign for scope changes in response to changing market conditions.
- Advertised bid package for excavation, dewatering, shoring and foundations.

SEP New Headworks Facility Project

- Scope I (Site Preparation) - Substantial completion achieved March.

Southeast Treatment Plant (SEP)

- Completed testing and commissioning of new fire alarm systems for SEP 521/522, Access Control and Security systems.
- Installed drill piers for seismic brace, began installation of dowels at SEP 042.
- Advertised WW-662R, Southeast Water Pollution Control Plant Power Feed and Primary Switchgear Upgrades. Held pre-bid conference and job walk at SEP.

Oceanside Treatment Plant (OSP)

- In response to Mayor's shelter-in-place order project advertisement delayed for WW-645R Westside Pump Station Reliability Improvements
- Final completion reached for WW-570 OSP-WSS HVAC Upgrades

North Point Wet Weather Facility (NPF)

- Review pre-qualifications for prospective candidates for services for WW-685R North Shore Pump Station Wet Weather Improvements

Collection System Reliability

- Completed demolition of the existing pump station for WW-667, Mariposa Dry-Weather Pump Station Improvements.
- Advertised WW-702 Jackson, Griffith and Pierce CSD Backflow Prevention and Monitoring for construction
- Awarded construction contract for WW-687, Force Main Rehab at Embarcadero and Jackson Streets
- Awarded construction contract for WW-696, Cargo Way Flush Line
- Completed 95% design for Mission Street, 16th to Cesar Chavez St, Brick Sewer Rehabilitation contract

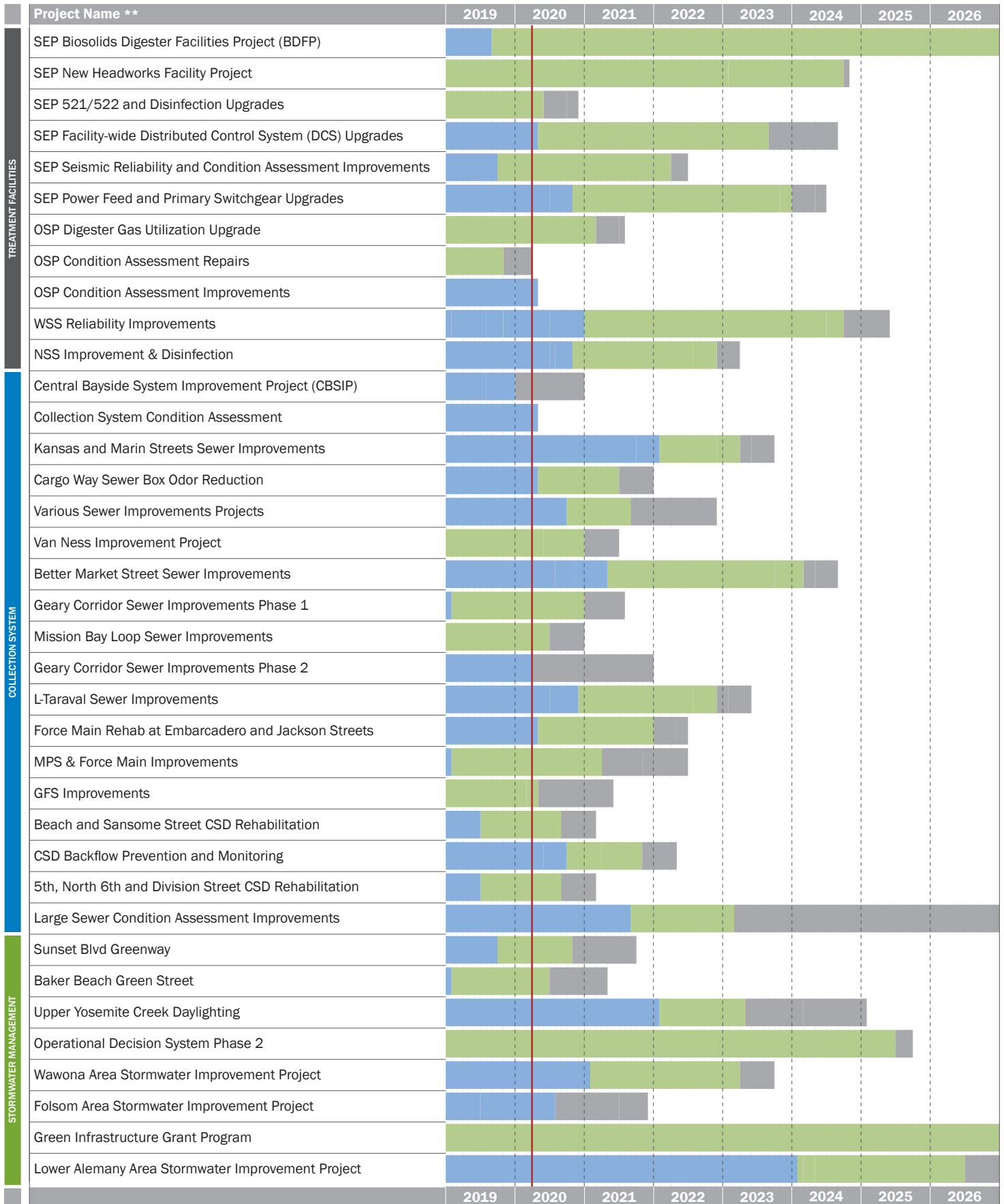
Stormwater Management

- Completed 65% design for WW-771 Wawona Area Stormwater Improvement and Vicente Street Water Mains Replacement. Began Constructability and Risk Assessment.
- Completed geotechnical investigation and traffic impacts reports and advertised RFP for Engineering Services for Lower Alemany project.
- Completed 35% design documents for Folsom Area Stormwater Improvement

Interdepartmental

- Sewer work reached 96% completion on Van Ness BRT

ACTIVE SSIP PHASE 1 CAPITAL PROJECTS | AS OF THE WWE QUARTERLY REPORT, JANUARY - MARCH 2020



Project Phases: ■ Planning - Bid & Award ■ Construction ■ Close-out

**Completed Projects Not Shown

CONSTRUCTION PHOTOS



Southeast Wastewater Treatment Plant: Headworks project Excavation.



Baker Beach Green Streets Project: New rain gardens at California Coastal Trail access entrance at 25th Avenue to Baker Beach. Excavation.



Sunset Boulevard Greenway: Excavation for rain gardens, Sunset Boulevard & Judah Street.

LOOKING AHEAD

APRIL - JUNE 2020

Programmatic

- Provide quarterly update to Commission
- Assess and address impacts of COVID-19 Shelter-in-Place orders for remote work and active construction work

Biosolids Digester Facilities Project (BDFFP)

- Continue to evaluate construction cost impacts associated with current market conditions and explore design and construction approaches to mitigate cost and schedule impacts.

SEP New Headworks Facility Project

- Scope III (Main Headworks) - Work Release Request for bid package (drilled piers)

Southeast Treatment Plant (SEP)

- Determine list of qualified bidders (from RFQ) for WW-662R SEP Power Feed and Primary Switchgear Upgrades

North Point Wet Weather Facility (NPF)

- Issue RFP for construction services for WW-685R North Shore Pump Station Wet Weather Improvements

Collection System Reliability

- Begin concrete pour and foundation work for WW-667, Mariposa Dry-Weather Pump Station Improvements.
- Begin construction for WW-687, Force Main Rehab at Embarcadero and Jackson Streets
- Begin construction on WW-683R Beach and Sansome Street CSD Rehabilitation
- Open bids for WW-702 CSD Backflow Prevention and Monitoring
- Issue RFP for WW-700 As-Needed Sewer Cleaning and Inspection
- Issue RFP for WW-703 Mission Street, 16th to Cesar Chavez, Brick Sewer Rehabilitation

Stormwater Management

- Complete 95% design for WW-771 Wawona Area Stormwater Improvement and Vicente Street Water Mains Replacement
- Complete Alternative Analysis Report for Lower Alemany Area Stormwater Improvement. Select design consultant for CER and design phases
- Begin developing alternative alignment for Folsom Area Stormwater Improvement Project

Interdepartmental


- SFMTA to re-advertise for construction bids for Taraval Sewer Improvements Project Segment B (Sunset Blvd. to West Portal)

For more information, visit: sfwater.org/ssip



DATE: June 2, 2020

TO: Commissioner, Ann Moller Caen, President
Commissioner, Francesca Vietor, Vice President
Commissioner, Anson Moran
Commissioner, Sophie Maxwell
Commissioner, Tim Paulson

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

RE: Wastewater Enterprise Capital Improvement Program
3rd Quarter/ Fiscal Year 2019-2020

Enclosed please find the Wastewater Enterprise Capital Improvement Program (CIP) Quarterly Report for the 3rd Quarter (Q3) of Fiscal Year (FY) 2019-2020. 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 January 1, 2020 to March 31, 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.

It should be noted that this report does not include all the expenditures accrued for the work completed from July 1, 2017 through March 31, 2020 due to challenges associated with the migration as of July 1, 2017 of the City financial system from FAMIS to PeopleSoft. We are working diligently with the Controller's Office, Public Works, and Municipal Transportation Agency (SFMTA) to capture expenditures from Public Works and SFMTA.

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

London N. Breed
Mayor

Ann Moller Caen
President

Francesca Vietor
Vice President

Anson Moran
Commissioner

Sophie Maxwell
Commissioner

Tim Paulson
Commissioner

Harlan L. Kelly, Jr.
General Manager



“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 17, 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, working with San Francisco Building and Construction Trades Council, and 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 the Procedures for Implementation and Enforcement of COVID-19 Field Safety Guidelines for Public Works Projects.

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 as of midnight May 3, 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; however, City representatives developed “Public Works Project Safety Protocol for COVID-19” as an alternative to Appendices B-1 and B-2 in the Health Order, for all Public Works Projects. 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 the Public Works Project Safety Protocol for COVID-19 safety protocol.

Due to anticipated financial impacts from the pandemic, staff are also re-evaluating the 10-year Capital Improvement Program (CIP) for potential cost reductions based on best projections on impacts to future revenues. As a result of this effort, a Revised CIP plan is anticipated to be submitted to the Commission by first quarter of FY20-21.

The highlights of this reporting period are stated below:

SEWER SYSTEM IMPROVEMENT PROGRAM (SSIP)

STATUS AND PERFORMANCE SUMMARY

Overall, SSIP Phase 1 is 39.7% complete as of March 2020. Other SSIP projects are 1.8% complete as of March 2020.

As of the end of the reporting period, there are no projects in pre-planning, twelve (12) projects in planning or design, six (6) projects in bid & award, sixteen (16) projects in construction, and thirty-six (36) projects in closeout or completed.

PROGRAM UPDATE

The highlights for this reporting period are as follows:

- Launched partnership with the San Francisco Arts Commission (SFAC) for the Headworks Construction Fence Art Project, led by local artist Sirron Norris.
- Presented to Citizen's Advisory Committee (CAC) on Southeast Treatment Plant construction monitoring and mitigation of air quality impacts.
- Provided Commission with update on cost and schedule for the Biosolids Digester Facilities Project.
- Initiated extensive remote work practices and in-depth review of construction activities including 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 35% Design for one (1) project
 - Folsom Area Stormwater Improvement Project
- Completed 65% Design for one (1) project
 - Wawona St and 15th Ave Stormwater Detention Project
- Completed 95% Design for one (1) project
 - Better Market Street Sewer Improvements – Phase 1
- Completed 100% Design for two (2) projects
 - CSD Backflow Prevention and Monitoring – Pierce Street
 - CSD Backflow Prevention and Monitoring – Jackson and Griffith Street Streets

Environmental:

- None

Construction Contracts Advertised:

- Three (3) construction contracts were advertised during this quarter
 - CSD Backflow Prevention and Monitoring – Pierce Street
 - CSD Backflow Prevention and Monitoring – Jackson and Griffith Street Streets
 - SEP Power Feed and Primary Switchgear Upgrades

Construction Contracts Awarded:

- Two (2) construction contracts were awarded during this quarter
 - Cargo Way Sewer Box Odor Reduction – Cargo Way Flush Line
 - Force Main Rehab at Embarcadero and Jackson Streets

Construction Notice to Proceed (NTP) Issued:

- None

Construction Substantial Completion Issued:

- Achieved Substantial Completion for Scope 1 of CM/GC Contract for SEP New Headworks (Grit) Replacement

Construction Final Completion Issued:

- None

Project Completion:

- Achieved Project Completion on three (3) projects
 - SEP Existing Digester Gas Handling Improvements
 - OSP Odor Control Optimization
 - Marin Street Sewer Replacement

UPDATE ON PROJECTS IN PRE-CONSTRUCTION

Treatment Plant Projects:

- Working on responding to 35% Design package review comments in the SEP Distributed Control System (DCS) Network Upgrades.
- Published a list of qualified prime contractors for WW-662 in the SEP Power Feed and Primary Switchgear Upgrades project. The construction contract was advertised during this reporting quarter.

Central Bayside System Improvement Project (CBSIP):

- The 35% Design has been completed. Baseline (CEQA consultant) is continuing work on the Draft Initial Study.

Collection System:

- Continued working on the 35% Design for Kansas and Marin Streets Sewer Improvements project. San Francisco Public Works (SFPW) is concerned about the proposed sewer tunnel under their maintenance yard and is causing the Request for Qualification (RFQ) for the design-build tunnel contract to continue to be on hold. The project team is negotiating a Memorandum of Agreement (MOA) with SFPW to allow for the tunnel to go through their yard or will go to the next best alternative alignment.
- Continued working towards the revised 100% Design milestone for Better Market Street Sewer Improvements Phase 1A. Advertisement was targeted for summer 2020 but may be deferred due to value engineering effort led by SFPW.

Stormwater Management:

- Continued towards 95% Design for Wawona St and 15th Ave Stormwater Detention Project.

Flood Resilience:

- The overall schedule for the Folsom Area Stormwater Improvement Project is delayed partly due to the proposed tunnel in conflict with Caltrans overpass foundation as discovered in the early phase of the design. As part of the detailed coordination with Caltrans, the project team had an initial coordination meeting with Caltrans, chose an option to modify the Caltrans foundation, submitted a Permit Engineering Evaluation Report (PEER) and Encroachment Permit to Caltrans, and began the Structure Type Selection process with Caltrans. The project team will develop an alternative alignment for management consideration, in the event that coordination with Caltrans becomes unfeasible.

UPDATE ON PROJECTS IN CONSTRUCTION

SEP Biosolids Digester Facilities Project

Scope I construction work is underway with the relocation of existing utilities and sewers, and the demolition of existing infrastructure. The Scope II Construction is the remainder of the project and includes the new main biosolids facilities and other infrastructure. The Scope II construction cost estimates at the 95% design phase came in much higher than expected with a longer construction duration. The reasons for the higher cost can be attributed to site constraints/logistics, existing soil conditions, design progression and market conditions. The complexity and constrained site conditions led to a construction duration longer than what was anticipated in the conceptual design phase. 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, elimination of the maintenance buildings and consideration of an alternate biogas end-use.

SEP New Headworks (Grit) Replacement

Construction work continued, and substantial completion was achieved during this quarter for Scope I. Scope II.A (BFS Improvements): –Continued civil and electrical work associated with odor control units Nos. 1 & 2. To control costs, project team evaluated the feasibility of rehabilitating the existing SEP-011 Influent Pumping in lieu of constructing a new influent sewer and 50 MGD lift station. Scope II.B/C were subsequently deleted. Scope III (Main Headworks): – Majority of off hauling of demolition debris and soil complete. Grit Washing & Dewatering Equipment pre-submittal meeting held on 3/19/2020. Work Release Request for bid package 3-16 (drilled piers) is forthcoming. Detailed design for Scopes II.B and II.C progressed, and cost associated with this effort increased significantly. To control costs, the project team evaluated the feasibility of rehabilitating the existing SEP-011 Influent Pumping in lieu of constructing a new influent sewer and 50 MGD lift station. Scope II.B and Scope II.C were subsequently deleted.

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

The contractor completed installation of new lighting inside the SEP 521 bathroom. Contractor also completed uninterruptable power supply (UPS) backup power cutover work to essential process equipment and instrumentation from electrical panel L521-2. They installed a temporary 4" PVC Auto Strainer discharge line to a nearby sump at Clarifier #3. Both the contractor and subcontractor continue to work on punchlist items throughout the project. Contractor completed functional testing of the new Fire Alarm systems for SEP 521/522. Contractor has completed testing and commissioning of the new process analyzers inside SEP 521. Contractor has completed testing and commissioning of the new access control and security systems. Contractor performed onsite training for WWE Staff for the following: Fire Alarm System, HVAC System, and VFDs (Variable Frequency Drives)

SEP Seismic Reliability and Condition Assessment Improvements

For WW-665, south side of SEP 042, drill piers for the seismic brace are now installed. Excavation to subgrade and concrete construction of the base slab is ongoing. Preparation and installation of the dowels into the existing SEP 042 started. For WW-628, north side of SEP 042, all of the seismic pile installation is complete.

OSP Digester Gas Utilization Upgrade:

Construction activities including site utility installation, digester gas isolation, and preparation selective demolition of gas holder tank are on-going. Contractor has released the cogeneration engine-generator assemblies for delivery following the completion of the Factory Acceptance Testing (FAT) in March 2020.

WWE Capital Improvement Program (CIP)

Three (3) projects in close-out; forecast completion by June 2020.

WWE Facilities and Infrastructure Program

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

WWE Renewal and Replacement (R&R) Program

Twenty-eight (28) Collection System projects and fourteen (14) Treatment Facilities project are in construction.

Triple Bottom Line (TBL) Report

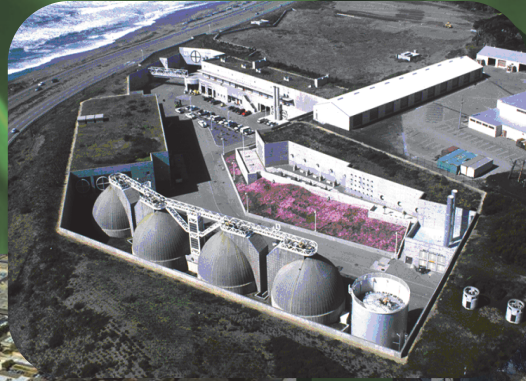
None was completed in this quarter.

Enclosure



San Francisco
Water Power Sewer

Services of the San Francisco Public Utilities Commission



QUARTERLY REPORT

Wastewater Enterprise Programs

January 2020 – March 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, WWE 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 March 31, 2020. The number of projects currently active in each phase is shown in parentheses.

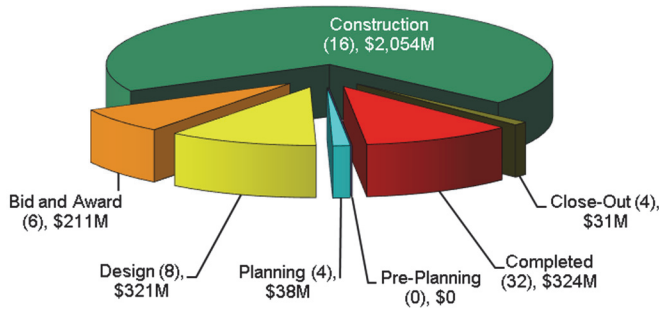


Figure 2.1 Total Current Approved Budget for SSIP Phase 1 Projects Active in Each Phase

Figure 2.2 shows the number of SSIP Phase 1 projects in the following stages of the program as of March 31, 2020: Pre-construction, Construction, and Post-construction.

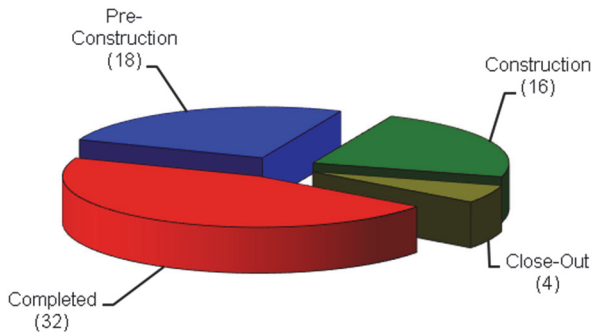


Figure 2.2 Number of SSIP Phase 1 Projects in Pre-construction, Construction, and Post-construction

Figure 2.3 summarizes the environmental review and permitting status of the SSIP Phase 1 projects as of March 31, 2020.

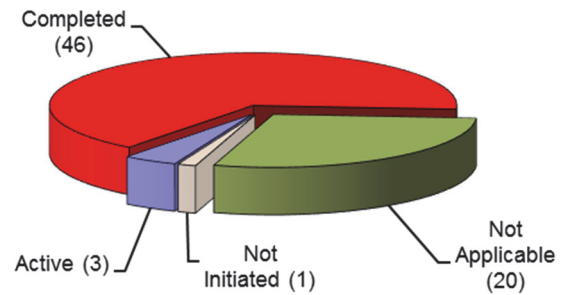


Figure 2.3 Program Environmental and Permitting Status of the SSIP Phase 1 Projects

Figure 2.4 shows the total Current Approved Budget for the Other SSIP projects remaining in each phase of the program as of March 31, 2020. The number of projects currently active in each phase is shown in parentheses.

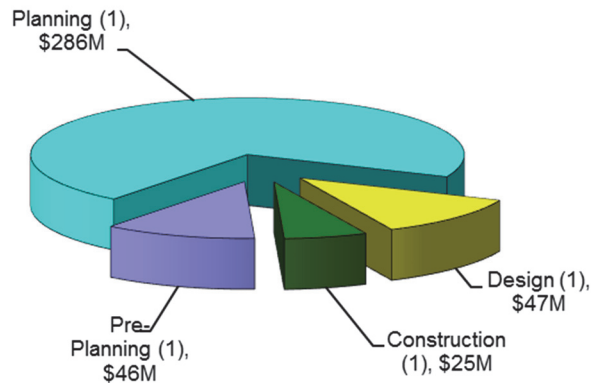


Figure 2.4 Total Current Approved Budget for Other SSIP Projects Active in Each Phase

Figure 2.5 shows the number of Other SSIP projects in the following stages of the program as of March 31, 2020: Pre-construction, Construction, and Post-construction.

Figure 2.6 summarizes the environmental review and permitting status of the Other SSIP projects as of March 31, 2020.

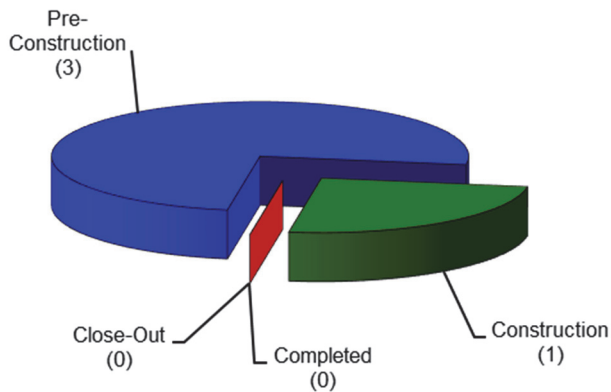


Figure 2.5 Number of Other SSIP Projects in Pre-construction, Construction, and Post-construction

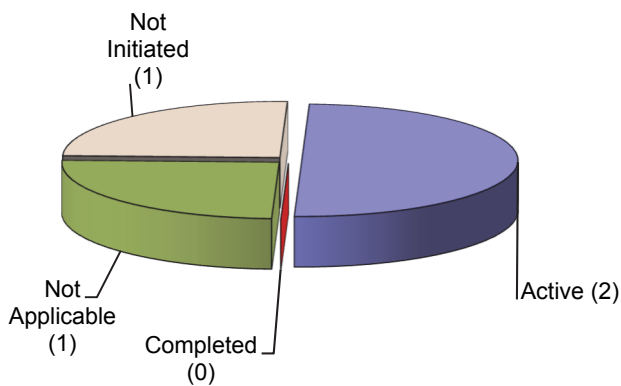


Figure 2.6 Program Environmental and Permitting Status of the Other SSIP Projects

KEY ACCOMPLISHMENTS

Programmatic

- Launched partnership with the San Francisco Arts Commission (SFAC) for the Headworks Construction Fence Art Project, led by local artist Sirron Norris.
- Presented to SFPUC CAC on Southeast Treatment Plant construction monitoring and mitigation of air quality impacts.
- Provided Commission with update on Biosolids Digester Facilities Project.
- Initiated extensive remote work practices and in-depth review of construction activities including site-specific health and safety

protocols in response to Shelter-in-Place Public Health Order.

COMMUNICATIONS

In the news

- Five (5) media mentions of SSIP-related projects, including stories on: several stories on the coastal erosion at Ocean Beach and protecting the Lake Merced Tunnel, and breaking ground on the new Southeast Community Center in the Bayview.
- Over 210,000+ impressions were recorded this quarter through social media outlets (Facebook, Twitter, Instagram, YouTube, Nextdoor, and LinkedIn), SSIP webpage views, and community meeting attendees.

Outreach

- Muni 23 Reroute - Delivered 1,300+ multilingual construction mailers that reached business and local residents
- Southeast Construction Updates Email - Sent bi-weekly construction updates to 500+ subscribers
- COVID-19 Response - Updated project webpages, stakeholder lists, and supervisors' offices on the status of construction projects
- January 10th - 2020 Urban Watershed Stewardship Grant Applications Open
- January 17th - Presented to SFPUC CAC on Southeast Treatment Plant Construction monitoring and mitigation of air quality impacts
- January 23rd - Bayview Bistro Re-opening
- February 10th - Southeast Community Facility, Community Innovation & Empowerment Committee
- February 17th - Southeast Community Facility, Facilities and Design Committee
- February 17th - Noticing for Bayview Trail Closure for Baker Beach Green Infrastructure Construction
- February 24th - Sirron Norris Cartooning Workshop
- February 26th - Southeast Community Facility Commission Meeting

I. SSIP Quarterly Report

- February 23rd – Installation of Additional Project Signs at Mariposa Pump Station Reliability Project Site
- February 29th - Ocean Avenue Resource Fair
- March 4th and March 5th - Final Webinars to Present Proposed LBE Cooperative held by the Contractors Assistance Center
- March 7th – Southeast Community Center Groundbreaking and Block Party – CANCELLED
- March 26th – 2nd Community Workforce Orientation – CANCELLED

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 \$3,658.3 million (\$679.5 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	\$588.3	\$2,250.7	\$2,870.4	(\$619.7)
Biosolids Digester Facilities Project	\$215.0	\$1,276.4	\$1,680.7	(\$404.2)
SEP New Headworks (Grit) Replacement	\$133.9	\$418.8	\$618.8	(\$200.0)
Southeast Plant (SEP) Improvements	\$168.5	\$340.6	\$339.3	\$1.3
Oceanside Plant (OSP) Improvements	\$46.4	\$139.6	\$159.0	(\$19.4)
North Point Facility (NPF) Improvements	\$24.4	\$75.2	\$72.6	\$2.6
Collection System	\$232.5	\$504.8	\$523.0	(\$18.2)
Central Bayside System Improvement Project (CBSIP)	\$34.3	\$64.0	\$64.0	-
Interceptors/Tunnels/Odor Control	\$19.0	\$65.2	\$61.1	\$4.1
Interdepartmental Projects	\$30.9	\$87.5	\$96.6	(\$9.1)
Pump Stations and Force Main Improvements	\$52.1	\$77.6	\$81.0	(\$3.4)
CSD and Transport/Storage Structures	\$10.8	\$27.0	\$27.0	-
Stormwater Management	\$65.3	\$95.8	\$97.0	(\$1.3)
Flood Resilience Projects	\$20.2	\$87.7	\$96.2	(\$8.6)
Land Reuse Projects	\$85.5	\$98.2	\$89.9	\$8.3
Program Management (PM)	\$113.2	\$125.0	\$175.0	(\$50.0)
SSIP Phase 1 Total	\$1,019.5	\$2,978.7	\$3,658.3	(\$679.5)

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	\$2.4	\$358.5	\$408.0	(\$49.5)
Interceptors/Tunnels/Odor Control	\$0.5	\$47.0	\$96.5	(\$49.5)
Stormwater Management	\$0.5	\$25.0	\$25.0	-
Flood Resilience Projects	\$1.4	\$286.5	\$286.5	-
Other SSIP Total	\$2.4	\$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 projects 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 forecasted completion of the SSIP Phase 1 is in July 2028 (39-month behind schedule).

