



MORRO BAY  
**OUR WATER**  
RELIABLE. CLEAN. FOR LIFE.



City of Morro Bay  
Water Reclamation Facility Program

## QUARTERLY REPORT - ENDING September 30, 2022

FY 2022-2023 – 1st Quarter  
July 1 through September 30, 2022



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## Executive Summary

“Our Water” is the City of Morro Bay’s (City’s) program to plan and build water and wastewater infrastructure for a sustainable future for the environment, our economy, and the community. This report summarizes key accomplishments and challenges during the first quarter (Q1) of the 2022-23 fiscal year (FY23). It includes information and data on the overall program budget and the status of the individual program components.

### ES.1 Progress During Q1 FY23

The Water Reclamation Facility (WRF) is approximately 96.5 percent complete, and Conveyance Facilities are approximately 94.1 percent complete. The WRF is anticipated to be completed and operational by January 2022, which will achieve compliance with the State’s Time Schedule Order (TSO) that requires full operation of the WRF by February 2023. The Recycled Water Facilities (RWF) component of the program is approximately 10 percent complete and is anticipated to be completed by Spring 2025. WRF major construction efforts are essentially complete while the Conveyance Facilities construction continued to progress significantly in Q1 FY23. The major accomplishments are summarized below.

### ES.2 Budget Status

The current program budget is \$159.84M and \$119.6M has been spent to-date.

### ES.3 Key Q1 FY23 Accomplishments

- The City was awarded a \$9.3 million dollar Title XVI grant from the United States Bureau of Reclamation in August.
- Clean water testing and final fine tuning of the WRF was completed, and it is ready for full startup in October.
- Major Conveyance Facilities construction was completed, and final testing is underway for full startup in October.
- The pilot injection well was successfully installed by Pacific Coast Well Drilling in September.

### ES.4 Challenges and Upcoming Activities

Major construction of the Conveyance Facilities was completed by the end of the quarter to prepare to pump wastewater to the WRF in early October, which will allow Filanc Black & Veatch (FBV) to start up the WRF’s treatment processes and complete the facility in advance of the TSO deadline. The startup and commissioning period for the WRF is expected to take the majority of Q2, and both the WRF and Conveyance Facilities are anticipated to be fully completed in early 2023.

The program team and FBV reached agreement on the value of the delay in Conveyance Facilities completion, and an amendment that includes the delay claim and several outstanding potential change orders (PCOs) will be considered by the City Council at the November 22 meeting. The November 22 meeting will also include an item for Conveyance Facilities changes, and an amendment with Cogstone Resource Management for additional costs related to cultural resource monitoring.

To advance the RWF, injection testing using the pilot injection well will be conducted until the State Water Project (SWP) deliveries temporarily shut down in the beginning of November. Once the SWP is back online, an extended injection testing operation to identify groundwater movement characteristics between the existing monitoring well and the pilot injection well will be conducted to gather information for well design, with construction of the full-scale injection system scheduled to begin in 2024.

## Section 1 – Program Management Summary

### 1.1 Purpose of the Quarterly Progress Report

The WRF program quarterly progress report describes current budget status, funding agency reimbursements, planning/design and construction activities, and project component schedules. Abbreviations used throughout this quarterly progress report are found in Appendix A.

### 1.2 Program Budget

Table 1 shows the current program budget.

Table 1 WRF Program Budget

Program Component	Baseline <sup>(1)</sup>	FY 21/22	Prior Quarter	FY 22/23 and Current Quarter <sup>(2)</sup>	Current % Change from Baseline
WRF Plant	\$62,414,000	\$77,687,023	\$74,697,995	\$79,643,216	28%
Conveyance Facilities	\$21,087,000	\$37,982,000	\$37,365,582	\$39,774,724	89%
RWF	\$8,593,000	\$6,668,000	\$6,668,000	\$9,424,174	10%
General Project	\$24,403,000	\$15,445,000	\$25,362,730	\$30,998,235	27%
Construction Contingency	\$9,444,000	\$6,892,854	\$580,570	Note 2	N/A
<b>Total</b>	<b>\$125,941,000</b>	<b>\$144,674,877</b>	<b>\$144,674,877</b>	<b>\$159,840,349</b>	<b>27%</b>

Notes:

(1) Baseline budget established 4<sup>th</sup> Quarter of Fiscal Year 2017/2018.

(2) The FY 22/23 budget adopted by City Council on June 28, 2022 was \$159,840,349. As of current Q1, FY 22/23, Construction and Overall Program Contingency in the FY 22/23 budget is included within each Program Component with remaining breakdowns as follows: WRF \$1,690,221, Conveyance \$50,475, RWF \$304,549, and General Project \$923,421.

Table 2 shows the initial and current contract values by project component.

Table 2 Project Component Contract History

Project Component	Contractor	Initial Contract Value	Current Contract Value	% Change
<b>WRF Plant</b>		<b>\$67,234,512</b>	<b>\$77,057,880</b>	<b>15%</b>
Design/Build	FBV (Overland)	\$67,234,512	\$77,057,880	15%
<b>Conveyance Facilities</b>		<b>\$33,315,112</b>	<b>\$39,079,160</b>	<b>17%</b>
Design	Waterworks Engineers	\$1,360,565	\$2,540,113	87%
Construction (Anvil Builders)	Anvil Builders	\$31,493,675	\$34,196,581	9%
Permitting	Cogstone, Far Western, KMA	\$460,872	\$2,342,466	408%
<b>RWF</b>		<b>\$707,625</b>	<b>\$1,290,275</b>	<b>82%</b>
Planning and Modeling	GSI Solutions, Inc. (GSI)	\$351,000	\$933,650	166%
Pilot Injection Well Construction	Pacific Coast Well Drillings	\$356,625	\$356,625	--
Injection Wells Construction	TBD	--	--	--

Project Component	Contractor	Initial Contract Value	Current Contract Value	% Change
<b>General Project</b>		<b>\$293,000</b>	<b>\$13,930,201</b>	<b>4654%</b>
Program and Construction Management	Carollo Engineers and Subconsultants <sup>(1)</sup>	\$293,000	\$13,508,401	4510%
City Contracts	Note 2	Note 2	\$421,800	--
<b>Total</b>		<b>\$101,550,249</b>	<b>\$131,551,002</b>	<b>--</b>

Notes:

- (1) Program management costs include permitting, public outreach, funding support, and construction oversight/management.
- (2) Initial City Contract values for previous and/or inactive consultants (such as MKN, Black & Veatch, ESA, and Kestrel) are unknown. Current contract values are shown only for currently active consultants including Bartle Wells Associates, Confluence, and JSP.

