



City of Morro Bay
Water Reclamation Facility Project

QUARTERLY REPORT DECEMBER 2019

FINAL | January 2020





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

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Abbreviations

APE	Area of Potential Effect
BDR	Basis of Design Report
BOD	Biochemical Oxygen Demand
CCC	California Coastal Commission
CDP	Coastal Development Permit
CDR	Concept Design Report
CEQA	California Environmental Quality Act
CPT	Cone Penetration Test
CPUC	California Public Utilities Commission
CWSRF	Clean Water State Revolving Fund
DDW	Division of Drinking Water
Design Build Team	Filanc and Black & Veatch
EPA	Environmental Protection Agency
ESCP	Enhanced Source Control Program
ESDC	engineering service during construction
FEIR	Final Environmental Impact Report
GMP	Guaranteed Maximum Price
IPR	Indirect Potable Reuse
IUP	Intended Use Plan
IWS	Industrial Waste Survey
KPI	Key Performance Indicator
MBPFC	Morro Bay Public Facilities Corporation
MBR	Membrane Bioreactor
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NPDES	National Pollution Discharge Elimination System
NTP	notice to proceed
PA	Programmatic Agreement
PCO	Potential Change Order
PPP	Pollution Prevention Program
Program Manager	Carollo Engineers
Project	Water Reclamation Facility Project
RWQCB	Regional Water Quality Control Board
SHPO	State Historic Preservation Office
SPI	Schedule Performance Index
TSO	Time Schedule Order
TSS	Total Suspended Solids

USACE	United States Army Corps of Engineers
USBR	United States Bureau of Reclamation
UVAOP	Ultraviolet Advanced Oxidation Process
Vistra	Vistra Energy
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. City staff and Carollo (Program Manager) are actively working with the design-build team and the pipeline designer to advance the design of the Water Reclamation Facility (WRF) and Conveyance Facilities, respectively.

During the last quarter, the design-build team and the pipeline designer advanced the 90-percent design deliverable for the WRF and Conveyance Facilities, respectively. The 90-percent design deliverables for the WRF and Conveyance Facilities components of the Project will be delivered in early February 2020 and late January 2020, respectively. Construction for the WRF component of the Project is anticipated to start in February 2020 following the completion of the Environmental Protection Agency's (EPA's) environmental review, which is required by the Water Infrastructure Finance and Innovation Act (WIFIA) program. The environmental review is being held-up by consultation with the United States Fish and Wildlife Service (USFWS). Construction for the Conveyance Facilities component of the Project is anticipated to start in July 2020.

On July 11, 2019, the California Coastal Commission (CCC) approved the City's Coastal Development Permit (CDP) with special conditions. On July 19, 2019, the City received a Notice of Intent (NOI) to issue the CDP 3-19-0463 that included several conditions that must be met before either the CDP can be issued or before construction can be started. In order to receive the CDP, the City was required to satisfy Special Condition 1 (Revised Final Plans) and Special Condition 2 (Construction Plans). Additional conditions, including Special Condition 6 (Recycled Water Management Plan) and Special Condition No. 13 (Other Authorizations), must be satisfied before construction of the Project can begin. In October 2019, the Program Manager finalized the documents for Special Condition No. 1, No. 2, and No. 6 with CCC staff and the fully executed CDP was received in November 2019. The City will deliver the final Special Condition No. 13 document in January 2020.

Since the City is receiving federal funds through both the WIFIA and Clean Water State Revolving Fund (CWSRF) programs, the Project is subject Section 106 consultation with the State Historic Preservation Office (SHPO). The City delivered the programmatic agreement (PA) to SHPO in the fall of 2019 and met with SHPO staff in October 2019 in Sacramento to finalize the PA. The City received the executed agreement from SHPO in December 2019.