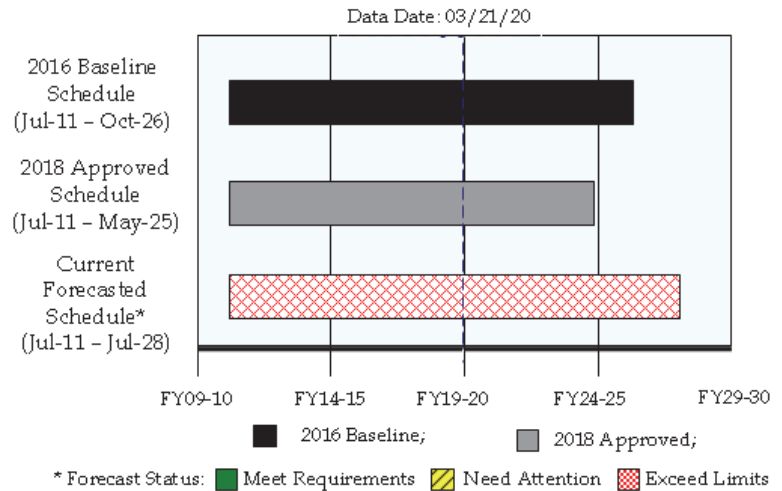


Figure 4.1 SSIP Phase 1 Schedule Summary

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5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 03/21/20

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	\$ 214,999	(\$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	\$ 133,941	(\$200,000)	●	12/29/23	09/30/24	09/30/24	09/30/24	-	★	See Section 6
Southeast Plant (SEP) Improvements															
CWWSIPSE05 - SEP 521/522 and Disinfection Upgrades (SEP Building 521 Replacement)	CN	\$ 41,614	\$ 41,614	\$ 41,614	\$ 44,705	\$ 43,964	(\$3,092)	⚠	01/18/19	09/04/19	09/04/19	11/30/20	14.9 mo. Late	●	See Section 6
CWWSIPSE07 - SEP Facility-wide Distributed Control System Upgrade	DS	\$ 62,988	\$ 62,988	\$ 62,988	\$ 62,988	\$ 6,933	-	★	08/31/23	08/31/23	08/31/23	08/31/26	36.0 mo. Late	●	See Section 6
CWWSIPSE08 - SEP Seismic Reliability and Condition Assessment Improvements	CN	\$ 53,152	\$ 53,152	\$ 53,152	\$ 44,152	\$ 22,452	\$ 9,000	★	12/31/19	09/30/21	09/30/21	06/30/22	9.0 mo. Late	●	See Section 6
CWWSIPSE10 - SEP Power Feed and Primary Switchgear Upgrades	BA	\$ 69,841	\$ 84,340	\$ 84,340	\$ 95,875	\$ 7,972	(\$11,535)	●	07/31/20	12/30/22	12/30/22	06/28/24	18.0 mo. Late	●	See Section 6
Oceanside Plant (OSP) Improvements															
CWWSIPTPOP02 - Westside Pump Station Reliability Improvements	DS	\$ 70,500	\$ 71,500	\$ 71,500	\$ 87,800	\$ 18,366	(\$16,300)	●	12/02/21	06/30/23	06/30/23	06/30/25	24.0 mo. Late	●	See Section 6
CWWSIPTPOP03 - OSP Digester Gas Utilization Upgrade	CN	\$ 39,688	\$ 45,888	\$ 45,888	\$ 54,388	\$ 12,851	(\$8,500)	●	06/15/20	06/04/21	06/04/21	07/29/21	1.8 mo. Late	★	See Section 6
CWWSIPTPOP05 - OSP Condition Assessment Repairs	CN	\$ 15,843	\$ 15,843	\$ 15,843	\$ 13,848	\$ 12,257	\$ 1,995	★	06/28/21	06/28/19	06/28/19	05/29/20	11.0 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.
⚠	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.

I. SSIP Quarterly Report

Q3-FY2019-2020 (01/01/20 - 03/31/20)

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															
CWWSIPTNP02 - North Shore Pump Station Wet Weather Improvements	BA	\$ 69,803	\$ 55,000	\$ 55,000	\$ 55,000	\$ 6,875	-	★	12/31/20	07/30/21	07/30/21	03/10/23	19.3 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	\$ 34,272	-	★	06/30/17	12/31/18	12/31/18	12/31/20	24.0 mo. Late	●	See Section 6
Interceptors / Tunnels and Odor Control															
10033745 - SSIP Sewer Improvements Projects	DS	\$ 20,462	\$ 20,462	\$ 20,462	\$ 10,990	\$ 600	\$ 9,473	★	11/22/22	11/22/22	11/22/22	11/22/22	-	★	See Section 10
CWWSIPCSSR02 - Collection System Condition Assessment	PL	\$ 10,912	\$ 10,912	\$ 10,912	\$ 4,933	\$ 4,924	\$ 5,979	★	04/09/20	04/09/20	04/09/20	10/30/20	6.7 mo. Late	●	See Section 6
CWWSIPCSSR03 - Kansas and Marin Streets Sewer Improvements	DS	\$ 7,734	\$ 17,477	\$ 17,477	\$ 28,380	\$ 3,780	(\$10,903)	●	11/27/18	12/15/21	12/15/21	06/30/23	18.5 mo. Late	●	See Section 6
CWWSIPCSSR11 - Cargo Way Sewer Box Odor Reduction	BA	\$ 6,442	\$ 6,442	\$ 6,442	\$ 8,743	\$ 1,773	(\$2,301)	●	02/11/20	07/12/21	07/12/21	03/07/22	7.8 mo. Late	●	See Section 6
Interdepartmental Projects															
10033106 - Geary BRT Sewer Improvements Phase 2	PL	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 28	-	★	01/08/18	03/30/20	03/30/20	12/30/21	21.0 mo. Late	●	See Section 6
CWWSIPCSSR04 - Van Ness BRT Sewer Improvements	CN	\$ 14,957	\$ 21,100	\$ 21,100	\$ 25,000	\$ 12,901	(\$3,900)	●	06/04/20	06/30/21	06/30/21	06/30/21	-	★	See Section 6
CWWSIPCSSR05 - Better Market Street Sewer Improvements - Phase 1	DS	\$ 32,405	\$ 9,753	\$ 9,753	\$ 15,000	\$ 1,793	(\$5,247)	●	01/24/23	03/31/22	03/31/22	05/17/24	25.6 mo. Late	●	See Section 6
CWWSIPCSSR06 - Geary BRT Sewer Improvements Phase 1	CN	\$ 17,043	\$ 12,900	\$ 12,900	\$ 12,900	\$ 7,470	-	★	07/15/19	02/12/21	02/12/21	07/12/21	4.9 mo. Late	⚠	See Section 6

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PL	Planning	DS	Design
BA	Bid & Award	CN	Construction

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I. SSIP Quarterly Report

Q3-FY2019-2020 (01/01/20 - 03/31/20)

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Collection System															
Interdepartmental Projects															
CWWSIPCSSR08 - Mission Bay Loop Sewer Improvement	CN	\$ 1,794	\$ 718	\$ 718	\$ 718	\$ 513	-	★	11/01/17	12/31/18	12/31/18	12/31/20	24.0 mo. Late	●	See Section 6
CWWSIPCSSR13 - Taraval Sewer Improvements	BA	\$ 20,400	\$ 33,136	\$ 33,136	\$ 33,136	\$ 2,135	-	★	10/19/20	04/09/21	04/09/21	05/24/23	25.5 mo. Late	●	See Section 6
Pump Stations and Forcemain Improvements															
CWWSIPCSPS02 - Force Main Rehab at Embarcadero and Jackson Streets	BA	\$ 5,845	\$ 9,909	\$ 9,909	\$ 9,909	\$ 1,448	-	★	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	\$ 31,940	\$ 12,378	(\$3,719)	●	01/21/21	06/21/21	06/21/21	06/30/22	12.3 mo. Late	●	See Section 6
CWWSIPCSPS06 - Griffith Pump Station Improvements	CN	\$ 7,029	\$ 14,977	\$ 14,977	\$ 15,427	\$ 14,548	(\$450)	⚠	07/19/19	12/10/19	12/10/19	05/07/21	16.9 mo. Late	●	See Section 6
CSD and Transport/Storage Structures															
CWWSIPCSCD03 - Beach and Sansome Street CSD Rehabilitation	CN	\$ 2,523	\$ 3,150	\$ 3,150	\$ 4,200	\$ 3,122	(\$1,050)	●	12/20/19	04/30/20	04/30/20	02/26/21	9.9 mo. Late	●	See Section 6
CWWSIPCSCD04 - CSD Backflow Prevention and Monitoring	BA	\$ 15,000	\$ 13,617	\$ 13,617	\$ 16,708	\$ 2,970	(\$3,090)	●	10/01/21	10/01/21	10/01/21	04/06/22	6.1 mo. Late	●	See Section 6
CWWSIPCSCD05 - 5th, North 6th and Division Street CSD Rehabilitation	CN	\$ 4,635	\$ 5,390	\$ 5,390	\$ 5,390	\$ 4,087	-	★	07/13/20	07/13/20	07/13/20	02/26/21	7.5 mo. Late	●	See Section 6
Early Implementation Projects															
CWWSIPFCDB01 - Sunset Green Infrastructure	CN	\$ 10,746	\$ 8,439	\$ 8,439	\$ 9,027	\$ 6,113	(\$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	\$ 9,716	(\$948)	⚠	04/30/21	04/30/21	04/30/21	04/30/21	-	★	See Section 6
CWWSIPFCDB06 - Yosemite Green Infrastructure	PL	\$ 12,804	\$ 16,050	\$ 16,050	\$ 17,101	\$ 3,211	(\$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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I. SSIP Quarterly Report

Q3-FY2019-2020 (01/01/20 - 03/31/20)

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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	\$ 2,447	(\$22,290)	●	04/07/20	12/30/21	12/30/21	11/01/23	22.1 mo. Late	●	See Section 6
CWWSIPFCG101 - Watershed Stormwater Management (Planning Only)	PL	\$ 7,000	\$ 7,000	\$ 7,000	\$ 9,000	\$ 2,391	(\$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	\$ 1,997	\$ 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	\$ 38,411	\$ 5,529	-	★	11/01/19	06/01/20	06/01/20	08/31/21	15.0 mo. Late	●	See Section 6
Sewer/Collection System (Other SSIP)															
Collection System - Interceptors / Tunnels / Odor Control															
10034718 - Large Sewer Condition Assessment and Improvements	DS		\$ 47,000	\$ 47,000	\$ 96,520	\$ 508	(\$49,520)	●		05/20/24	05/20/24	12/07/26	30.6 mo. Late	●	See Section 6
Stormwater Management/Flood Control (Other SSIP)															
Green Infrastructure for Stormwater Mgmt (Grant)															
10034553 - Green Infrastructure Grant Program (GIGP)	CN		\$ 25,000	\$ 25,000	\$ 25,000	\$ 519	-	★		06/30/28	06/30/28	06/30/29	12.0 mo. Late	●	See Section 6
Flood Resilience															
10034360 - Lower Alemany Area Stormwater Improvement Project	PL		\$ 286,460	\$ 286,460	\$ 286,460	\$ 1,395	-	★		12/31/26	12/31/26	12/31/26	-	★	See Section 10

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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  \$215.00 M		Project Schedule: Approved Jul-11  May-25 Forecast* Jul-11  Jul-28 Project Percent Complete: 18.6%
■ Approved; ■ Actual Cost; * Forecast Status: ■ Meet Requirements ■ Need Attention ■ Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	10/12/18✓	(A) N/A (B) N/A	08/26/19✓ 06/24/20	09/16/21 07/26/27

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

Progress and Status:

Scope I Construction work is underway with the relocation of existing utilities and sewers, and the demolition of existing infrastructure at the project sites. The Scope II Construction is the remainder of the project and includes the new main biosolids facilities and other new infrastructure. As described at the February 25 Commission meeting, the Scope II 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. The reasons for the higher cost can be attributed to site constraints/logistics, existing soil conditions, design progression and market conditions. The complexity and constrained site conditions led to a construction duration longer than what was anticipated in the conceptual design phase.

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, elimination of the maintenance buildings and consideration of an alternate biogas

end-use.

The re-design to incorporate the scope changes are underway. With the Construction Manager/General Contractor approach, the Scope II construction can still proceed concurrent with design. A bid package for excavation/dewatering/shoring/foundations will be advertised in April.

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.











On March 16, 2020, the San Francisco Department of Public Health issued a city-wide shelter-in-place order, Order No. C19-07, in response to COVID-19. Due to this shelter-in-place, scheduling PG&E to disconnect existing power at the project sites has been more challenging, causing a shift in our construction schedule and our planned start of the demolition work in Scope 1.

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 	\$133.94 M	Project Percent Complete: 39.9%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	05/31/17✓	(A) N/A (B) N/A (C) N/A (D) TBD	(A) 11/15/17✓ (B) 12/17/18✓ (C) 07/22/19✓ (D) 03/20/24	(A) 05/01/20 (B) 11/14/20 (C) 08/25/23 (D) 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

Progress and Status:

Scope I (Site Preparation) –Substantial completion achieved on March 2, 2020.

Scope II.A (BFS Improvements) – Continued civil and electrical work associated with odor control units Nos. 1 & 2. SFPUC Head Photographer Robin Scheswohl, entered a project construction photo to the Engineering News-Record (ENR) magazine photo contest and won. To control costs, project team evaluated the feasibility of rehabilitating the existing SEP-011 Influent Pumping in lieu of constructing a new influent sewer and 50 MGD lift station. Scope II.B/C were subsequently deleted.

Scope III (Main Headworks) – Majority of off hauling complete. Grit Washing & Dewatering Equipment pre-submittal meeting held on 3/19/2020. Work Release Request for bid package 3-16 (drilled piers) forthcoming.

Issues and Challenges:

Similar to last quarter's report, the forecast project cost reflects latest construction efforts related to Scope I,













No. 3 Water Line in Trench C to Headworks/BDFP/SEP-042/BFS

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.

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

Description: 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.

Program: Southeast Plant (SEP) Improvements	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved  \$41.61 M	Approved Jun-13  Sep-19	
Forecast*  \$44.71 M	Forecast* Jun-13  Nov-20	
Actual  \$43.96 M	Project Percent Complete: 97.8%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/18/15✓	10/29/15✓	03/07/16✓	05/31/20

Progress and Status:

Contractor (WWCI) completed installation of new lighting inside the SEP 521 bathroom. Contractor also completed UPS backup power cutover work to essential process equipment and instrumentation to electrical panel L521-2. They installed a temporary 4" PVC Auto Strainer discharge line to a nearby sump at Clarifier #3. Both WWCI and subcontractor Blocka continue to work on punchlist items throughout the project. Contractor completed functional testing of the new Fire Alarm systems for SEP 521/522. Contractor has completed testing and commissioning of the new process analyzers inside SEP 521. Contractor has completed testing and commissioning of the new Access Control and Security systems. Contractor performed onsite training for WWE Staff for the following: Fire Alarm System, HVAC System, and VFDs (Variable Frequency Drives)

Issues and Challenges:

As indicated last quarter, forecast project cost and schedule has increased due to issues associated with newly installed strainers, as well as electrical and mechanical modifications related to electrical equipment within building SEP 522.













New Analyzers

I. SSIP Quarterly Report

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  Aug-26	
Actual  \$6.93 M	Project Percent Complete: 21.4%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	See Note	See Note+	01/04/21	08/29/25

+ 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 is responding to review comments that were received on the SEP DCS Network Upgrades 35% design package. Coordination with other SSIP project teams, such as the Bruce Flynn Pump Station, the New Headworks, and the Northshore Pump Station project teams is ongoing.

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 Project (BDFP).



DCS Contractor Testing Control Loops at Bruce Flynn Pump Station

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  Jun-22	
Actual  \$22.45 M	Project Percent Complete: 62.5%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

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

For WW-665, south side of SEP 042, drill piers for the seismic brace are now installed. Excavation to subgrade and concrete construction of the base slab is ongoing. Preparation and installation of the dowels into the existing SEP 042 started.

For WW-628, north side of SEP 042, all of the seismic pile installation is complete.

Issues and Challenges:

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.













Seismic Piles on Southside

I. SSIP Quarterly Report

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* 	\$95.88 M	Forecast* Jun-14  Jun-24
Actual 	\$7.97 M	Project Percent Complete: 8.9%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP	Construction Final Completion
Current Forecast	02/22/18✓	03/05/19✓ - 02/20/20 ✓	10/13/20	12/29/23

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

Progress and Status:

Three additional addendums were issued to the project specific WW-662R Request for Qualifications (RFQ) for construction services in Jan and Feb in response to questions on the RFQ from potential contractors as well as to extend the submittal deadline of the RFQ to Feb 19. Four contractors submitted their qualifications for evaluations on Jan 29. After review of the RFQ submittals, two contractors were deemed qualified to bid and two candidates withdrew their applications. The list of qualified prime contractors had also been posted on the web.

On Feb 20, the project team posted the Advertisement for Bids of Contract WW-662R on the SFPUC bid website. In response to a contractor's request and on Mar 3, an addendum was issued to extend the bid date from Apr 2 to Apr 14. On Mar 4, the project team conducted the pre-bid conference and job walk at SEP.

Issues and Challenges:




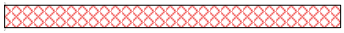


The forecast project cost has increased based on the revised engineers estimate. The forecast project schedule duration has increased due to the additional time needed to re-advertise/Pre-Qualification and re-bid.



SEP Building 032 Conceptual Rendering

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: Design	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved 	\$71.50 M	Approved Jun-13  Jun-23
Forecast* 	\$87.80 M	Forecast* Jun-13  Jun-25
Actual 	\$18.37 M	Project Percent Complete: 22.9%
		

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✓ 02/02/21	03/27/17✓ 12/02/24

+ 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 the project team continues to finalize 100% design documents. In March 2020, the SFPUC received Contractor applications in response to Request for Qualifications (RFQ) for construction services, the applications are under SFPUC review. Qualified Contractor candidates will be eligible to respond to forthcoming request for bids for selected wastewater pump stations including WW-645R Westside Pump Station Reliability Improvements & WW-685R North Shore Pump Station Wet Weather Improvements.

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 95% design construction cost estimate is trending above the baseline budget. SFPUC is continuing discussions with









Proposed Westside Reliability Improvements architectural rendering of project site improvements

SF Zoo staff regarding real estate license agreement for construction staging areas required for the project. At the request of management and in response to Mayor’s shelter-in-place order due to Covid-19 outbreak, the project advertisement will be delayed.

I. SSIP Quarterly Report

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  Jul-21
Actual 	\$12.85 M	Project Percent Complete: 27.2%
		

Key Milestones:	Environmental+ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	06/14/17✓	04/25/18✓	11/26/18✓	02/22/21

+ 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 site utility installation, digester gas isolation and preparation selective demolition of gas holder tank are on-going. Contractor has released the cogeneration engine-generator assemblies for delivery following the completion of the Factory Acceptance Testing (FAT) in March 2020.

Issues and Challenges:







Similar to the last quarterly report, the forecasted cost variance reflects a higher construction contract award beyond baseline budget.



WW-639 Contractor activities including installing site underground utilities on-going

CWWSIPTPOP05 - OSP Condition Assessment Repairs

Description: 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.

Program: Oceanside Plant (OSP) Improvements	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved  \$15.84 M	Approved Jul-14  Jun-19	
Forecast*  \$13.85 M	Forecast* Jul-14  May-20	
Actual  \$12.26 M	Project Percent Complete: 98.7%	
		

Key Milestones:	Environmental** Approval	Bid** Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 12/19/18✓ (B) 07/03/13✓ (C) 12/19/15✓	N/A 01/15/16✓ 09/23/16✓	N/A 07/25/16✓ 03/14/17✓	N/A 03/30/20✓ 10/01/19✓

+ Project includes multiple construction contracts.

(B) WW-570 Oceanside Water Pollution Control Plant and Westside Pump Station HVAC Upgrades and (C) WW-606R2 Oceanside Water Pollution Control Plant Building 930 Exterior and Awning Improvements

** The Environmental Approval & Bid Advertisement for Contract B were achieved in Project CWWRNRTF48, and the Environmental Approval & Bid Advertisement for Contract C were achieved in Project CWWRNRTF67. The Environmental Approval shown in the above table refers to other improvements to the Oceanside Water Pollution Control Plant.

Progress and Status:

(A) The Oceanside Water Pollution Control Plant Condition Assessment Repairs final CER was issued in October 2018. Technical Steering Committee Presentation was completed in July 2019; which concluded the project planning phase.

(B) Construction Contract WW-570 OSP-WSS HVAC Upgrades - the Contractor achieved project final completion in March 2020. The project team is assembling closeout documentation.

(C) Construction Contract WW-606R2 OSP Door and Building 930 Exterior and Awning Improvements - the Contractor achieved project final completion in October 2019. The contract obtained Commission closeout in February 2020. The project team finalized closeout documentation in February 2020.

Issues and Challenges:

The testing and commissioning of the HVAC systems to the existing Building Management System (BMS) computer interface experienced some time delays that













WW-606R2 Building 930 Upper Awning substantially complete in August 2019.

have resulted in impacts to the contract final completion that was achieved in March 2020, that has resulted in an overall project schedule delay.

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  Mar-23	
Actual  \$6.88 M	Project Percent Complete: 18.5%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

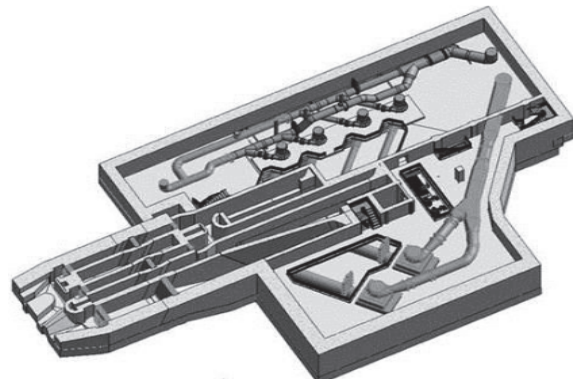
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/13/17✓	06/14/19✓ - 07/31/20	10/14/20	11/08/22

Progress and Status:

The SFPUC is reviewing applications from prospective candidates in response to Requests for Qualification (RFQ) for construction services. The design team continued re-packaging the bid documents in conjunction with DCS Contract DB-126.

Issues and Challenges:







The schedule variance is due to addition of RFQ (Request for Qualifications) process to the standard design-bid-build contract.



North Shore Pump Station Wet Weather Improvements

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  Dec-20	
Actual  \$34.27 M	Project Percent Complete: 60.1%	
		

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.

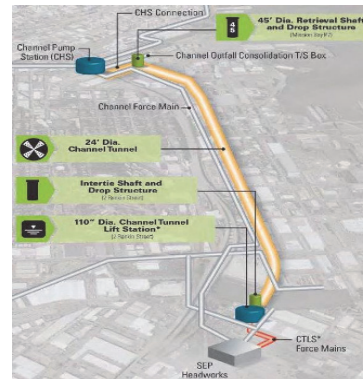
Progress and Status:

The 35% Design has been completed. Baseline (CEQA consultant) is continuing work on the Draft Initial Study.

The completion of design is outside of SSIP Phase 1, and the initiation of 65% tunnel design effort is pending direction from SFPUC Senior Management.

Issues and Challenges:

Project activities are on hold after 35% Design and project is extended to December 2020 for completion of preliminary CEQA documents.













CBSIP Site Map

I. SSIP Quarterly Report

CWWSIPCSSR02 - Collection System Condition Assessment

Description: 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.

Program: Interceptors / Tunnels and Odor Control	Project Status: Planning	Environmental Status: Not Applicable
Project Cost:		Project Schedule:
Approved  \$10.91 M	Approved May-13  Apr-20	
Forecast*  \$4.93 M	Forecast* May-13  Oct-20	
Actual  \$4.92 M	Project Percent Complete: 100.0%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

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

** Only planning-level work was performed and Environmental Approval was not needed for this project

Progress and Status:











During this quarter, the project team continues with closeout activities for this project. Additional time is needed to complete the financial closeout for this project; therefore, a closeout phase is added to the project which extended the completion of the project.

Issues and Challenges:

Project closeout phase is added to the project to account for the time needed to perform financial closeout, which extended the overall project completion. The overall forecast cost was reduced to reflect the status above, and this will compensate for the budget increase of CWWSIPCSPS03, Mariposa Pump Station Improvements and partially compensate the budget increase of CWWSIPCSSR03, Kansas and Marin Sewer System Improvements.

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  Jun-23
Actual 	\$3.78 M	Project Percent Complete: 22.3%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/23/19✓	N/A	10/14/21	12/19/22

**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 continued to work on the 35% design, which will be part of the tender set for a request for bid. However, San Francisco Public Works (SFPW) continues to express concerns with the proposed sewer tunnel under their maintenance yard; therefore, the Request for Qualification (RFQ) for the design-build tunnel contract continues to be on-hold. During this quarter the project team met with Public Works Bureau of Engineering to gain their support for the alignment. In the next quarter, the project teams intends to negotiate a Memorandum of Agreement (MOA) with Public Works to allow for the tunnel through their yard, or move to the next best alternative.



KM MTBM Receiving Area

Issues and Challenges:







The schedule variance reflects the additional delays related to SFPW's reluctance to enter an MOA for use of their property, before the project may proceed with the RFQ. 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: Bid and Award	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved 	\$6.44 M	Approved Apr-15  Jul-21
Forecast* 	\$8.74 M	Forecast* Apr-15  Mar-22
Actual 	\$1.77 M	Project Percent Complete: 24.6%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/23/19✓	11/18/19✓	07/27/20	08/30/21

Progress and Status:

During this quarter, the construction contract was awarded on February 25, 2020, and the contract certification process has begun. Before the contract was advertised, the SF Port approved an agreement-to-form for the construction contract. However, SF Port continues to propose changes to the agreement and has been delaying the final agreement.

On March 16, 2020, the Department of Public Health issued a shelter-in-place order, Order No. C19-07, effective at least through April 7, 2020, due to COVID-19. As a result of the shelter-in-place order, the construction NTP is projecting a 3-month delay.

Issues and Challenges:











The increase in the project forecast is based on actual bids received and will be balanced from project CWWSIPCSSR03. The current schedule delays reflect realized delays including; during the Design Phase for resolving underground utility conflicts and in obtaining agreement-to-form with SF Port; and projected delays during the Bid & Award Phase due to extension of construction NTP from the shelter-in-place order of COVID-19.



Booster pump manifold pit illuminated before sunrise

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-21
Actual 	\$0.03 M	Project Percent Complete: 2.6%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	07/02/21	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:

Currently, the project delay is 21 months to reflect project hold by SFMTA.

I. SSIP Quarterly Report

CWWSIPCSSR04 - 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  Jun-21
Actual 	\$12.90 M	Project Percent Complete: 67.0%
		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP***	Construction Final Completion
Current Forecast	See Note	N/A	01/16/18✓	12/31/20

** 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 is continuing Phase 1D sewer work. Sewer work is approximately 96% complete.

Issues and Challenges:







Claim/delay tracking and 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  May-24
Actual 	\$1.79 M	Project Percent Complete: 9.1%
		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/18/19✓	08/03/20	01/08/21	11/14/23

** 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 draft 90% Design documents in March 2020. Phase 1A advertisement was targeted for summer 2020 but may be deferred due to value engineering effort.

Issues and Challenges:

SFPW still needs to resolve project-wide cost sharing on Phase 1A with partner departments, including SFPUC. The project cost variance is due to the anticipated high cost sharing amounts for construction mitigations, traffic control/rerouting, bus substitution, etc. Key milestones have slipped due to SFMTA and SFPW design changes/delays. Budget and schedule were adjusted to reflect an added block of 5th St. to 6th St., a proposed 2.8 years construction duration and the effort for the value engineering.













Better Market Street – Rendering of proposed project

I. SSIP Quarterly Report

CWWSIPCSSR06 - 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  \$7.47 M	Project Percent Complete: 62.8%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/17/17✓	03/21/18✓	01/07/19✓	12/01/20

** SFMTA is the project lead but SFPUC is the contracting authority for Phase 1. The San Francisco County Transportation Authority (SFCTA) prepared the CEQA approval, except for the sewer and water scopes, which were separately completed by SFPUC.

Progress and Status:

Construction activities are on-going near Webster Street. The Segment A work has been completed and JMB is finishing Segment B Water work.

Issues and Challenges:







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-20	
Actual  \$0.51 M	Project Percent Complete: 76.9%	
		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP+	Construction Final Completion
Current Forecast	N/A	N/A	03/10/17✓	06/30/20

** 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:

During this quarter, the project team continues with closeout activities for this project. The team has received the cathodic protection report and as-builts, but is awaiting on other punch list items to be completed. SFMTA and the contractor are still reviewing the substantial completion date, even though it was previously stated to be in October 2019 to SFPUC,

On March 16, 2020, the Department of Public Health issued a shelter-in-place order, Order No. C19-07, effective at least through April 7, 2020, due to COVID-19. This project may be impacted in observance of the shelter-in-place order, and any such impacts would be provided in future reports.

Issues and Challenges:

Final completion and closeout of sewer contract work continued to be delayed while staff continues to follow-up on this project with the contract’s lead agency (SFMTA), and potential impacts from shelter-in-place order may be provided in future reports.