### 1.3 Cashflow Projections and Actual Expenditures

Figure 1 shows cashflow projections and actual expenditures through the current period.

Table 3 lists actual expenditures for each program component and the percent of the budget expended.

Table 3 WRF Program Expenditures

Program Component	Previous Total	Current Quarter <sup>(1)</sup>	Total To Date	FY 22/23 and Current Quarter Budget <sup>(2)</sup>	Percent Budget Expended
WRF Plant	\$62,741,784	\$2,354,846	\$65,096,630	\$79,643,216	82%
Conveyance Facilities	\$28,181,593	\$4,766,684	\$32,948,277	\$39,774,724	83%
RWF	\$741,442	\$59,563	\$801,004	\$9,424,174	8%
General Project	\$19,673,305	\$1,084,553	\$20,757,857	\$30,998,235	67%
<b>Total</b>	<b>\$111,338,124</b>	<b>\$8,265,645</b>	<b>\$119,603,769</b>	<b>\$159,840,349</b>	<b>75%</b>

Notes:

- (1) Q4 FY 21/22 total expenditures as tallied on the Accounts Payable Report run on 7/14/2022, which does not include all invoices paid through June 30, 2022 services (to be included with Q1 FY 22/23 report). See Appendix B Note 2 for additional details.
- (2) The FY 22/23 budget adopted by City Council on June 28, 2022 was \$159,840,349.

### 1.4 Program Funding

Table 4 lists WRF program funding sources.

Table 4 WRF Program Funding Sources

Funding Agency	Funding Type	Amount Financed	Initiation Date	Terms
SWRCB – CWSRF Construction Loan	Low interest Loan	\$66,604,638	7/1/2021	0.9%, 30 years
EPA – WIFIA	Low Interest Loan	\$61,700,336	3/9/2020	0.83%, 35 years
SWRCB – CWSRF Planning Loan	Low Interest Loan	\$10,300,000	12/11/2015	0.9%, 30 years
Recycled Water Planning Grant	Grant	\$75,000	9/10/2015	Costs reimbursed upon request
<b>Total</b>		<b>\$138,679,974</b>		

Abbreviations:

CWSRF - Clean Water State Revolving Fund; EPA - Environmental Protection Agency; SWRCB - State Water Resources Control Board; WIFIA - Water Infrastructure Finance and Innovation Act.

Appendix C provides detailed information on funding reimbursements.



## 1.5 Program Schedule Overview

In June 2018, the City received a time schedule order (TSO) from the Regional Water Quality Control Board (RWQCB) that requires the City to achieve full operation of the new WRF by February 2023. The key milestones included in the TSO are included in Appendix D, and the overall program schedule is shown in Figure 2. The current construction progress percent complete to-date per contract spent is 96.5 percent for the WRF and 94.1 percent for Conveyance. Figure 2 shows percent complete as an average between contract spent and scheduled date of completion. The RWF does not currently have a construction progress percent complete to-date.

