MORRO BAY
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City of Morro Bay
Water Reclamation Facility Project

QUARTERLY REPORT JUNE 2020

FINAL | July 2020

carollo

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Eric T. Casares,
July 2020,
State of California, P.E. 73351

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Abbreviations

BOD	Biochemical Oxygen Demand
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CPT	Cone Penetration Test
CPUC	California Public Utilities Commission
CSWRF	Clean Water State Revolving Fund
DBEs	disadvantage business enterprises
DDW	Division of Drinking Water
EACs	estimates and completion
EPA	Environmental Protection Agency
ESCP	Enhanced Source Control Program
GFEs	good faith efforts
GMP	Guaranteed Maximum Price
GSI	GSI Water Solutions
IFC	issued for construction
IPR	Indirect Potable Reuse
KPI	Key Performance Indicator
MBMWC	Morro Bay Mutual Water Company
MBR	Membrane Bioreactor
Narrows	Eastern
NPDES	National Pollution Discharge Elimination System
NTP	notice to proceed
PCO	Potential Change Order
PPP	Pollution Prevention Plan
Project	Water Reclamation Facility Project
PWAB	Public Works Advisory Board
RWQCB	Regional Water Quality Control Board
SAA	Stream Bed Alteration Agreement
SPI	Schedule Performance Index
TM	Technical Memorandum
TSO	Time Schedule Order
TSS	Total Suspended Solids
UVAOP	Ultraviolet Advanced Oxidation Process
WIFIA	Water Infrastructure Finance and Innovation Act
WRF	Water Reclamation Facility
WRFCAC	Water Reclamation Facility Citizens Advisory Committee
WWE	Water Works Engineers

Section 1

PROJECT OVERVIEW

1.1 General Project Status Update

All components of the Water Reclamation Facility Project (Project) are currently in progress.

1.1.1 Water Reclamation Facility

1.1.1.1 Design

The design for the Water Reclamation Facility (WRF) was completed with the delivery of the Issued for Construction (IFC) drawings and specifications for the WRF on May 22, 2020.

1.1.1.2 Construction

Construction at the WRF site began shortly after the construction notice to proceed (NTP) was issued on March 20, 2020 by the City. Earthwork on the site continued since that time. The City and Program Manager have also continued to work with the California Department of Fish and Wildlife (CDFW) to obtain a Stream Bed Alteration Agreement (SAA) for an erosional feature on the site. The notification was submitted to CDFW in late February 2020. CDFW delivered the Draft SAA on Monday, July 13, 2020 and the SAA was fully-executed by CDFW and City staff on Tuesday, July 14, 2020. The contractor can now access the erosional feature area and commence with filling this area and advancing mass earthwork without any restrictions. The inability for the contractor to access the erosional feature area was unanticipated and has delayed earthwork and created inefficiencies (i.e., moving material multiple times). These delays and inefficiencies will result in the need for a potential change order (PCO) to extend the schedule and increase the guaranteed maximum price (GMP). Now that the SAA has been finalized, the contractor is preparing the PCO. Once the draft PCO is submitted, the City and Program Manager will review it, and begin negotiations before it is presented to Public Works Advisory Board for recommendations and to City Council for review and actions.

The City reported on the crack or separation on the southern tip of the slope being excavated that occurred on May 05, 2020 in the April 2020 Monthly Report. Since that time, the design-build team has completed the revised grading design. The revised grading design is currently being reviewed by the Program Manager, and once the design is finalized, it will be sent to the California Coastal Commission (CCC). The design-build team is currently developing a cost estimate for the impacts of the soil slip. The construction cost to remove the soil slip material and stockpile it alone has been estimated at $300,000. The cost for the work done by the design-build team's geotechnical engineer and the re-design costs are currently being estimated by the design-build team. It is anticipated that the overall cost of the soil slip will be in the $500,000 range. However, who bears the responsibility for the costs (i.e., City vs. design-build team) has not yet been determined. The City maintains that the design-build team is responsible for these costs and is still awaiting a memorandum outlining the design-build team's position.

1.1.2 Conveyance Facilities

1.1.2.1 Design

The design was completed in late May 2020 with the delivery of the final drawings and technical specifications to the City.

1.1.2.2 Construction

The Conveyance Facilities component of the Project was advertised for bidding on June 16, 2020. The pre-bid meeting was held virtually on July 07, 2020. Originally, bids were to be opened on July 28, 2020.However, following the pre-bid meeting, the decision was made to extend the bidding period to ensure all contractors have ample time to complete the good faith efforts (GFEs) for disadvantaged business enterprises (DBEs). This requirement is one of the Federal cross-cutters and failing to meet this requirement could make a bid non-responsive. The City still anticipates awarding this component of the Project on September 22, 2020.

1.1.3 Recycled Water Facilities

1.1.3.1 Design

The Project's hydrogeologist (GSI Water Solutions [GSI]) delivered the Draft Phase 2 (Characterization) Technical Memorandum (TM) in March 2020. The City received the Final TM on June 17, 2020. The City and Program Manager will present the results to PWAB at their regularly-scheduled August meeting.

Following delivery of the Final TM, GSI began developing alternative modeling scenarios focused on reducing the amount of water initially injected and extracted to maximize groundwater travel times and make initial permitting of the Project with the Division of Drinking Water (DDW) easier. GSI should have the results of these additional modeling scenarios for presentation to PWAB in August 2020.

Table 1 summarizes some of the key accomplishments and critical challenges identified for the Project through July 15, 2020.