Insertion of the HDPE Force Main

I. SSIP Quarterly Report

CWWSIPCSSR13 - 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: Bid and Award	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved \$33.14 M	Approved Mar-16 Apr-21	
Forecast* \$33.14 M	Forecast* Mar-16 May-23	
Actual \$2.14 M	Project Percent Complete: 16.3%	
 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) 04/17/17✓ (B) TBD	10/02/18✓ 06/20/19✓	07/01/19✓ 11/16/20	11/03/20 11/21/22

+ 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.

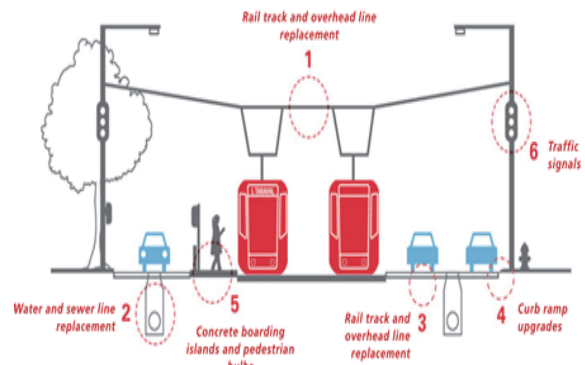
*** Segment B was originally advertised on June 20, 2019 with bid opening held on September 12, 2019 and will be re-bid in mid-2020.

Progress and Status:

Segment A construction is on-going. Contractor is currently constructing sewer and water lines between 41st to 44th Avenues. SFMTA was planning to re-advertise Segment B contract in early 2020 but will now re-advertise for bids in mid-2020 due to COVID 19 pandemic.

Issues and Challenges:







Key milestones have slipped due to SFMTA’s direction 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. The PG&E gas line relocation issue has been tentatively resolved pending formalizing the cost reimbursement agreement. However, 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 Forcemain Improvements	Project Status: Bid and Award	Environmental Status: Completed (MPM)
Project Cost:		Project Schedule:
Approved 	\$9.91 M	Approved Jul-14  Oct-21
Forecast* 	\$9.91 M	Forecast* Jul-14  Sep-22
Actual 	\$1.45 M	Project Percent Complete: 15.6%
		

Key Milestones:	Environmental Approval	Bid** Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/16/16✓	08/06/19✓	07/06/20	03/29/22

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

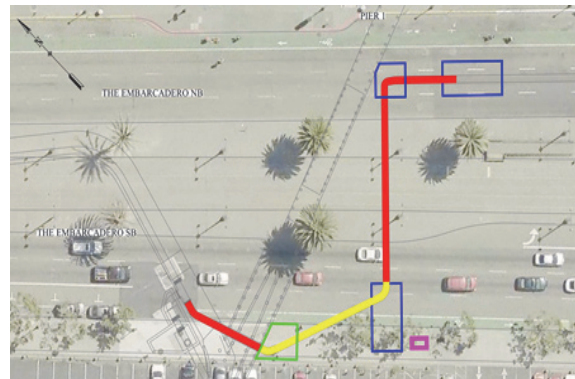
Progress and Status:

During the past quarter, the construction contract was awarded on the January 14th Commission meeting, and contract certification has been in progress. Agreements with SF Port have been approved to form and project team began routing the documents for formal signatures.

On March 16, 2020, the Department of Public Health issued a shelter-in-place order, Order No. C19-07, effective at least through April 7, 2020. As a result of the shelter-in-place order, the construction NTP is projecting a 3-month delay.

Issues and Challenges:

Award of the construction contract was delayed while the project team waited for agreements from SF Port, which has the jurisdictional rights over the project area. The project completion has been extended due to the agreement from SF Port and projected delays during the Bid & Award Phase due to extension of construction NTP from the shelter-in-place order of COVID-19.









Force Main Rehabilitation at Embarcadero and Jackson Site Plan

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* 	\$31.94 M	Forecast* Jul-14  Jun-22
Actual 	\$12.38 M	Project Percent Complete: 40.6%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/25/17✓	04/04/18✓	01/28/19✓	03/17/21

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 contractor was directed to proceed with the critical path work by using temporary electrical generators. Construction duration for WW-667 has been delayed due to PG&E, but the impacts would need to be evaluated and reported in future reports.

During this quarter, force main construction work was substantially completed under Contract DB-128R2. Staff are negotiating on the final contract amount for the dry-weather force main work.

The project schedule reflects the delay during the bid-and-award phase caused by bid protests and longer-than usual contract certification duration. The forecast budget reflects the actual higher bid received in addition to unanticipated additional permit fees and right-of-way costs required to perform work in the public-right-of-way areas that are within the jurisdiction of SF Port.









Excavation for new pump station and exposing existing timber piles from demolished pump station

Issues and Challenges:

The cost and budget variance reflect the actual bid received and the extended bid-and-award phase. The shortfall in budget is addressed by utilizing savings from another SSIP project CWWSIPCSSR02.

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  May-21
Actual 	\$14.55 M	Project Percent Complete: 99.6%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/21/16✓	05/03/17✓	10/16/17✓	07/31/20

Progress and Status:

During this quarter, the contractor has completed over 98% of the contract work at the pump station. Final completion will be delayed because of scheduling issues with PG&E, which is required to complete outstanding electrical work that requires a one-week long electrical shutdown from PG&E power.

On March 16, 2020, the Department of Public Health issued a shelter-in-place order, Order No. C19-07, effective at least through April 7, 2020, due to COVID19. This project is anticipated to be impacted in observance of the shelter-in-place order, and updates will be provided in future reports.

Issues and Challenges:

The schedule variance reflects a negotiated time extension for the contractor to complete major electrical work that was deferred by one dry-weather season due to delays in the delivery of critical electrical equipment. Major electrical work was restricted to dry-weather season to keep the pump station operational during the wet-weather and to help comply with the NPDES permit.













New HPU unit

I. SSIP Quarterly Report

CWWSIPCSCD03 - 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 WWE 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* 	\$4.20 M	Forecast* Mar-16  Feb-21
Actual 	\$3.12 M	Project Percent Complete: 85.6%
 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) 02/16/18✓ (B) 07/06/18✓	03/01/18✓ 12/10/18✓	06/29/18✓ 06/17/19✓	12/27/18✓ 08/31/20

+ 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) Program Management Consultants performed further hydraulic and structural analysis and recommended alternatives to fix the backflow gate. We will meet to assess the option and proceed to the fix in the dry season.

(B) Construction work at Sansome St. under WW-683R continues. The project team and contractor are assessing the changes that are necessary for the concrete repair.

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. The added cost will be determined in the upcoming quarter. The schedule variance is due to the time needed to re-advertise WW-683R, which delayed the NTP for the construction contract. 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 the dry season. The extent of structural deficiency for this project requires substantial rehabilitation, for which the cost and duration will be determined later.



Completed weir repair and corrosion in 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*  \$16.71 M	Forecast* Jul-16  Apr-22	
Actual  \$2.97 M	Project Percent Complete: 26.4%	
 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) 10/29/19✓ (B) 10/29/19✓	02/06/20✓ 02/06/20✓	09/04/20 09/04/20	10/19/21 10/19/21

+ In addition to monitoring, this project includes multiple construction contracts: (A) Pierce Street and (B) Jackson & Griffith Street.

Progress and Status:

The 100% design for the three CSD’s was completed and the project documents were advertised under WW-702 for bids. The bid opening was postponed to May 14, 2020 due to Shelter-In-Place order, so the project completion will be delayed.

Issues and Challenges:

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-702. 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	 Feb-21
Actual		\$4.09 M	Project Percent Complete: 94.9%	
				

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/06/18✓	12/10/18✓	06/17/19✓	08/31/20

Progress and Status:

All three CSDs reached substantial completion.

Issues and Challenges:











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).



Concrete rehabilitation and protective coating at 5th St CSD

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  \$6.11 M	Project Percent Complete: 75.2%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	12/02/14✓	(A) N/A (B) 04/17/19✓	08/10/15✓ 09/30/19✓	02/24/18✓ 10/28/20

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

Progress and Status:

Notice to Proceed was issued to the contractor on September 30, 2019. This quarter, the contractor completed installation of drain inlets, HDPE pipes and bubblers. Grading operations for the rain gardens at the north end of the project site commenced.

Issues and Challenges:

Residents protested the removal of another six trees. A hearing will be scheduled to determine the outcome of the tree removal protests. Cost variance reflects higher anticipated cost as reflected in the 10-year CIP.













Rain garden excavation between Irving and Judah Streets

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  Apr-21	
Actual  \$9.72 M	Project Percent Complete: 94.8%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

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

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

Progress and Status:

On El Camino del Mar in Lincoln Park, the contractor completed planting of the bioretention planters. Work on the south side of the street continued with the construction of a cobble swale. At Golden Gate National Recreation Area property at the end of 25th Ave north, demolition and grading operations started.

Issues and Challenges:




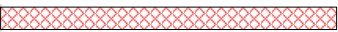


During excavation for the cobble swale, skeletal remains were discovered that triggered archeological monitoring. Work slowed for three days while bones were excavated and catalogued for further study though there was no impact to the construction schedule. The ongoing cost variance is based on actual bid received.



View of rain garden construction at 25th Ave North within Golden Gate National Recreation Area

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, Sunnydale, 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 	\$3.21 M	Project Percent Complete: 20.0%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/15/17✓	10/31/22	11/01/22	10/31/24

Progress and Status:

Last quarter, the SFPUC General Manager and the San Francisco Recreation and Park Department General Manager resolved to test an innovative stormwater capture and re-use system at the Louis Sutter Soccer Field. The project team worked to finalize the CER. Approval of the CER is anticipated next quarter. Development of an RFP for green infrastructure engineering services started. Advertisement of the RFP is planned in June 2020.

Issues and Challenges:

The schedule variance reflects the delay resulting from both the project having been on hold and additional time required to procure design services.




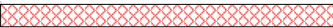








Yosemite Station along Wayland Street provides outdoor educational opportunities for creek restoration and ecology.

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: Active (CatEx)
Project Cost:		Project Schedule:
Approved 	\$22.71 M	Approved Jul-16  Dec-21
Forecast* 	\$45.00 M	Forecast* Jul-16  Nov-23
Actual 	\$2.45 M	Project Percent Complete: 16.5%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

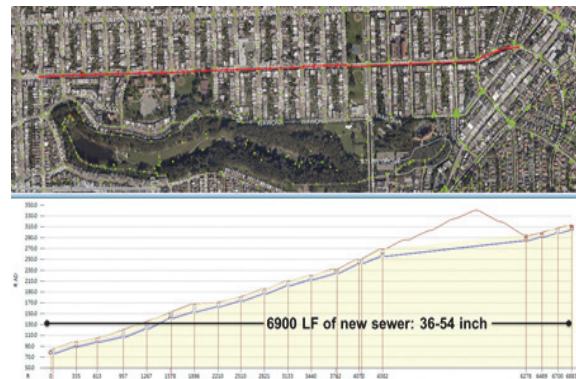
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/30/20	09/30/20	03/01/21	04/28/23

Progress and Status:

Project team and stakeholders completed reviewing the 65% design documents and started working on the 95% set, which will be completed in the upcoming quarter. Geotechnical consultant team continued working on Geotechnical Baseline Report. Constructability and risk assessment started in this quarter and will continue in the upcoming one. The construction contract, WW-711 Wawona Area Stormwater Improvement and Vicente St. Water Mains Replacement, will include paving work funded by SFPW paving program as well. The multi-scope contract will take about 2 years and potentially lessen the impact on the neighborhood comparing to three separate contracts.

Issues and Challenges:

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. The projects are competing for staging areas and the traffic and local access will potentially impact the neighborhood. Wawona team met with the other project teams and it was agreed that additional coordination will be required for the staging areas and construction phasing.









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 	\$2.39 M	Project Percent Complete: 60.2%	
			

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 100-year Flood Map notification, parcel review process, and interagency data sharing. Other ongoing activities funded through GI01 this quarter included: coordination with Interdepartmental working groups, including the City Administrator's Office, Office of Resilience, Department of Building Inspection, and Planning Department, on FEMA requirements and flood resilient building code modifications; development of flood elevations, and implementation options, for parcels within the SFPUC's 100-Year Storm Flood Risk Map; and analysis to inform development of a potential residential Downspout Disconnect grant program. Work on the development of project concepts for the project planning phase of two green infrastructure capital projects at San Francisco Unified School District (SFUSD) schools continued. Finance successfully advertised an RFP for the billing system upgrade and is in the process of awarding a contract for the work. NTP is anticipated next quarter.







Issues and Challenges:

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 results is the result of additional time required to develop and implement green infrastructure programmatic strategies and to complete the billing system upgrade work scope.

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		\$8.72 M	Approved Feb-17		Jun-20
Forecast*		\$6.72 M	Forecast* Feb-17		Sep-25
Actual		\$2.00 M	Project Percent Complete: 28.1%		
					
Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion	
Current Forecast	N/A	12/18/17✓	02/22/18✓	06/30/25	

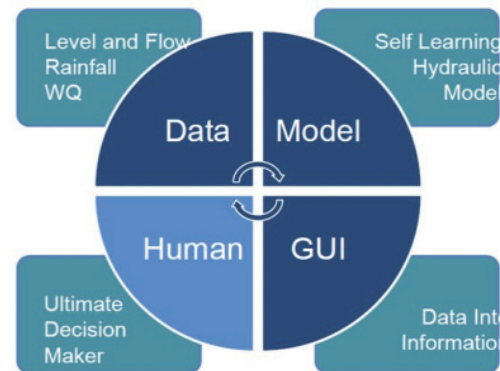
+This is a software development project. NTP represents the date of award for software development agreement.

Progress and Status:

Preparations to deploy software tests using 2019 to 2020 wet weather season data are ongoing. The project team is drafting a procurement contract for 30 flow meters which will help improve ODS software recommendations.

Issues and Challenges:











There is a forecast project completion variance of about 5 years to cover the installation of the 30 flow meters, the QA/QC of flow meter data that will be gathered from these new flow meters, and data integration and testing in the ODS software / database. Activities associated to these 30 flow meters were additional scope of work that was approved in the previous quarter for this project. There is no project level cost impact due to a project contingency that was already in place prior to the refinement of this new added scope.



ODS Graphic Screen Mock-up

CWWSIPFCDB14 - 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 (ENV)
Project Cost:		Project Schedule:
Approved  \$38.41 M	Approved Jul-16  Jun-20	
Forecast*  \$38.41 M	Forecast* Jul-16  Aug-21	
Actual  \$5.53 M	Project Percent Complete: 46.4%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	11/20/20	N/A	N/A	N/A

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

Progress and Status:

City design team and consultants completed the 35% design in this quarter. A significant conflict with a Caltrans overpass foundation was discovered during early phase of the design, and detailed coordination with Caltrans will be necessary to proceed with this project alignment. In this quarter, the project team had an initial coordination meeting with Caltrans, chose an option to modify the Caltrans foundation (with Caltrans input), submitted a Permit Engineering Evaluation Report (PEER) and Encroachment Permit to Caltrans in order to start the detailed coordination process, and began the Structure Type Selection process with Caltrans. In the next quarter, the project team will develop an alternative alignment for management consideration, in the event that coordination with Caltrans becomes too risky, too expensive, or too time consuming.



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. If the decision is made to switch alignments, the design will need to be restarted from the CER stage, will cause a further schedule delay.

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, 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.

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	\$0.51 M	Project Percent Complete: 1.6%
 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) 12/14/21 (B) 07/30/20 (C - I) TBD	07/28/22 01/21/21 TBD	02/17/23 08/06/21 TBD	08/19/24 02/13/23 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 and Nob Hill LSR; (E) South Van Ness Ave (joining with Paving project); (F) SOMA LSR; (G) Mission, 8th, 9th, Howard & Natoma Street LSR; (H) Divisadero, Franklin, Oak, Scott, and Sutter Streets LR; and (I) Chinatown & North Beach LSR (partially funded).

Progress and Status:

During this quarter:

Subproject (A), Channel Force Main Intertie, is progressing into NAR/AAR phase;

Subproject (B), New Montgomery, Mission, Jessie & Minna Streets Brick Sewer Rehabilitation, continues with the design phase;

Subproject (C), Oak, Fell, Cole, Stanyan Streets & 7th Ave Large Sewer Rehabilitation, continues with the planning phase;

Subproject (D), Tenderloin and Nob Hill Large Sewer Rehabilitation, was initiated.











This project may be impacted in observance of the shelter-in-place order, and any such impacts will be provided in future reports.

Issues and Challenges:

The variance in project schedule and budget is due to the additions of scopes of work, reflected by the additional subprojects listed above and as reflected in the 10-year CIP.

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-28	
Forecast*  \$25.00 M	Forecast* Jul-18  Jun-29	
Actual  \$0.52 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	02/21/20✓	N/A	N/A	N/A

Progress and Status:

On October 8, 2019, the Commission approved pre-construction funding in the amount of \$70,000 to San Francisco Unified School District (SFUSD) for the Bessie Carmichael Middle School project. During the past quarter, the Commission also authorized release of construction funding for Lafayette Elementary School on December 10, 2019. This quarter two grant applications were received: one for work at Holy Trinity Greek Orthodox Church and the other for Crocker Amazon Park. Both applications are under review. Program staff conducted 4 sites visits and 2 pre-application meetings with potential grantees this quarter.



View of green infrastructure at SFUSD elementary school

Issues and Challenges:

The 1-year schedule variance results from the inclusion of post-award grant administration in the overall 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	
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	\$ 15,732,355	\$ 15,732,355	-	-	2.4%
New Headworks (Grit) Replacement								
CWWSIPSE02 - Southeast Water Pollution Control Plant New Headworks Facility - SCOPE I (issued POs for 12 Packages)	11/15/17	02/05/20	05/02/20	\$ 31,657,257	\$ 31,737,257	(87)	(\$80,000)	85.7%
CWWSIPSE02 - Southeast Water Pollution Control Plant New Headworks Facility - SCOPE II.A (issued POs for 14 Packages)	12/17/18	11/14/20	11/14/20	\$ 17,721,607	\$ 18,026,607	-	(\$305,000)	79.4%
CWWSIPSE02 - Southeast Water Pollution Control Plant New Headworks Facility - SCOPE III (issued POs for 10 of 62 Packages)	07/22/19	08/25/23	08/25/23	\$ 87,564,127	\$ 87,564,127	-	-	1.5%
Southeast Plant (SEP) Improvements								
CWWSIPSE05 - SEP 521/522 and Disinfection Upgrades (SEP Building 521 Replacement)	03/07/16	08/10/19	05/31/20	\$ 30,075,669	\$ 30,509,429	(295)	(\$433,760)	98.0%

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

Q3-FY2019-2020 (01/01/20 - 03/31/20)

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	
Southeast Plant (SEP) Improvements								
CWWSIPSE08 - SEP Seismic Reliability and Condition Assessment Improvements (WW-628)	09/04/18	07/30/20	04/25/20	\$ 13,200,000	\$ 13,200,000	96	-	82.2%
CWWSIPSE08 - SEP Seismic Reliability and Condition Assessment Improvements (WW-665)	09/09/19	03/31/21	03/08/22	\$ 9,079,210	\$ 9,079,210	(342)	-	10.9%
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	\$ 38,449,000	\$ 38,449,000	-	-	14.5%
CWWSIPTPOP05 - Oceanside Water Pollution Control Plant & Westside Pump Station HVAC Upgrades	07/25/16	03/30/20	03/30/20	\$ 6,264,356	\$ 6,264,356	-	-	100.0%
Interdepartmental Projects ***								
CWWSIPCSSR04 - Van Ness Corridor Transit Improvement Project (sewer only)	01/16/18	01/15/20	12/31/20	\$ 14,314,631	\$ 14,314,631	(351)	-	96.0%
CWWSIPCSSR06 Geary Boulevard Sewer and Water Improvements	01/07/19	12/01/20	12/01/20	\$ 7,295,208	\$ 7,295,208	-	-	75.0%
Pump Stations and Forcemain Improvements								
CWWSICSPS03 Mariposa Dry Weather Pump Station Improvements	01/28/19	03/17/21	03/17/21	\$ 17,031,000	\$ 17,031,000	-	-	22.0%

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.

*** Contracts performed under SFMTA/SFPW.

I. SSIP Quarterly Report

Q3-FY2019-2020 (01/01/20 - 03/31/20)

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	
Pump Stations and Forcemain Improvements								
CWWSIPCSPS06 - Griffith Pump Station Improvements	10/16/17	03/11/20	07/31/20	\$ 11,390,660	\$ 11,390,660	(142)	-	95.0%
Stormwater Management								
CWWSIPFCDB01 Sunset Green Infrastructure (Sunset Boulevard Greenway P2 Irving)	09/30/19	10/28/20	10/28/20	\$ 2,572,351	\$ 2,624,583	-	(\$52,232)	34.7%
CWWSIPFCDB05 Richmond Green Infrastructure (Baker Beach Green Streets)	01/10/19	06/22/20	06/22/20	\$ 7,168,590	\$ 7,381,214	-	(\$212,624)	66.8%
CSD and Transport/Storage Structures								
CWWSICSCD03 & CD05 Sansome, 5th, 6th (North) and Division Street CSD Rehabilitation and Backflow Prevention	06/17/19	01/13/20	08/31/20	\$ 4,907,090	\$ 4,907,090	(231)	-	85.0%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
	Cost	Cost	Cost	Percent
	\$ 314,423,111	\$ 315,506,727	(\$1,083,616)	(0.3%)

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
Interceptors / Tunnels and Odor Control								
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								
CWWSIPCSD01 - 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
TOTAL					\$ 15,335,599	\$ 21,210,363	\$ 21,465,076	\$ 7,920,346

I. SSIP Quarterly Report

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	\$ 32,550,993
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	\$ 15,471,315
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	\$ 8,662,232
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	\$ 1,678,517
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	\$ 17,566,344
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	\$ 2,890,578
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	\$ 5,955,501
CWWSIPNCO1 - 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	\$ 2,102,721
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	\$ 6,359,549

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 - Sunnydale Green Infrastructure	11/30/20	02/28/19	02/28/19	09/30/19	\$ 4,950,001	\$ 4,298,843	\$ 4,298,843	\$ 4,745,826
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	\$ 1,462,493
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	\$ 966,580
CWWSIPFCDB10 - Flood Resilience Analysis (Planning Phase Only)	05/31/17	02/28/17	02/28/17	02/28/17	\$ 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	\$ 4,016,173
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	\$ 428,078
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	\$ 176,151
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	\$ 270,036,030

I. SSIP Quarterly Report

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: Design		Environmental Status: Not Applicable (StatEx)	
Project Cost:			Project Schedule:		
Approved		\$20.46 M	Approved May-18		Nov-22
Forecast*		\$10.99 M	Forecast* Jul-18		Nov-22
Actual		\$0.60 M	Project Percent Complete: 21.3%		
Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits					
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion	
Current Forecast	12/02/19✓	06/23/20	11/30/20	11/29/21	

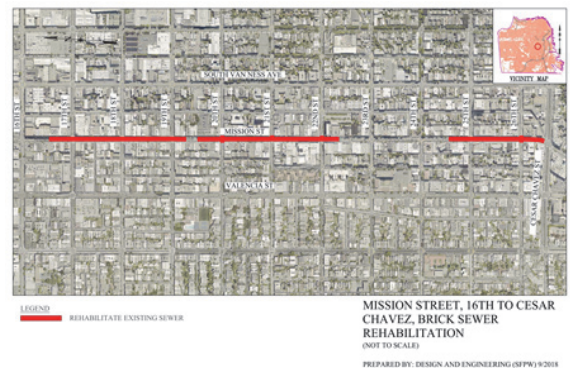
Progress and Status:

During the this quarter, the project team completed the 95% design for construction contract W-703, Mission Street Brick Sewer Rehabilitation. The project team also prepared a draft agreement with SFMTA for MUNI support during construction. Project cost was adjusted to reflect project cost for only one project, as the design and construction for the second project has been moved to project 10034718 - Large Sewers Project.

On March 16, 2020, the Department of Public Health issued a shelter-in-place order, Order No. C19-07, effective at least through April 7, 2020, due to COVID-19. As a result of the shelter-in-place order, the contract advertisement is projecting a 3-month delay.

Issues and Challenges:










The project is projecting a delay due to the postponement of contract advertisement, which was impacted by the shelter-in-place order.



Schematic for Large Sewers – Mission BSR

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  Dec-26	
Actual	Project Percent Complete: 1.4%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/31/23	08/03/23	01/02/24	06/30/26

Progress and Status:

In this quarter, the project team finalized the evaluation criteria and ranking of alternatives. The geotechnical consultant has completed the final geotechnical data and interpretation reports for the AAR. The traffic engineering consultant has completed the draft traffic impacts report. These two studies are necessary for selecting the best alternative during AAR and to carry it to CER.

The project team has advertised the request for proposal (RFP) to solicit engineering support for CER and design phase. The project team has also been participating in multi-agency coordination meetings to discuss the coordinated outreach effort for Alemany related projects..

Issues and Challenges:

The draft AAR is anticipated to be completed by next quarter, which is delayed but will have no impacts to overall project schedule.



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

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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 June 2020. No

changes to the overall program budget, but a three-and-half-year delay to the program schedule. All construction activities have been completed for the program. The program has been extended to mid-2020 to perform financial closeout of the projects, reconcile F\$P issues and finalize the Prop 1E Grant reimbursement invoices.

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 third (3rd) quarterly report for Fiscal Year (FY) 2019-2020 presents the progress made on the WWE CIP projects for the period of January 1, 2020 through March 31, 2020. The program's schedule and budget were last reported to SFPUC on February 19, 2020.

Figure 2.1 shows the total Approved Budget for the projects remaining in each phase of the program as of March 21, 2020. The number of projects in each phase is shown in parenthesis.

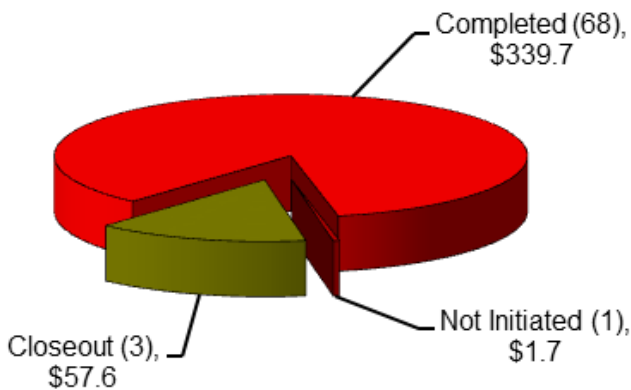
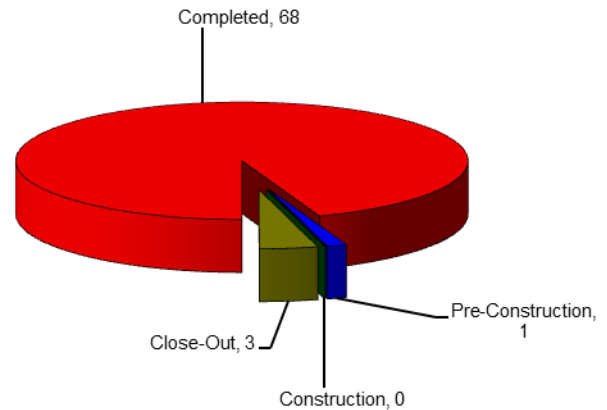


Figure 2.1 Total Approved Budget for Projects Each Phase (\$ Million)

Figure 2.2 shows the number of projects in the following stages of the program as of March 21, 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	\$300.6	\$0.8
Program Delivery Cost	\$94.0	\$37.0	\$95.7	\$94.8	(\$0.9)
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 June 2020, a three-and-one-half year delay. Refer to Appendix 2.2 (Section II) for a graphical presentation of the WWE CIP 2014 Project-Level Schedule.