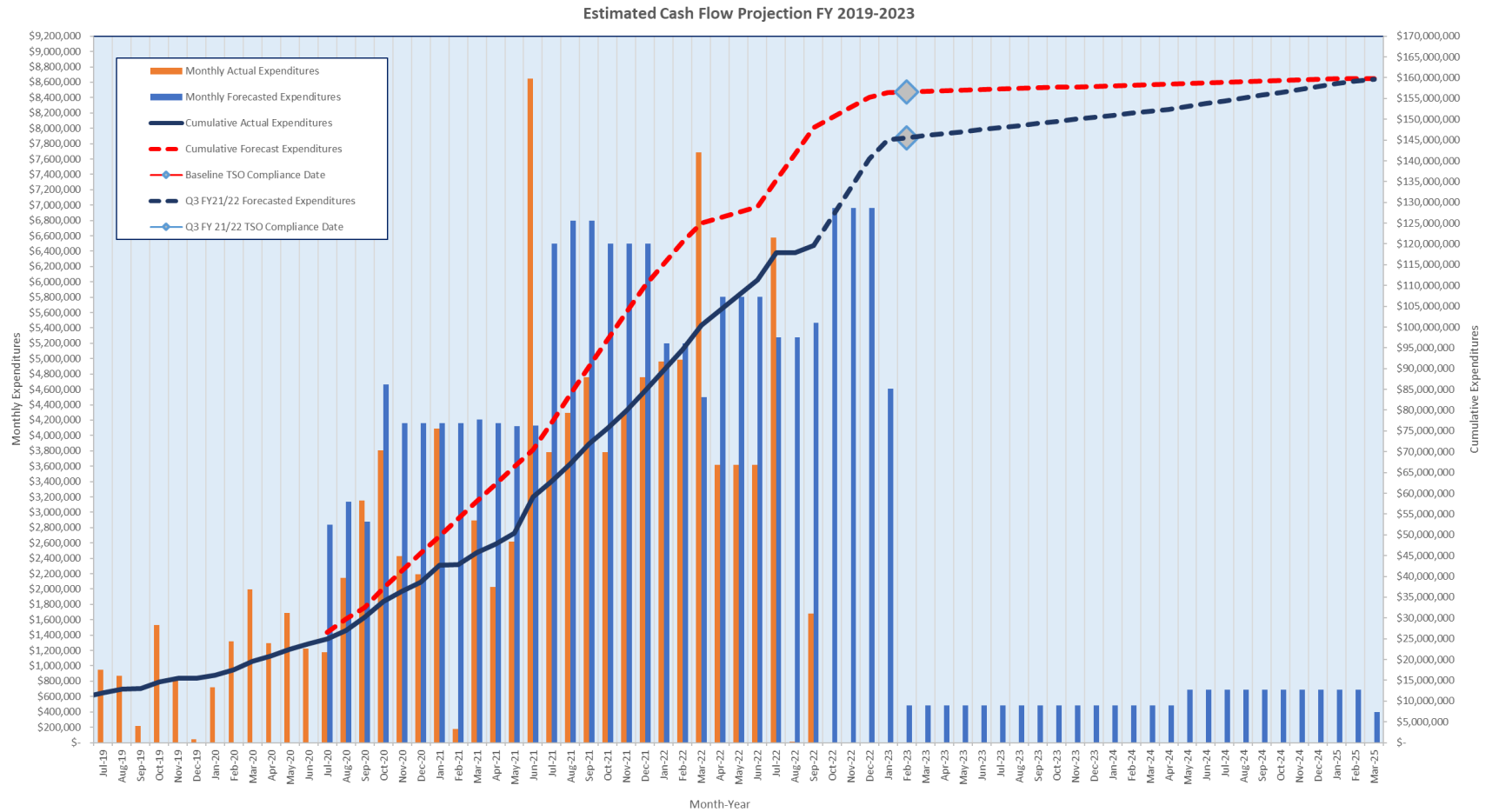


Figure 1 Program Cash Actual and Forecasted Expenditures





Morro Bay WRF Project  
 Program Wide Schedule Summary  
 Updated: FY22/23 Q1

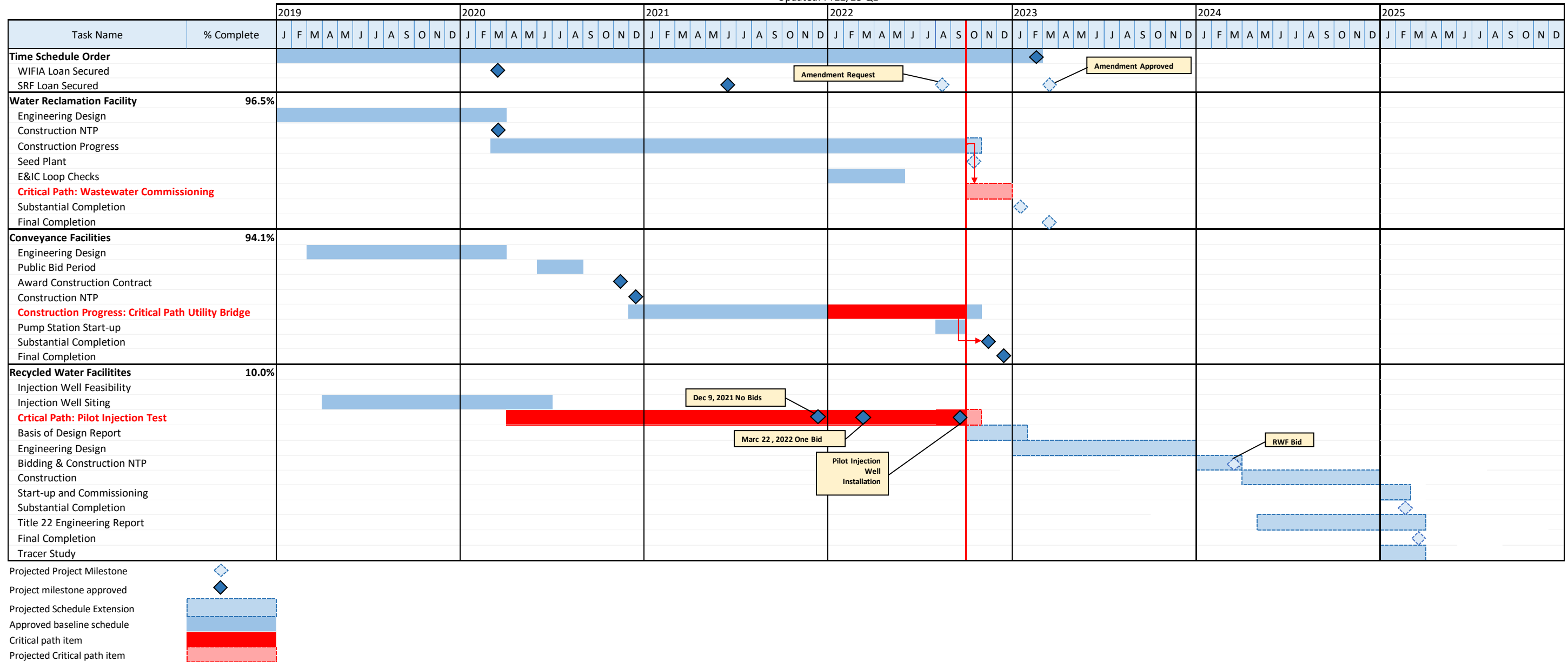


Figure 2 Program-Wide Summary Schedule

## Section 2 – WRF Project

### 2.1 Construction Progress Summary

Major accomplishments during this period are summarized below:

#### *General and Administrative:*

- Contractor has now completed pre-commissioning activities including point-to-point loop testing, deployment of SCADA system, equipment vendor site visits, training of city staff, and clean water recirculation testing.
- Contractor continues equipment Submittals and Requests for Information:
  - Submittal processing is on-going - 535 items submitted and/or approved to date.
  - DB Team has processed 262 requests for information (RFIs) and 36 Design Clarifications to date.

#### *Sitework:*

- Landscaping and irrigation systems are essentially completed.

#### *Headworks:*

- Facility is essentially completed including auto-mode loop testing with clean water

#### *Biological Nutrient Removal (BNR)/Membrane Bioreactor (MBR) Treatment:*

- Facility is essentially completed including auto-mode loop testing with clean water.
- Contractor installed Suez MBR cassettes and Suez commissioned the system with clean water.

#### *Reverse Osmosis (RO)/Ultraviolet Advanced Oxidation Process (UV AOP):*

- Facility is essentially completed. Clean water testing is pending the completion of wastewater and biological commissioning of the MBR system to ensure the production of suitable effluent/influent.

#### *Purified Water Facilities:*

- Facility is essentially completed and being tested with clean water.
- Contractor to load Calcite Contactors in October 2022

#### *Residuals/Sludge Processing:*

- Facility is essentially completed. Wasting of activated sludge and start-up of dewatering facilities is pending the completion of wastewater and biological commissioning of the MBR system.

#### *Electrical and Controls:*

- Facilities are completed and ready for service. Troubleshooting of various power and control systems is anticipated to be necessary during start-up and commissioning activities

#### *Chemical Storage and Feed:*

- Facility is essentially completed including auto-mode loop testing with clean water.

#### *Operations Building:*

- Building is essentially completed with several pending punchlist items.
- Building is otherwise ready for occupancy by City staff (anticipated for early October).