City staff and the Program Manager have been working closely with the EPA's WIFIA staff to complete the Section 7 consultation process with the USFWS regarding the California Red Legged Frog (CRLF). The City and Program Manager have developed the avoidance measures and provided the information necessary for the consultation to be completed. USFWS has indicated that they will make every effort to comply with the EPA's request to expedite completion of the formal consultation by January 22, 2020. Within a week of closing the consultation, the EPA will close their environmental review and the City can issue a notice to proceed (NTP) for construction to the design-build team. Closing the EPA's environmental review is the last obstacle to issuing a construction NTP and beginning construction of the WRF at the South Bay Boulevard site.

Table 1 summarizes some of the key accomplishments and critical challenges identified for the Project through December 2019.

Table 1 Project Accomplishments and Challenges

Project Component	Key Accomplishments	Critical Challenges	Actions to Overcome Challenges	Likely Outcomes
General Project	Receipt of the executed PA from SHPO.			
	Receipt of the fully-executed CDP.			
	Execution of the purchase agreement for the Tri-W property and right of entry agreement with the Shepherd Trust, which gives the City the access needed to start construction of the WRF.			
Water Reclamation Facility	Continued development of the 90-percent design deliverable.			
		As design has continued, additional PCOs have been identified that are being evaluated by the City.	In order to minimize the impacts of future PCOs, the City needs to critically evaluate the need for PCOs and identify cost-saving measures to offset cost increases.	The overall impact of the PCOs will lead to an increase in the Guaranteed Maximum Price (GMP), but every effort will be made to maintain cost increases within the contingency identified for the WRF component of the Project.
		Missing the 12-month construction Notice to Proceed (NTP) milestone due to CRLF issues..	Complete the consultation with United States Fish and Wildlife (USFW) as expeditiously as possible.	Missing the 12-month NTP milestone in October 2019 will result in some increase to the DB team's GMP as a result of delay and escalation costs.

Project Component	Key Accomplishments	Critical Challenges	Actions to Overcome Challenges	Likely Outcomes
Conveyance Facilities	Continued development of the 90-percent design deliverable.			
		Expediting completion of the final design for the Conveyance Facilities.	Possible elimination of intermediate design deliverables.	Further delays in the start of construction could impact the start-up of the WRF and delay compliance with the time schedule order (TSO).
		Receipt of easements necessary to construct the pipelines in the City's existing bike path.	Work closely with Vistra, 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		Schedule recovery due to issues access Vistra and PG&E property.	Work with GSI to expedite the completion of the Phase 2 hydrogeology work.	Without expediting the schedule, the completion of the injection wells will be delayed (does not impact compliance with the TSO).

1.2 Quarterly Budget Revision

The original \$126 million baseline budget was developed in June 2018 (Q4 Fiscal Year 2017/2018) and was used as the basis for the rate study prepared by Bartle Wells Associates (Bartle Wells). 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 Q3 Fiscal Year 2019/2020 (March 31, 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)	Current Fiscal Year (Q4 FY 18/19)	Quarterly Reconciliation (Q1 FY 19/20)	Quarterly Reconciliation (Q2 FY 19/20)
Water Reclamation Facility	\$62,414,000	\$74,059,000	\$72,891,000	\$72,598,000	\$72,231,000
Conveyance Facilities	\$21,087,000	\$27,108,000	\$28,864,000	\$28,524,000	\$29,224,000
Recycled Water Facilities	\$8,593,000	\$5,366,000	\$5,250,000	\$5,212,000	\$5,353,000
General Program	\$24,403,000	\$11,614,000	\$11,801,000	\$11,625,000	\$11,701,000
Construction Contingency	\$9,444,000	\$6,450,000	\$7,132,000	\$7,131,000	\$7,364,000
Total	\$125,941,000	124,597,000	\$125,938,000	\$125,090,000	\$125,873,000

Notes:

(1) Breakdown of the current contingency (\$7,364,000) is as follows: WRF = \$4,605,000; Conveyance Facilities = \$2,458,000; and Recycled Water Facilities = \$300,000

Changes to the Project budget since the completion of the fiscal year budget reconciliation in Q1 Fiscal Year 2018/2019 can be attributed to the following:

- Addition of biological monitoring and mitigation to the Conveyance Facilities and Recycled Water Facilities components of the Project associated with avoidance of the CRLF
- Addition of pre-construction archeological investigations outlined in the PA for the Conveyance Facilities and Recycled Water Facilities components of the Project
- Addition of archeological and tribal representative monitoring for the Conveyance Facilities and Recycled Water Facilities components of the Project

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 3. The Project's performance is also illustrated graphically in Figures 1 and Figure 2.