Table 1 Project Accomplishments and Challenges

Project Component	Key Accomplishments	Critical Challenges	Actions to Overcome Challenges	Likely Outcomes
General Project	Continued to support the review of the City's construction loan application by the Clean Water State Revolving Fund (CWSRF) staff.			
Water Reclamation Facility	Continued advancing construction on the South Bay Boulevard site.			
		A soil slip on the site occurred with a volume of approximately 15,000 cubic yards that has resulted in additional work for the design-build team	Negotiate with the design-build team to determine responsibility and minimize the financial impacts from dealing with the soil slip.	Pending the result of the negotiations with the design-build team, the soil slip could result in a future PCO.
Conveyance Facilities	Held the pre-bid meeting on July 07, 2020.			
		Receipt of easements necessary to construct the pipelines in the City's existing bike path.	Work closely with Vistra (Vistra Energy), PG&E, and California Public Utilities Commission (CPUC) to obtain the easements.	Delayed receipt of the easements could complicate or delay construction of the Conveyance Facilities.
Recycled Water Facilities	Received the Final TM (Characterization) from GSI confirming selection of the West injection area.			
		Receipt of property necessary to construct the injection wells.	Work with Vistra to obtain the property for the injection wells.	Without expediting the schedule, the completion of the injection wells will be delayed (does not impact compliance with the Time Schedule Order (TSO)).

1.2 Quarterly Budget Revision

The original $126 million baseline budget was developed in June 2018 (Q4 Fiscal Year 2017/2018). At the beginning of each fiscal year, the budget is updated and used as the measure of performance for the Project during that upcoming fiscal year. The budget is then reviewed and reconciled on a quarterly basis so it can be compared to both the current fiscal year and baseline budgets. The next budget reconciliation will occur at the end of Q1 Fiscal Year 2020/2021 (September 30, 2020). A summary of the baseline, reconciled quarterly, and fiscal year budgets are summarized in Table 2. Subsequent budget reconciliations (quarterly) and fiscal year budgets (annual) will also be presented in this table for reference.

Table 2 Budget Revision Summary

Project Component	Baseline (Q4 FY 17/18)	Quarterly Reconciliation (Q3 FY 18/19)	Past Fiscal Year (Q4 FY 18/19)	Quarterly Reconciliation (Q1 FY 19/20)	Quarterly Reconciliation (Q2 FY 19/20)	Quarterly Reconciliation (Q3 FY 19/20)	Current Fiscal Year (Q4 FY 19/20)
Water Reclamation Facility[1]	$62,414,000	$74,059,000	$72,891,000	$72,598,000	$72,231,000	$71,856,000	$77,828,000
Conveyance Facilities	$21,087,000	$27,108,000	$28,864,000	$28,524,000	$29,224,000	$29,989,000	$29,840,000
Recycled Water Facilities	$8,593,000	$5,366,000	$5,250,000	$5,212,000	$5,353,000	$5,526,000	$5,526,000
General Program	$24,403,000	$11,614,000	$11,801,000	$11,625,000	$11,701,000	$12,964,000	$13,260,000
Construction Contingency[2]	$9,444,000	$6,450,000	$7,132,000	$7,131,000	$7,364,000	$10,264,000	$4,207,000
Total	**$125,941,000**	**124,597,000**	**$125,938,000**	**$125,090,000**	**$125,873,000**	**$130,599,000**	**$130,661,000**

Notes:
(1) Costs include the design-build agreement with Filanc/Black & Veatch, Carollo, and other consultants.
(2) Breakdown of the current contingency ($4,207,000) is as follows: WRF = $1,449,000; Conveyance Facilities = $2,458,000; and Recycled Water Facilities = $300,000

Table 3 summarizes the positions and estimates at completion (EACs) for the major elements of the Project through the end of Q4 FY 19/20 when the last budget reconciliation was completed.

Table 3 Estimates at Completion

Project Component	Original Estimates	Initial Contract Value	Current Contract Value	Expenditures to Date	Estimate at Completion
City and Program Management	**$24,403,000**			**$4,775,967**	**$13,855,000**
City Costs[2]				$1,912,770	$3,845,000
Program Management[3] (Carollo Engineers)		$293,000	$6,360,378	$2,863,196	$10,010,000
Design/Build WRF	**$62,414,000**			**$11,255,345**	**$74,927,000**
Design/Build (Filanc/Black & Veatch)		$67,234,512	$74,926,725	$11,255,345	$74,927,000
Conveyance Facilities	**$21,087,000**			**$1,807,054**	**$26,386,000**
Design (Water Works Engineers)		$1,360,565	$2,052,387	$1,807,054	$2,152,000
Construction				-	$24,234,000
Recycled Water Facilities	**$8,593,000**			**-**	**$3,575,000**
Design				-	$450,000
Construction				-	$3,125,000
Contingency	**$9,444,000**				**$4,207,000**
Water Reclamation Facility					$1,449,000
Conveyance Facilities					$2,458,000
Recycled Water Facilities					$300,000
Other Contracts[4]				**$5,857,849**	**$7,711,000**
Total	**$125,941,000**			**$23,696,215**	**$130,661,000**

Notes:
(1) Total expenditures and EAC are based on the budget reconciliation completed for Q4 FY 19/20.
(2) City costs include staff salaries and benefits, legal services, land acquisition, supplies and equipment, etc.
(3) Includes total program management costs including public outreach and construction oversight/management.
(4) Other Contracts includes previous consultants including MKN and Black & Veatch and current consultants including Far Western, ESA, Kestrel, GSI, Bartle Wells Associates, etc.

Section 2

KEY PERFORMANCE MEASURES

2.1 Performance Measures

A set of five (5) Key Performance Indicators (KPIs) were established to readily measure the progress of the Project. These KPIs represent various success factors associated with the WRF project management and delivery that were established by the Program Manager and City staff and are summarized as Table 4. The Project's performance is also illustrated graphically in Figures 1 and Figure 2.