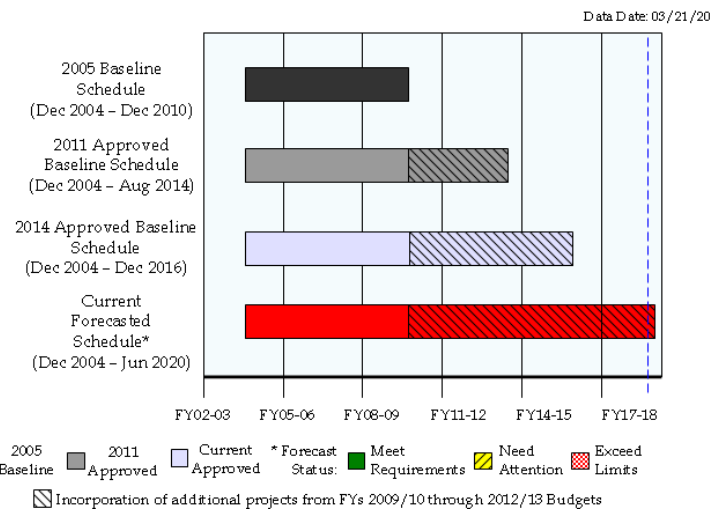


Figure 4.1 Program Schedule Summary

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	06/30/20	42

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 WWE Facility Reliability Impr - SEP Northside		08/29/16	08/29/16	12/26/17		\$ 36,303,511	\$ 36,303,511	\$ 35,894,595
CENMSCIC47 WWE Mechanical / Electrical Upgrade		09/08/16	09/08/16	11/30/17		\$ 5,253,825	\$ 5,253,825	\$ 4,672,818
CENMSCIC72 Facility Security Upgrades Contract 2		11/23/16	11/23/16	09/15/17		\$ 1,557,720	\$ 1,557,720	\$ 173,750
TOTAL						\$ 43,115,056	\$ 43,115,056	\$ 40,741,163

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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	\$ 32,200,607
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
CENMSCIC70 OS Plant Improvements - Aeration Syst Upgrade		12/31/15	12/31/15	09/25/15		\$ 1,362,452	\$ 1,362,452	\$ 321,132
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
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

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								
CENMSCIC61 North Shore Force Main Emergency		04/04/13	04/04/13	04/04/13		\$ 721,739	\$ 721,739	\$ 721,561
CENMSCIC62 Emergency NSFM 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	\$ 277,057
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
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

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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								
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/Lo mbard 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	\$ 339,713,630	\$ 339,713,630	\$ 333,445,669

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 January 1, 2020 and March 31, 2020.

The approved project budget and schedule were developed and approved by the appropriate Wastewater Enterprise Manager on March 31, 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 \$660.8 million (\$212 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	\$78.60	\$450.27	\$661.84	(\$211.57)

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.

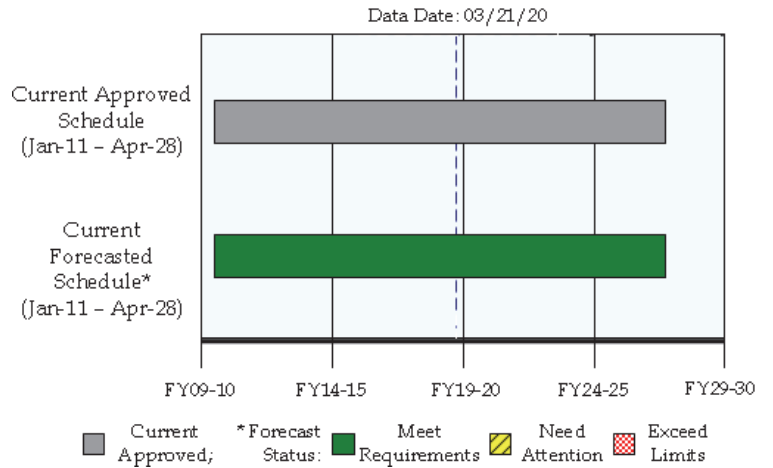


Figure 4.1 Program Schedule Summary

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	04/04/28	-

5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 03/21/20

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	\$ 140	-	★	04/30/27	03/27/28	10.9 mo. Late	●	See Section 6
CWP11001 - New Treasure Island Wastewater Treatment Plant	PL	\$ 67,398	\$ 202,208	\$ 4,892	(\$134,810)	●	09/01/23	01/17/25	16.6 mo. Late	●	See Section 6
CWWFAC01 - Ocean Beach Project	CN	\$ 126,765	\$ 169,923	\$ 10,828	(\$43,158)	●	01/30/26	01/30/26	-	★	See Section 6
CWWFAC03 - Southeast Community Center @ 1550 Evans	CN	\$ 108,500	\$ 109,500	\$ 18,481	(\$1,000)	★	12/29/23	12/29/23	-	★	See Section 10
CWWFAC04 - Southeast Bay Outfall Islais Creek Crossing Replacement	DS	\$ 35,000	\$ 67,600	\$ 6,915	(\$32,600)	●	07/29/24	04/28/25	9.0 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.

III. WWE F&I Quarterly Report

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		Mar-28
Actual		\$0.14 M	Project Percent Complete: 0.9%		
					
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion	
Current Forecast	TBD	04/26/23	09/25/23	09/24/27	

Progress and Status:

On Jan 28, the consultant B&C/SRT JV submitted their proposal for Southeast Outfall Condition Assessment - Inspection Plan after a series of discussions among the consultant, WWE and the project team. The Inspection Plan is to recommend a set of inspection technologies for assessment of the onshore and offshore outfall pipeline including the underwater diffusers section with consideration of the level of service (LOS) objectives of the outfall system and its constraints.







While the development of the scope of work for a site specific Plan had taken more time than anticipated, the task order for professional service is being processed. The approval of the task order and its notice-to-proceed is anticipated in next quarter.

Issues and Challenges:

Similar to the last quarterly report, the project is encountering many challenges related to project site access and constructability. In addition, the multi-governmental jurisdiction of the project area will require extensive environmental review, potentially requiring an Environmental Impact Report. The existing pipeline has previously had several urgent temporary repairs at various locations due to deteriorating conditions.

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: Planning	Environmental Status: Completed (EIR)
Project Cost:		Project Schedule:
Approved 	\$67.40 M	Approved Jan-11  Sep-23
Forecast* 	\$202.21 M	Forecast* Jan-11  Jan-25
Actual 	\$4.89 M	Project Percent Complete: 6.8%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/18/19✓	N/A	09/13/21	08/14/24

Progress and Status:

The new wastewater treatment plant and associated recycled water facility are in the planning portion of the project. The Conceptual Engineering Report (CER) was completed in January 2020. The team concluded the project delivery method evaluation and has recommended a Design-Build approach with the RFQ currently under development, with anticipated release next quarter. 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.



Rendering of the Proposed New Treasure Island Wastewater Treatment Plant







Issues and Challenges:

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.

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		Jan-26
Actual		\$10.83 M	Project Percent Complete: 13.0%		
					
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion	
Current Forecast	(A) 09/10/14✓ (B) 12/17/20 (C) 10/12/22	09/14/15✓ N/A 07/14/22	01/07/16✓ 02/24/21 01/03/23	03/01/21 08/25/21 07/28/25	

(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: WW-663 is an as-needed contract. Annual monitoring indicated the need to place 65,000 CY of sand to protect the Lake Merced Tunnel. Work began in November 2019 and was completed in January 2020.

B) ACOE: The construction phase contract agreement with ACOE for Beneficial Reuse of dredged sand at South Ocean Beach has been initiated by the City Attorney. Design work has been initiated by the ACOE. SF Planning is evaluating air quality impacts to determine the required level of CEQA review.

C) LTI: This is the first CCSF Climate Change Adaptation Project requiring a high level of coordination with other CCSF Agencies. The 35% Design Phase began October 1, 2019 but completion is currently delayed by approximately 6 months.

Issues and Challenges:

Like the previous quarterly report, SFPUC continues discussions with the SF Zoo regarding project impacts to ingress and egress from their parking lot; negotiations are on-going, but delays have impacted progress on design and environmental review. The project refinements developed in the conceptual engineering report resulted in an increased forecasted budget and project schedule which were approved by the SFPUC in September 2019; both were included in the San Francisco's 10YR Capital Plan. The project team will continue to evaluate the proposed construction activities during subsequent design development to mitigate potential impacts to the overall project cost and completion date.

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		Sep-25
Actual		\$6.91 M	Project Percent Complete: 14.6%		
Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits					

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/13/20	12/16/20	05/17/21	03/18/25

Progress and Status:

The 95% design is complete and distributed to various PUC bureaus and City agencies for review. The geotechnical consultants completed draft vibration analysis report. Also performed geotechnical field work in compliance with DPH (Department of Public Health) Maher Ordinance. Project team continued coordination with SF PORT and SFMTA for lay down areas and relocation of MUNI overhead control system (OCS) work on third street respectively. Final draft of project description for CEQA - Mitigated Negative Declaration (MND) distributed for review.

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.



SEO Islais Creek Crossing Replacement

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	\$ 71,181,253	\$ 80,265,302	-	(\$9,084,049)	10.0%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	\$ 71,181,253	\$ 80,265,302	(\$9,084,049)	(12.8%)

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
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	\$ 16,624,029
TOTAL					\$ 0	\$ 27,361,789	\$ 27,361,789	\$ 16,624,029











9. COMPLETED PROJECTS

No projects are currently completed.

10. PROJECTS WITHIN BUDGET AND SCHEDULE (THRESHOLD LIMITS)

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: Approved  \$108.50 M Forecast*  \$109.50 M Actual  \$18.48 M		Project Schedule: Approved Jul-12  Dec-23 Forecast* Jul-12  Dec-23 Project Percent Complete: 27.2%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

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

Notice to Proceed (NTP) was issued on January 13. Demolition was completed in March. Approximately 80% of construction has been bid out. Procurement will extend to the end of May.

Issues and Challenges:

Procurement of trades is trending higher than budget reflected in the 10-year CIP. Project team continues to evaluate construction cost impacts associated with current market conditions and is developing a plan to report back to the Commission.



1550 Evans Demolition completion

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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 January 1, 2020 and March 31, 2020.

The approved project budget and schedule were developed and approved by the appropriate Wastewater Enterprise Manager on March 31, 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 March 31, 2020.

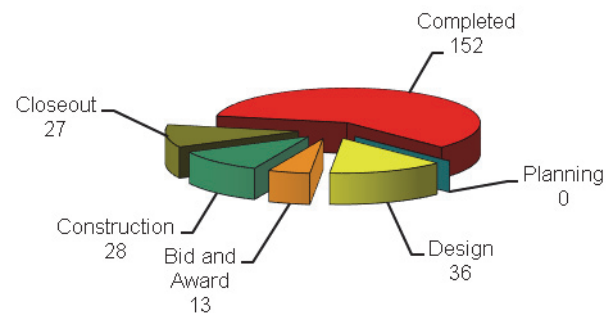


Figure 2.1 Total Number of Active R&R Collection Systems Projects in R&R Program

IV. WVE R&R Quarterly Report

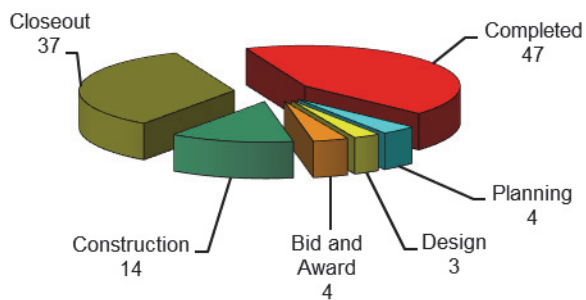
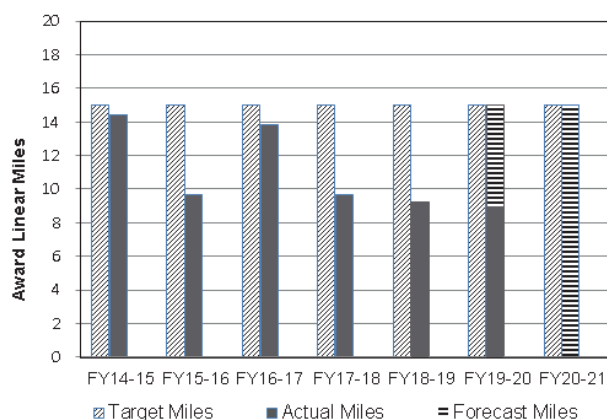


Figure 2.2 Total Number of Active R&R Treatment Facilities Projects in R&R Program

The Wastewater R&R Collection System Sewer Replacement Program has an annual budget of \$64.8 million in FY20 to award a target of 15 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 been awarded 9.0 miles of sewer replacement work in

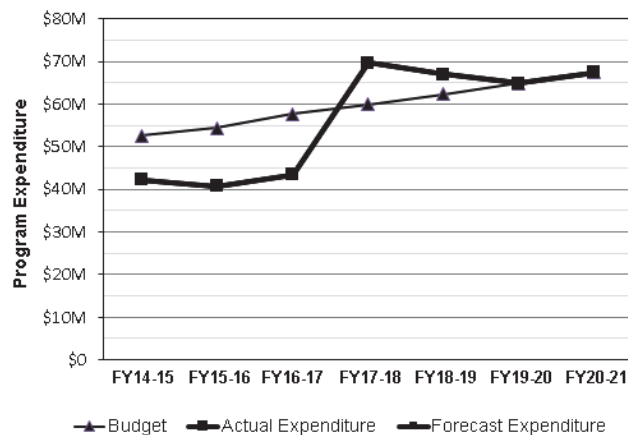


	FY14-15	FY15-16	FY16-17	FY17-18	FY18-19	FY19-20	FY20-21
Target Miles	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Actual Miles	14.4	9.7	13.8	9.7	9.2	9.0	
Forecast Miles						15.0	15.0

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

FY20.

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	\$67.4M
Actual Expenditure	\$42.1M	\$40.8M	\$43.4M	\$69.7M	\$67.0M	\$31.1M	
Forecast Expenditure						\$64.8M	\$67.4M

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 \$824 million and the Current Forecasted Cost at completion is also \$824 million.

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	\$518.72	\$686.54	\$686.54	-
R&R Treatment Facilities	\$100.93	\$137.68	\$137.68	-
Program Total	\$619.66	\$824.22	\$824.22	-

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 2021. The overall R&R Program is currently forecasted to be completed in March 2021.

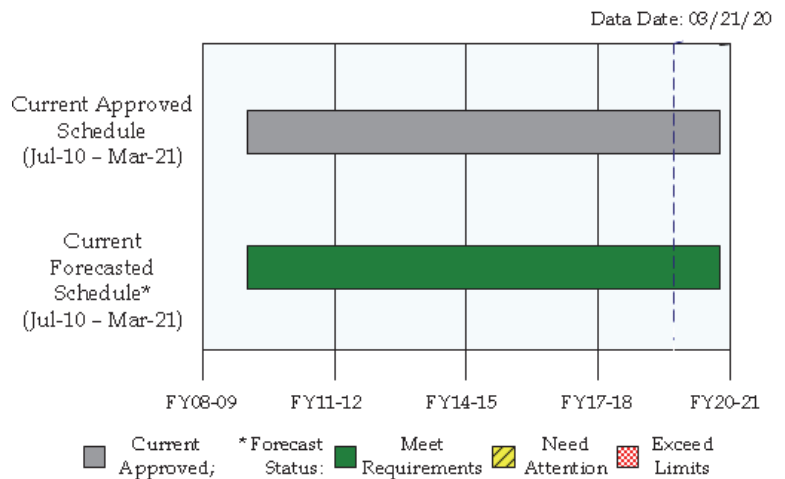


Figure 4.1 Program Schedule Summary

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✓	03/31/21	03/31/21	-
R&R Treatment Facilities	07/01/10	07/01/10✓	02/12/21	02/12/21	-
Overall Program	07/01/10	07/01/10✓	03/31/21	03/31/21	-

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5. PROGRAM PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 03/21/20

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	\$ 686,540	\$ 686,540	\$ 532,376	-	★	03/31/21	03/31/21	-	★	See Section 10
CWWRNRTF - R&R Treatment Facilities	MP	\$ 137,678	\$ 137,678	\$ 105,146	-	★	02/12/21	02/12/21	-	★	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.

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								
10015671-As-Needed Main Sewer Replacement No. 7 (WW-655)	06/10/19	08/13/20	08/13/20	\$ 6,705,115	\$ 6,705,115	-	-	68.6%
10015681-As-Needed Sewer Sealing (WW-644)	02/06/17	05/05/20	05/05/20	\$ 3,834,500	\$ 3,834,500	-	-	97.0%
10034352-As-Needed Spot Sewer Replacement No. 38 (WW-686)	06/10/19	07/13/20	07/13/20	\$ 10,126,323	\$ 10,126,323	-	-	73.9%
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	-	-	30.1%
10034564-As-Needed Sewer Cleaning and Inspection (FY20) (WW-695)	09/03/19	03/25/21	03/25/21	\$ 1,747,550	\$ 1,747,550	-	-	20.4%

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.

IV. WVE R&R Quarterly Report

Q3-FY2019-2020 (01/01/20 - 03/31/20)

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	07/24/20	07/24/20	\$ 1,981,334	\$ 1,981,334	-	-	20.0%
10015762 North Point Wet Weather Facility Sedimentation Tank Influent Gate Upgrades (WW-664)	01/14/19	07/06/20	07/06/20	\$ 2,741,000	\$ 2,741,000	-	-	12.0%
10015779 - Oceanside Water Pollution Control Plant - Building 620 Safety Improvements (WW-643R)	03/26/18	05/08/20	05/08/20	\$ 2,156,000	\$ 2,156,000	-	-	99.0%
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	-	-	32.0%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	\$ 44,495,782	\$ 44,495,782	\$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 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 in combination with the WWE Renewal and Replacement Program (R&R) Spot Sewer Repair replaces aging failed portions of the collection system. The portions of the collection system are identified utilizing an asset management approach, which factors in: physical condition, age, location, risk, public safety, paving schedule and other factors.

Program: Renewals and Replacements		Program Status: Multiple Phases		Environmental Status: Completed	
Project Cost:			Project Schedule:		
Approved		\$686.54 M	Approved Jul-10		Mar-21
Forecast*		\$686.54 M	Forecast* Jul-10		Mar-21
Actual		\$532.38 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 March 31, 2020.

The two hundred fifty six (256) WWE Collection Systems projects are distributed as follows:

Planning: 0
 Design: 36
 Bid & Award: 13
 Construction: 28
 Closeout: 27
 Completed: 152











During this Quarter, 9 new projects were initiated, 4 projects were advertised, 4 projects were awarded/awaiting NTP, 4 projects received NTP, 3 projects completed construction and 2 projects closed out.

Issues and Challenges:

None at this time.

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  \$137.68 M	Approved Jul-10  Feb-21	
Forecast*  \$137.68 M	Forecast* Jul-10  Feb-21	
Actual  \$105.15 M	Project Percent Complete: 83.0%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental++ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	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 March 31, 2020.

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

- Planning: 4
- Design: 3
- Bid/Award: 4
- Construction: 14
- Closeout: 37
- Completed: 47

Issues and Challenges:

None at this time.

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APPENDICES

- 1. PROJECT DESCRIPTIONS**
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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 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.

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)

CWWSIPCT01 - 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

CWWSIPCSSR_N02 - 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.

CWWSIPCSSR01 - 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, WWE 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 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

CWWSIPCSSLR_N03 - 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.

CWWSIPCSSLR04 - 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.

CWWSIPCSSLR05 - 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.

CWWSIPCSSLR06 - 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 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 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 WVE 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

CWWSIPCSD04 - 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
- Installation of a backflow prevention system at the 5th Street CSD structure
- Installation of a backflow prevention system at the 6th Street CSD structure

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

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 Sunnysdale 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).
- 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

Appendix 1 - SSIP Quarterly Report

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, CWWSSIPSSR02 - 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

OP05-2 - 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

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)

Appendix 1 - SSIP Quarterly Report

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

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

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 Program 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. These projects in combination with the WWE Renewal and Replacement Program (R&R) Spot Sewer Repair replace aging failed portions of the collection system. The portions of the collection system are identified utilizing an asset management approach, which factors in: physical condition, age, location, risk, public safety, paving schedule and other factors.

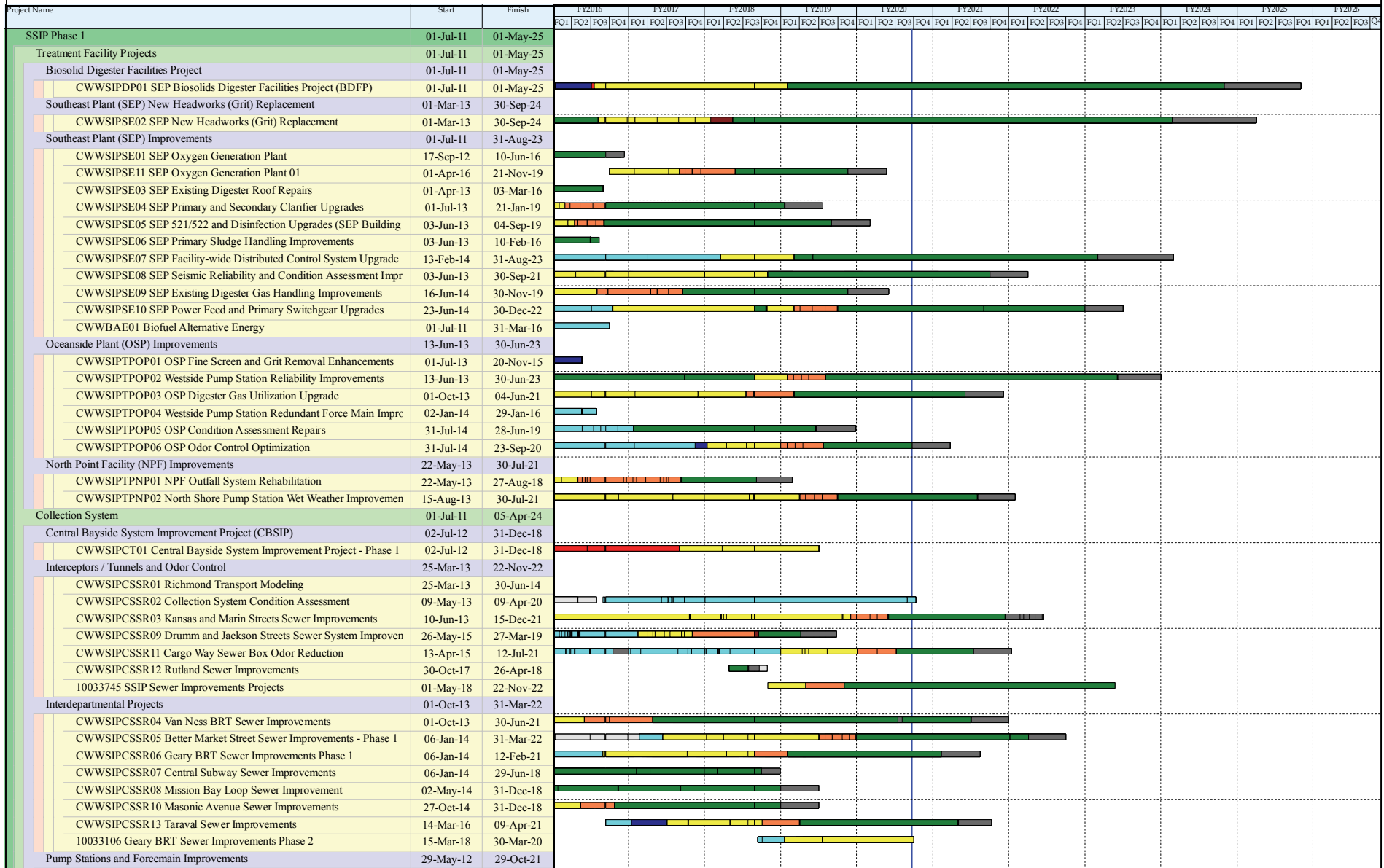
CWWRNRTF - R&R Treatment Facilities

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			
			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				
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]																																											
CWWSIPSCD01 Richmond Transport/Storage Tunnel Rehabilitation	01-Jun-15	13-May-19	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPSCD02 Baker/Laguna/Pierce CSD & Outfall	29-Jun-15	20-Nov-15	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPSCD03 Beach and Sansome Street CSD Rehabilitation	14-Mar-16	30-Apr-20	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPSCD04 CSD Backflow Prevention and Monitoring	25-Jul-16	01-Oct-21	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPSCD05 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 Or	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							
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4								
CWWSIPPL01, PRPL01 SSIP Program Management	01-Sep-11	31-Jul-23	[Program Mgmt]																																															
Other SSIP	01-Jul-18	30-Jun-28	[Program Mgmt]																																															
Treatment Facilities	23-Sep-19	16-May-28	[Program Mgmt]																																															
Oceanside Plant	23-Sep-19	16-May-28	[Program Mgmt]																																															
OP05-2 OSP Condition Improvement - Phase 2	23-Sep-19	16-May-28	[Program Mgmt]																																															
Sewer/Collection System	01-Aug-19	20-May-24	[Program Mgmt]																																															
Collection System - Interceptors / Tunnels / Odor Control	01-Aug-19	20-May-24	[Program Mgmt]																																															
10034718 Large Sewer Improvements	01-Aug-19	20-May-24	[Program Mgmt]																																															
Stormwater Management/Flood Control	01-Jul-18	30-Jun-28	[Program Mgmt]																																															
Green Infrastructure for Stormwater Mgmt (Grant)	01-Jul-18	30-Jun-28	[Program Mgmt]																																															
10034553 Green Infrastructure Grant Program	01-Jul-18	30-Jun-28	[Program Mgmt]																																															
Flood Resilience	02-Jan-19	31-Dec-26	[Program Mgmt]																																															
10034360 Lower Alemany Area Stormwater Improvement Project	02-Jan-19	31-Dec-26	[Program Mgmt]																																															