#### *Maintenance Building:*

- Building is essentially completed with several pending punchlist items.
- Building is otherwise ready for occupancy by City staff (anticipated for early October).

*City Yard Facilities:*

- Buildings are essentially completed.

## 2.2 Project Photographs

The following photos show progress during this period.



September 27, 2022 – Entire Site Overview



September 27, 2022 – Looking south (Fine Screens and Odor Control, BNR basin clean water testing)

### 2.3 Contract Amendment Summary

Table 5 contains a summary of the contract amendments for the WRF project component. Each amendment included multiple change orders to address changes in scope from the original proposal. A detailed summary of each amendment is provided in Appendix E.

Table 5 WRF Project Contract Amendment Summary

Amendment No.	Council Approval Date	Amount
1	May 2019	\$1,636,060
2	March 2020	\$63,937
3	May 2020	\$5,992,218
4	November 2020	\$835,097
5	March 2021	\$(195,945)
6	September 2021	\$1,132,117
7	June 2022	\$0
Revised 7	August 2022	\$553,371
<b>Total</b>		<b>\$10,016,854</b>

### 2.4 Project Schedule

Figure 3 shows the WRF construction and startup schedule.



Morro Bay WRF Project  
 Program Wide Schedule Summary  
 Updated: FY22/23 Q1

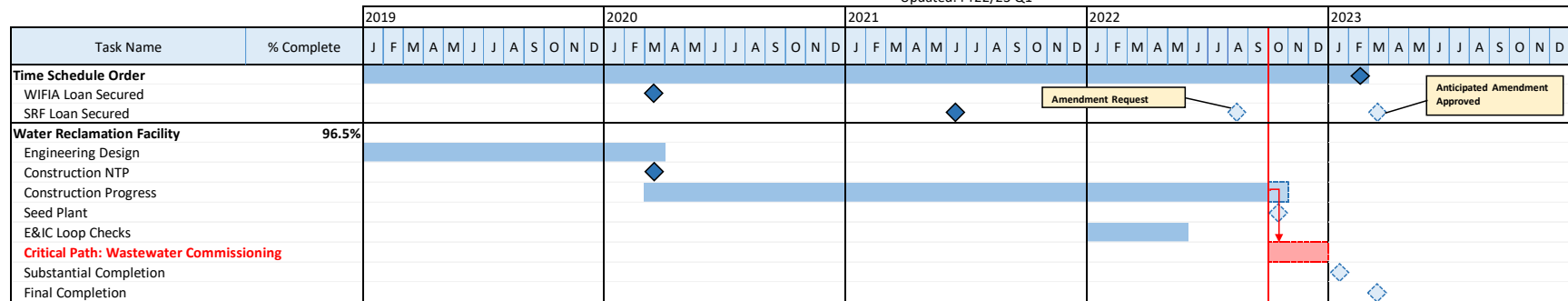


Figure 3 WRF Project Component Schedule

## Section 3 – Conveyance Facilities Project

### 3.1 Construction Progress Summary

Major accomplishments during this period are summarized below:

*General and Administrative:*

- Contractor has now nearly completed pre-commissioning activities including point-to-point loop testing, deployment of SCADA system, equipment vendor site visits, training of City staff, and clean water recirculation testing.
- Contractor continues equipment submittals and procurement activities:
  - Submittal processing is on-going - 399 items submitted and/or approved to date.
  - RFI processing is on-going – 287 items submitted to date.

Work was performed on the following segments:

**Sanitary Sewer Pump Stations:**

*Pump Station A:*

- Pump Station facility is essentially completed.
- Loop testing with clean water on-going.
- Sitework and building completion is on-going.

*Pump Station B:*

- Pump Station facility is essentially completed.
- Loop testing with clean water on-going.
- Sitework and building completion is on-going.

*Existing Lift Station 2:*

Work is complete pending final connection to LS-2 and commissioning Pump Station B.

*Existing Lift Station 3:*

- Contractor started branch lines to LS-3, but work is not completed.
- Contractor is still maintaining temporary above-grade sewer by-pass pipe from Lift Station 3.

**Pipelines:**

*Segment 1 – Atascadero Road (Existing City Wastewater Treatment Plant to Bike Path):*

- Pipelines and other facilities are essentially completed within this segment.
- Contractor continues to stage equipment and materials on City property along Atascadero Road.

*Segment 2 – Bike Path (Atascadero Road to Morro Creek Foot Bridge):*

- Pipelines and other facilities are essentially completed within this segment.
- Contractor needs to form and place concrete for abutment thrust restraint wall.

*Segment 3 – Bike Path (Morro Creek Foot Bridge to Main Street):*

- Pipelines and other facilities are essentially completed within this segment.
- Contractor needs to form and place concrete for abutment thrust restraint wall.

*Segment 4 – Main Street (Bike Path to Quintana Road):*

- Pipelines and other facilities are essentially completed within this segment.



*Segment 5 – Quintana Road (Main Street to Morro Bay Blvd):*

- Pipelines and other facilities are essentially completed within this segment.

*Segment 6 – Quintana Road (Morro Bay Blvd to La Loma Avenue):*

- Pipelines and other facilities are essentially completed within this segment.

*Segment 7 – Quintana Road (La Loma Avenue to South Bay Blvd):*

- Joint trench and IPR pipelines, and other facilities, are essentially completed within this segment.
- Contractor is currently completing the 10" Waterline Relocation in this segment.

*Segment 8 – South Bay Blvd (Quintana Road to New MB WRF):*

- Pipelines and other facilities are essentially completed within this segment.
- Contractor completed tie-in of pipelines at WRF (FM1, FM2, IPR, and Brine Line).

*Segment 9 – Vistra Property (Bike Path to Existing Lift Station 2):*

- Pipelines and other facilities are essentially completed within this segment.

### 3.2 Project Photographs

The following photos show progress during this period.



August 1, 2022 – Setting Utility Bridge over Morro Creek





September 16, 2022 –Installing Piping and Pumps at Pump Station B wet well.

### 3.3 Change Order Summary

Table 6 contains a summary of the contract amendments for the Conveyance Facilities project component. Each amendment included multiple change orders to address changes in scope from the original proposal. A detailed summary of each amendment is provided in Appendix F.