Table 3 WRF Project Performance Measures

Performance Measure	Data	Baseline (Q4FY 18/19)	Current (Q1 FY 19/20)	Delta	Status	🟢	🟡	🔴
1: Total Project Costs	Total Project Projected Cost at Completion versus the Baseline Budget (budget as of 12/31/19)	\$125.9 M	\$125.9 M	0.0%	🟢	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 12/31/19)	\$77.3 M	\$76.8 M	-0.6%	🟢	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 12/31/19)	\$31.3 M	\$31.7 M	1.3%	🟢	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 12/31/19)	\$5.6 M	\$5.7 M	1.8%	🟢	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 12/31/19)	\$11.7 M	\$11.7 M	0.0%	🟢	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 12/31/19)	1.00	1.14	0.14	🟢	>= 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 12/31/19)	1.00	0.92	-0.08	🟡	>=1.00	0.99 to 0.80	<0.80
4: Conveyance Pipeline Installed	Feet of conveyance pipeline installed (thru 12/31/19)	18,500 LF	0.0 LF	0.0%	🟢	<= 5%	> 5% and <=7.5%	> 7.5%
5: Compliance Date Countdown	Days Remaining to Compliance Date (as of 12/31/19)	1,155 days	832 days	-323 days	🟡	<= 365 days	364 days and 180 days	> 179 days

Notes:

(1) Delays associated with access to Vistra and PG&E property have resulted in schedule delays impacting hydrogeology work and completion of the Conveyance Facilities final design.

Section 3

PROJECT COSTS

3.1 Project Budget

The overall budget status for the Project is summarized in Table 4. 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 4 shows the total amount of work currently under contract and provides a summary of total charges.

Table 4 WRF Project Overall Budget Status (thru December 2019)

Summary of Total WRF Project Cost	
Original Baseline WRF Project Budget ⁽¹⁾	\$125,941,000
Current Fiscal Year WRF Project Budget (as of 6/30/19) ⁽²⁾	\$125,884,000
Current WRF Project Budget (as of 12/31/19) ⁽³⁾	\$125,873,000
Budget Percent Change (Current versus Fiscal Year)	0.0%
Total Expenditures for December 2019 ⁽⁴⁾	\$47,064
Total Expenditures to Date (thru 12/31/19 invoices)	\$15,476,603
Percent of Current WRF Project Budget Expended	12.30%
Summary of Contracted Work	
Total Contracted Amount	\$80,084,640
Percent of Current WRF Project Budget Contracted	63.6%
Total Contracted Amount Expended	\$13,475,585
Percent of Contracted Amount Expended	16.8%
Remaining WRF Project Contracted Amount	\$66,609,055

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)
- (4) Monthly expenditure is significantly less than expected due to the timing of the preparation of this report. Monthly expenditures do not include invoices from the design-build team (Overland Contracting) or Program Manager (i.e., Carollo).

3.2 Project Cash Flow

Figure 1 presents the projected and actual expenditures for the Project through December 2019 compared to the Fiscal Year 2019/2020 budget developed at the end of Q4 Fiscal Year 2018/2019. 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 December 2019. 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. It should be noted that the cash flow in Figure 1 reflects the latest schedule revisions as a result of delays in completion of the hydrogeological work due to issues with access to the Vistra property and delays in receipt of the CDP. 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.