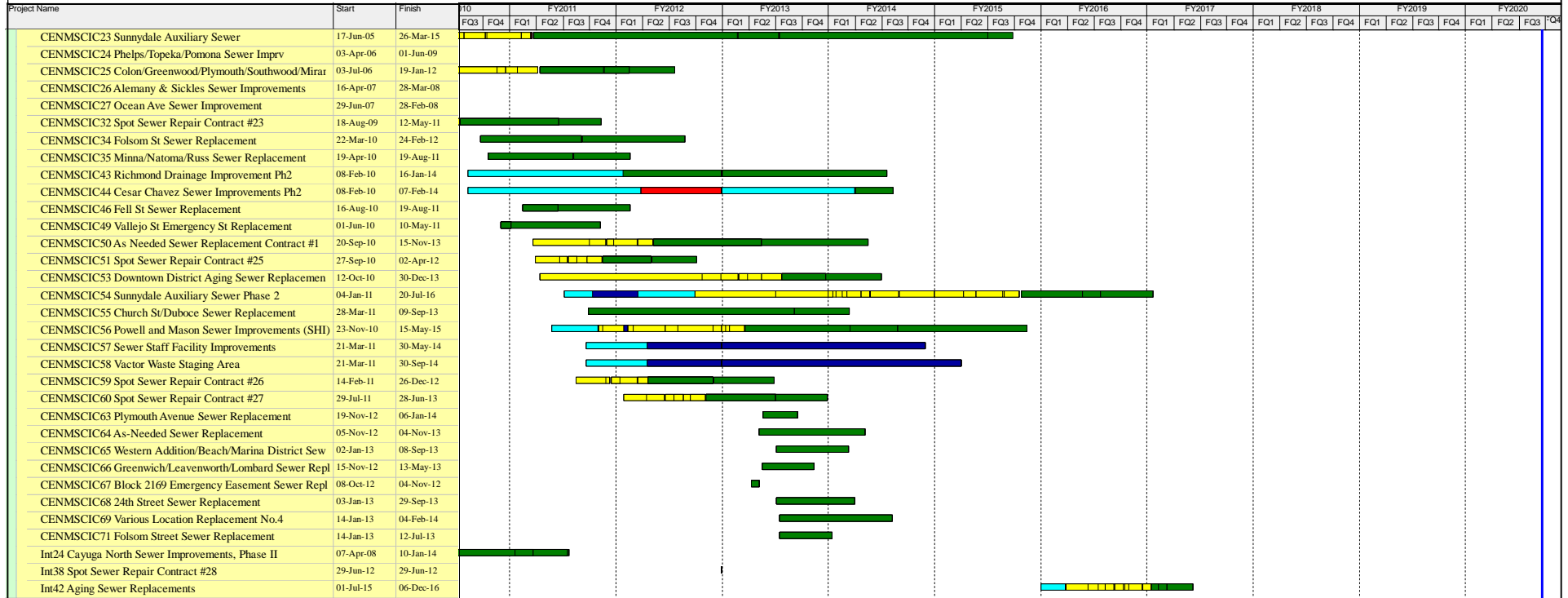


APPENDIX 2.2: WWE CIP Project-Level Approved Schedule

Project Name	Start	Finish	FY0		FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017				FY2018				FY2019				FY2020			
			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				
Odor Control	25-Feb-05	10-Jan-14																																										
CENMSCIC05 Oceanside WPCP HVAC Imprv	25-Feb-05	13-Apr-10																																										
CENMSCIC07 Chemical Feed Sys Imprv - Ph 1	16-May-05	10-Apr-07																																										
CENMSCIC16 WS PS VFDs and Pumps	26-Sep-05	14-Jul-09																																										
CENMSCIC20 Chemical Feed Sys Imprv - Ph 2	16-Mar-06	30-Aug-07																																										
CENMSCIC22 Embarcadero Vent Elements Ph 1	17-Sep-05	28-Sep-07																																										
CENMSCIC28 SEWPCC Bldg 010 Odor Control Improvement	20-Apr-07	16-Aug-12																																										
CENMSCIC31 SEWPCC 620 & 680 Digester Compressor	06-Mar-08	08-Jan-13																																										
Int12 Embarcadero Vent Elements Phase 2	01-Jul-08	10-Jan-14																																										
Int14 Embarcadero Box Hydraulic Modifications	05-Apr-08	05-Apr-08																																										
Int15 OSP Mixing, Withdrawal and Dewatering Improvements	02-Jul-07	01-Jul-09																																										
Treatment Facilities	20-Jan-05	08-Dec-16																																										
CENMSCIC06 SEP Gas Handling Imprv	20-Jan-05	22-Sep-09																																										
CENMSCIC08 SEP Secondary Clarifiers Concrete Repairs	20-Jan-05	28-Sep-07																																										
CENMSCIC09 SEP Mixed Liquor and Odor Control Imprv	30-Jun-05	31-Jul-07																																										
CENMSCIC17 OSP / WS Bar Screens	03-Oct-05	14-Jul-09																																										
CENMSCIC29 SEWPCC Gas Handling Improvements - Ph 2	08-Jan-07	08-Jun-10																																										
CENMSCIC36 WWE Facility Security/Emergency Response	07-Jan-10	09-Jul-14																																										
CENMSCIC37 WWE Facility Reliability Impr - SEP Northside	07-Jan-10	08-Dec-16																																										
CENMSCIC38 SEP Solid Handling (Digester Roof, Gas Mixi	07-Jan-10	31-Dec-15																																										
CENMSCIC39 OSP Solids Handling and Coating	22-Jan-10	20-May-16																																										
CENMSCIC41 MV-SWGR SEP Electrical Reliability	22-Jan-10	30-Sep-15																																										
CENMSCIC42 GHW Stabilization Emergency	19-Jan-10	02-Sep-12																																										
CENMSCIC45 OPS: FOG to Biodiesel	01-Mar-10	31-Dec-14																																										
CENMSCIC47 WWE Mechanical / Electrical Upgrade	23-Apr-10	08-Dec-16																																										
CENMSCIC70 OS Plant Improvements - Aeration Syst Upgr	12-Dec-12	31-Dec-15																																										
CENMSCIC72 Facility Security Upgrades Contract 2	01-Jul-13	08-Dec-16																																										
CENMSCIC74 SETP Effluent Force Main	01-Mar-16	30-Nov-16																																										
Int02 Future Major Electrical and Mech Equip Replacement	31-Dec-08	10-Jan-14																																										
Int03 Contract 4 OSP Gas Compressors (\$ included in IC17)	15-Sep-06	10-Jan-14																																										
Int35 SWOO Cleaning & Backflow Prevention	05-Apr-08	05-Apr-08																																										
Int41 SEP Centrifuge Replacements	02-Jul-12	02-Jul-12																																										
Pump Stations	03-Oct-05	27-May-16																																										
CENMSCIC19 Tennessee Pump Station Reliability - Ph 1	03-Oct-05	30-Aug-07																																										
CENMSCIC21 Channel Pump Station Odor Control	03-Jan-06	31-Oct-07																																										
CENMSCIC30 Channel Pump Station Odor Control - Phase 2	02-Jul-07	11-Oct-12																																										
CENMSCIC33 North Shore to Channel Force Main Improver	01-Oct-09	14-Jul-11																																										
CENMSCIC40 North Shore and Mariposa Pump Station Impr	22-Jan-10	30-Jun-14																																										
CENMSCIC48 Channel Pump Sta Improvements Phase 3	23-Apr-10	12-Nov-13																																										
CENMSCIC52 North Shore Force Main, Phase 2	07-Sep-10	27-May-16																																										
CENMSCIC61 North Shore Force Main Emergency	20-Mar-12	04-Apr-13																																										
CENMSCIC62 Emergency NSFMR Rehabilitation	04-Jun-12	01-Jul-14																																										
Int17 Tennessee PS Areawide Sewer Improvement - Phase 2	05-Apr-08	05-Apr-08																																										
Sewer/Collection System	31-Dec-04	06-Dec-16																																										
CENMSCIC01 Vicente St. Sewer Sys Imprv Ph 2	03-Jan-05	30-Nov-07																																										
CENMSCIC02 Teresita Blvd "South" Sewer Reple	03-Jan-05	15-Oct-07																																										
CENMSCIC03 Shotwell & 18th St. Drainage Imprv	31-Dec-04	27-Mar-08																																										
CENMSCIC10 Brotherhood Way/St Charles Sewer Improven	07-Sep-05	28-Dec-09																																										
CENMSCIC11 Cesar Chavez Sewer Imprv Ph 1	03-Oct-05	31-Dec-14																																										
CENMSCIC12 Vicente St. Ph 1 Sewer Imprv	27-Apr-05	16-Mar-07																																										
CENMSCIC13 Monterey, Baden, & Circular Sewer Imprv	16-May-05	29-Sep-06																																										
CENMSCIC14 Mission & Foote Sewer Imprv	04-Jun-05	14-Nov-06																																										
CENMSCIC15 Mission & Mt. Vernon Sewer Imprv Ph I	26-Sep-05	30-Sep-09																																										
CENMSCIC18 Justin Dr/Marietta Ave/Del Vale Ave Sewer I	03-Jan-06	28-May-08																																										

Planning
 Right-of-Way
 Construction
 Environmental
 Design

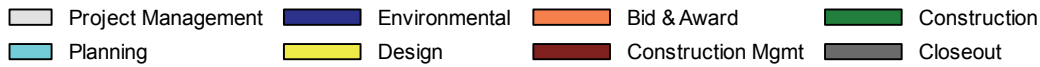
APPENDIX 2.2: WWE CIP Project-Level Approved Schedule



- Planning
- Right-of-Way
- Construction
- Environmental
- Design

APPENDIX 2.3. WWE F&I Project-Level Approved Schedule

Project Name	Start	Finish	FY2018				FY2019				FY2020				FY2021				FY2022				FY2023				FY2024				FY2025				FY2026				FY2027				FY2028			
			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				
WWE Facilities and Infrastructure	01-Jan-11	04-Apr-28																																												
10033820 Southeast Outfall Condition Assessment & Reha	28-Jan-19	30-Apr-27																																												
CWP11001 New Treasure Island Wastewater Treatment Plant	01-Jan-11	01-Sep-23																																												
CWWFAC01 Ocean Beach Project	23-Jul-12	30-Jan-26																																												
CWWFAC02 Collection Division Consolidation (Griffith Y)	01-Mar-13	28-Jun-19																																												
CWWFAC03 Southeast Community Center @ 1550 Evans	26-Jul-12	29-Dec-23																																												
CWWFAC04 Southeast Bay Outfall Islais Creek Crossing R	26-Sep-16	29-Jul-24																																												
SWOO Southwest Ocean Outfall (SWOO)	17-Aug-20	04-Apr-28																																												



APPENDIX 2.4. WWE R&R Project-Level Approved Schedule

Project Name	Start	Finish	FY2012				FY2013				FY2014				FY2015				FY2016				FY2017				FY2018				FY2019				FY2020				FY2021				FY2022
			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	FQ1
WWE Renewal & Replacement Program	01-Jul-10	31-Mar-21	[Gantt bars for Project Management, Environmental, Bid & Award, Construction, Construction Mgmt, Closeout, Planning, Design]																																								
CWWRNRTF R&R Treatment Facilities	01-Jul-10	12-Feb-21	[Gantt bars for Project Management, Environmental, Bid & Award, Construction, Construction Mgmt, Closeout, Planning, Design]																																								
CWWRNRCS R&R Collection Systems	01-Jul-10	31-Mar-21	[Gantt bars for Project Management, Environmental, Bid & Award, Construction, Construction Mgmt, Closeout, Planning, Design]																																								

- Project Management
 Environmental
 Bid & Award
 Construction
- Planning
 Design
 Construction Mgmt
 Closeout

Appendix 3. Acronyms

APPENDIX 3. LIST OF ACRONYMS

AAR	Alternative Analysis Report	EMMS	Energy Monitoring and Management System
ACOE	Army Corps of Engineers (also shown as USACE)	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
EIS	Environmental Impact Statement	MOA	Memorandum of Agreement
		MOU	Memorandum of Understanding
		MPM	Minor Project Modification
		MPS	Mariposa Pump Station

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

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SSIP PHASE 1 PROGRAM EXECUTIVE SUMMARY

APRIL - JUNE 2020

Southwest Community Center at 1550 Evans Avenue: Welding steel piles.



COMMUNICATIONS

APRIL - JUNE 2020

In the News

- Ten (10) media mentions of SSIP-related projects, including stories on: coronavirus leading to a spike in sewer clogs, utilizing green infrastructure as a stormwater solution, announcement of WIFIA loan for wastewater upgrades, and the start of construction for the Force Main Rehabilitation at Embarcadero and Jackson Project
- Over **283,000+** impressions were recorded this quarter through social media outlets (Facebook, Twitter, Instagram, YouTube, Nextdoor, and LinkedIn), SSIP webpage views, and community meeting attendees

Highlights of Conducted Outreach

- April - Notice to stakeholders in communities with projects across San Francisco providing an update on the pause or continuation of work as a result of shelter in place ordinance
- Notice to residents, businesses, and community organizations for the start of construction on Sansome Combined Sewer Discharge Rehabilitation and Backflow Prevention Project
- Monthly citywide and D10 focused email newsletters to 4,500+ recipients providing information on the status of construction projects as they relate to shelter in place ordinance, the SFPUC Community Assistance Program providing discount on water and sewer bills, grants available to small Bayview businesses, and other community resources such as job trainings and workshops
- Southeast Construction Updates Email - bi-weekly email newsletters to 500+ recipients providing construction updates on projects underway at the Southeast Treatment Plant and progress on the new Southeast Community Center at 1550 Evans
- Force Main Rehabilitation at Embarcadero and Jackson Project - delivered construction notices and performed outreach via email and phone to residents, businesses, and community organizations in the project area to notify on start of construction in June

Upcoming Outreach Events

- August 12th - Virtual Explorations - Wastewater 101: virtual explorations of the water, power, and sewer system that serves our San Francisco and Bay Area customers on Wednesdays at 1 pm
- September - Virtual public scoping meeting for Ocean Beach Climate Change Adaptation Project's Notice of Preparation to gather public comment on environmental review process
- September 2nd - Virtual Explorations - Fixing an Airplane While It's in Flight: take a tour of the multi-billion-dollar Sewer System Improvement Program, a citywide investment in the future of our critical sewer system infrastructure that protects public health the environment 24/7/365. See firsthand the work being done to ensure a reliable, resilient and sustainable system for current and future generations
- October - Preconstruction outreach to residents in the Wawona Area Stormwater Improvement and Vicente Street Water Main Replacement project area



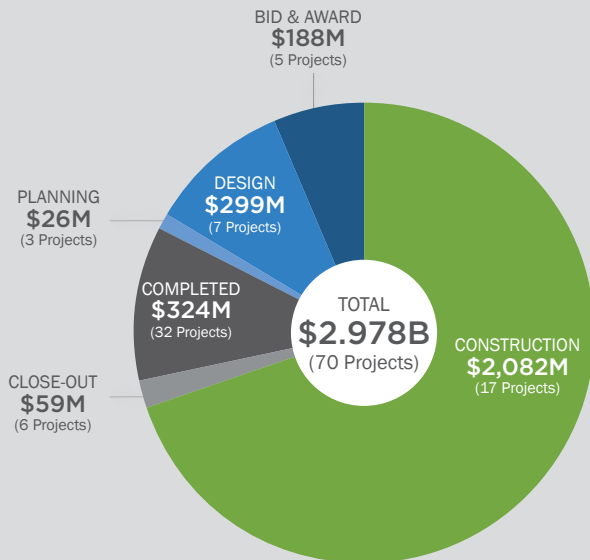
Services of the San Francisco
Public Utilities Commission

**SEWER
SYSTEM**
IMPROVEMENT PROGRAM
Grey. Green. Clean.

PHASE 1 METRICS

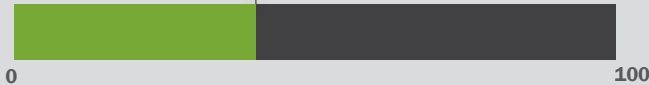
AS OF JUNE 2020

Projects by Phase



Percent Complete

46%



RECENTLY ADVERTISED & UPCOMING CONTRACTS

- Ongoing: WW-628, SEP New Headworks Facility Project, Various Trade Packages <https://secure.smartbidnet.com/LAPW>
- Ongoing: WW-647R, SEP Biosolids Digester Facilities Project, Various Trade Packages [https://mwhconstructors.com/sfpuc_biosolids_project/\[mwhconstructors.com\]](https://mwhconstructors.com/sfpuc_biosolids_project/[mwhconstructors.com])
- Ongoing: WW-667 Mariposa Dry-Weather Pump Station Improvements
- March 2020: WW-702, Jackson, Griffith, and Pierce Streets Combined Sewer Discharge Rehabilitation and Backflow Prevention, \$4M-\$5M
- March 2020: WW-645R & WW-685R, RFQ for Selected Wastewater Pump Stations, WW-645R:\$50-\$55 / WW-685R: \$28M-\$32M
- April 2020: Southeast Water Pollution Control Plant Power Feed and Primary Switchgear Upgrades, \$29M-\$34M
- Begin WW-683 Sansome Street CSD Rehabilitation
- Begin WW-687 Force Main Rehab at Embarcadero and Jackson Streets
- Re-commence WW-627R Baker Beach Green Streets
- Re-commence WW-691 Sunset Boulevard Greenway
- Notice of Preparation issue for Ocean Beach Climate Adaption Project in summer
- 100% Design WW-645R Westside Pump Station Reliability Project September 2020, Bid/Award October 2020

KEY UPDATES

APRIL - JUNE 2020

Programmatic

- Launched ninth annual CityWorks Summer Internship Program offering 20 students from Bayview – Hunters Point community important exposure to groundbreaking careers
- Finalized a new US EPA Water Infrastructure Finance and Innovation Act (WIFIA) loan of \$525 million for Southeast Treatment Plant Improvements
- Refinanced the Biosolids Digester Facilities Project \$699 million WIFIA loan agreement to reduce interest rate from 3.09% to 1.84%
- Continued extensive remote work practices and in-depth review of construction activities including site-specific health and safety protocols in response to Shelter-in-Place Public Health Order

Biosolids Digester Facilities Project (BDFP)

- Provided Commission with update on Biosolids Digester Facilities Project
- Advertised bid package for excavation/dewatering/shoring/foundation work in April
- Continued to evaluate construction cost impacts associated with current market conditions and explore design and construction approaches to mitigate cost and schedule impacts

SEP New Headworks Facility Project

- Scope I final completion achieved May 1, 2020
- Scope III (Main Headworks) - Work Release approved, drill rigs mobilized, and test piles initiated

Southeast Treatment Plant (SEP)

- Determined list of qualified bidders (from RFQ) for WW-662R SEP Power Feed and Primary Switchgear Upgrades
- Contractor performed onsite training for WWE staff for SEP 521 Instrumentation and Controls

North Point Wet Weather Facility (NPF)

- Issued RFQ for construction services for WW-685R North Shore Pump Station Wet Weather Improvements

Collection System Reliability

- Started concrete pour and foundation work for WW-667, Mariposa Dry-Weather Pump Station Improvements
- Started construction for WW-687, Force Main Rehab at Embarcadero and Jackson Streets
- Started construction on WW-683R Beach and Sansome Street CSD Rehabilitation
- Opened bids for WW-702 CSD Backflow Prevention and Monitoring
- Issued RFP for WW-700 As-Needed Sewer Cleaning and Inspection

Stormwater Management

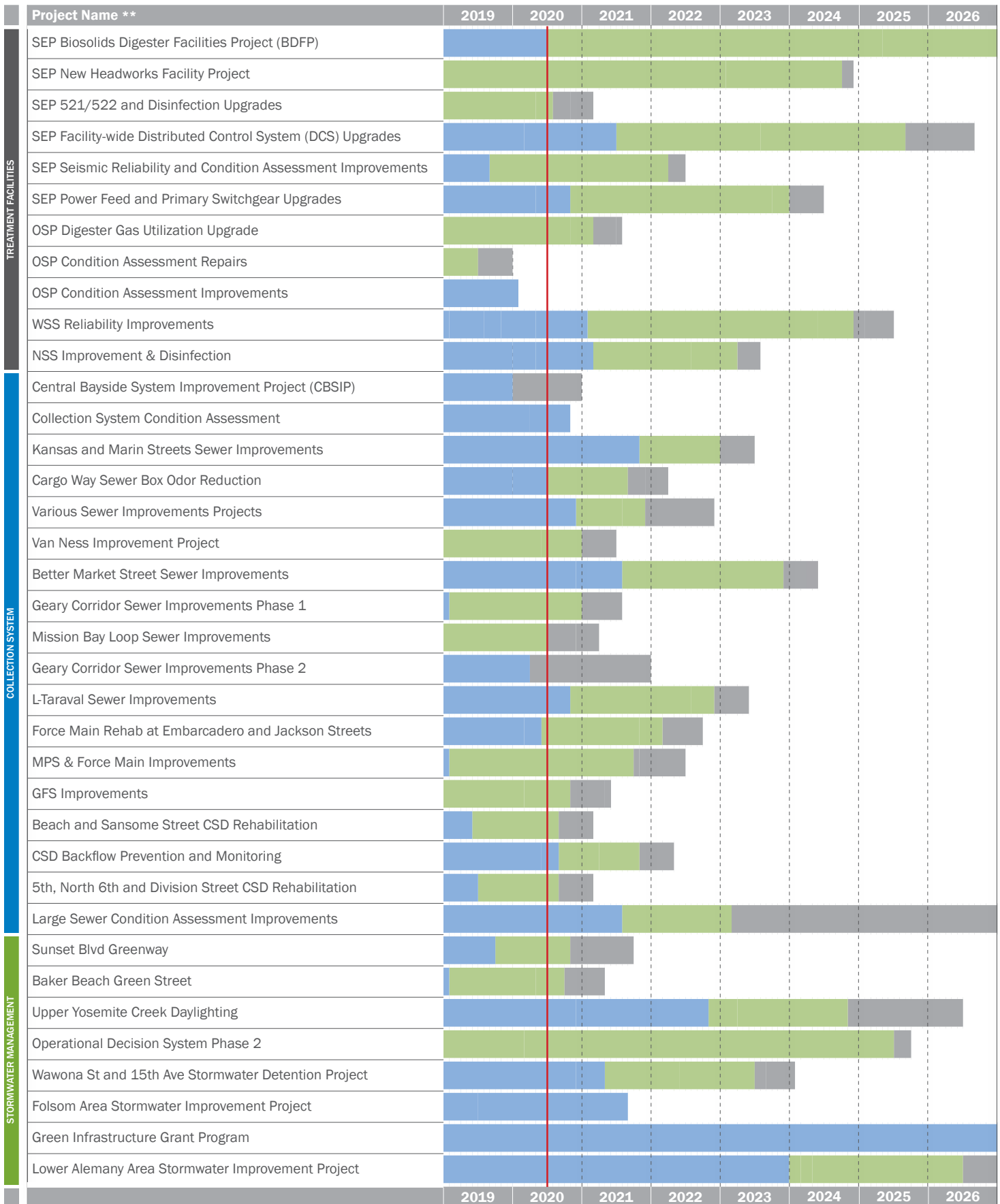
- Awarded Green Infrastructure Grants to Lycee Francais de San Francisco and Holy Trinity Greek Orthodox Church

Interdepartmental

- Completed all 20,000 linear feet of new sewer installation for the Van Ness Rapid Transit Project

KEY SSIP PHASE 1 CAPITAL PROJECTS

AS OF THE WWE QUARTERLY REPORT, APRIL - JUNE 2020



Project Phases: ■ Planning - Bid & Award ■ Construction ■ Close-out

**Completed Projects Not Shown

CONSTRUCTION PHOTOS



OSP Digester Gas Utilization Upgrade: gas tank demolition



Mariposa Pump Station Improvements Project: Concrete pour for foundation of pump station



Sunset Boulevard Greenway: rain garden

LOOKING AHEAD

JULY - SEPTEMBER 2020

Programmatic

- Install Headworks Construction Art Fence developed by artist Sirron Norris resulting from partnership with the San Francisco Arts Commission (SFAC)
- Host Virtual Exploration Tour highlighting the SSIP, Fixing an Airplane While it's in Flight, on September 2

Biosolids Digester Facilities Project (BDFP)

- Approve work release for excavation/dewatering/shoring/foundation work in July
- Initiate focused public outreach for temporary closure of Jerrold Avenue, anticipated January 2021

SEP New Headworks Facility Project

- Scope II.A (BFS Upgrades) – Continue pump station acceptance testing and ancillary equipment performance testing
- Scope III (Main Headworks) – Complete test piles and initiate drilled piers installation

Southeast Treatment Plant (SEP)

- Award construction contract WW-662R for SEP Power Feed and Primary Switchgear Upgrades

North Point Wet Weather Facility (NPF)

- Finalize list of pre-qualified contractors from RFQ and advertise contract for WW-685R North Shore Pump Station Wet Weather Improvements

Collection System Reliability

- Execute Memorandum of Understanding with San Francisco Public Works related to Kansas and Marin Streets Sewer Improvements
- Issue NTP for WW-696 Cargo Way Sewer Box Odor Reduction Project
- Award contract for WW-702 CSD Backflow Prevention and Monitoring

Stormwater Management


- Complete installation and grading of rain gardens and commence planting for Sunset Boulevard Greenway Project
- Achieve substantial completion of Baker Beach Green Street
- Issue RFP for green infrastructure engineering services for the Yosemite Creek Daylighting Project

For more information, visit: sfwater.org/ssip



DATE: August 18, 2020

TO: Commissioner, Ann Moller Caen, President
Commissioner, Francesca Vietor, Vice President
Commissioner, Anson Moran
Commissioner, Sophie Maxwell
Commissioner, Tim Paulson

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

RE: Wastewater Enterprise Capital Improvement Program
4th Quarter/ Fiscal Year 2019-2020

Enclosed please find the Wastewater Enterprise Capital Improvement Program (CIP) Quarterly Report for the 4th Quarter (Q4) of Fiscal Year (FY) 2019-2020. 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 April 1, 2020 to June 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 system 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 design and/or construction management support; it will allow programmatic

London N. Breed
Mayor

Ann Moller Caen
President

Francesca Vietor
Vice President

Anson Moran
Commissioner

Sophie Maxwell
Commissioner

Tim Paulson
Commissioner

Harlan L. Kelly, Jr.
General Manager



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, staff coordinated with the Enterprises to implement worksite health screenings and communication plans. The SFPUC's 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. As a result of this effort, a Revised CIP plan was submitted to the Commission on July 14, 2020.

The highlights of this reporting period are stated below:

SEWER SYSTEM IMPROVEMENT PROGRAM (SSIP)

STATUS AND PERFORMANCE SUMMARY

Overall, SSIP Phase 1 is 46% complete as of June 2020. Other SSIP projects are 2.1% complete as of June 2020.

As of the end of the reporting period, there are no projects in pre-planning, ten (10) projects in planning or design, five (5) projects in bid & award, seventeen (17) projects in construction, and thirty-eight (38) projects in closeout or completed in SSIP Phase 1.

PROGRAM UPDATE

The highlights for this reporting period are as follows:

- Launch the ninth annual CityWorks Summer Internship Program on June 29, offering 20 students from the Bayview/Hunters Point community important exposure to groundbreaking careers.
- Finalized a new US EPA Water Infrastructure Finance and Innovation Act (WIFIA) loan of \$525 million for Southeast Treatment Plant Improvements Project.
- Refinanced the Biosolids Digester Facilities Project \$699 million WIFIA loan agreement to reduce interest rate from 3.09% to 1.84%.
- Hosted first Wastewater Infrastructure Division Virtual Town Hall to connect with staff, answer questions and share Agency updates.
- Provided Commission with update on the three major projects in the Southeast.
- Commenced construction on the Force Main Rehabilitation at Embarcadero and Jackson Improvements Project.
- 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.

Major program milestones reached during the reporting quarter include:

Planning and Design

- Completed 65% Design for one (1) project
 - Large Sewer Condition Assessment and Improvements – Subproject (B), New Montgomery, Mission, Jessie & Minna Streets Brick Sewer Rehabilitation
- Completed 95% Design for one (1) project
 - Wawona St and 15th Ave Stormwater Detention Project
- Completed 100% Design for one (1) project
 - SSIP Sewer Improvements Projects – Mission Street, 16th to Cesar Chavez Streets

Environmental

- None

Construction Contracts Advertised:

- One (1) construction contract was advertised during this quarter
 - WW-703 SSIP Sewer Improvements Projects – Mission Street, 16Th to Cesar Chavez Streets

Construction Contracts Awarded:

- None

Construction Notice to Proceed (NTP) Issued:

- NTP was issued for one (1) construction contract during this quarter
 - Force Main Rehab at Embarcadero and Jackson Streets

Construction Substantial Completion Issued:

- None

Construction Final Completion Issued:

- Two (2) construction contracts were achieved final completion
 - SEP Seismic Reliability and Condition Assessment Improvements for the Southeast Water Pollution Control Plant – New Headworks Facility
 - SEP New Headworks (Grit) Replacement – SCOPE I

Project Completion:

- None

UPDATE ON PROJECTS IN PRE-CONSTRUCTION

Treatment Plant Projects:

- Working on the 35% Design package in the SEP Distributed Control System (DCS) Network upgrades.
- Working on finalizing the 100% design documents for WW-645R in Westside Pump Station Reliability Improvements project. The project team issued the Final Design Criteria Report and obtained the 100% construction cost estimate.

Central Bayside System Improvement Project (CBSIP):

- The 35% Design and the Draft Administrative EIR are complete. SFPUC Senior Management has decided to shelve the project and not continue with the design/CEQA efforts. The project team is working to close out the project prior to December 2020.

-

Collection System:

- Continued working on the 35% Design for Kansas and Marin Streets Sewer Improvements project. San Francisco Public Works (SFPW) is concerned about the proposed sewer tunnel under their maintenance yard and is causing the Request for Qualification (RFQ) for the design-build tunnel contract to continue to be on hold. The project team had gained the support from the Acting Director of the Public Works on the tunnel alignment. In the next quarter, the project teams intend to execute a Memorandum of Agreement (MOA) with SFPW to allow for the tunnel through their yard, including negotiating any mitigations for a future garage structure on top of the tunnel alignment.

Stormwater Management:

- Started working on the 100% Design for Wawona St and 15th Ave Stormwater Detention Project, which will be completed in the upcoming quarter.

Flood Resilience:

- Continued working on the 65% Design for the Folsom Area Stormwater Improvement Project. 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 nearly completed the Structure Type Selection submittal for Caltrans and developed an alternative tunneling alignment along 17th Street. In the next quarter, the project team will analyze the alternative alignment and rank it against the original alignment, in the event that coordination with Caltrans becomes infeasible.

UPDATE ON PROJECTS IN CONSTRUCTION

SEP Biosolids Digester Facilities Project

Scope I construction work is underway with the relocation of existing utilities and sewers. The demolition of existing infrastructure at the project sites has been completed. The Scope II construction is the remainder of the project and includes the new main biosolids facilities and other new infrastructure. The Scope II 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 capital improvement project, and consideration of an alternate biogas end-use. The re-design to incorporate the scope changes are underway. With the Construction Manager/General Contractor approach, the Scope II construction can still proceed concurrent with design. In this quarter, a bid package for excavation/dewatering/shoring/foundation work was advertised and a bid proposal was received. SFPUC approved the work release of this bid package in July 2020.

SEP New Headworks (Grit) Replacement

Final completion was achieved during this quarter for Scope I. Scope II.A (BFS Improvements): – Successful 10-day PG&E shutdown for electrical switchgear upgrades. Continued performance/functional testing of various equipment. Scope III (Main Headworks) – Completed drill rigs mobilization and test piles. Drilled piers installation work continues.

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

The contractor, Western Water Contractors Inc. (WWCI), completed modifications to the SEP 521 Sample Analyzer troughs. The contractor completed process pipe ID and labeling at the SEP 920, 540, and 521 areas. Subcontractors Blocka and Point One completed Americans with Disabilities Act (ADA) modification work at SEP 521 Door C. Installation and programming of the new ADA push bar (interior) was completed. At the request of WWE, subcontractor Trane completed programming modification to allow for local control of the SEP 521 thermostat. Both WWCI and subcontractor Blocka continue to work on punchlist items throughout the project. The contractor performed onsite training for WWE Staff for the SEP 521 Instrumentation and Controls.

SEP Seismic Reliability and Condition Assessment Improvements

For WW-665, south side of SEP 042, seismic support base slab structure is complete. New concrete stairs are being constructed and rough in electrical has started. The dry weather season rehabilitation (i.e., cleaning, surface preparation and coating) of SEP 525, SEP 044, Conduits C, D and E has commenced this reporting quarter and will end in October. If the work isn't completed this dry season, they will then continue the next dry season. For WW-628, north side of SEP 042, all of the seismic pile installation is complete.