Table 6 Conveyance Facilities Contract Amendment Summary

Amendment No.	Council Approval Date	Amount
1	October 2021	\$674,485
2	January 2022	\$587,502
3	March 2022	\$241,317
4	June 2022	\$(54,065)
5	August 2022	\$1,253,667
<b>Total</b>		<b>\$2,702,906</b>

### 3.4 Project Schedule

Figure 4 shows the Conveyance Facilities construction and startup schedule.



Morro Bay WRF Project  
 Program Wide Schedule Summary  
 Updated: FY22/23 Q1

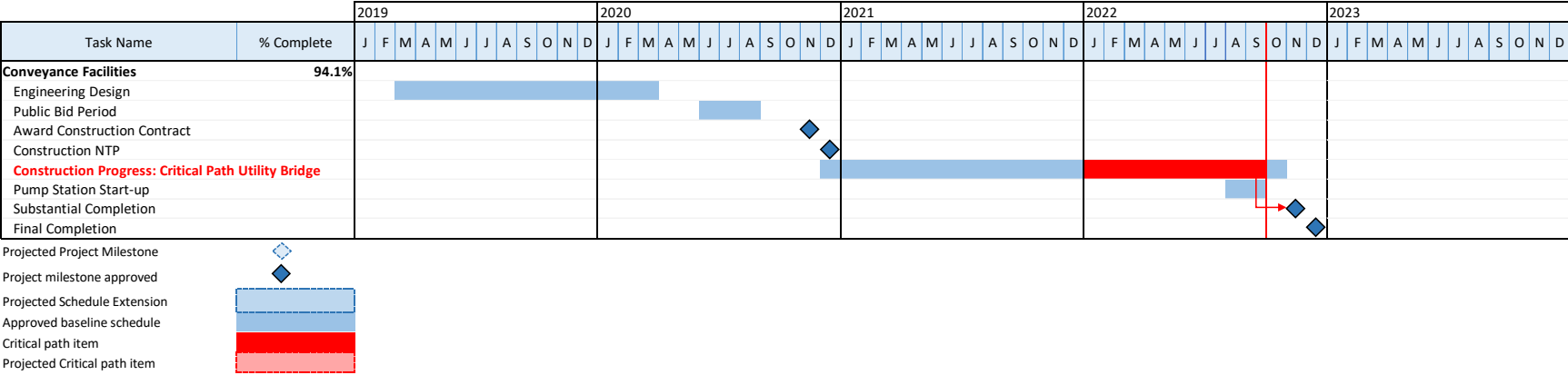


Figure 4 Conveyance Facilities Project Component Schedule

## Section 4 – Recycled Water Facilities Project

### 4.1 Project Progress Summary

The RWF component of the WRF program is currently in the planning pre-design phase, which includes the pilot study for the injection wells. GSI has completed Phase 1 and is currently working on Phase 2 of the hydrogeological work, which resulted in the selection of the west injection area and preliminary siting of the injection wells. The following activities were completed during this period:

- Confluence Engineering Solutions (CES), was awarded the project management contract for the Recycled Water Facilities component of the WRF Program by City Council on August 23<sup>rd</sup>, 2022. Additionally, Carollo Engineers' contract amendment No. 7 will continue the permitting activities for the Recycled Water Facilities Project.
- The Pilot Injection Well was successfully installed in September of Q1. The Pilot well will initially be used to perform a groundwater injection study and eventually be equipped as a full-scale groundwater injection well. The pilot study will determine injection performance to further characterize the Morro groundwater basin, and the data obtained during the pilot injection study will allow the City to finalize the locations and design characteristics of the other wells that will be included with the Recycled Water Facilities component of the WRF Project. The injection study is anticipated to begin in mid-October of Q2.
- CES has continued coordination meetings with GSI, Carollo and the City to discuss Recycled Water Facility related items. GSI is performing groundwater modeling scenarios for the initial injection volumes of the Recycled Water Facilities to check the travel times and available groundwater yields from the City's existing wells using a volume of injected water up to 825 AFY.

Planned activities for the next quarterly report include the following:

- Begin pilot injection testing.
- Determination of preliminary injection results and aquifer characteristics.



## 4.2 Project Photographs



September 1, 2022 – Installation of the Pilot Injection Well Conductor Casing





September 2, 2022 – Installation of the Pilot Injection Well Perforated Casing

### 4.3 Project Schedule

Figure 5 shows the Recycled Water Facilities construction and startup schedule.





## Appendix A

# ABBREVIATIONS

AOP	advanced oxidation process
BMP	best management practice
BNR	biological nutrient removal
City	City of Morro Bay
CWRSF	Clean Water State Revolving Fund
EPA	Environmental Protection Agency
FBV	Filanc Black & Veatch
FY22	2021-22 fiscal year
GSI	GSI Solutions, Inc.
HVAC	heating, ventilation, and air conditioning
MBR	membrane bioreactor
NOV	notice of violation
Q3	third quarter
RO	reverse osmosis
RWF	recycled water facility
RWQCB	Regional Water Quality Control Board
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TSO	time schedule order
UV	ultraviolet
WIFIA	Water Infrastructure Finance and Innovation Act
WRF	water reclamation facility

## Appendix B

# QUARTERLY EXPEDITURES BY BUDGET CODE

City Budget Code <sup>(1)</sup>	Fund Name	Total Q4 FY21/22 Expenditures	Vendor Name	Project Component
4110	Regular Pay	Summarized in Total Personnel Services	City of Morro Bay	General Project
4599	Other Pay			
4910	Employer Paid Benefits			
4911	Pension Normal Cost			
4999	Labor Costs Applied			
<b>Total Personnel Services</b>				
5199	Miscellaneous Operating Supplies		Various	General Project
<b>Total Supplies</b>		<b>\$16,631.95</b>		
6101	Legal Services – General	\$29,688.50	Aleshire & Wynder	General Project
6103	Financial Audits	-	-	-
6107	Promotion & Advertising	-	-	-
6220	Postage	-	-	-
6301	Electricity	-	-	-
6303	Water	\$11,140.50	City of Morro Bay	General Project
6510	Meetings & Conferences	-	-	-
6513	Meals & Lodging	\$35.75	Mechanics Bank	General Project
6514	Travel Expense	-	-	-
6640	Maintenance Contracts	-	-	-
6710	Notices & Publications	-	-	-
6750	Business Equipment Rental	-	-	-
<b>Total Services</b>		<b>\$40,864.75</b>	<b>Various</b>	<b>General Project</b>
6104	Engineering Services	\$59,562.73	GSI Water Solutions, Cleath-Harris Geologists	RWF
6105	Consulting Services	\$49,540.00	Confluence Engineering, Bartle Wells	General Project
6152	Outside Laboratory Testing	-	-	-
6161	Licenses & Permits	-	-	-
6162	Mandated Fees/Inspections	-	-	-
6195	Rate Study	-	-	-
6196	Program Management & DB Procurement	\$864,953.65	Carollo Engineers	General Project