Table 4 WRF Project Performance Measures

Performance Measure	Data	Baseline (Q4FY 19/20)	Current (Q4 FY 19/20)	Delta	Status	G	Y	R
1: Total Project Costs	Total Project Projected Cost at Completion versus the Baseline Budget (budget as of 06/30/20)	$130.7 M	$130.7 M	0.0%	G	Estimated cost within 5% of target budget	Estimated cost > 5% above target budget	Estimated cost > 10% above target budget
1.1: WRF Costs	On Site WRF Projected Cost at Completion versus the Baseline Budget (budget as of 06/30/20)	$79.3 M	$79.3 M	0.0%	G	Estimated cost within 5% of target budget	Estimated cost > 5% above target budget	Estimated cost > 10% above target budget
1.2: Conveyance Facilities Costs	Conveyance Facilities Projected Cost at Completion versus the Baseline Budget (budget as of 06/30/20)	$32.3 M	$32.3 M	0.0%	G	Estimated cost within 5% of target budget	Estimated cost > 5% above target budget	Estimated cost > 10% above target budget
1.3: Recycled Water Facilities Costs	Off Site Injection Facilities Projected Cost at Completion versus the Baseline Budget (budget as of 06/30/20)	$5.8 M	$5.8 M	0.0%	G	Estimated cost within 5% of target budget	Estimated cost > 5% above target budget	Estimated cost > 10% above target budget
1.4: General Project Costs	General Project Projected Cost at Completion versus the Baseline Budget (budget as of 06/30/20)	$13.3 M	$13.3 M	0.0%	G	Estimated cost within 5% of target budget	Estimated cost > 5% above target budget	Estimated cost > 10% above target budget
2: Program Manager Earned Value	Ratio of Program Manager Earned Value to Actual Invoiced Cost-to-Date (as of 06/30/20)	1.00	0.99	-0.01	Y	>= 1.00	0.99 to 0.90	< 0.90
3: Schedule Performance Index[1]	Ratio of Planned Percent Complete to Actual Percent Complete (as of 06/30/20)	1.00	1.15	0.15	G	>=1.00	0.99 to 0.80	<0.80
4: Conveyance Pipeline Installed	Feet of conveyance pipeline installed (thru 06/30/20)	18,500 LF	0.0 LF	0.0%	G	<= 5%	> 5% and <=7.5%	> 7.5%
5: Compliance Date Countdown	Days Remaining to Compliance Date (as of 06/30/20)	973 days	794 days	180 days	Y	<= 365 days	364 days and 180 days	> 179 days

Section 3

PROJECT COSTS

3.1 Project Budget

The overall budget status for the Project is summarized in Table 5. The top half of the table provides a summary of total estimated Project costs, including original and current estimated costs for the entire Project. The bottom half of Table 5 shows the total amount of work currently under contract and provides a summary of total charges.

Table 5 WRF Project Overall Budget Status (thru June 2020)

Summary of Total WRF Project Cost	
Original Baseline WRF Project Budget(1)	$125,941,000
Current Fiscal Year WRF Project Budget (as of 6/30/20) (2)	$130,661,000
Current WRF Project Budget (as of 06/30/20)(3)	$130,661,000
Budget Percent Change (Current versus Fiscal Year)	0.0%
Total Expenditures for June 2020	$1,205,000
Total Expenditures to Date (thru 06/30/20 invoices)	$23,696,000
Percent of Current WRF Project Budget Expended	18.1%
Summary of Contracted Work	
Total Contracted Amount	$88,448,000
Percent of Current WRF Project Budget Contracted	67.7%
Total Contracted Amount Expended	$20,649,000
Percent of Contracted Amount Expended	23.3%
Remaining WRF Project Contracted Amount	$67,799,000

Notes:
(1) Developed in June 2018 as the basis of the approved rate surcharge that took effect in July 2019.
(2) The budget for the Project is reviewed on an annual basis at the end of each fiscal year (June 30th) and is used as the basis of performance for the Project for the upcoming fiscal year.
(3) The Project budget is reconciled on a quarterly basis and compared to the current fiscal year budget (i.e., September 30th, December 31st, and March 31st)

3.2 Project Cash Flow

Figure 1 presents the projected and actual expenditures for the Project through June 2020 compared to the Fiscal Year 2020/2021 budget developed at the end of Q4 Fiscal Year 2019/2020. The line graph shows the cumulative values for the Project and the bars show the discrete monthly values. Actual and budgeted expenditures from 2013 to the end of Fiscal Year 2018/2019 have been combined to improve readability. Milestones have been added to the cumulative fiscal year budget and cumulative forecasted expenditures to show changes in the Project schedule that have occurred between development of the fiscal year budget from June 2019 and the current, reconciled budget developed at the end of June 2020. The milestone corresponds to the substantial completion of the WRF, which coincides with the City being in

compliance with the TSO issued by the Regional Water Quality Control Board (RWQCB) in June 2018. While the compliance with the TSO has been delayed several months due to consultation with the USFWS, completion of construction of the injection wells has been impacted more significantly due to property acquisition.