OSP Digester Gas Utilization Upgrade:

Construction activities including structural building modifications at Buildings 800, 820, and 821, and a site-wide electrical short-circuit coordination study is on-going. The Contractor is preparing the site for installation of the assemblies and ancillary systems, after receiving the cogeneration engine-generator assemblies from international manufacturing facilities in Germany.

WWE Capital Improvement Program (CIP)

Three (3) projects in close-out; forecast completion by December 2020.

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 eleven (11) Treatment Facilities project are in construction.

Triple Bottom Line (TBL) Report

None was completed in this quarter.

Enclosure



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



QUARTERLY REPORT

Wastewater Enterprise Programs

April 2020 – June 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, WWE 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

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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 June 30, 2020. The number of projects currently active in each phase is shown in parentheses.

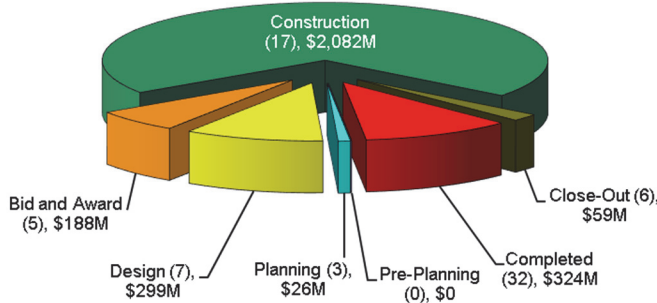


Figure 2.1 Total Current Approved Budget for SSIP Phase 1 Projects Active in Each Phase

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

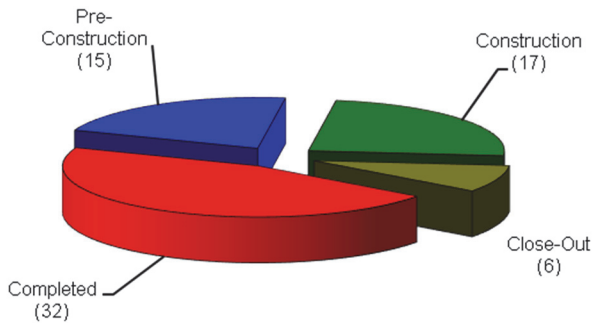


Figure 2.2 Number of SSIP Phase 1 Projects in Pre-construction, Construction, and Post-construction

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

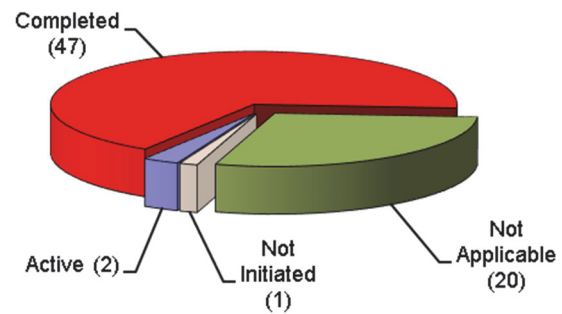


Figure 2.3 Program Environmental and Permitting Status of the SSIP Phase 1 Projects

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

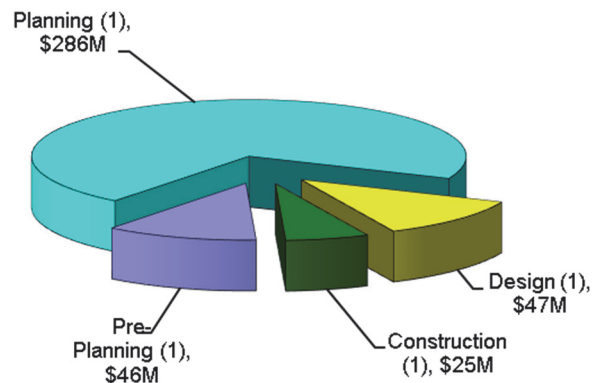


Figure 2.4 Total Current Approved Budget for Other SSIP Projects Active in Each Phase

Figure 2.5 shows the number of Other SSIP projects in the following stages of the program as of June 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 June 30, 2020.

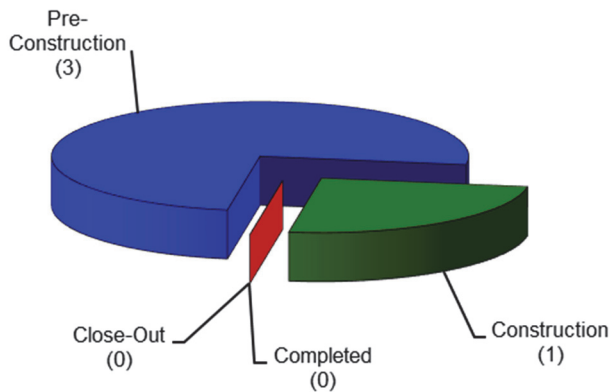


Figure 2.5 Number of Other SSIP Projects in Pre-construction, Construction, and Post-construction

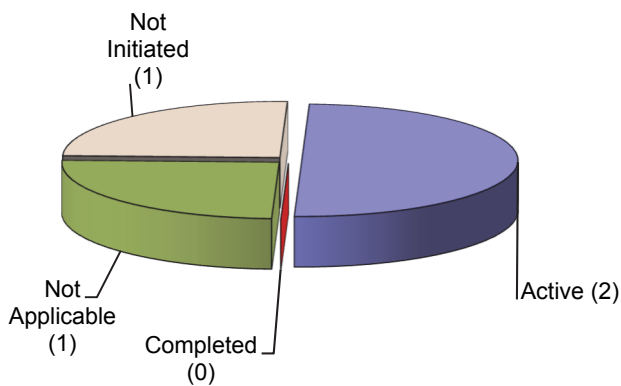


Figure 2.6 Program Environmental and Permitting Status of the Other SSIP Projects

KEY ACCOMPLISHMENTS

Programmatic

- Launch the ninth annual CityWorks Summer Internship Program on June 29, offering 20 students from the Bayview/Hunters Point community important exposure to groundbreaking careers.
- Finalized a new US EPA Water Infrastructure Finance and Innovation Act (WIFIA) loan of \$525 million for Southeast Treatment Plant Improvements Project.
- Refinanced the Biosolids Digester Facilities Project \$699 million WIFIA loan agreement to reduce interest rate from 3.09% to 1.84%.

- Hosted first Wastewater Infrastructure Division Virtual Town Hall to connect with staff, answer questions and share Agency updates.
- Provided Commission with update on the three major projects in the Southeast.
- Commenced construction on the Force Main Rehabilitation at Embarcadero and Jackson Improvements Project.
- 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.

COMMUNICATIONS

In the news

- Ten (10) media mentions of SSIP-related projects, including stories on: coronavirus leading to a spike in sewer clogs, utilizing green infrastructure as a stormwater solution, announcement of WIFIA loan for wastewater upgrades, and the start of construction for the Force Main Rehabilitation at Embarcadero and Jackson Project.
- Over 283,000+ impressions were recorded this quarter through social media outlets (Facebook, Twitter, Instagram, YouTube, Nextdoor, and LinkedIn), SSIP webpage views, and community meeting attendees.

Outreach

- April - Notice to stakeholders in communities with projects across San Francisco providing an update on the pause or continuation of work as a result of shelter in place ordinance
- May - Notice to Sea Cliff residents in the project area for Baker Beach Green Street Project on street closure for final construction activities implementing green infrastructure
- Notice to residents, businesses, and community organizations for the start of construction on Sansome Combined Sewer Discharge Rehabilitation and Backflow Prevention Project
- Monthly citywide and District 10 focused email newsletters to 4,500+ recipients

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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 progress on the new Southeast Community Center at 1550 Evans
- Force Main Rehabilitation at Embarcadero and Jackson Project - delivered construction notices and performed outreach via email and phone to residents, businesses, and community organizations in the project area to notify on start of construction in June
- June 4th - Publish SFPUC Newsroom story on Mariposa Pump Station Improvements Project upgrades in Mission Bay

- August - virtual public scoping meeting for Ocean Beach Climate Change Adaption Project's Notice of Preparation to gather public comment on environmental review process

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 \$3,658.3 million (\$679.6 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).

Upcoming Outreach

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	\$640.0	\$2,250.7	\$2,870.9	(\$620.2)
Biosolids Digester Facilities Project	\$253.0	\$1,276.4	\$1,680.7	(\$404.2)
SEP New Headworks (Grit) Replacement	\$145.0	\$418.8	\$619.4	(\$200.6)
Southeast Plant (SEP) Improvements	\$171.5	\$340.6	\$339.3	\$1.3
Oceanside Plant (OSP) Improvements	\$45.8	\$139.6	\$159.0	(\$19.4)
North Point Facility (NPF) Improvements	\$24.6	\$75.2	\$72.6	\$2.6
Collection System	\$242.7	\$504.8	\$522.5	(\$17.7)
Central Bayside System Improvement Project (CBSIP)	\$34.2	\$64.0	\$64.0	-
Interceptors/Tunnels/Odor Control	\$19.4	\$65.2	\$61.1	\$4.1
Interdepartmental Projects	\$34.0	\$87.5	\$96.6	(\$9.1)
Pump Stations and Force Main Improvements	\$54.7	\$77.6	\$81.0	(\$3.4)
CSD and Transport/Storage Structures	\$11.4	\$27.0	\$27.0	-
Stormwater Management	\$67.7	\$95.8	\$97.0	(\$1.3)
Flood Resilience Projects	\$21.3	\$87.7	\$95.7	(\$8.0)
Land Reuse Projects	\$85.5	\$98.2	\$89.9	\$8.3
Program Management (PM)	\$117.9	\$125.0	\$175.0	(\$50.0)
SSIP Phase 1 Total	\$1,086.1	\$2,978.7	\$3,658.3	(\$679.6)

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	\$3.9	\$358.5	\$408.0	(\$49.5)
Interceptors/Tunnels/Odor Control	\$1.0	\$47.0	\$96.5	(\$49.5)
Stormwater Management	\$0.9	\$25.0	\$25.0	-
Flood Resilience Projects	\$2.0	\$286.5	\$286.5	-
Other SSIP Total	\$3.9	\$430.5M	\$539.4M	(\$108.9M)

* \$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).

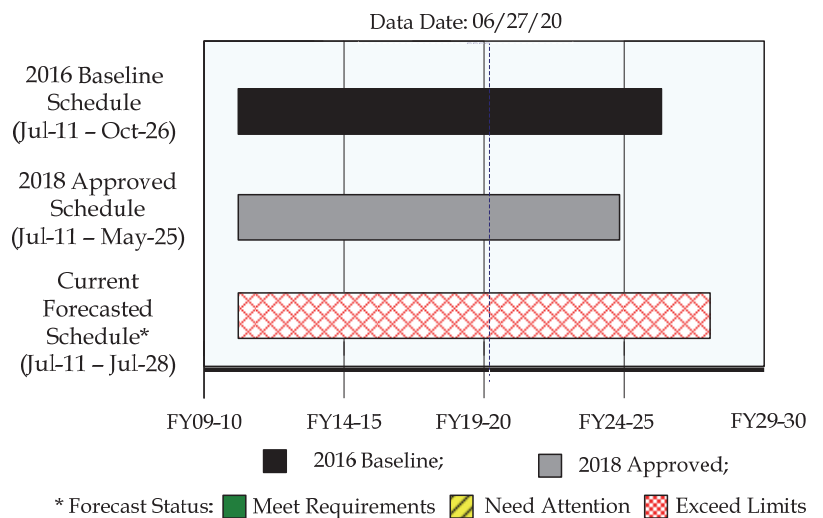


Figure 4.1 SSIP Phase 1 Schedule Summary

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5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 06/27/20

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	\$ 253,021	(\$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	\$ 619,385	\$ 145,047	(\$200,551)	●	12/29/23	09/30/24	09/30/24	09/30/24	-	★	See Section 6
Southeast Plant (SEP) Improvements															
CWWSIPSE05 - SEP 521/522 and Disinfection Upgrades (SEP Building 521 Replacement)	CN	\$ 41,614	\$ 41,614	\$ 41,614	\$ 44,705	\$ 44,400	(\$3,092)	⚠	01/18/19	09/04/19	09/04/19	02/02/21	17.0 mo. Late	●	See Section 6
CWWSIPSE07 - SEP Facility-wide Distributed Control System Upgrade	DS	\$ 62,988	\$ 62,988	\$ 62,988	\$ 62,988	\$ 7,321	-	★	08/31/23	08/31/23	08/31/23	08/31/26	36.0 mo. Late	●	See Section 6
CWWSIPSE08 - SEP Seismic Reliability and Condition Assessment Improvements	CN	\$ 53,152	\$ 53,152	\$ 53,152	\$ 44,152	\$ 24,530	\$ 9,000	★	12/31/19	09/30/21	09/30/21	06/30/22	9.0 mo. Late	●	See Section 6
CWWSIPSE10 - SEP Power Feed and Primary Switchgear Upgrades	BA	\$ 69,841	\$ 84,340	\$ 84,340	\$ 95,875	\$ 8,067	(\$11,535)	●	07/31/20	12/30/22	12/30/22	06/28/24	18.0 mo. Late	●	See Section 6
Oceanside Plant (OSP) Improvements															
CWWSIPTPOP02 - Westside Pump Station Reliability Improvements	DS	\$ 70,500	\$ 71,500	\$ 71,500	\$ 87,800	\$ 17,969	(\$16,300)	●	12/02/21	06/30/23	06/30/23	06/30/25	24.0 mo. Late	●	See Section 6
CWWSIPTPOP03 - OSP Digester Gas Utilization Upgrade	CN	\$ 39,688	\$ 45,888	\$ 45,888	\$ 54,388	\$ 13,145	(\$8,500)	●	06/15/20	06/04/21	06/04/21	07/29/21	1.8 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.

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**** Phase Status Legend**

PL	Planning	DS	Design
BA	Bid & Award	CN	Construction

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I. SSIP Quarterly Report

Q4-FY2019-2020 (04/01/20 - 06/30/20)

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	\$ 7,005	-	★	12/31/20	07/30/21	07/30/21	07/12/23	23.4 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	\$ 34,191	-	★	06/30/17	12/31/18	12/31/18	12/31/20	24.0 mo. Late	●	See Section 6
Interceptors / Tunnels and Odor Control															
10033745 - SSIP Sewer Improvements Projects	BA	\$ 20,462	\$ 20,462	\$ 20,462	\$ 10,990	\$ 853	\$ 9,473	★	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	\$ 3,811	(\$10,903)	●	11/27/18	12/15/21	12/15/21	06/30/23	18.5 mo. Late	●	See Section 6
CWWSIPCSSR11 - Cargo Way Sewer Box Odor Reduction	BA	\$ 6,442	\$ 6,442	\$ 6,442	\$ 8,743	\$ 1,830	(\$2,301)	●	02/11/20	07/12/21	07/12/21	03/07/22	7.8 mo. Late	●	See Section 6
Interdepartmental Projects															
10033106 - Geary BRT Sewer Improvements Phase 2	PL	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 31	-	★	01/08/18	03/30/20	03/30/20	12/30/21	21.0 mo. Late	●	See Section 6
CWWSIPCSSR04 - Van Ness BRT Sewer Improvements	CN	\$ 14,957	\$ 21,100	\$ 21,100	\$ 25,000	\$ 13,438	(\$3,900)	●	06/04/20	06/30/21	06/30/21	06/30/21	-	★	See Section 6
CWWSIPCSSR05 - Better Market Street Sewer Improvements - Phase 1	DS	\$ 32,405	\$ 9,753	\$ 9,753	\$ 15,000	\$ 1,848	(\$5,247)	●	01/24/23	03/31/22	03/31/22	05/17/24	25.6 mo. Late	●	See Section 6
CWWSIPCSSR06 - Geary BRT Sewer Improvements Phase 1	CN	\$ 17,043	\$ 12,900	\$ 12,900	\$ 12,900	\$ 7,936	-	★	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	\$ 530	-	★	11/01/17	12/31/18	12/31/18	03/31/21	27.0 mo. Late	●	See Section 6

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I. SSIP Quarterly Report

Q4-FY2019-2020 (04/01/20 - 06/30/20)

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Collection System (cont'd)															
Interdepartmental Projects (cont'd)															
CWWSIPCSSR13 - Taraval Sewer Improvements	CN	\$ 20,400	\$ 33,136	\$ 33,136	\$ 33,136	\$ 4,149	-	★	10/19/20	04/09/21	04/09/21	05/24/23	25.5 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	\$ 9,909	\$ 1,626	-	★	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	\$ 31,940	\$ 14,533	(\$3,719)	●	01/21/21	06/21/21	06/21/21	06/30/22	12.3 mo. Late	●	See Section 6
CWWSIPCSPS06 - Griffith Pump Station Improvements	CN	\$ 7,029	\$ 14,977	\$ 14,977	\$ 15,427	\$ 14,788	(\$450)	⚠	07/19/19	12/10/19	12/10/19	05/07/21	16.9 mo. Late	●	See Section 6
CSD and Transport/Storage Structures															
CWWSIPCSCD03 - Beach and Sansome Street CSD Rehabilitation	CN	\$ 2,523	\$ 3,150	\$ 3,150	\$ 4,200	\$ 3,230	(\$1,050)	●	12/20/19	04/30/20	04/30/20	02/26/21	9.9 mo. Late	●	See Section 6
CWWSIPCSCD04 - CSD Backflow Prevention and Monitoring	BA	\$ 15,000	\$ 13,617	\$ 13,617	\$ 16,708	\$ 3,219	(\$3,090)	●	10/01/21	10/01/21	10/01/21	04/06/22	6.1 mo. Late	●	See Section 6
CWWSIPCSCD05 - 5th, North 6th and Division Street CSD Rehabilitation	CN	\$ 4,635	\$ 5,390	\$ 5,390	\$ 5,390	\$ 4,359	-	★	07/13/20	07/13/20	07/13/20	02/26/21	7.5 mo. Late	●	See Section 6
Early Implementation Projects															
CWWSIPFCDB01 - Sunset Green Infrastructure	CN	\$ 10,746	\$ 8,439	\$ 8,439	\$ 9,027	\$ 6,953	(\$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	\$ 10,741	(\$948)	⚠	04/30/21	04/30/21	04/30/21	04/30/21	-	★	See Section 6
CWWSIPFCDB06 - Yosemite Green Infrastructure	PL	\$ 12,804	\$ 16,050	\$ 16,050	\$ 17,101	\$ 3,318	(\$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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I. SSIP Quarterly Report

Q4-FY2019-2020 (04/01/20 - 06/30/20)

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Collection System (cont'd)															
Watershed Stormwater Management															
CWWSIPFCDB12 - Wawona St and 15th Ave Stormwater Detention Project	DS	\$ 22,710	\$ 22,710	\$ 22,710	\$ 44,468	\$ 2,727	(\$21,758)	●	04/07/20	12/30/21	12/30/21	01/16/24	24.6 mo. Late	●	See Section 6
CWWSIPFCG101 - Watershed Stormwater Management (Planning Only)	PL	\$ 7,000	\$ 7,000	\$ 7,000	\$ 9,000	\$ 2,699	(\$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	\$ 2,173	\$ 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	\$ 38,411	\$ 6,417	-	★	11/01/19	06/01/20	06/01/20	08/31/21	15.0 mo. Late	●	See Section 6
Sewer/Collection System (Other SSIP)															
Collection System - Interceptors / Tunnels / Odor Control															
10034718 - Large Sewer Condition Assessment and Improvements	DS		\$ 47,000	\$ 47,000	\$ 96,520	\$ 1,019	(\$49,520)	●		05/20/24	05/20/24	12/07/26	30.6 mo. Late	●	See Section 6
Stormwater Management/Flood Control (Other SSIP)															
Green Infrastructure for Stormwater Mgmt (Grant)															
10034553 - Green Infrastructure Grant Program (GIGP)	CN		\$ 25,000	\$ 25,000	\$ 25,000	\$ 904	-	★		06/30/28	06/30/28	06/30/29	12.0 mo. Late	●	See Section 6
Flood Resilience															
10034360 - Lower Alemany Area Stormwater Improvement Project	PL		\$ 286,460	\$ 286,460	\$ 286,460	\$ 1,988	-	★		12/31/26	12/31/26	12/31/26	-	★	See Section 10

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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  \$253.02 M		Project Schedule: Approved Jul-11  May-25 Forecast* Jul-11  Jul-28 Project Percent Complete: 27.5%
■ Approved; ■ Actual Cost; * Forecast Status: ■ Meet Requirements ■ Need Attention ■ Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	10/12/18✓	(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 underway with the relocation of existing utilities and sewers. 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, deference of the maintenance buildings and consideration of an alternate biogas end-use. The re-design to incorporate the scope changes are underway. With the Construction Manager/General

Contractor approach, construction can still proceed concurrent with design. A bid package for excavation/dewatering/shoring/foundation work was advertised in April with a bid proposal received in May. SFPUC approved the work release of this bid package on July 1.

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* \$619.39 M	Forecast* Mar-13 Sep-24	
Actual \$145.05 M	Project Percent Complete: 42.4%	
Approved; Actual Cost; * Forecast Status: Meet Requirements Need Attention Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	05/31/17✓	(A) N/A (B) N/A (C) N/A (D) TBD	11/15/17✓ 12/17/18✓ 07/22/19✓ 03/20/24	05/01/20✓ 11/14/20 08/25/23 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

Progress and Status:

Scope I (Site Preparation) – Final completion achieved on May 1, 2020.

Scope II.A (BFS Improvements) – Successful 10-day PG&E shutdown for electrical switchgear upgrades. Continued performance/functional testing of various equipment.

Scope III (Main Headworks) – Completed drill rigs mobilization and test piles. Drilled piers installation work continues.

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.



Drilled Piers/ Aligning and installing 20' long casing sections

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

Description: 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.

Program: Southeast Plant (SEP) Improvements	Project Status: Construction	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved  \$41.61 M	Approved Jun-13  Sep-19	
Forecast*  \$44.71 M	Forecast* Jun-13  Feb-21	
Actual  \$44.40 M	Project Percent Complete: 99.0%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/18/15✓	10/29/15✓	03/07/16✓	07/31/20

Progress and Status:

The contractor, Western Water Contractors Inc (WWCI), completed modifications to the SEP 521 Sample Analyzer troughs. The contractor completed process pipe ID and labeling at the SEP 920, 540 and 521 areas. Subcontractors Blocka and Point One completed Americans with Disabilities Act (ADA) modification work at SEP 521 Door C. Installation and programming of the new ADA push bar (interior) was completed. At the request of WWE, subcontractor Trane completed programming modification to allow for local control of the SEP 521 thermostat. Both WWCI and subcontractor Blocka continue to work on punchlist items throughout the project. The contractor performed onsite training for WWE Staff for the SEP 521 Instrumentation and Controls.



SEP 522 New Conduits and Wiring











Issues and Challenges:

As indicated last quarter, forecast project cost and schedule has increased due to issues associated with newly installed strainers, as well as electrical and mechanical modifications related to electrical equipment within building SEP 522.

I. SSIP Quarterly Report

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  Aug-26	
Actual  \$7.32 M	Project Percent Complete: 22.6%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	See Note	See Note+	07/01/21	08/29/25

+ 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 is currently working on the 35% DCS design at specific Southeast Water Pollution Control Plant (SEP) process facilities. The project's health and safety plan was revamped and reassessed for compliance to COVID-19 safety protocols. The team is also gearing up to start field verification activities in Wastewater facilities located outside of SEP.

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 interdependency with other SSIP projects' progress.



DCS Contractor Testing Control Loops at Bruce Flynn Pump Station

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  Jun-22	
Actual  \$24.53 M	Project Percent Complete: 68.0%	
		

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:

For WW-665, south side of SEP 042, seismic support base slab structure is complete. New concrete stairs are being constructed and rough in electrical has started. The dry weather season rehabilitation (i.e., cleaning, surface preparation and coating) of SEP 525, SEP 044, Conduits C, D and E has commenced this reporting quarter and will end in October. If the work isn't completed this dry season, they will then continue the next dry season.

For WW-628, north side of SEP 042, all of the seismic pile installation is complete.

Issues and Challenges:

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.

For WW-665 the South Side there have been unforeseen conditions costs encountered with hazardous soils and existing conditions of the SEP 044













SEP 042 Seismic Support Construction

Conduits and SEP 525 Pipelines that will add to the Construction Cost. Project team is evaluating the cost increase.

I. SSIP Quarterly Report

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 	\$8.07 M	Project Percent Complete: 11.8%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP	Construction Final Completion
Current Forecast	02/22/18✓	03/05/19✓ - 02/20/20 ✓	10/13/20	12/29/23

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

Progress and Status:

In order to comply with COVID-19 protocols, additional health and safety requirements were incorporated into the contract via addendums that also resulted in extending the bid due date from April to May 2020. In May 2020, two (2) bids were received from pre-qualified prime contractors and the lowest qualified bid was determined by staff. Construction contract WW-662R award is targeted for July 2020.

Issues and Challenges:




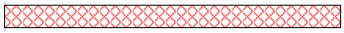


Similar to last quarterly report, the forecast project cost has increased as a result of the lowest bid price received. The forecast project schedule duration has increased due to the additional time required for Bid/Award activities.



SEP Building 032 Conceptual Rendering

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: Design	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved  \$71.50 M	Approved Jun-13  Jun-23	
Forecast*  \$87.80 M	Forecast* Jun-13  Jun-25	
Actual  \$17.97 M	Project Percent Complete: 23.0%	
		

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✓ 02/02/21	03/27/17✓ 12/02/24

+ 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 the project team continues to finalize 100% design documents. The project team issued the FINAL Design Criteria Report. The project team obtained the 100% construction cost estimate. In June 2020, as a result of the project pre-qualification process, the SFPUC issued a list of seven (7) qualified prime contractors. Some additional applications remain under SFPUC review. Qualified Contractor candidates will be eligible to respond to forthcoming request for bids for selected wastewater pump stations including WW-645R Westside Pump Station Reliability Improvements & WW-685R North Shore Pump Station Wet Weather Improvements.

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









Proposed Westside Reliability Improvements architectural rendering of project site improvements

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. At the request of management and in response to Mayor’s shelter-in-place order due to Covid-19 outbreak, the project advertisement has been delayed. The WW-645R contract is targeting advertisement in Fall 2020.

I. SSIP Quarterly Report

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  Jul-21
Actual 	\$13.14 M	Project Percent Complete: 29.8%
		

Key Milestones:	Environmental+ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	06/14/17✓	04/25/18✓	11/26/18✓	02/22/21

+ 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 structural building modifications at Buildings 800, 820, and 821, and a site-wide electrical short-circuit coordination study is on-going. The Contractor has received the cogeneration engine-generator assemblies from international manufacturing facilities in Germany, and preparing the site for installation of the assemblies and ancillary systems in the contract.

Issues and Challenges:











Similar to the last quarterly report, the forecasted cost variance reflects a higher construction contract award beyond baseline budget. Additionally, the construction final completion is trending beyond NTP end date. The project team met with the Contractor in June 2020 to investigate possible mitigations to reduce delays to the critical path activities and request Contractor Time Impact Analysis.



In May 2020, Contractor performed selective demolition of the existing 741 Digester Gas Storage Tank, torch cutting the steel tank into sections for off-haul. As of June 2020, the Digester Gas Storage Tank was completely removed from the jobsite.

CWWSIPTNP02 - 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  Jul-23	
Actual  \$7.01 M	Project Percent Complete: 18.5%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

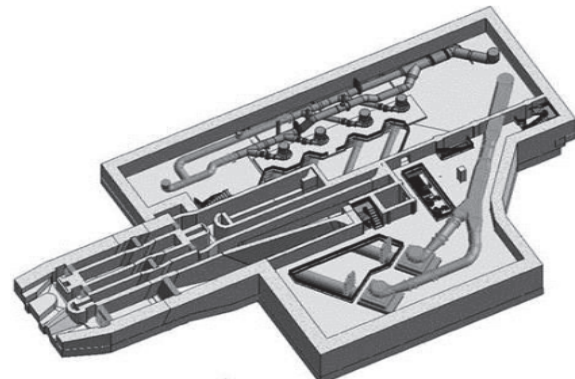
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/13/17✓	06/14/19✓ - 11/03/20	02/22/21	03/17/23

Progress and Status:

The SFPUC has completed reviewing applications from prospective candidates in response to Requests for Qualification (RFQ) for construction services. SFPUC will announce pre-qualified contractors in July 2020. The project team is including additional requirements of American Iron Steel and other State Revolving Funds(SRF) related requirements in to the contract documents. The design team continued re-packaging the bid documents in conjunction with additional requirements and Distributed Control System(DCS) related scope of work. Project Team anticipates advertising the contract in September 2020.

Issues and Challenges:

The schedule variance is due to addition of RFQ (Request for Qualifications) process to the standard design-bid-build contract and additional SRF related requirements.