City Budget Code <sup>(1)</sup>	Fund Name	Total Q4 FY21/22 Expenditures	Vendor Name	Project Component
6197	Grant Support	-	-	-
6198	Government Relations	-	-	-
6640	Maintenance Contracts	-	-	-
7101	Land Acquisition	-	-	-
<b>Total Project Soft Costs</b>		<b>\$974,056.38</b>	<b>Various</b>	<b>RWF, General Project</b>
6106	Contractual Services	\$4,338,100.95	Anvil Builders	Conveyance
7103	Water Reclamation Facility (WRF)-Onsite Improv Design/Build	-	-	-
7104	Design Phase - Lift Station & Force Main	\$38,324.25	Water Works Engineers	Conveyance
7105	Planning & Permitting	\$390,258.96	KMA, Far Western, Cogstone	Conveyance
7106	Design Phase - Injection Wells & Recycled Water Pipeline	-	-	-
7107	WRF - On-Site Imprv - Build	\$2,354,845.74	FBV	WRF
7108	Injection Well Construction - WRF	-	-	-
7109	Lift Station/FM Construction Phase - WRF	-	-	-
7110	Pilot Well Construction - WRF	-	-	-
<b>Total Construction Costs</b>		<b>\$7,121,529.90</b>	<b>Various</b>	<b>Conveyance, WRF</b>
<b>Total Quarterly Expenditures</b>		<b>\$8,265,645.35</b>		

Notes:

- (1) City Budget Codes are from the latest Accounts Payable Report run on 10/3/2022.
- (2) Total quarterly expenditures shown only include invoices paid by the City in this quarter and are derived from a cash basis of accounting using the Accounts Payable reports provided by the City approximately one week after the end of the quarter. Total quarterly expenditures shown may differ from City fiscal year-end budget performance reports that are based on a modified accrual basis of accounting, which reallocates current quarter expenditures for services rendered in prior fiscal year back to the prior fiscal year.

## Appendix C

# WRF PROGRAM FUNDING REQUESTS AND REIMBURSEMENTS STATUS SUMMARY

Agency	Description	No.	Date Submitted	Requested Amount	Approved Amount	Received
SWRCB	CWSRF Planning Loan	1	18-Dec	\$289,595	\$217,441	Yes
SWRCB	CWSRF Planning Loan	2	19-Nov	\$6,431,295	\$5,312,748	Yes
SWRCB	CWSRF Planning Loan	3	20-Oct	\$3,910,211	\$2,415,669	Yes
SWRCB	CWSRF Planning Loan	4	21-Oct	\$930,385	\$484,617	Yes
SWRCB	CWSRF Planning Loan	5	22-Apr	\$0 (see 5A)	Pending	No
SWRCB	CWSRF Planning Loan	5A	26-Sep	\$831,518	Pending	No
SWRCB	CWSRF Construction Loan	1	21-Sep	\$11,185,433	\$11,185,433	Yes
SWRCB	CWSRF Construction Loan	2	21-Nov	\$10,886,581	\$10,886,581	Yes
SWRCB	CWSRF Construction Loan	3	21-Dec	\$5,463,514	\$5,463,514	Yes
SWRCB	CWSRF Construction Loan	4	22-Feb	\$5,943,018	\$5,943,019	Yes
SWRCB	CWSRF Construction Loan	5	22-Mar	\$6,095,373	\$6,095,373	Yes
SWRCB	CWSRF Construction Loan	6	22-May	\$3,237,138	\$3,237,138	Yes
SWRCB	CWSRF Construction Loan	7	22-Jun	\$2,145,403	\$2,145,403	Yes
SWRCB	CWSRF Construction Loan	8	22-Jul	\$4,245,018	\$4,245,018	Yes
SWRCB	CWSRF Construction Loan	9	22-Aug	\$3,896,973	Pending	No
EPA	WIFIA Loan	1	20-May	\$1,100,944	\$1,100,944	Yes
EPA	WIFIA Loan	2	20-Jun	\$61,014	\$50,486	Yes
EPA	WIFIA Loan	3	20-Jul	\$3,489,409	\$3,489,409	Yes
EPA	WIFIA Loan	4	20-Jul	\$2,461,121	\$2,461,121	Yes
EPA	WIFIA Loan	5	20-Aug	\$142,863	\$142,863	Yes
EPA	WIFIA Loan	6	20-Oct	\$1,635,106	\$1,635,106	Yes
EPA	WIFIA Loan	7	20-Dec	\$3,008,572	\$3,008,572	Yes
EPA	WIFIA Loan	8	20-Dec	\$3,671,499	\$3,671,499	Yes
EPA	WIFIA Loan	9	21-Jan	\$5,553,851	\$5,553,851	Yes
EPA	WIFIA Loan	10	21-Mar	\$2,440,399	\$2,440,399	Yes
EPA	WIFIA Loan	11	21-Apr	\$1,621,783	\$1,621,783	Yes
EPA	WIFIA Loan	12	21-May	\$2,988,342	\$2,988,342	Yes
EPA	WIFIA Loan	13	21-Jun	\$3,544,987	\$3,544,987	Yes
EPA	WIFIA Loan	14	21-Jul	\$2,692,977	\$2,692,977	Yes
EPA	WIFIA Loan	15	21-Aug	\$1,328,552	\$1,328,552	Yes
EPA	WIFIA Loan	16	21-Sep	\$488,601	\$488,601	Yes
EPA	WIFIA Loan	17	21-Oct	\$321,117	\$321,117	Yes
EPA	WIFIA Loan	18	21-Nov	\$346,279	\$346,279	Yes
EPA	WIFIA Loan	19	21-Dec	\$1,005,341	\$1,005,341	Yes