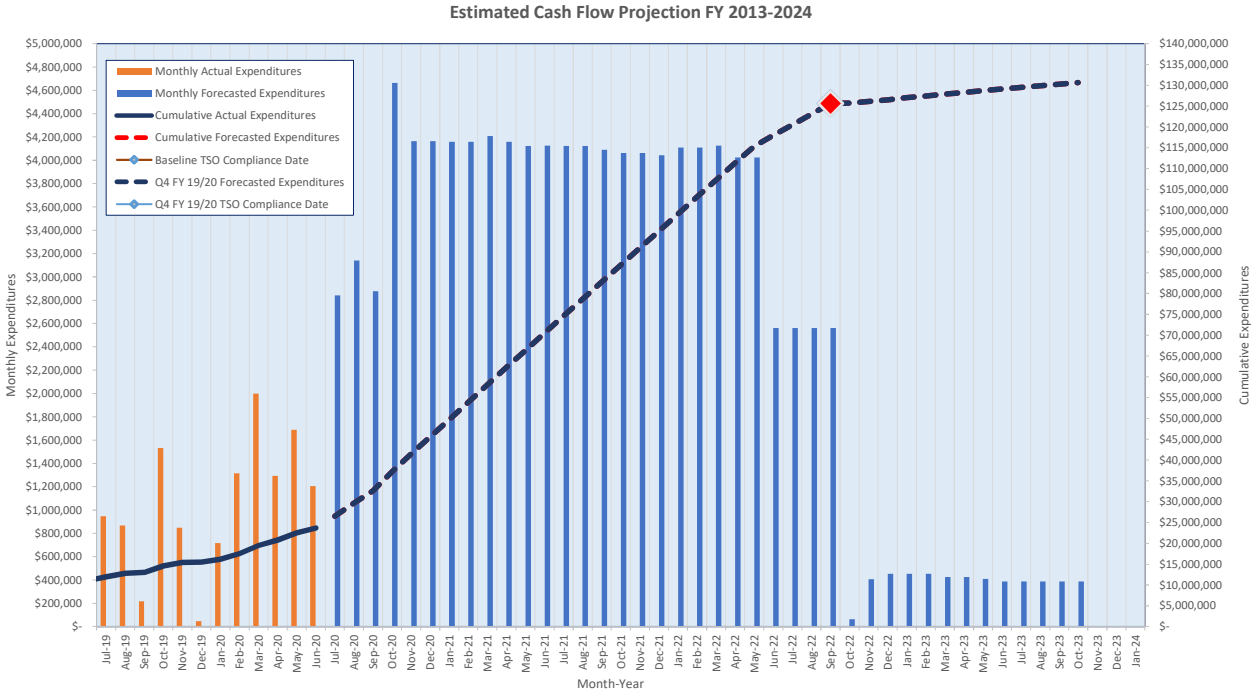

Figure 1 Project Cash Flow Projections and Actual Expenditures

A breakdown of the current Q4 Fiscal Year 2019/2020 budget by fiscal year is included in Table 6.

Table 6 WRF Project Cost Fiscal Year Projections

Project	Actual Expenditures to Date	FY 20/21	FY 21/22	FY 22/23	FY 23/24	Total Project
WRF	$11,255,000	$30,074,040	$29,233,127	$7,265,107	$-	$77,828,000
Conveyance Facilities	$1,807,000	$12,881,447	$15,150,893	$-	$-	$29,840,000
Recycled Water Facilities	$420,000	$820,995	$318,750	$2,765,625	$1,200,000	$5,526,000
General Project	$10,214,000	$1,256,338	$766,874	$766,874	$255,625	$13,260,000
Contingency	$-	$1,750,098	$1,995,885	$361,013	$100,000	$4,207,000
Total	**$23,696,000**	**$46,782,918**	**$47,465,530**	**$11,158,619**	**$1,555,625**	**$130,661,000**

Notes:
(1) Cost includes the total anticipated cost for each element of the Project.

3.3 Project Cost Summary

Table 7 summarizes the cost-to-date and contracted amounts for each of the elements of the Project. This table also provides the current cost estimate for each project. Detailed information on the individual elements of the Project is provided in Section 7 of this Report.

Table 7 WRF Project Cost Summary (through June 2020)

Project	Actual Expenditures to Date	Total Contracted Cost	Contract Expended to Date (%)	Total Project Cost (Est.)(1)	Cost Expended to Date (%)
General PM	$6,986,000	$10,849,000	64.4	$13,260,000	52.7
WRF	$11,255,000	$74,927,000	15.0	$79,278,000	14.2
Conveyance Facilities	$1,807,000	$2,052,000	88.1	$32,298,000	5.6
RW Facilities	$601,000	$621,000	96.8	$5,825,000	10.3
Total	**20,649,000**	**$88,449,000**	**23.3**	**$130,661,000**	**15.8**

Notes:
(1) Cost includes the total anticipated cost for each element of the Project.
(2) Actual total expenditures are equal to $23,696,000 (Table 6), but includes $3,047,000 of uncontracted costs including City costs (i.e., labor, expenses, etc.)

3.4 Detailed Project Costs

The following tables show the detailed costs to date for active contracts for each element of the Project.

Table 8 General Project Activities Cost Summary (through June 2020)

Consultant / Contractor	Actual Expenditures to Date	Total Contracted Cost	Contract Expended to Date (%)
ESA	$412,080	$412,320	99.9
Far Western	$214,783	$282,014	76.2
Bartle Wells Associates	$65,580	$100,800	65.1
JoAnn Head Land Surveying	$97,693	$102,644	95.2
JSP Automation	$21,778	$63,500	34.3
Carollo Engineers, Inc.(1)	$2,863,196	$6,360,378	45.0
Total	**$3,675,110**	**$7,321,656(2)**	**50.2**

Notes:
(1) Total estimate at completion for Program Management/Construction Management is projected at $10.0 million.
(2) Table only includes contracts that are currently active. The total contracted amount for General Project is $10,849,000 and includes consultants including MKN, etc.

Table 9 WRF Cost Summary (through June 2020)

Consultant / Contractor	Actual Expenditures to Date	Total Contracted Cost	Contract Expended to Date (%)
Overland Contracting	$11,255,345	$74,926,725[1]	15.0
Total	**$11,255,345**	**$74,926,725**	**15.0**

Notes:
(1) Cost includes final value for Amendment No. 1, Amendment No. 2, and Amendment No. 3 of $1,636,060, $63,937, and $5,992,217, respectively and the original contract value of $67,234,512.

Table 10 Conveyance Facilities Cost Summary (through June 2020)

Consultant / Contractor	Actual Expenditures to Date	Total Contracted Cost	Contract Expended to Date (%)
Water Works Engineers (WWE)	$1,807,054	$2,052,387	88.0
Total	**$1,807,054**	**$2,052,387**	**88.0**

Table 11 Recycled Water Facilities Cost Summary (through June 2020)

Consultant / Contractor	Actual Expenditures to Date	Total Contracted Cost	Contract Expended to Date (%)
GSI	$489,864	$508,947	96.3
Middle Earth	$6,570	$6,810	96.5
Total	**$496,434**	**$515,757[2]**	**96.3**

Notes:
(1) Cost includes final value for Amendment No. 1, Amendment No. 2, and Amendment No. 3 of $1,636,060, $63,937, and $5,992,217, respectively and the original contract value of $67,234,512.
(2) Table only includes contracts that are currently active. The total contracted amount for General Project is $621,000 and includes consultants including V&A.

3.5 Change Orders

In May 2019, City staff and the Program Manager presented seventeen (17) PCOs with a total value of $1.9 million for the WRF to the Water Reclamation Facility Citizens Advisory Committee (WRFCAC) and the City Council. The City Council approved these PCOs and authorized City staff to update the design-build team's contract and associated GMP. Since that time, the City and Program Manager have worked with the design-build team to value engineer Change Order No. 10 and reduce the cost by more than $200,000. The City therefore amended the value for Amendment No. 1 to $1,636,060 that was executed by the City in January 2020.