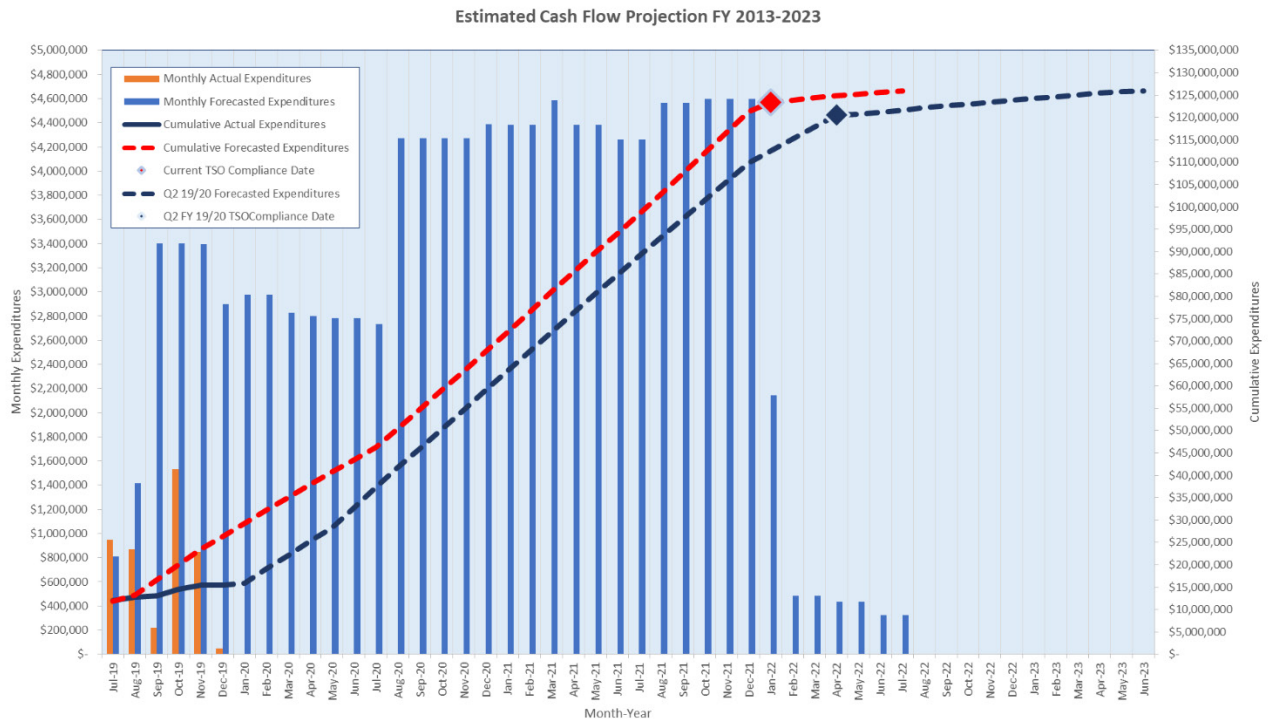


Figure 1 Project Cash Flow Projections and Actual Expenditures

A breakdown of the current Q1 Fiscal Year 2019/2020 budget by fiscal year is included in Table 5.

Table 5 WRF Project Cost Fiscal Year Projections

Project	Actual Expenditures to Date	Remainder FY 19/20	FY 20/21	FY 21/22	FY 22/23	Total Project
General Project	\$7,935,000	\$918,000	\$1,137,000	\$855,000	\$855,000	\$11,701,000
WRF	\$6,206,000	\$13,545,000	\$31,429,000	\$25,656,000	\$-	\$76,837,000
Conveyance Facilities	\$1,018,000	\$2,706,000	\$18,907,000	\$9,050,000	\$-	\$31,682,000
Recycled Water Facilities	\$317,000	\$138,000	\$622,000	\$733,000	\$3,842,000	\$5,653,000
Total	\$15,476,000	\$17,307,000	\$52,095,000	\$36,294,000	\$4,697,000	\$125,873,000

Notes:

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

3.3 Project Cost Summary

Table 6 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 6 WRF Project Cost Summary (through December 2019)