Agency	Description	No.	Date Submitted	Requested Amount	Approved Amount	Received
EPA	WIFIA Loan	20	22-Jan	\$337,646	\$337,646	Yes
EPA	WIFIA Loan	21	22-Mar	\$956,562	\$956,562	Yes
EPA	WIFIA Loan	22	22-Apr	\$395,308	\$395,338	Yes
EPA	WIFIA Loan	23	22-May	\$1,315,288	\$1,315,288	Yes
EPA	WIFIA Loan	24	22-Jun	\$155,599	\$155,599	Yes
EPA	WIFIA Loan	25	22-Jul	\$169,286	\$169,286	Yes
EPA	WIFIA Loan	26	22-Aug	\$723,244	\$723,244	Yes
<b>Total</b>				\$107,447,145	\$99,577,146	

## Appendix D

# PROGRAM MILESTONES

Milestone	Planned Completion Date
<b>General Project</b>	
Compliance with the TSO	2/23/2023
WIFIA Loan Secured	3/9/2020
SRF Loan Secured	7/31/2021
<b>WRF</b>	
Begin Design	11/5/2018
Construction Notice to Proceed	3/20/2020
Plant Seeding	10/4/2022
Substantial Completion	1/20/2023
Final Completion	3/20/2023
<b>Conveyance Facilities</b>	
Deliver 100 Percent Design	6/15/2020
Bid Advertisement	6/16/2020
Award Construction Contract	11/10/2020
Construction Notice to Proceed	12/14/2020
Substantial Completion	11/9/2022
Final Completion	12/24/2022
<b>RWF</b>	
Select Preferred Injection Area	6/17/2020
Pilot Injection Well - Complete	10/1/2022
Basis of Design of Report - Complete	1/31/2023
Engineering Design - Begin	1/1/2023
Construction Notice to Proceed	3/15/2024
Substantial Completion	2/15/2025
Final Completion	3/15/2025