During Q3 FY 2019/2020 the City Manager authorized PCO No. 65, which was required to bring the design-build agreement in compliance with the appropriate prevailing wage rates (i.e., Davis-Bacon) required by the WIFIA and CSWRF programs.

In May 2020, the City staff and Program Manager presented an additional twenty six (26) PCOs to the Public Works Advisory Board (PWAB) and the City Council with a total cost of $5,992,217.

These PCOs were also approved by City Council. The forty four (44) approved change orders are summarized in Tables 12, 13, and 14.

Table 12 Summary of Approved Change Orders (Amendment No. 1)

Contract	Change Order No.	Description	Value
WRF	01	New Sodium Hypochlorite Feed for Plant Water	$78,576
WRF	02	Change Architecture of Operations Building	$(21,623)
WRF	03	Headworks Odor Control	$18,422
WRF	04	Remove Canopy and Monorail at membrane bioreactor (MBR)	$(185,434)
WRF	05	Consolidate Chemical Facilities	$218,978
WRF	06	Modify Chemical Piping	$(15,856)
WRF	07	Remove Solids Dumpster Lid	$14,543
WRF	08	Add SAFE Equalization Tank	$504,116
WRF	09	Instrumentation and Control Changes	$75,266
WRF	10	Revise Maintenance Building Layout and Size	$516,583
WRF	11	Influent Piping and Metering	$411,766
WRF	12	Install Outdoor-Rated Positive Displacement Blowers at BNR Facility	$(58,210)
WRF	13	Remove Bypass of Coarse Screens	$(37,137)
WRF	14	SAFE Diversion Box Additions	$58,304
WRF	15	Size Dewatering as a Building in the Future	$30,983
WRF	16	Stairs for the Coarse Screens and Grit Basins (total of 4)	$52,870
WRF	17	Indirect Potable Reuse (IPR) Product Water Tank Bypass	$(26,087)
Total			**$1,636,060**

Table 13 Summary of Approved Change Orders (Amendment No. 2)

Contract	Change Order No.	Description	Value
WRF	65	Davis-Bacon Wage Increases	$63,937
Total			**$63,937**

Table 14 Summary of Approved Change Orders (Amendment No. 3)

Contract	Change Order No.	Description	Value
WRF	16	Modify Outfall Pump Station	$367,632
WRF	19	Reduce Size of the Product Water Tank	$(129,681)
WRF	32	Sulfuric Acid System	$315,652
WRF	37	PLC/SCADA Software Uniformity (MBR, RO, and Headworks Only)	$201,577
WRF	39	NTP Delay	$1,220,532
WRF	40	Headworks Valve Automation	$249,946
WRF	41	Perimeter Barbed Wire Fence	$79,935
WRF	42	UV/AOP System Modifications	$(33,481)
WRF	44	Tank Access Improvements	$210,327
WRF	45	Maintenance Ceiling Revisions and Automated Roll-Up Door	$21,009
WRF	46	Curbed Washdown Areas	$76,250
WRF	47	Changes to Furnishings and Residential Equipment	$85,194
WRF	50	Revisions to Water/Sewer Supply Storage Sheds	$13,142
WRF	52	Analyzer Relocation and Enclosures	$76,555
WRF	55	Notice of Dispute - PG&E Temporary Power	$13,163
WRF	56	Impacts of Water Quality Changes	$282,420
WRF	57	Soil Lateral Earth Pressure	$116,329
WRF	58	Permanent Exclusion Fencing	$855,991
WRF	59	Increased Escalation Costs	$1,232,677
WRF	61	PCO Design Impacts	$158,172
WRF	62	Conduit Alternative Design	$(268,400)
WRF	64	Reduce Performance Period	$(35,450)
WRF	66	Caltrans Intersection Improvements	$(21,893)
WRF	67	BNR System Modifications	$742,405
WRF	68	SAFE Equalization Settle Tank Drain Piping	$62,215
WRF	69	Third Party Inspection and Testing	$100,000
Total			**$5,992,217**

3.6 Reimbursement from Funding Agencies

In 2017, the City was awarded a $10.3 million planning loan from the Clean Water State Revolving Fund (CWSRF) program. To date, the City has made three reimbursement requests for the planning loan. An additional reimbursement request is anticipated to fully exhaust the entire loan amount. In February 2020, the City executed a $61.7 loan with the Environmental Protection Agency's (EPA's) Water Infrastructure and Innovation Act (WIFIA) program. To date, a total of two reimbursement requests have been made. A summary of these requests is presented in Table 15.

Table 15 Summary of Reimbursement Requests

Agency	Description	Type	Number	Date	Requested Amount	Approved Amount
State Water Board	CWSRF Planning Loan	Loan	01	December 2018	$289,595	$217,441
State Water Board	CWSRF Planning Loan	Loan	02	November 2019	$6,431,925	$5,312,748
State Water Board	CWSRF Planning Loan	Loan	03	December 2019	$3,803,501	TBD
EPA	WIFIA	Loan	01	May 2020	$1,100,944	$1,100,944
EPA	WIFIA	Loan	02	June 2020	$61,014	$61,014
EPA	WIFIA	Loan	03	June 2020	$3,489,409	TBD
Total					**$11,686,979**	**$6,692,147**

Section 4

PROJECT SCHEDULE

A summary of the Project schedule is presented in Figure 2. The light blue bars for each major task represent the planned progress based on the baseline schedule. The dark blue bars represent the current actual progress through June 2020. For each major line item, the schedule performance index (SPI) has been provided as well as an overall SPI for the entire Project. The SPI is a ratio of the planned percent complete versus the current actual percent complete. A SPI of greater than 1.00 indicates that the Project is on or ahead of schedule and a SPI of less than 1.00 indicates the Project is running behind the planned schedule.

4.1 Project Milestones

In June 2018, the City received a TSO from the RWQCB. The TSO requires the City to comply with a time schedule that will, within five years of adoption, allow the City to achieve full compliance with biochemical oxygen demand (BOD) and total suspended solids (TSS) final effluent limitations established in Order No. R3-2017-0050. In addition to the final compliance date, a number of intermediate milestones are provided in Table 3 (Compliance Schedule) of the TSO. Presented in Table 16 are the milestones in the TSO.