Project	Actual Expenditures to Date	Total Contracted Cost	Contract Expended to Date (%)	Total Project Cost (Est.) ⁽¹⁾	Cost Expended to Date (%)
General Project	\$5,992,000	\$8,780,000	68.2	\$11,701,000	51.2
WRF	\$6,230,000	\$68,895,000	9.0	\$76,837,000	8.1
Conveyance Facilities	\$1,018,000	\$2,052,000	49.6	\$31,682,000	3.2
Recycled Water Facilities	\$236,000	\$358,000	65.9	\$5,653,000	4.2
Total⁽²⁾	\$13,476,000	\$80,085,000	16.8	\$125,873,000	10.7

Notes:

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

(2) Actual total expenditures are equal to \$15,476,000 (Table 4), but includes \$2,000,000 of 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 7 General Project Activities Cost Summary (through December 2019)

Consultant / Contractor	Actual Expenditures to Date	Total Contracted Cost	Contract Expended to Date (%)
ESA	\$412,080	\$412,920	99.8
Far Western	\$124,212	\$130,113 ^{(1),(2)}	95.5
Kestrel	\$194,823	\$219,872	88.6
Bartle Wells Associates	\$61,908	\$64,000	96.7
JoAnn Head Land Surveying	\$97,693	\$102,644	95.2
JSP Automation	\$21,778	\$63,500	34.3
Carollo Engineers, Inc. ⁽³⁾	\$1,765,115	\$4,280,812	41.2
Total	\$2,677,608	\$5,273,861	50.8

Notes:

(1) Cost includes planned or anticipated amendments to active consultant agreements including a \$5,469 amendment that will be executed in January 2020 by City staff.

(2) An additional amendment for pre-construction investigations for the Conveyance Facilities component of the project is currently being negotiated.

(3) Total estimate at completion for Program Management/Construction Management is projected at \$9.8 million.

Table 8 WRF Cost Summary (through December 2019)

Consultant / Contractor	Actual Expenditures to Date	Total Contracted Cost	Contract Expended to Date (%)
Overland Contracting	\$6,205,848	\$68,870,572 ⁽¹⁾	9.0
Total	\$6,205,848	\$68,870,572	9.0

Notes:

(1) Cost includes final value for Amendment No. 1 of \$1,636,060 and the original contract value of \$67,234,512.

Table 9 Conveyance Facilities Cost Summary (through December 2019)

Consultant / Contractor	Actual Expenditures to Date	Total Contracted Cost	Contract Expended to Date (%)
Water Works Engineers (WWE)	\$1,018,474	\$2,052,387	49.6
Total	\$1,018,474	\$2,052,387	49.6

Table 10 Recycled Water Facilities Cost Summary (through December 2019)

Consultant / Contractor	Actual Expenditures to Date	Total Contracted Cost	Contract Expended to Date (%)
GSI	\$387,020	\$508,947	76.0
Middle Earth	\$6,570	\$6,810	96.5
Total	\$393,590	\$515,757	76.3

3.5 Change Orders

In May 2019, City staff and the Program Manager presented seventeen (17) potential change orders (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 guaranteed maximum price (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. While no new change orders were approved in Q2 FY 2019/2020, the City and Program Manager have been negotiating several potential change orders (PCOs) with the design-build team that will be brought to the Public Works Advisory Board (PWAB) in February 2020 for review and the City Council in March 2020 for approval. The seventeen (17) approved change orders are summarized in Table 11.

Table 11 Summary of Approved Change Orders

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 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	IPR Product Water Tank Bypass	\$(26,087)
Total			\$1,636,060

3.6 Reimbursement from Funding Agencies

In 2017, the City was awarded a \$10.3 million planning loan from the CWSRF. To date, the City has applied for a three reimbursement requests that will exhaust the planning loan. A summary of these requests are summarized in Table 12.

Table 12 Summary of Reimbursement Requests

Agency	Description	Date	Value
State Water Board	CWSRF Planning Loan	December 2018	\$289,595
State Water Board	CWSRF Planning Loan	November 2019	\$6,431,925
State Water Board	CWSRF Planning Loan	December 2019	\$3,860,506
Total			\$10,582,026

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 December 2019. 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 13 are the milestones in the TSO.