North Shore Pump Station Wet Weather Improvements

I. SSIP Quarterly Report

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  Dec-20	
Actual  \$34.19 M	Project Percent Complete: 94.2%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

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

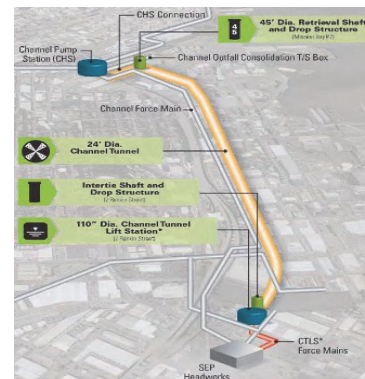
** Environmental approval and permitting, and all construction related activities will be completed outside of SSIP Phase 1.

Progress and Status:

The 35% Design and the Draft Administrative EIR are complete. SFPUC Senior Management has decided to shelve the project and not continue with the design/CEQA efforts. Project team is working to close out project prior to December 2020.

Issues and Challenges:

The schedule variance reflects additional time to close this project.













CBSIP Site Map

I. SSIP Quarterly Report

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  Jun-23
Actual 	\$3.81 M	Project Percent Complete: 22.4%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/23/19✓	N/A	10/14/21	12/19/22

**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 continued to work on the 35% design, which will be part of the tender set for a request for bid. However, San Francisco Public Works (SFPW) continues to express concerns with the proposed sewer tunnel under their maintenance yard; therefore, the Request for Qualification (RFQ) for the design-build tunnel contract continues to be on-hold. During this quarter the project team met with the Acting Director of the Public Works and gained his support for the alignment. In the next quarter, the project teams intend to execute a Memorandum of Agreement (MOA) with Public Works to allow for the tunnel through their yard, including negotiating any mitigations for a future garage structure on top of the tunnel alignment.

Issues and Challenges:

The schedule variance reflects the additional delays related to SFPW's reluctance to enter an MOA for use of their property, and negotiating terms of the MOA, before the project may proceed with the RFQ. 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.









KM MTBM Receiving Area

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: Bid and Award	Environmental Status: Completed (CatEx)
Project Cost:		Project Schedule:
Approved 	\$6.44 M	Approved Apr-15  Jul-21
Forecast* 	\$8.74 M	Forecast* Apr-15  Mar-22
Actual 	\$1.83 M	Project Percent Complete: 24.9%
		

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 final agreement with SF Port has been executed. As a result of the shelter-in-place order, the construction NTP continued to be delayed and is anticipated to be issued by the next quarter. 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, some of the contract work would need to be postponed to the summer of 2021 and a non-compensable delay is anticipated for the construction contract.

Issues and Challenges:











The increase in the project forecast budget is based on actual bids received and will be balanced from project CWWSIPCSSR03. The current schedule delays include: time needed to resolve underground utility conflicts and obtain an agreement with the SF Port; delays in issuing construction NTP due to COVID 19 shelter-in-place order.



Booster pump manifold pit illuminated before sunrise

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-21
Actual 	\$0.03 M	Project Percent Complete: 5.4%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental** Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	07/02/21	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:

Schedule will be indefinitely delayed until SFMTA activates the project.

I. SSIP Quarterly Report

CWWSIPCSSR04 - 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  Jun-21
Actual 	\$13.44 M	Project Percent Complete: 73.6%
		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP***	Construction Final Completion
Current Forecast	See Note	N/A	01/16/18✓	12/31/20

** 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 97% complete.

Issues and Challenges:







Claim/delay tracking and 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  May-24
Actual 	\$1.85 M	Project Percent Complete: 9.3%
		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	10/18/19✓	03/01/21	08/02/21	11/14/23

** 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 Phase 1A draft 90% Design documents in March 2020. But Department Directors/GMs have since decided that the project is not financially feasible. Therefore, this first contract is being redesigned for a reduced scope with a new design completion date in February 2021.

Issues and Challenges:

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

CWWSIPCSSR06 - 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  \$7.94 M	Project Percent Complete: 71.2%	
		

Key Milestones:	Environmental** Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/17/17✓	03/21/18✓	N/A	N/A

** 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 Laguna Street. JMB will complete Segment B Sewer work in July and will also continue with Water connections support work.

Geary Rapid West Surface Contract: Sewer lining work is targeted to start in July.

Issues and Challenges:







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  Mar-21	
Actual  \$0.53 M	Project Percent Complete: 76.9%	
		

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:

During this quarter, the project team continues with closeout activities for this project. The substantial completion letter for the sewer portion of the contract was issued and dated Oct 2019, which was when the work was actually completed. As of this quarter, the contractor could not commit to a final completion date because they are focusing on completing other outstanding contract work.

Issues and Challenges:

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

CWWSIPCSSR13 - 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*  \$33.14 M	Forecast* Mar-16  May-23	
Actual  \$4.15 M	Project Percent Complete: 95.1%	
		

Key Milestones:	Environmental** Approval	Bid*** Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 04/17/17✓ (B) TBD	10/02/18✓ 07/13/20	07/01/19✓ 11/16/20	11/03/20 11/21/22

+ 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.

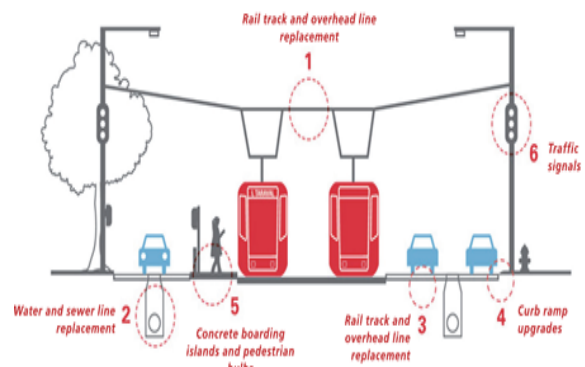
*** Segment B was originally advertised on June 20, 2019 with bid opening held on September 12, 2019 and will be re-bid in mid-2020.

Progress and Status:

Segment A construction is on-going. Contractor has installed most sewer and water lines. The remaining sewer and water work will be performed during track shutdown (the 2nd half of 2020). SFMTA is contemplating deferring the advertisement of Segment B contract due to the current COVID 19 pandemic.

Issues and Challenges:







Key milestones have slipped due to SFMTA’s direction 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. The PG&E gas line relocation issue has been tentatively resolved pending formalizing the cost reimbursement agreement. However, 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 Forcemain Improvements	Project Status: Construction	Environmental Status: Completed (MPM)
Project Cost:		Project Schedule:
Approved  \$9.91 M	Approved Jul-14  Oct-21	
Forecast*  \$9.91 M	Forecast* Jul-14  Sep-22	
Actual  \$1.63 M	Project Percent Complete: 18.2%	
		

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, the construction NTP was issued on June 1, 2020 and construction commenced. The Contractor has mobilized onsite and started potholing activities.

Issues and Challenges:

On March 16, 2020, the Department of Public Health issued a shelter-in-place order, Order No. C19-07, effective at least through April 7, 2020. As a result of the shelter-in-place order, the construction NTP was delayed from April 6, 2020 to June 1, 2020.













WW-687: Excavating Pit Hole for Slip-Lining

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*  \$31.94 M	Forecast* Jul-14  Jun-22	
Actual  \$14.53 M	Project Percent Complete: 48.7%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

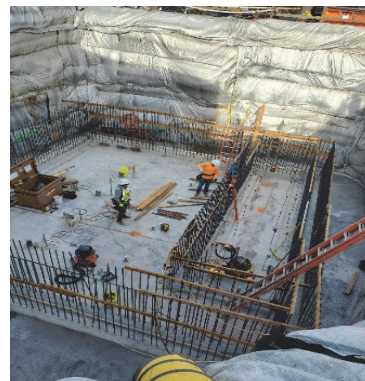
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/25/17✓	04/04/18✓	01/28/19✓	09/28/21

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 to allow the contractor sufficient time to complete contract work. Delays from PG&E pushed out the overall project schedule.

In January 2020, substantial completion was achieved for the force main construction work under SFPUC Contract DB-128R2. Final completion and construction closeout activities for DB-128R2 is delayed while staff continues negotiations on claims from the design-builder.

The project schedule reflects the delays from the bid-and-award phase caused by bid protests and longer-than usual contract certification duration, and delays from the construction phase caused by the prolonged period of time before PG&E would provide temporary power for construction. The forecast budget reflects the actual higher bid received in addition to unanticipated additional permit fees and right-of-way costs required to perform work in the public-right-of-



WW-667: Preparation for Wall Formwork







way areas within the jurisdiction of SF Port.

Issues and Challenges:

The cost and budget variance reflect the actual bid received, 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 also the construction delays caused by PG&E.

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  May-21
Actual 	\$14.79 M	Project Percent Complete: 99.6%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	11/21/16✓	05/03/17✓	10/16/17✓	10/30/20

Progress and Status:

In April 2020, the contractor requested for a shutdown from PG&E to perform contract work. However, due to the shelter-in-place order, PG&E denied the shutdown request. Therefore, the construction completion is maintained at approximately 98% until a shutdown can be scheduled with PG&E. At the time of this report, a shutdown has been scheduled in the next quarter with PG&E, who needs to provide a one-week long electrical shutdown before the contractor can complete work.

In addition, the schedule reflect previous schedule impacts, such as the negotiated time extension for the contractor to complete major electrical work that was deferred by one dry-weather season due to delays in the delivery of critical electrical equipment. Major electrical work was restricted to dry-weather season to keep the pump station operational during the wet-weather and to help comply with the NPDES permit.

Issues and Challenges:

The schedule variance reflects delays due to a denied PG&E shutdown during the shelter-in-place order, and previous delays of major electrical work, which had to be performed between May to October of each year.













WW-651: Address Vibration in Manifold Room

I. SSIP Quarterly Report

CWWSIPCSCD03 - 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* 	\$4.20 M	Forecast* Mar-16  Feb-21
Actual 	\$3.23 M	Project Percent Complete: 91.5%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental+ Approval	Bid+, ** Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 02/16/18✓ (B) 07/06/18✓	03/01/18✓ 12/10/18✓	06/29/18✓ 06/17/19✓	12/27/18✓ 08/31/20

+ 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 will start 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. Team is assessing the schedule for completion in the next dry season.



Completed weir repair and corrosion in 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*  \$16.71 M	Forecast* Jul-16  Apr-22	
Actual  \$3.22 M	Project Percent Complete: 26.7%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental+ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	10/29/19✓	05/22/20✓	09/04/20	10/19/21

+ 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:

WW-702R was advertised in the last quarter and bids were received in this quarter. The contract will be awarded in the upcoming quarter.

Issues and Challenges:

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	 Feb-21
Actual		\$4.36 M	Project Percent Complete: 97.2%	
				

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/06/18✓	12/10/18✓	06/17/19✓	08/31/20

Progress and Status:

Construction of three CSDs have been completed.

Issues and Challenges:











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).



Concrete rehabilitation and protective coating at 5th St CSD

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  \$6.95 M	Project Percent Complete: 75.6%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	12/02/14✓	(A) N/A (B) 04/17/19✓	08/10/15✓ 09/30/19✓	02/24/18✓ 10/28/20

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

Progress and Status:

This quarter, the contractor completed grading of 25-rain gardens and placed bioretention soil in preparation for planting. Next quarter, grading of the remaining rain gardens will be complete and planting of the rain gardens will commence.

Issues and Challenges:

Residents protested the removal of another six trees. A tree removal hearing is scheduled for July 23, 2020. The tree removal protest is delaying grading operations at three rain gardens. Cost variance reflects higher anticipated cost as reflected in the 10-year CIP.













Rain garden at intersection of Sunset Blvd and Moraga St.

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  Apr-21	
Actual  \$10.74 M	Project Percent Complete: 95.6%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/29/15✓	03/22/18✓ - 07/06/18 ✓	01/10/19✓	09/10/20

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

Progress and Status:

Substantial completion will be reached in July. Next quarter, the punchlist will be issued and any outstanding work completed.

Issues and Challenges:











The ongoing cost variance is based on actual bid received and is anticipated to increase next quarter. The bid quantity for structural concrete was significantly underestimated. The Project team is working with the contractor to finalize the change order cost.



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, Sunnydale, 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 	\$3.32 M	Project Percent Complete: 20.2%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	08/15/17✓	10/31/22	11/01/22	10/31/24

Progress and Status:

Development of an RFP for green infrastructure engineering services is ongoing, and the RFP 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. The variance also reflects the additional 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* 	\$44.47 M	Forecast* Jul-16  Jan-24
Actual 	\$2.73 M	Project Percent Complete: 19.5%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

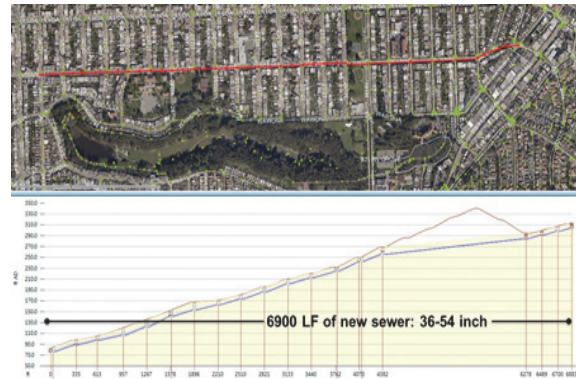
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	06/01/20✓	12/11/20	05/06/21	07/07/23

Progress and Status:

Project team and stakeholders completed reviewing the 95% design documents and started working on the 100% set, which will be completed in the upcoming quarter. Constructability and risk assessment continued in this quarter and will be completed in the upcoming one. The construction contract, WW-711 Wawona Area Stormwater Improvement and Vicente St. Water Main Replacement, will include water main replacement and paving work, which is funded by SFPW paving program. The multi-scope contract will take about 2 years and potentially lessen the impact on the neighborhood comparing to three separate contracts.

Issues and Challenges:







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. The projects are competing for staging areas and the traffic and local access will potentially impact the neighborhood. The Wawona team has started coordinating with the other project teams in this quarter and will continue in the next one.



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
Project Cost:		Project Schedule:
Approved 	\$7.00 M	Approved Jul-16  Dec-20
Forecast* 	\$9.00 M	Forecast* Jul-16  Jun-22
Actual 	\$2.70 M	Project Percent Complete: 61.9%
		

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. Work also continued on the development of project concepts for the project planning phase of two green infrastructure capital projects at San Francisco Unified School District (SFUSD) schools. Finance Division is in the process of awarding a contract for the billing system upgrade work. NTP for the consultant contract is anticipated in August 2020.

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 results is the outcome of additional time required to develop and implement green infrastructure programmatic strategies and to complete the billing system upgrade work scope.

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 \$8.72 M	Approved Feb-17 Jun-20	
Forecast* \$6.72 M	Forecast* Feb-17 Sep-25	
Actual \$2.17 M	Project Percent Complete: 29.3%	
 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

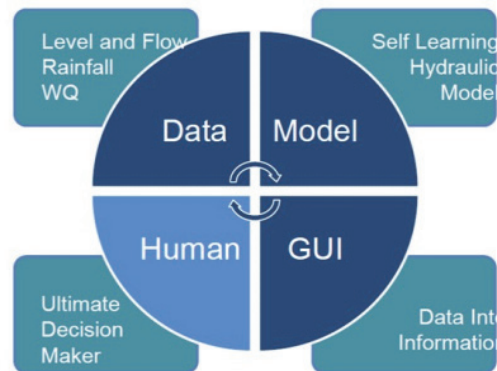
+This is a software development project. NTP represents the date of award for software development agreement.

Progress and Status:

The procurement contract for new 30 flow meters was finalized, and the equipment was delivered to SFPUC. The project team is planning to install the new field devices in the next couple of months, prior to the 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, 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

CWWSIPFCDB14 - 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 (ENV)
Project Cost:		Project Schedule:
Approved  \$38.41 M	Approved Jul-16  Jun-20	
Forecast*  \$38.41 M	Forecast* Jul-16  Aug-21	
Actual  \$6.42 M	Project Percent Complete: 47.1%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	11/20/20	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 in this quarter. 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 nearly completed the Structure Type Selection submittal for Caltrans. In parallel, the project team also developed an alternative tunneling alignment along 17th Street in this quarter. In the next quarter, the project team will analyze the alternative alignment and rank it against the original alignment, in the event that coordination with Caltrans becomes too risky, too expensive, or too time consuming.



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

Issues and Challenges:

Similar to the last quarterly report, 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. If the decision is made to switch alignments, the design will need to be restarted from the CER stage, which will cause further schedule delay.

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, 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.

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 	\$1.02 M	Project Percent Complete: 2.5%
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental+ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	(A) 03/25/22 (B) 12/04/20 (C - D) TBD	11/04/22 01/21/21 TBD	05/26/23 08/06/21 TBD	11/27/24 02/13/23 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; future projects would be added when they are initiated.

Progress and Status:

During this quarter:

Subproject (A), Channel Force Main Intertie, the Draft NAR/AAR is progressing;

Subproject (B), New Montgomery, Mission, Jessie & Minna Streets Brick Sewer Rehabilitation, completed 65% design and is proceeding towards 95% design;

Subproject (C), Oak, Fell, Cole, Stanyan Streets & 7th Ave Large Sewer Rehabilitation, continues with the planning phase;

Subproject (D), Tenderloin and Nob Hill Large Sewer Rehabilitation, continues with the planning phase.











This project may be impacted in observance of the shelter-in-place order, and any such impacts will be provided in future reports.

Issues and Challenges:

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

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-28	
Forecast*  \$25.00 M	Forecast* Jul-18  Jun-29	
Actual  \$0.90 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	02/21/20✓	N/A	N/A	N/A

Progress and Status:

During the past quarter, the Commission awarded two green infrastructure grants; one in the amount of \$480,958 to Lycee Francais de San Francisco and the other in the amount of \$1,577,161 to Holy Trinity Greek Orthodox Church. In addition, the Commission authorized release of construction funding in the amount of \$315,268 to San Francisco Unified School District (SFUSD) for green infrastructure at Bessie Carmichael Middle School.

This quarter SFPUC received green infrastructure grant applications for work at St Thomas the Apostle and the other for St Monica Catholic Church. Both applications are under review. Program staff conducted 2 sites visits and 2 pre-application meetings with potential grantees this quarter.

Issues and Challenges:

Similar to the last quarterly report, the 1-year schedule variance results from the inclusion of post-award grant administration in the overall schedule.



View of Bessie Carmichael Middle School during construction

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	\$ 55,077,965	\$ 49,282,732	-	\$ 5,795,233	30.4%
New Headworks (Grit) Replacement								
CWWSIPSE02 - Southeast Water Pollution Control Plant New Headworks Facility - SCOPE II.A (issued POs for 14 Packages)	12/17/18	11/14/20	11/14/20	\$ 18,005,578	\$ 18,006,674	-	(\$1,096)	82.7%
CWWSIPSE02 - Southeast Water Pollution Control Plant New Headworks Facility - SCOPE III (issued POs for 12 of 62 Packages)	07/22/19	08/25/23	08/25/23	\$ 120,395,586	\$ 120,395,586	-	-	1.6%
Southeast Plant (SEP) Improvements								
CWWSIPSE05 - SEP 521/522 and Disinfection Upgrades (SEP Building 521 Replacement)+	03/07/16	08/10/19	07/31/20	\$ 30,370,472	\$ 30,410,651	(356)	(\$40,179)	99.0%
CWWSIPSE08 - SEP Seismic Reliability and Condition Assessment Improvements (WW-665)	09/09/19	03/31/21	03/08/22	\$ 9,079,210	\$ 9,079,210	(342)	-	10.9%

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.

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

I. SSIP Quarterly Report

Q4-FY2019-2020 (04/01/20 - 06/30/20)

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	
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%
Interdepartmental Projects ***								
CWWSIPCSSR04 - Van Ness Corridor Transit Improvement Project (sewer only)	01/16/18	01/15/20	12/31/20	\$ 14,314,631	\$ 14,314,631	(351)	-	97.0%
CWWSIPCSSR06 Geary Boulevard Sewer and Water Improvements	01/07/19	12/01/20	12/01/20	\$ 7,295,208	\$ 7,295,208	-	-	76.0%
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	-	-	3.0%
CWWSICSPS03 Mariposa Dry Weather Pump Station Improvements	01/28/19	09/28/21	09/28/21	\$ 17,437,754	\$ 17,437,754	-	-	26.0%
CWWSICSPS06 - Griffith Pump Station Improvements	10/16/17	03/11/20	10/30/20	\$ 11,546,666	\$ 11,546,666	(233)	-	98.0%
Stormwater Management								
CWWSIPFCDB01 Sunset Green Infrastructure (Sunset Boulevard Greenway P2 Irving)	09/30/19	10/28/20	10/28/20	\$ 2,572,351	\$ 2,624,583	-	(\$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.

I. SSIP Quarterly Report

Q4-FY2019-2020 (04/01/20 - 06/30/20)

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	09/11/20	\$ 7,168,590	\$ 7,381,214	(1)	(\$212,624)	66.8%
CSD and Transport/Storage Structures								
CWWSICSCD03 & CD05 Sansome, 5th, 6th (North) and Division Street CSD Rehabilitation and Backflow Prevention	06/17/19	01/13/20	08/31/20	\$ 5,397,799	\$ 5,397,799	(231)	-	90.0%

Program Total for On-Going Construction	Approved	Current	Variance	
	Contract Cost	Forecasted Cost	Cost	Percent
	\$ 343,288,744	\$ 337,799,642	+\$5,489,102	+1.6%

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
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								
CWWSIPSCSD01 - 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	\$ 9,706,852
TOTAL					\$ 15,696,409	\$ 31,360,363	\$ 31,615,076	\$ 17,627,197

I. SSIP Quarterly Report

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	\$ 32,550,993
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	\$ 8,662,232
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	\$ 17,566,344
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	\$ 2,890,578
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
CWWSIPNCO1 - 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	\$ 2,102,721
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	\$ 6,355,138











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	\$ 4,745,826
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	\$ 1,462,493
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	\$ 966,580
CWWSIPFCDB10 - Flood Resilience Analysis (Planning Phase Only)	05/31/17	02/28/17	02/28/17	02/28/17	\$ 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	\$ 4,016,173
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	\$ 428,078
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	\$ 176,151
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	\$ 269,571,808

I. SSIP Quarterly Report

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*  \$10.99 M	Forecast* Jul-18  Nov-22	
Actual  \$0.85 M	Project Percent Complete: 21.9%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

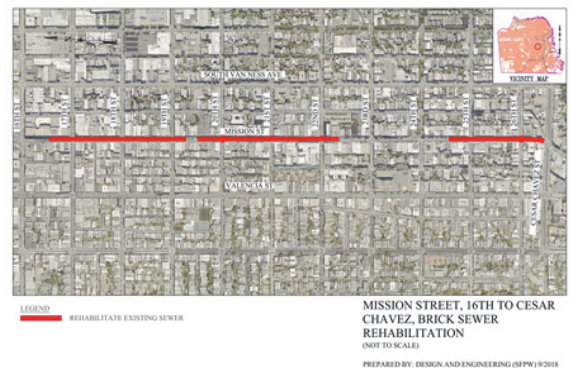
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	12/02/19✓	05/14/20✓	11/30/20	11/29/21

Progress and Status:

The project team continues to evaluate sites for each radar location. CEQA-related activities are ongoing. Following the completion of a During this quarter, the project team completed the 100% design, advertised the construction contract on May 14, 2020, and received bids on June 25, 2020. The project team is evaluating the apparent low bid before proceeding towards contract award.

Issues and Challenges:







Due to the COVID-19 shelter-in-place order, the contract advertisement was delayed, which delayed the project schedule.



Schematic for Large Sewers – Mission BSR

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  Dec-26	
Actual  \$1.99 M	Project Percent Complete: 1.7%	
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	07/31/23	08/03/23	01/02/24	06/30/26

Progress and Status:

In this quarter, the project team finalized the draft AAR and distributed to stakeholders for review, which will be presented to the Technical Steering Committee next quarter. We are also in the process of soliciting design consultant for engineering support for CER and design phase.

Issues and Challenges:

None at this time.



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

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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 December 2020. 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 end of 2020 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 capacity, allowing flow to be captured and

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

II. WWE CIP Quarterly Report

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 fourth (4th) quarterly report for Fiscal Year (FY) 2019-2020 presents the progress made on the WWE CIP projects for the period of April 1, 2020 through June 30, 2020. The program's schedule and budget were last reported to SFPUC on June 02, 2020.

Figure 2.1 shows the total Approved Budget for the projects remaining in each phase of the program as of June 27, 2020. The number of projects in each phase is shown in parenthesis.

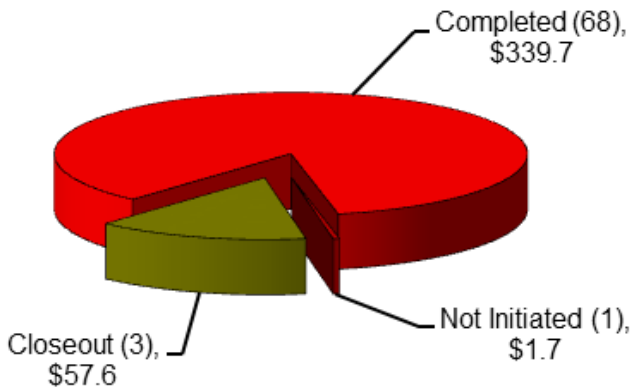
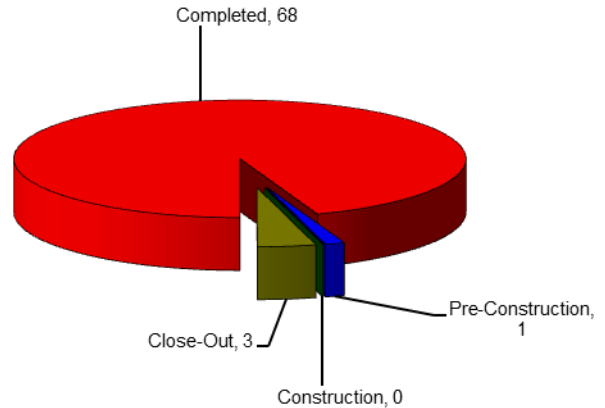


Figure 2.1 Total Approved Budget for Projects Each Phase (\$ Million)

Figure 2.2 shows the number of projects in the following stages of the program as of June 27, 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	\$300.6	\$0.8
Program Delivery Cost	\$94.0	\$37.0	\$95.7	\$94.8	(\$0.9)
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 December 2020, four-year delay. Refer to Appendix 2.2 (Section II) for a graphical presentation of the WWE CIP 2014 Project-Level Schedule.

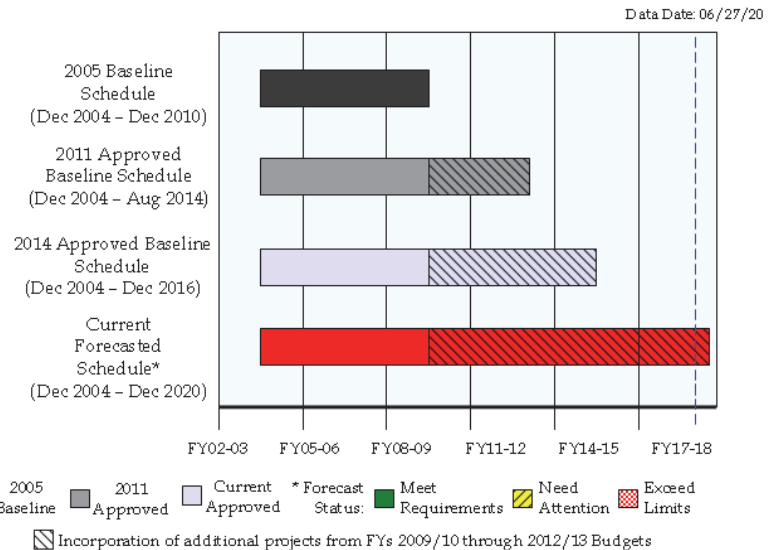


Figure 4.1 Program Schedule Summary

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	12/31/20	49

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 WWE Facility Reliability Impr - SEP Northside		08/29/16	08/29/16	12/26/17		\$ 36,303,511	\$ 36,303,511	\$ 35,894,595
CENMSCIC47 WWE Mechanical / Electrical Upgrade		09/08/16	09/08/16	11/30/17		\$ 5,253,825	\$ 5,253,825	\$ 4,672,818
CENMSCIC72 Facility Security Upgrades Contract 2		11/23/16	11/23/16	09/15/17		\$ 1,557,720	\$ 1,557,720	\$ 173,750
TOTAL						\$ 43,115,056	\$ 43,115,056	\$ 40,741,163

II. WWE CIP Quarterly Report

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
CENMSCIC70 OS Plant Improvements - Aeration Syst Upgrade		12/31/15	12/31/15	09/25/15		\$ 1,362,452	\$ 1,362,452	\$ 321,132
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
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

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								
CENMSCIC61 North Shore Force Main Emergency		04/04/13	04/04/13	04/04/13		\$ 721,739	\$ 721,739	\$ 721,561
CENMSCIC62 Emergency NSFM 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	\$ 277,057
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
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

II. WWE CIP Quarterly Report

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								
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	\$ 339,713,630	\$ 339,713,630	\$ 333,449,966

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 April 1, 2020 and June 30, 2020.