Table 16 Time Schedule Order Milestone Summary

Required Actions	Compliance Due Date	Planned Compliance Date	Actual Compliance Date
Release of Public Draft EIR	March 30, 2018	-	March 30, 2018
Release of Updated Rate Study	June 30, 2018	-	July 05, 2018
Proposition 218 Hearing	August 30, 2018	-	September 11, 2018
Certification of Final EIR	June 30, 2018	-	August 14, 2018
Award of Contract for WRF	September 30, 2018	-	October 23, 2018
Develop, Implement, and Submit Pollution Prevention Plan (PPP) for BOD and TSS	December 01, 2018	TBD(1)	-
Award of Contract for Construction of Conveyance Facilities	November 30, 2019	September 22, 2020	-
Completion of WRF Improvements with Completion Report	December 30, 2022	September 02, 2022	-
Full compliance with final effluent limitations	February 29, 2023	September 02, 2022	-

Notes:
(1) The City and Program Manager have noted this requirement in the previous quarterly progress reports sent to the RWQCB (as required by the TSO). The City has requested that the Enhanced Source Control Program required as part of the Title 22 Engineer's Report be considered acceptable for this requirement in lieu of the PPP identified in the TSO.

Figure 2 Project Summary Schedule

An expanded milestone schedule has also been developed for outstanding Project activities.

Table 17 Expanded Milestone Schedule

Milestone	Baseline Schedule due Date	Planned Completion Date
General Project		
Compliance with the TSO(1)	November 11, 2021	September 02, 2022
Water Reclamation Facility		
Begin Construction	August 08, 2019	March 20, 2020 (Actual)
Deliver 90 Percent Design	October 24, 2019	March 31, 2020 (Actual)
Substantial Completion	November 11, 2021	September 02, 2022
Final Completion	June 09, 2022	October 31, 2022
Conveyance Facilities		
Deliver 90 Percent Design	October 15, 2019	February 10, 2020 (Actual)
Deliver 100 Percent Design	December 17, 2019	June 15, 2020 (Actual)
Bid Advertisement	February 21, 2020	June 16, 2020 (Actual)
Award Construction Contract	May 08, 2020	September 22, 2020
Substantial Completion	September 17, 2021	March 30, 2022
Final Completion	November 19, 2021	June 01, 2022
Recycled Water Facilities		
Select Preferred Injection Area	May 28, 2019	June 17, 2020 (Actual)
Deliver 30 Percent Design	August 04, 2020	December 01, 2021
Deliver 60 Percent Design	November 10, 2020	March 09, 2022
Deliver 90 Percent Design	February 16, 2021	June 15, 2022
Deliver 100 Percent Design	April 27, 2021	August 24, 2022
Award Construction Contract	July 21, 2021	November 16, 2022
Substantial Completion	April 21, 2022	September 20, 2023
Final Completion	June 21, 2022	November 15, 2023

Notes:
(1) The TSO requires compliance with full secondary treatment by February 28, 2023.

Section 5

DESIGN AND PROCUREMENT

5.1 Design Status

No new design contracts for the Project were executed in Q4 Fiscal Year 2019/2020. A summary of the existing design contracts is included in Table 18 below.

Table 18 Procurement Status (through June 2020)

Project Name	Current Contract Amount	Amount Expended	30%	60%	90%	100%	Final
WRF	$74,926,725	$11,255,345	✓	✓	✓	✓	NA
Conveyance Facilities	$2,050,387(1)	$1,807,054	✓	✓	✓	✓	✓
Recycled Water Facilities	$0	$0					

Notes:
(1) The total value of the Water Works Engineers is $2,052,387, but includes $182,680 for engineering services during construction ($1,867,707 for design)

5.2 Procurement

No design or design-build contract procurements were performed in Q4 FY 2019/2020. Table 19 presents a summary of the procurement activity for the Project.

Table 19 Procurement Status (through June 2020)

Project Name	Circulate Request for Proposals	Proposal Opening Date	Council Award Date	Notice to Proceed Date	Consultant
WRF	January 24, 2018	May 8, 2018	October 23, 2018	November 01, 2018	Overland Contracting (Filanc-Black & Veatch)
Conveyance Facilities	January 31, 2017	March 8, 2017	November 14, 2017	November 15, 2017	Water Works Engineers
Recycled Water Facilities	Design Engineer to be Selected in 2020				

Section 6

CONSTRUCTION STATUS

6.1 Construction Summary

During Q4 Fiscal Year 2019/2020, construction began for the WRF. Table 20 presents a summary of project construction progress and costs through June 2020.

Table 20 Project Construction Costs

Project Name	Amount Expended	Initial Contract Amount	Current Contract Amount	% Change in Contract Amount
WRF	$11,255,345	$67,234,512	$74,926,725	11.4
Conveyance Facilities	$0	$0	$0	0
Recycled Water Facilities	$0	$0	$0	0
Construction Total	**$11,255,345**	**$67,234,512**	**$74,926,725**	**11.4**

6.2 Upcoming Traffic Control

6.2.1 Planned Impacted Areas

As the Conveyance Facilities component of the Project has not yet started construction, no traffic control activities are planned at this time.

6.2.2 Hours of Planned Lane/Road Closures

As the Conveyance Facilities component of the Project has not yet started construction, no lane or road closures are planned at this time.

6.3 Construction Safety

The Project safety goal is zero reportable incidents. There has been a total of zero reported incidents through June 2020.

Section 7

OTHER PROGRAM ACTIVITIES

7.1 Public Outreach

In April 2020, the City launched a new website as the online hub of Project documents, informational materials, and construction information. Since this time, the City and Program Manager have worked to make sure that the information on the website is kept as up to date as possible. The City is also currently developing new content targeted as addressing the safety of potable reuse and the City's new enhanced source control program (ESCP). This new content will be uploaded to the website sometime in Q1 Fiscal Year 2020/2021.