Table 13 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	June 17, 2020	-
Completion of WRF Improvements with Completion Report	December 30, 2022	April 11, 2022	-
Full compliance with final effluent limitations	February 29, 2023	April 11, 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.



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

Table 14 Expanded Milestone Schedule

Milestone	Baseline Schedule due Date	Planned Completion Date
<u>General Project</u>		
Compliance with the TSO ⁽¹⁾	November 11, 2021	April 11, 2022
<u>Water Reclamation Facility</u>		
Begin Construction	August 08, 2019	February 03, 2020
Deliver 90 Percent Design	October 24, 2019	February 03, 2019
Substantial Completion	November 11, 2021	April 11, 2022
Final Completion	June 09, 2022	October 27, 2022
<u>Conveyance Facilities</u>		
Deliver 90 Percent Design	October 15, 2019	January 24, 2020
Deliver 100 Percent Design	December 17, 2019	March 27, 2020
Bid Advertisement	February 21, 2020	April 01, 2020
Award Construction Contract	May 08, 2020	June 17, 2020
Substantial Completion	September 17, 2021	October 22, 2021
Final Completion	November 19, 2021	December 24, 2022
<u>Recycled Water Facilities</u>		
Select Preferred Injection Area	May 28, 2019	February 28, 2020
Deliver 30 Percent Design	August 04, 2020	July 09, 2021
Deliver 60 Percent Design	November 10, 2020	October 15, 2021
Deliver 90 Percent Design	February 16, 2021	January 21, 2022
Deliver 100 Percent Design	April 27, 2021	April 01, 2022
Award Construction Contract	July 21, 2021	June 24, 2022
Substantial Completion	April 21, 2022	April 28, 2023
Final Completion	June 21, 2022	June 23, 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 Q2 Fiscal Year 2019/2020. A summary of the existing design contracts is included in Table 15 below.

Table 15 Procurement Status (through December 2019)

Project Name	Current Contract Amount	Amount Expended	30%	60%	90%	100%	Final
WRF	\$4,821,229 ⁽¹⁾	\$6,205,849	✓	✓		NA	
Conveyance Facilities	\$1,869,707 ⁽²⁾	\$1,018,473	✓	✓			
Recycled Water Facilities	\$0	\$0					

Notes:

(1) The total value of the Overland Contracting contract is \$68,870,572, but includes \$4,821,229 allocated for design.

(2) The total value of the Water Works Engineers contract is \$2,052,387, but includes \$182,680 for engineering services during construction (ESDC).

5.2 Procurement

No design or design-build contract procurements were performed in Q2 FY 2019/2020. Table 16 presents a summary of the procurement activity for the Project.

Table 16 Procurement Status (through December 2019)

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 Q2 Fiscal Year 2019/2020, design activities continued for the WRF component of the Project. However, construction for the WRF is not anticipated to start until early February 2019. Table 17 presents a summary of project construction progress and costs through December 2019.

Table 17 Project Construction Costs

Project Name	Amount Expended	Initial Contract Amount	Current Contract Amount	% Change in Contract Amount
WRF	\$0	\$62,413,335	\$64,281,242	3.0
Conveyance Facilities	\$0	\$0	\$0	0
Recycled Water Facilities	\$0	\$0	\$0	0
Construction Total	\$0	\$62,413,335	\$64,281,242	3.0

Notes:

(1) The total value of the Overland Contracting contract is \$68,870,572, but includes \$4,821,229 for design.

6.2 Upcoming Traffic Control

6.2.1 Planned Impacted Areas

6.2.2 Hours of Planned Lane/Road Closures

6.3 Construction Safety

The Project safety goal is zero reportable incidents. There has been a total of zero reported incidents through December 2019.

Section 7

OTHER PROGRAM ACTIVITIES

7.1 Public Outreach

In November and December 2019, outreach activities were focused around the underground utility location work (i.e., potholing) for the Conveyance Facilities component of the Project. Information about the work was developed and posted online and given to the Chamber of Commerce for distribution and front desk at City Hall. No calls were received through the Project information line about the underground utility location activities.