The approved project budget and schedule were developed and approved by the appropriate Wastewater Enterprise Manager on June 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 \$661.8 million (\$212 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	\$88.64	\$450.27	\$661.84	(\$211.57)

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.

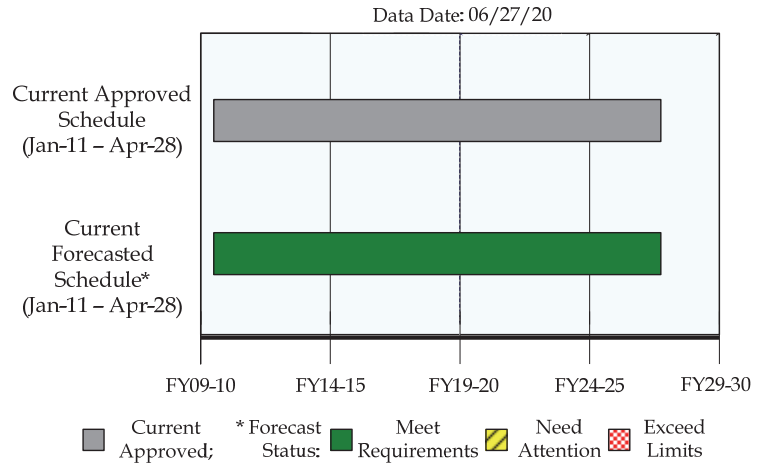


Figure 4.1 Program Schedule Summary

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	04/04/28	-

5. PROJECT PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 06/27/20

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	\$ 244	-	★	04/30/27	03/27/28	10.9 mo. Late	●	See Section 6
CWP11001 - New Treasure Island Wastewater Treatment Plant	DS	\$ 67,398	\$ 202,208	\$ 5,371	(\$134,810)	●	09/01/23	01/17/25	16.6 mo. Late	●	See Section 6
CWWFAC01 - Ocean Beach Project	CN	\$ 126,765	\$ 169,923	\$ 11,635	(\$43,158)	●	01/30/26	01/30/26	-	★	See Section 6
CWWFAC03 - Southeast Community Center @ 1550 Evans	CN	\$ 108,500	\$ 109,500	\$ 26,233	(\$1,000)	★	12/29/23	12/29/23	-	★	See Section 10
CWWFAC04 - Southeast Bay Outfall Islais Creek Crossing Replacement	DS	\$ 35,000	\$ 67,600	\$ 7,783	(\$32,600)	●	07/29/24	11/25/25	15.9 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.

III. WWE F&I Quarterly Report

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		Mar-28
Actual		\$0.24 M	Project Percent Complete: 1.2%		
					
Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion	
Current Forecast	TBD	04/26/23	09/25/23	09/24/27	

Progress and Status:







On April 7, the notice-to-proceed letter was issued to Brown and Caldwell/SRT JV authorizing the work to develop the Inspection Plan for Southeast Outfall Condition Assessment project. Subsequently and on April 23, the project team conducted the kick off meeting with WWE SEP staff. Two additional meetings, Workshop 1 - Project Understanding and Inspection Goals and Workshop 2 - Inspection Technologies Review, were also conducted in May and June, respectively. The goal of these workshop was for the preparation of the Inspection Plan designed to physically inspect the outfall pipeline and assess its conditions.

Issues and Challenges:

Similar to the last quarterly report, the forecasted project schedule duration has increased due to many anticipated project challenges including extensive coordination with several local and state government agency jurisdiction of the project site, accessibility to the project area, proximity to San Francisco Bay that may trigger extensive environmental review.

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* 	\$202.21 M	Forecast* Jan-11  Jan-25
Actual 	\$5.37 M	Project Percent Complete: 13.8%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	04/18/19✓	N/A	09/13/21	08/14/24

Progress and Status:

The new wastewater treatment plant and associated recycled water facility are in the planning portion of the project. The team concluded the project delivery method evaluation and has recommended a Design-Build approach with the RFQ currently under development, with anticipated release this summer. 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. In June, the Regional Water Quality Control Board issued the NPDES for the new wastewater treatment plant.



Rendering of the proposed Treasure Island Wastewater Treatment Plant







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.

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  Jan-26
Actual 	\$11.64 M	Project Percent Complete: 13.3%
		

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	(A) 09/10/14✓ (B) 12/17/20 (C) 10/12/22	09/14/15✓ N/A 07/14/22	01/07/16✓ 02/24/21 01/03/23	03/01/21 08/25/21 07/28/25

(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 completed and submitted to Coastal Commission; report found that no sand backpass is needed this year to protect the Lake Merced Tunnel; however, minor stormwater management strategies are being considered. Any actions need to be coordinated with Public Works and Recreation and Park; a site visit is being planned.

B) ACOE: Design work for the ACOE for Beneficial Reuse of dredged sand at South Ocean Beach has been initiated. SF Planning has determined that a CatEx is the appropriate level of CEQA review. Construction anticipated in 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 proceeding at a slow rate. 35% Design Phase is underway and is expected to be completed by October 2020; CEQA NOP has been drafted for an August 2020 release.



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 on design and environmental review. A Draft Cooperative Agreement is being developed with the City Attorney's Office to assist with negotiations.

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		Nov-25
Actual		\$7.78 M	Project Percent Complete: 14.6%		
					

Key Milestones:	Environmental Approval	Bid Advertisement	Construction NTP	Construction Final Completion
Current Forecast	01/27/21	02/26/21	07/26/21	05/23/25

Progress and Status:

Design review comments are received for the 95% design and are being incorporated into draft 100%. Project team also started working on Division 0 and Division 1 in preparation for the draft 100%. Project team continued coordination with SF PORT and SFMTA for lay down areas and relocation of MUNI overhead control system (OCS) work on third street respectively. Draft Mitigated Negative Declaration will be published next quarter.

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.



SEO Islais Creek Crossing Replacement

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	\$ 71,181,253	\$ 79,346,542	-	(\$8,165,289)	20.0%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	\$ 71,181,253	\$ 79,346,542	(\$8,165,289)	(11.5%)

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.

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. PROJECTS WITHIN BUDGET AND SCHEDULE (THRESHOLD LIMITS)

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*		\$109.50 M	Forecast* Jul-12		Dec-23
Actual		\$26.23 M	Project Percent Complete: 37.8%		
					
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 has proceeded with rough grading, pile driving, underground utilities and foundations. All trade packages have been bid out, with the exception of signage, which will be bid out next year. The project team is in the process of awarding remaining packages. The project team evaluated modifications to the Third Street frontage and is preparing to present proposed design changes to the Commission. Implementation of safety measures for COVID 19 continues to be closely monitored. The project’s Local Participation consultant developed a training series on Diversity, Impact and Inclusion, and conducted the first training for Pankow’s team. Monthly trainings will be held for subcontractors on the project.



Pile driving completed

Issues and Challenges:

Similar to the last quarterly report, procurement of trades is trending higher than budget reflected in the 10-year CIP. Project team continues to evaluate construction cost impacts associated with current market conditions and is developing a plan to report back to the Commission.

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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 April 1, 2020 and June 30, 2020.

The approved project budget and schedule were developed and approved by the appropriate Wastewater Enterprise Manager on June 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 June 30, 2020.

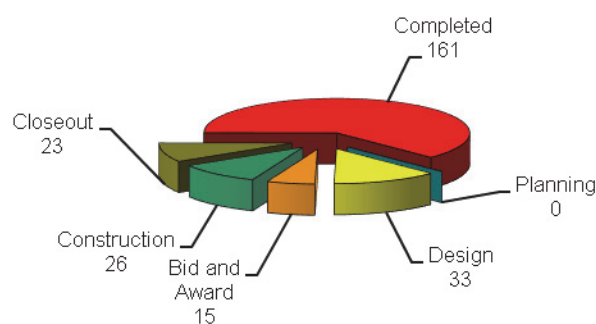


Figure 2.1 Total Number of Active R&R Collection Systems Projects in R&R Program

IV. WVE R&R Quarterly Report

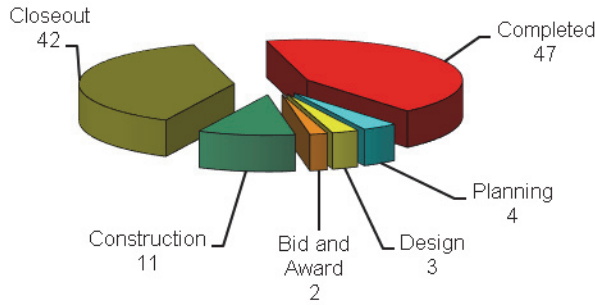
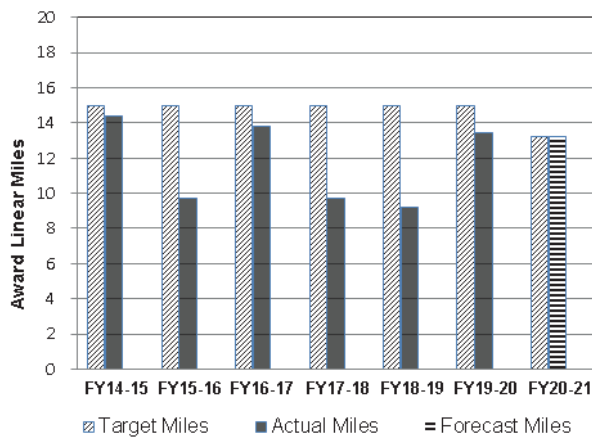


Figure 2.2 Total Number of Active R&R Treatment Facilities Projects in R&R Program

The Wastewater R&R Collection System Sewer Replacement Program has an annual budget of \$64.8 million in FY20 to award a target of 15 miles of sewer replacement work in San Francisco.

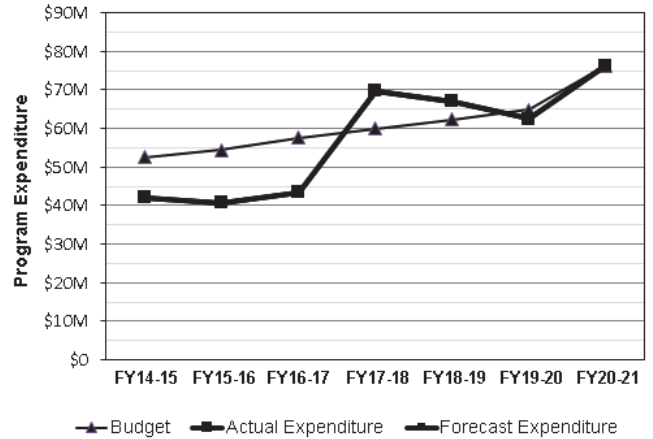
Figure 2.3 shows the target and actual award miles of sewer improvement projects that have been awarded to date and are forecasted to be awarded. The Wastewater R&R Collection System Sewer Replacement Program has been awarded approximately 13.4 miles of sewer replacement work in FY20.



	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	
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	
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 \$824 million and the Current Forecasted Cost at completion is \$814 million (\$10 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	\$552.45	\$686.54	\$676.34	\$10.20
R&R Treatment Facilities	\$112.00	\$137.68	\$137.68	-
Program Total	\$664.45	\$824.22	\$814.02	\$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 2021. The overall R&R Program is currently forecasted to be completed in March 2021.

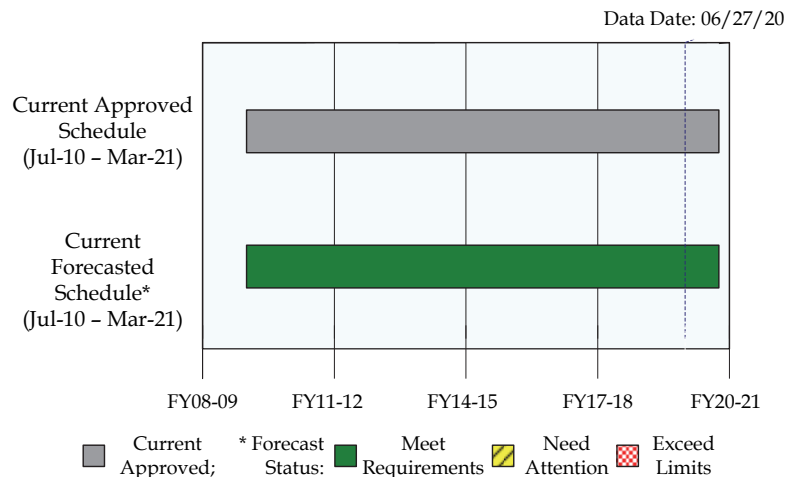


Figure 4.1 Program Schedule Summary

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✓	03/31/21	03/31/21	-
R&R Treatment Facilities	07/01/10	07/01/10✓	02/12/21	02/12/21	-
Overall Program	07/01/10	07/01/10✓	03/31/21	03/31/21	-

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5. PROGRAM PERFORMANCE SUMMARY*

All costs are shown in \$1,000s as of 06/27/20

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	\$ 686,540	\$ 676,340	\$ 552,452	\$ 10,200	★	03/31/21	03/31/21	-	★	See Section 10
CWWRNRTF - R&R Treatment Facilities	MP	\$ 137,678	\$ 137,678	\$ 112,002	-	★	02/12/21	02/12/21	-	★	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.

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								
10015671-As-Needed Main Sewer Replacement No. 7 (WW-655)	06/10/19	08/13/20	08/13/20	\$ 6,705,115	\$ 6,705,115	-	-	89.8%
10015681-As-Needed Sewer Sealing (WW-644)	02/06/17	05/05/21	05/05/21	\$ 3,934,250	\$ 3,934,250	-	-	80.1%
10033120-Variou Locations Sewer Replacement No. 6 (WW-677)	06/15/20	05/20/21	05/20/21	\$ 4,107,325	\$ 4,107,325	-	-	4.4%
10033121-Variou Locations Sewer Replacement No. 7 (WW-678)	06/29/20	06/28/21	06/28/21	\$ 2,400,049	\$ 2,400,049	-	-	0.5%
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	-	-	79.0%
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	-	-	53.6%
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	-	-	53.6%

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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Q4-FY2019-2020 (04/01/20 - 06/30/20)

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	09/09/20	09/09/20	\$ 1,981,334	\$ 1,981,334	-	-	38.0%
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	-	-	23.0%
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	-	-	48.0%

Program Total for On-Going Construction	Approved Contract Cost	Current Forecasted Cost	Variance	
			Cost	Percent
	\$ 52,746,999	\$ 52,746,999	\$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 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 in combination with the WWE Renewal and Replacement Program (R&R) Spot Sewer Repair replaces aging failed portions of the collection system. The portions of the collection system are identified utilizing an asset management approach, which factors in: physical condition, age, location, risk, public safety, paving schedule and other factors.

Program: Renewals and Replacements		Program Status: Multiple Phases		Environmental Status: Completed	
Project Cost:			Project Schedule:		
Approved		\$686.54 M	Approved Jul-10		Mar-21
Forecast*		\$676.34 M	Forecast* Jul-10		Mar-21
Actual		\$552.45 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 June 30, 2020.

The two-hundred fifty-eight (258) WWE Collection Systems projects are distributed as follows:

Planning: 0
 Design: 33
 Bid & Award: 15
 Construction: 26
 Closeout: 23
 Completed: 161











During this Quarter, 2 new projects were initiated, 3 projects were advertised, 4 projects were awarded/awaiting NTP, 3 projects received NTP, 2 projects completed construction and 9 projects closed out.

Issues and Challenges:

\$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  \$137.68 M	Approved Jul-10  Feb-21	
Forecast*  \$137.68 M	Forecast* Jul-10  Feb-21	
Actual  \$112.00 M	Project Percent Complete: 83.0%	
 Approved;  Actual Cost; * Forecast Status:  Meet Requirements  Need Attention  Exceed Limits		

Key Milestones:	Environmental++ Approval	Bid+ Advertisement	Construction NTP+	Construction+ Final Completion
Current Forecast	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 June 30, 2020.

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

- Planning: 4
- Design: 3
- Bid/Award: 2
- Construction: 11
- Closeout: 42
- Completed: 47

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 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.

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)

CWWSIPCT01 - 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

CWWSIPCSSR_N02 - 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.

CWWSIPCSSR01 - 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, WWE 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 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

CWWSIPCSSR_N03 - 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 sides 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 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 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 WVE 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

CWWSIPCSD04 - 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
- Installation of a backflow prevention system at the 5th Street CSD structure
- Installation of a backflow prevention system at the 6th Street CSD structure

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

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 Sunnysdale 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).
- 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

Appendix 1 - SSIP Quarterly Report

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, CWWSSIPSSR02 - 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

OP05-2 - 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

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 Kelloch 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

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

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 Program 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. These projects in combination with the WWE Renewal and Replacement Program (R&R) Spot Sewer Repair replace aging failed portions of the collection system. The portions of the collection system are identified utilizing an asset management approach, which factors in: physical condition, age, location, risk, public safety, paving schedule and other factors.

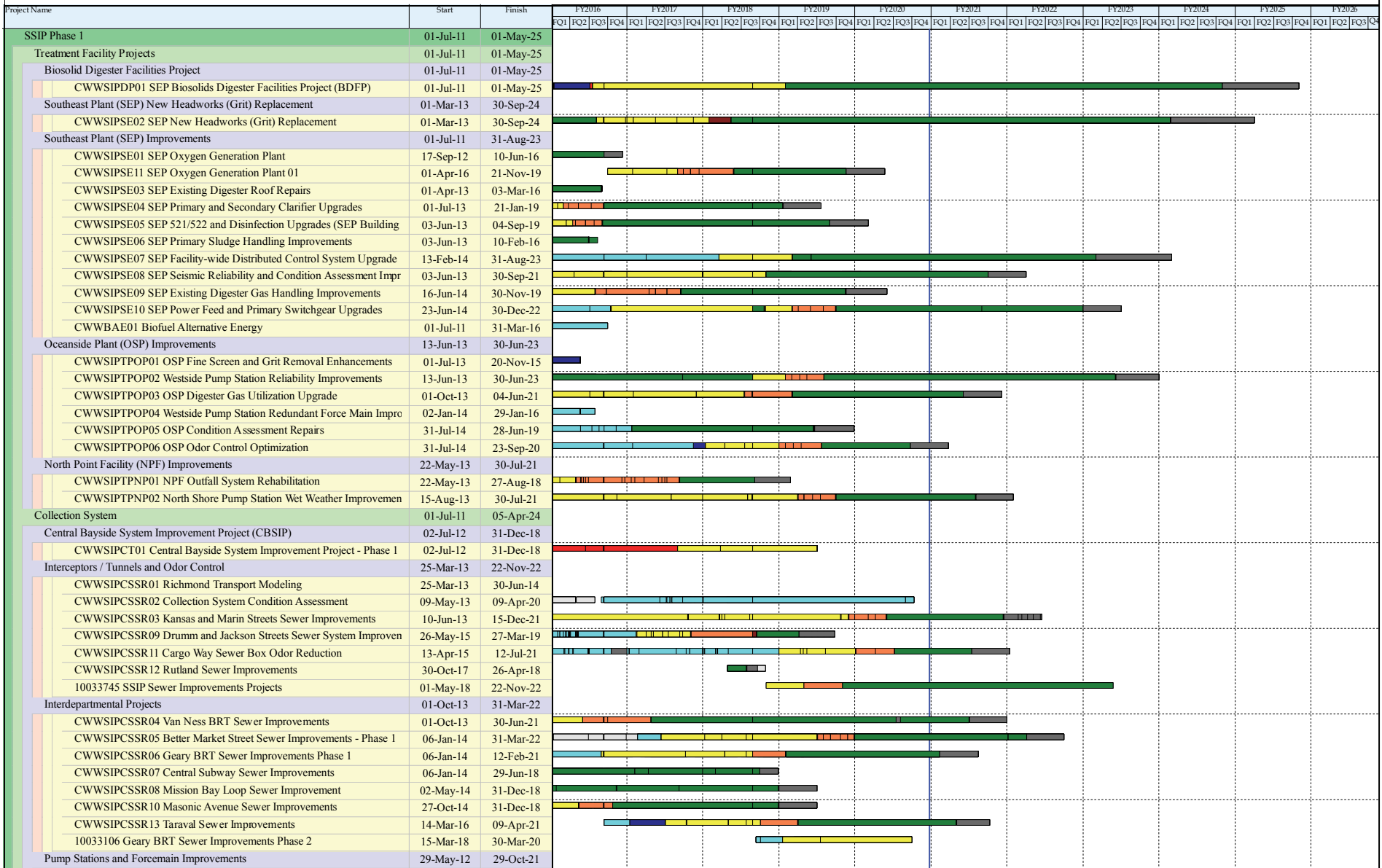
CWWRNRTF - R&R Treatment Facilities

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			
			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				
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]																																											
CWWSIPCSD01 Richmond Transport/Storage Tunnel Rehabilitation	01-Jun-15	13-May-19	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPCSD02 Baker/Laguna/Pierce CSD & Outfall	29-Jun-15	20-Nov-15	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPCSD03 Beach and Sansome Street CSD Rehabilitation	14-Mar-16	30-Apr-20	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPCSD04 CSD Backflow Prevention and Monitoring	25-Jul-16	01-Oct-21	[Gantt bar showing phases: Project Management, Design, Bid & Award, Construction, Closeout]																																											
CWWSIPCSD05 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 Or	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							
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4								
CWWSIPPL01, PRPL01 SSIP Program Management	01-Sep-11	31-Jul-23	[Program Mgmt]																																															
Other SSIP	01-Jul-18	30-Jun-28	[Program Mgmt]																																															
Treatment Facilities	23-Sep-19	16-May-28	[Program Mgmt]																																															
Oceanside Plant	23-Sep-19	16-May-28	[Program Mgmt]																																															
OP05-2 OSP Condition Improvement - Phase 2	23-Sep-19	16-May-28	[Design] [Construction]																																															
Sewer/Collection System	01-Aug-19	20-May-24	[Design] [Construction]																																															
Collection System - Interceptors / Tunnels / Odor Control	01-Aug-19	20-May-24	[Design] [Construction]																																															
10034718 Large Sewer Improvements	01-Aug-19	20-May-24	[Design] [Construction] [Closeout]																																															
Stormwater Management/Flood Control	01-Jul-18	30-Jun-28	[Program Mgmt]																																															
Green Infrastructure for Stormwater Mgmt (Grant)	01-Jul-18	30-Jun-28	[Program Mgmt]																																															
10034553 Green Infrastructure Grant Program	01-Jul-18	30-Jun-28	[Program Mgmt]																																															
Flood Resilience	02-Jan-19	31-Dec-26	[Design] [Construction] [Closeout]																																															
10034360 Lower Alemany Area Stormwater Improvement Project	02-Jan-19	31-Dec-26	[Design] [Construction] [Closeout]																																															

- 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			
			F0		F1		F2		F3		F4		F1		F2		F3		F4		F1		F2		F3		F4		F1		F2		F3		F4		F1		F2		F3		F4			
			Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
Odor Control																																														
CENMSCIC05 Oceanside WPCP HVAC Imprv	25-Feb-05	10-Jan-14																																												
CENMSCIC07 Chemical Feed Sys Imprv - Ph 1	16-May-05	10-Apr-07																																												
CENMSCIC16 WS PS VFDs and Pumps	26-Sep-05	14-Jul-09																																												
CENMSCIC20 Chemical Feed Sys Imprv - Ph 2	16-Mar-06	30-Aug-07																																												
CENMSCIC22 Embarcadero Vent Elements Ph 1	17-Sep-05	28-Sep-07																																												
CENMSCIC28 SEWPCP Bldg 010 Odor Control Improvement	20-Apr-07	16-Aug-12																																												
CENMSCIC31 SEWPCP 620 & 680 Digester Compressor	06-Mar-08	08-Jan-13																																												
Int12 Embarcadero Vent Elements Phase 2	01-Jul-08	10-Jan-14																																												
Int14 Embarcadero Box Hydraulic Modifications	05-Apr-08	05-Apr-08																																												
Int15 OSP Mixing, Withdrawal and Dewatering Improvement	02-Jul-07	01-Jul-09																																												
Treatment Facilities																																														
CENMSCIC06 SEP Gas Handling Imprv	20-Jan-05	22-Sep-09																																												
CENMSCIC08 SEP Secondary Clarifiers Concrete Repairs	20-Jan-05	28-Sep-07																																												
CENMSCIC09 SEP Mixed Liquor and Odor Control Imprv	30-Jun-05	31-Jul-07																																												
CENMSCIC17 OSP / WS Bar Screens	03-Oct-05	14-Jul-09																																												
CENMSCIC29 SEWPCP Gas Handling Improvements - Ph 2	08-Jan-07	08-Jun-10																																												
CENMSCIC36 WWE Facility Security/Emergency Response	07-Jan-10	09-Jul-14																																												
CENMSCIC37 WWE Facility Reliability Impr - SEP Northside	07-Jan-10	08-Dec-16																																												
CENMSCIC38 SEP Solid Handling (Digester Roof, Gas Mixi	07-Jan-10	31-Dec-15																																												
CENMSCIC39 OSP Solids Handling and Coating	22-Jan-10	20-May-16																																												
CENMSCIC41 MV-SWGR SEP Electrical Reliability	22-Jan-10	30-Sep-15																																												
CENMSCIC42 GHW Stabilization Emergency	19-Jan-10	02-Sep-12																																												
CENMSCIC45 OPS: FOG to Biodiesel	01-Mar-10	31-Dec-14																																												
CENMSCIC47 WWE Mechanical / Electrical Upgrade	23-Apr-10	08-Dec-16																																												
CENMSCIC70 OS Plant Improvements - Aeration Syst Upgr	12-Dec-12	31-Dec-15																																												
CENMSCIC72 Facility Security Upgrades Contract 2	01-Jul-13	08-Dec-16																																												
CENMSCIC74 SETP Effluent Force Main	01-Mar-16	30-Nov-16																																												
Int02 Future Major Electrical and Mech Equip Replacement	31-Dec-08	10-Jan-14																																												
Int03 Contract 4 OSP Gas Compressors (\$ included in IC17)	15-Sep-06	10-Jan-14																																												
Int35 SWOO Cleaning & Backflow Prevention	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	30-Aug-07																																												
CENMSCIC21 Channel Pump Station Odor Control	03-Jan-06	31-Oct-07																																												
CENMSCIC30 Channel Pump Station Odor Control - Phase 2	02-Jul-07	11-Oct-12																																												
CENMSCIC33 North Shore to Channel Force Main Improver	01-Oct-09	14-Jul-11																																												
CENMSCIC40 North Shore and Mariposa Pump Station Impr	22-Jan-10	30-Jun-14																																												
CENMSCIC48 Channel Pump Sta Improvements Phase 3	23-Apr-10	12-Nov-13																																												
CENMSCIC52 North Shore Force Main, Phase 2	07-Sep-10	27-May-16																																												
CENMSCIC61 North Shore Force Main Emergency	20-Mar-12	04-Apr-13																																												
CENMSCIC62 Emergency NSFMR Rehabilitation	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	03-Jan-05	30-Nov-07																																												
CENMSCIC02 Teresita Blvd "South" Sewer Reple	03-Jan-05	15-Oct-07																																												
CENMSCIC03 Shotwell & 18th St. Drainage Imprv	31-Dec-04	27-Mar-08																																												
CENMSCIC10 Brotherhood Way/St Charles Sewer Improven	07-Sep-05	28-Dec-09																																												
CENMSCIC11 Cesar Chavez Sewer Imprv Ph 1	03-Oct-05	31-Dec-14																																												
CENMSCIC12 Vicente St. Ph 1 Sewer Imprv	27-Apr-05	16-Mar-07																																												
CENMSCIC13 Monterey, Baden, & Circular Sewer Imprv	16-May-05	29-Sep-06																																												
CENMSCIC14 Mission & Foote Sewer Imprv	04-Jun-05	14-Nov-06																																												
CENMSCIC15 Mission & Mt. Vernon Sewer Imprv Ph I	26-Sep-05	30-Sep-09																																												
CENMSCIC18 Justin Dr/Marietta Ave/Del Vale Ave Sewer I	03-Jan-06	28-May-08																																												



APPENDIX 2.4. WVE R&R Project-Level Approved Schedule

Project Name	Start	Finish	FY2012				FY2013				FY2014				FY2015				FY2016				FY2017				FY2018				FY2019				FY2020				FY2021				FY2022
			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	FQ1
WVE Renewal & Replacement Program	01-Jul-10	31-Mar-21																																									
CWWRNRTF R&R Treatment Facilities	01-Jul-10	12-Feb-21																																									
CWWRNRCS R&R Collection Systems	01-Jul-10	31-Mar-21																																									

Project Management
 Environmental
 Bid & Award
 Construction
 Planning
 Design
 Construction Mgmt
 Closeout

Appendix 3. Acronyms

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

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		

Appendix 3. Acronyms

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