7.2 Permitting Activities

Permit compliance is an important aspect of the Project. The current permitting activities include:

- DDW:
  - The Program Manager delivered an initial Draft of the Title 22 Engineering Report to the City for review in June 2020. The revised draft, including comments from City staff, will be submitted to DDW in July 2020.
- Caltrans:
  - Continued working with Caltrans to obtain the encroachment permit necessary to construct the Conveyance Facilities pipelines.
- CDFW:
  - Obtained the Final SAA from CDFW on July 14, 2020.

7.3 Funding Status

- Continued to support CWSRF's technical, legal, and financial reviews. The City anticipates signing a loan agreement with CWSRF by the end of 2020.

7.4 City Operations Activity

The current City Operations activities include:

- Significant City Operations activities are not anticipated until start-up of the WRF begins in early 2022.

Section 8

PROJECT DETAILS

8.1 Water Reclamation Facility

8.1.1 Design/Build

In October 2018, the City executed a contract with Overland Contracting consisting of a joint venture of Filanc and Black & Veatch (i.e., design-build team) for design and construction of the WRF located at the South Bay Boulevard site. The WRF will be delivered using the design-build process.

8.1.2 Project Scope

The scope of this element of the Project includes a preliminary, secondary, and advanced treatment facilities. The secondary treatment processes will consist of a MBR and have the ability to exceed the anticipated discharge requirements for the City's new National Pollution Discharge Elimination System (NPDES) permit. The advanced treatment facilities include RO and Ultraviolet Advanced Oxidation Process (UVAOP). Purified water from the advanced treatment facilities will be injected into the Lower Morro Groundwater Basin.

8.1.3 Current Progress

The design-build team delivered the IFC drawings and specifications in May 2020 and began construction at the South Bay Boulevard site began in late March 2020.

8.1.4 Project Challenges

The City will be working with the design-build team over the next quarter to negotiate the costs associated with the schedule issues caused by the CDFW SAA process and determining responsibility for the cost of additional work associated with the soil slip.

Table 21 WRF Performance Measures

Performance Measures	Target	Current	Status
Construction Cost [(1),(2)]	$67.2M	$74.9M	
Construction Contingency[(3),(4)]	$9.2M	$1.5M	

Notes:
(1) Project budget and current contract amount (≤5% over target = Green, between 5% and 10% over target = Yellow, >10% over target = Red).
(2) The GMP includes costs for both design and construction of the WRF.
(3) Project budget and current amount (≤50% of target = Green, between 0% and 50% of target = Yellow, ≤0% of target = Red).
(4) The Program Manager initially allocated $6.2 million for contingency for the WRF component of the project. During Q3 Fiscal Year 2019/2020, and additional $2.9 million in contingency was added to the budget to cover Amendment No. 3. With execution of Amendment No. 1, 2, and 3, $7.7 million has been moved from contingency to the GMP leaving $1.5 million in contingency.

Table 22 WRF Construction Summary

Schedule			
Request for Bid / Bid Advertisement			January 24, 2018
Bid Opening Date			May 08, 2018
Contract Award / Council Award Date			October 23, 2018
Notice to Proceed (Design)			November 05, 2018
Notice to Proceed (Construction)			March 20, 2020
Original Final Completion Date			October 01, 2021
Original Duration (Non-Working Days)			1,061
Days Changed by Change Order			336
Actual Final Completion Date (including Non-Working Days)			October 31, 2022
Schedule Percent Complete			41.4%
Budget			
Engineer's Estimate (Construction Cost + 10% Construction Contingency)			$73,475,845
Award Amount (including Design Cost)			$67,234,512
Change Order Total			$7,692,213
Current Contract Value			$74,926,725
Percent Change			11.4%
Work Completed			
Actual Cost -to-Date			$11,255,345
Percent Complete (Percent Expended)			15.0%
Construction Oversight Statistics			
	PCOs	COs	NOPCs
Total Received	74	N/A	5
Total Approved	N/A	44(1)	2(2)
Total Pending	24	N/A	3(3)
Average Turnaround (calendar days)	N/A	N/A	N/A

Acronym List:
PCO – Proposed Change Order; CO – Change Order; NOPC – Notice of Potential Claim
Notes:
(1) 44 PCOs have been approved and are reflected in Amendment No. 1, 2, and 3 to the design-build agreement.
(2) Two (2) notice of potential claims are addressed with the PCOs.
(3) The City has received a letter from the contractor regarding their right to claim for the schedule issues created by CDFW, COVID-19 impacts, and the soil slip that occurred during grading activities.

8.2 Conveyance Facilities

8.2.1 Designer

In November 2017, the City executed a contract with WWE for design and engineering support for the facilities necessary to connect the existing WWTP and the new WRF.

8.2.2 Contractor

This element of the Project is being delivered via a conventional design-bid-build procurement process. The Conveyance Facilities design has been completed and this component of the

Project is currently being advertised for bidding. The City anticipates opening bids on August 12, 2020.

8.2.3 Project Scope

The Conveyance Facilities originally included the design of approximately 3.5 miles of pipelines and a lift station located near the existing WWTP. The pipelines include two raw wastewater force mains and a wet weather/brine discharge force main. Several changes to the Conveyance Facilities have occurred since the contract was executed with WWE including the addition of a second, smaller lift station near the intersection of Main Street and Highway 1 and the addition of the potable reuse transmission main to either the east or west injection site.

8.2.4 Current Progress

In May 2020, WWE delivered the 100 percent design submittal and this component of the Project is currently in the bidding phase.

8.2.5 Upcoming Activities

The City intends to open bids for this component of the Project in August 2020 and award in September 2020.

8.2.6 Project Challenges

The City continues to work with PG&E and Vistra to secure the easements necessary to construct the pipelines in the City's existing bike path and replace the force main from Lift Station 2. The City is also working closely with CDFW and Caltrans to secure the necessary SAA and encroachment permit, respectively.

Table 23 Conveyance Facilities Performance Measures

Performance Measures	Target	Current	Status
Construction Cost (1)	$0.0M	$0.0M	
Construction Contingency(2)	$2.5M	$0.0M	
Number of Feet of Pipelines Constructed(2)	18,500 LF	0 LF	
Number of Days of Full Road Closures(1)	0 Days	0 Days	
Number of Hours of Night Work	0 Hours	0 Hours	

Notes:
(1) Project budget and current contract amount (≤5% over target = Green, between 5% and 10% over target = Yellow, >10% over target = Red).
(2) Project budget and current amount (≤50% of target = Green, between 0% and 50% of target = Yellow, ≤0% of target = Red).