To date, contact has been made with about 70 businesses along the Conveyance Facilities pipelines alignment, including one-on-one meetings and pop-ins to drop off Project information. The purpose of the one-on-one meetings is to give businesses a status update and gather business access and operations information that can help inform the development of construction work restrictions and traffic control guidelines. Important information gathered includes parking information, driveway access and off-street circulation, large delivery/pick up vehicle scheduling, hours of operation and peak business times, types of customer traffic (e.g., appointments and walk-ins, vehicle and pedestrian) and point of contact verification.

Currently, the information gathered from the business outreach is being compiled for use by the Conveyance Facilities design engineer in determining construction work restrictions that will be included in the bid packages and used by the contractor to finalize the traffic control plans. During the one-on-one meetings with businesses, it became clear that businesses would like more regular updates about the Project. An e-newsletter will be used to help provide regular updates to stakeholders. The first e-newsletter will be distributed to businesses by the end of January 2020.

The Program Manager's outreach team is preparing a new public website to house project updates, documents and resources. The website will be more user-friendly and will include space for construction information in the future.

A City email address (wrfinfo@morrobayca.gov) has been established alongside the information line (877-MORROBAYH2O) to field stakeholder inquiries.

7.2 Permitting Activities

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

- Continued developing the Enhanced Source Control Program (ESCP) required by the Division of Drinking Water (DDW) for potable reuse projects.
 - Followed-up with businesses that were initially contacted during the Industrial Waste Survey (IWS) but did not receive a reply.
- Consultation with SHPO is needed for compliance with the National Environmental Policy Act (NEPA) required to secure WIFIA and CWSRF funding.

- The City received the final, executed PA from SHPO in December 2019 and is ready to start construction for the WRF portion of the Project.
- The City received a letter from USFWS in October 2019 indicating they did not agree with the EPA's finding to not adversely affect the CRLF. This finding was communicated in a letter sent to USFWS in July 2019. Receipt of this letter extended the consultation process and prevented the EPA from closing their environmental review. In late December 2019, the EPA received a letter from the USFWS indicating they would make every effort to expedite the formal consultation process by January 22, 2020. The City and Program Manager have supported the EPA with USFWS consultation with the following activities:
 - Preparing an initial response letter to the USFWS in October 2019.
 - Participating in numerous conference calls to discuss the details of the consultation process with the EPA and USFWS.
 - Providing additional information to USFWS in December 2019 to complete the consultation process.

7.3 Funding Status

- Coordination with WIFIA staff to facilitate the environmental review and finalize loan terms. The City will be bringing the final loan terms and applicable resolutions to the Morro Bay Public Facilities Corporation (Corporation) and City Council in January 2020.
- Coordination with CWSRF staff to facilitate the environmental, technical and financial review. The City anticipates signing a loan with CWSRF in spring 2020.
- Continued development of the project report for the United States Bureau of Reclamation (USBR) Title XVI Grant Program. The City plans to apply for the Title XVI Grant Program in 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 October 2021.

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 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 60-percent design deliverable in August 2019. The design-build team has continued development of the design and anticipates delivering the 90 percent design deliverable in February 2020.



8.1.4 Upcoming Activities

The next step in the design-build process is the start of construction. In addition, the design-build team is continuing to advance the design and is planning to deliver the 90 percent submittal in November 2019.

8.1.5 Project Challenges

The goal is to move this element of the Project into construction as soon as possible. At this time, the construction is being held-up by the two items are on the critical path for WRF construction. These include issuance of a CDP by the CCC (anticipated October 2019) and completion of the SHPO consultation process (anticipated October 2019).

Table 18 WRF Performance Measures

Performance Measures	Target	Current	Status
Construction Cost ^{(1),(2)}	\$67.2M	\$68.9M	
Construction Contingency ^{(3),(4)}	\$6.2M	\$4.6M	

Notes:

- (1) Project budget and current contract amount ($\leq 5\%$ 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 ($\leq 50\%$ of target = Green, between 0% and 50% of target = Yellow, $\leq 0\%$ of target = Red).
- (4) The Program Manager initially allocated \$6.2 million for contingency for the WRF component of the project. With execution of Amendment No. 1, \$1.6 million has been moved from contingency to the GMP leaving \$4.6 million in contingency.

Table 19 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 for Construction	NA				
Original Final Completion Date	June 09, 2022				
Original Duration (Non-Working Days)	1,316				
Days Changed by Change Order	0				
Actual Final Completion Date (including Non-Working Days)	October 27, 2022				
Schedule Percent Complete	29.6%				
Budget					
Engineer's Estimate (Construction Cost + 10% Construction Contingency)	\$73,475,845				
Award Amount (including Design Cost)	\$67,234,512				
Change Order Total	\$1,636,060				
Current Contract Value	\$68,870,572				
Percent Change	2.4%				
Work Completed					
Actual Cost -to-Date	\$6,205,848				
Percent Complete (Percent Expended)	9.0%				
Construction Management Statistics					
	RFIs	Submittals	PCOs	COs	NOPCs
Total Received	0	0	68	17	1
Total Responded To ⁽¹⁾	0	0	17	17	1
Total Pending	0	0	25	0	1
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

Notes:

- (1) 13 of the PCOs that were reviewed were eventually eliminated or resulted in a no-cost change.

8.2 Conveyance Facilities

8.2.1 Designer

In November 2017, the City executed a contract with Water Works Engineers (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 are currently under design and will begin construction in the summer of 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

WWE, City staff, and Carollo presented the preferred lift station orientation (dual) and the recommended pipeline alignment (west of Highway 1 along Quintana Road) to WRFCAC and the City Council in December 2018 and January 2019, respectively. In June 2019, WWE, City staff, and the Program Manager presented the Final-Draft CDR to both WRFCAC and City Council. WWE delivered the 60 percent design submittal in September 2019 and is currently preparing the 90-percent submittal.






8.2.5 Upcoming Activities

WWE recently completed the utility investigations (i.e., potholing) in November/December 2019. During this time, a total of 82 potholes were completed to support the development of the 90-percent design of the Conveyance Facilities.

8.2.6 Project Challenges

Access to private property has caused delays in this element of the property. Access to the PG&E and Vistra properties is no longer an issue and the field work needed to advance the design of the Conveyance Facilities has been completed. The City is now working to secure the easements necessary to construct the pipelines in the City's existing bike path.

Table 20 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 ($\leq 5\%$ over target = Green, between 5% and 10% over target = Yellow, $>10\%$ over target = Red).
- (2) Project budget and current amount ($\leq 50\%$ of target = Green, between 0% and 50% of target = Yellow, $\leq 0\%$ of target = Red).

Table 21 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)	\$26,475,000
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

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 recharge 800 to 825 acre-feet per year of recycled 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, characterized the hydrogeologic 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.

8.3.5 Upcoming Activities



In the coming months, GSI will complete the evaluation of the western injection site, including aquifer testing, conducting a pilot injection testing program in coordination with the RWQCB and DDW requirements. This injection testing will occur over a period of several weeks and will include tracer, travel time and clogging analyses. Based on results of the injection testing and travel time analyses, the groundwater model will be updated, the results of which will be

incorporated into a summary report, documenting the findings, conclusions and recommendations for full-scale injection well system. We anticipate completing this work by the end of September 2020.

8.3.6 Project Challenges

As mentioned previously, access challenges for the Vistra property have prevented the Recycled Water Facilities from advancing through Phase 3. A work plan was submitted to Vistra in May 2019 and was anticipated that characterization of the west injection area would begin shortly after receipt of the CDP for the Project in November 2019. However, the City has continued to have problems accessing the Vistra property and the Morro Bay Mutual Water Company Well.

Table 22 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 ($\leq 5\%$ over target = Green, between 5% and 10% over target = Yellow, $>10\%$ over target = Red).
- (2) Project budget and current amount ($\leq 50\%$ of target = Green, between 0% and 50% of target = Yellow, $\leq 0\%$ of target = Red).

Table 23 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