Table 24 Conveyance Facilities Summary

Schedule					
Request for Bid / Bid Advertisement				NA	
Bid Opening Date				NA	
Contract Award / Council Award Date				NA	
Notice to Proceed for Construction				NA	
Original Final Completion Date				NA	
Original Duration (Non-Working Days)				NA	
Days Changed by Change Order				0	
Actual Final Completion Date (including Non-Working Days)				NA	
Schedule Percent Complete				0%	
Budget					
Engineer's Estimate (Construction Cost + 10% Construction Contingency)				$26,657,000	
Award Amount				$0	
Change Order Total				$0	
Current Contract Value				$0	
Percent Change				0%	
Work Completed					
Actual Cost -to-Date				$0	
Percent Complete (Percent Expended)				0%	
Length of Pipe Installed (actual to date / planned total)				0 LF / 18,500 LF	
Construction Management Statistics					
	RFIs	Submittals	PCOs	COs	NOPCs
Total Received	0	0	0	0	0
Total Responded To	0	0	0	0	0
Total Pending	0	0	0	0	0
Average Turnaround (calendar days)	0	0	N/A	N/A	N/A

Notes:
Acronym List:
RFI – Request for Information; PCO – Proposed Change Order; CO – Change Order; NOPC – Notice of Potential Claim

8.3 Recycled Water Facilities

8.3.1 Designer

Procurement activities for the designer for the Recycled Water Facilities have not yet been started, but it is anticipated that design will begin in 2020 following completion of the Phase 1, Phase 2, and Phase 3 hydrogeological work by GSI.

8.3.2 Contractor

This element of the Project is being delivered via a conventional design-bid-build procurement process. The Recycled Water Facilities are currently under design and will begin construction in the spring of 2020.

8.3.3 Project Scope

Since the potable reuse pipeline from the WRF to the selected injection site was moved into WWE's scope for design of the Conveyance Facilities, this element of the Project consists primarily of full-scale injection wells at either the west or east injection sites.

8.3.4 Current Progress

Since beginning work in November 2018, GSI has completed several of the tasks necessary to inject purified water with a series of injection wells in the Lower Morro Groundwater Basin. To this end, GSI has:

- Installed groundwater monitoring devices in all of the City's active production wells and seawater wells.
- Utilized the numerical groundwater model of the Lower Morro Groundwater Basin for particle tracking and solute transport modeling.
- Characterized the Eastern (Narrows) area of the basin with cone penetration testing (CPT), characterized the hydrogeological characteristics of the Narrows area with installation of a monitoring well and conducting aquifer testing.
- Began coordination with Vistra for the evaluation of the western injection site through use of an injection well.
- Developed a draft report that recommends the Western injection area as the preferred injection location.
- Determined that the Morro Bay Mutual Water Company (MBMWC) well is not sufficient for use as a pilot injection well.

In June 2020, GSI delivered the Final TM summarizing the characterization of the Eastern and Western injection areas and confirming a preferred injection location. GSI's analysis indicates that the Western injection area is preferred for the following reasons:

- Higher transmissivity exists in the Western area compared to the Narrows area.
- Retention times are longer from the Western area than from the Narrows area.
- Injection wells located in the Western project area would provide greater mitigation against seawater intrusion during dry periods.
- Western area is undeveloped, potentially resulting in fewer constructability issues.
- The potable reuse pipeline alignment is immediately adjacent to the Western area.

The City is moving forward with pursuing the Western injection area exclusively.

8.3.5 Upcoming Activities

Following delivery of the Final TM, GSI began modeling a number of alternative scenarios aimed at maximizing the groundwater retention time by varying the volume of purified water injected and later extracted. Groundwater retention time is critical for permitting with DDW. While all the work done by GSI has shown that the total flow to the WRF can be injected into the aquifer (i.e., 825c acre-feet per year [AFY]), the ability to initially show longer retention times to DDW will aid the permitting process.

Following the additional modeling effort, GSI recommends a longer-term pumping test using City wells, pilot injection testing, and geophysical characterization of a bedrock ridge, and careful site-selection of potential injection well.

8.3.6 Project Challenges

The City is currently using the eminent domain process to acquire the land from Vistra necessary to construct the injection wells. The pre-possession hearing will occur on July 3`0, 2020.

Table 25 Recycled Water Facilities Performance Measures

Performance Measures	Target	Current	Status
Construction Cost[(1)]	$0.0M	$0.0M	
Construction Contingency[(2)]	$0.3M	$0.0M	

Notes:
(1) Project budget and current contract amount (≤5% over target = Green, between 5% and 10% over target = Yellow, >10% over target = Red).
(2) Project budget and current amount (≤50% of target = Green, between 0% and 50% of target = Yellow, ≤0% of target = Red).

Table 26 Recycled Water Facilities Summary

Schedule					
Selection of the Injection Site					NA
Request for Bid / Bid Advertisement					NA
Bid Opening Date					NA
Contract Award / Council Award Date					NA
Notice to Proceed for Construction					NA
Original Final Completion Date					NA
Original Duration (Non-Working Days)					NA
Days Changed by Change Order					0
Actual Final Completion Date (including Non-Working Days)					NA
Schedule Percent Complete					0%
Budget					
Engineer's Estimate (Construction Cost + 10% Construction Contingency)					$3,300,000
Award Amount					$0
Change Order Total					$0
Current Contract Value					$0
Percent Change					0%
Work Completed					
Actual Cost -to-Date					$0
Percent Complete (Percent Expended)					0%
Work Completed					
	RFIs	Submittals	PCOs	COs	NOPCs
Total Received	0	0	0	0	0
Total Responded To	0	0	0	0	0
Total Pending	0	0	0	0	0
Average Turnaround (calendar days)	0	0	N/A	N/A	N/A

Acronym List:
RFI – Request for Information; PCO – Proposed Change Order; CO – Change Order; NOPC - Notice of Potential Claim