# Appendix E

## FBV AMENDMENT DETAILS





**City of Morro Bay**  
Water Reclamation Facility  
WRF Design/Build Project GMP

PCO No.	Title	Descriptions	Status	CCO AMOUNT	Comments
1	New Sodium Hypochlorite Feed for Plant Water	Add a sodium hypochlorite (disinfection) chem feed pump, add sodium hypochlorite double contained piping from the Chemical Facility to the Recycled Water pumps. Additional electrical and controls for the new sodium hypochlorite pump. The added pump is needed for redundancy.	Approved	\$ 78,576.00	Executed - Part of GMP
2	Change Architecture of Operations Building	The City requested to change the Operations Building exterior architecture back to a basic style, to delete the clerestory but to include cupolas and solarubes. The City requested the change to reduce project costs.	Approved	\$ (21,623.00)	Executed - Part of GMP
4	Headworks Odor Control	Adding foul air ducting from the Fine Screens and SAFE Diversion Box to the Headworks Odor Control Biofilter. Cost also includes adding a cover to the SAFE Diversion Box. The ducting and cover were added to reduce foul air emissions.	Approved	\$ 18,422.00	Executed - Part of GMP
5	Remove Canopy and Monorail at MBR	The MBR Tank was originally design with a canopy cover and monorail/crane hoist. The monorail and crane hoist were originally included to move MBR cassettes in and out of the tank for cleaning and maintenance. The City requested the change to reduce project costs. In the future the City will use a crane or boom truck to remove MBR cassettes when necessary.	Approved	\$ (185,434.00)	Executed - Part of GMP
9	Consolidate Chemical Facilities	The original design provided chemical feed pumps and storage tanks at various locations where needed on site. The City requested to centralize all chemical storage tanks and feed equipment to one facility. Work includes a larger Chemical Facility structure, and additional chemical ductbanks and double containment piping.	Approved	\$ 218,978.00	Executed - Part of GMP
10	Modify Chemical Piping	Revise underground chemical piping, to change double containment carrier piping from rigid pipe to flexible ducting. The City accepted this change to reduce project costs.	Approved	\$ (15,856.00)	Executed - Part of GMP
15	Remove Solids Dumpster Lid	At the Solids Handling Area, delete the Solids Dumpster Lid and delete the Hypalon Splash Guards. Add a canopy / awning structure over the dumpster area by extending the Solids handling Area canopy. The City prefers the open-air solids dumpster while providing the canopy to protect dewatered solids from rain and atmospheric moisture.	Approved	\$ 14,543.00	Executed - Part of GMP
16	Modify Outfall Pump Station	Increase the guaranteed pump station capacity to 8.14 MGD. Change the original design of 3 medium sized VFD controlled pumps, to a modified configuration using 2 smaller pumps and 2 larger pumps, all with VFDs. Also add and modify pump station manifold piping and valving as necessary. The City requested the change to ensure adequate future flow capacity and maximize pumping efficiency.	Approved	\$ 367,632.00	Executed - Part of GMP
17	Add SAFE Equalization Tank	Add SAFE Settle Tank (water bearing concrete structure) upstream of the SAFE system. The SAFE Settle Tank is added to the Sludge Holding Tank concrete structure. The new SAFE Settle Tank will either overflow to the SAFE System, or be pumped back to the SAFE Diversion Box using Solids Handling Pumps. Various segments of SAFE System diversion piping are upsized as required.	Approved	\$ 504,116.00	Executed - Part of GMP
18	Instrumentation and Control Changes	The City prepared and issued a SCADA Master Plan for the WRF program. In January 2019, City staff and the DB team met and agreed on multiple technical items to coordinate between the City's SCADA Master Plan requirements and the DB Agreement scope. The PCO #18 proposal document includes a 6 page table of the multiple hardware and software changes.	Approved	\$ 75,266.00	Executed - Part of GMP
19	Reduce Size of the Product Water Tank	The original DB Agreement included a 500,000 gallon bolted steel glass lined Product Water Tank. The City requested to decrease volume of Tank to 200,000 gallons. This was done to save project costs while also maintaining a suitable Product Water storage capacity on site.	Approved	\$ (129,681.00)	Executed - Part of GMP
21	Revise Maintenance Building Layout and Size	The Maintenance Building footprint is expanded from 50'x70' to 60'x90' and a second vehicle sized roll-up door is added. The change order also includes revised site grading and eliminating a step in the building foundation slab, such that the new layout providing a larger, single level, vehicle accessible, shop area.	Approved	\$ 516,583.00	Executed - Part of GMP
22	Influent Piping and Metering	The original design included a single 18" influent raw sewage pipeline from Teresa Rd to the new Headworks and an 18" influent flow meter at the Headworks. The City requested to change the design to parallel 16" and 12" HDPE influent pipelines, each pipeline with a separate flow meter at the Headworks. The City requested the change to add redundancy to the influent piping system.	Approved	\$ 411,766.00	Executed - Part of GMP
23	Install Outdoor-Rated PD Blowers at BNR Facility	Replace the specified Turbo Blowers with Outdoor Rated Dry Screw Positive Displacement Blowers. The change order includes various revisions to blower controls, valving, and Aeration Air piping. The change was made to reduce project costs while still providing a suitable capacity of Aeration Air for the biological facility process.	Approved	\$ (58,210.00)	Executed - Part of GMP
24	Remove Bypass of Coarse Screens	Delete the Coarse Screens bypass line, including both above grade and below grade 16" piping, valving, and fittings at the Headworks. The City requested the change to reduce project costs, as the bypass line was deemed not necessary.	Approved	\$ (37,137.00)	Executed - Part of GMP
26	SAFE Diversion Box Additions	Add a removable FRP cover over the SAFE Diversion Box. The new cover includes multiple FRP panel sections that are removable by hand and structurally rated to support foot traffic. The change also adds an access ladder and handrail to the top of the Diversion Box. The changes were requested by the City to improve access to the Diversion Box.	Approved	\$ 58,304.00	Executed - Part of GMP
28	Size Dewatering as a Building in the Future	Expand the Solids Handling Area concrete foundation slab and canopy to 36'x45'. The change also includes reconfiguring the dewatering belt press, pumps, piping, etc. This change will allow walls to be added around the equipment in the future. The City requested this change in case excessive foul air is emitted in the future and odor control measure become necessary.	Approved	\$ 30,983.00	Executed - Part of GMP
30	Match Sludge Blowers to MBR Air Scour Blowers	There are 3 set of air blowers on the project: 2 each for MBR Air Scour, 3 each for BNR Aeration, and 2 each for Sludge Holding Tank mixing. The 2 each MBR Air Scour Blowers are Aerzen Blowers. The City requested that the 3 each BNR Aeration Blowers and 2 each Sludge Holding Tank Blowers also be supplied by Aerzen. The City requested this change for uniformity of equipment providers.	Approved	\$ 17,426.00	Executed - Part of GMP
31	Stairs for the Coarse Screens and Grit Basins	The original design included various metal ladders to access the Headworks Coarse Screen and Grit Tank platform skids. This change deletes the ladders and adds 2 each 4 ft tall stair sets to the Coarse Screens and adds 2 each 8 ft tall stair sets to the Grit Tank area. This change also extends the Headworks foundation slab as required to provide foundations and landings for the added stairs.	Approved	\$ 52,870.00	Executed - Part of GMP
32	Sulfuric Acid System	The City requested to add Sulfuric Acid feed pumps and a storage tank at the Chemical Facility. This change includes increasing the size of the Chemical Facility structure, adding double containment piping to both the RO Feed Tanks and the RO/UV Building, and adding all necessary electrical and controls. The City deemed that Sulfuric Acid addition is necessary for pH control/neutralization.	Approved	\$ 315,652.00	Executed - Part of GMP
37	PLC/SCADA Software Uniformity	This PCO includes the cost to change PLC hardware and SCADA software from the standard offerings of the MBR, RO, and Headworks manufacturers to the City requested Allen Bradley and Wonderware products. This PCO applies to only those three equipment items and a separate PCO will be generated if a similar change is required for future procurements. The City requested this uniformity.	Approved	\$ 201,577.00	Executed - Part of GMP
38	IPR Product Water Tank Bypass	Delete the Product Water Tank bypass line, including both above grade and below grade 8" piping, valving, and fittings at the Product Water Area. The City requested the change to reduce project costs, as the bypass line was deemed not necessary.	Approved	\$ (26,087.00)	Executed - Part of GMP
39	NTP Delay	This PCO includes extended general conditions costs due to the delay in receiving construction NTP from April 29, 2019 to March 20, 2020. The amount for the period April 29, 2019 to October 23, 2019 was in dispute and a reduction is provided to reflect the results of a negotiation.	Approved	\$ 1,220,532.00	Executed - Part of GMP
40	Headworks Valve Automation	The change adds motor operated valving and controls to the Headworks treatment trains. This allows for automated shifting of flows from one treatment train to the other, as may be needed due to equipment malfunction or other alarm conditions, especially during periods when no operators are on site. The change includes adding 8 each motor operated valves, plus electrical and controls.	Approved	\$ 249,946.00	Executed - Part of GMP
41	Perimeter Barbed Wire Fence (Plus 8 days w/ EA 1B.1)	City requested that FBV install a 5-strand barbed wire fence around the entire 27-acre project/property boundary, and along the Temporary Construction Easement (TCE) on the eastern boundary of site. The eastern boundary TCE fence will be relocated to the actual project/property boundary at project completion.	Approved	\$ 79,935.00	Executed - Part of GMP
42	UV/AOP System Modifications	The City requested to delete the Standby UV Reactor from the scope of work to reduce project costs. The change includes FBV added costs for: UV system investigation, technical memoranda, development of alternatives, and resulting design revisions for associated mechanical, electrical, and piping. This change adds staircases to replace ladders throughout the site for improved access to treatment process basins. The change adds stairs, catwalks, and handrails at the BNR tanks, adds stair and landings at the SHT, add stairs and a grating platform at the MBR tank, and adds stairs, catwalk, and handrails at the SAFE system.	Approved	\$ (33,481.00)	Executed - Part of GMP
44	Tank Access Improvements	The change adds stairs, catwalks, and handrails at the BNR tanks, adds stair and landings at the SHT, add stairs and a grating platform at the MBR tank, and adds stairs, catwalk, and handrails at the SAFE system.	Approved	\$ 210,327.00	Executed - Part of GMP
45	Maintenance Ceiling Revisions and Auto Roll-Up Door	The City requested to add a motor actuator on one of the 14'x14' roll-up door at the Maintenance Building. This change includes the required added electrical and controls.	Approved	\$ 21,009.00	Executed - Part of GMP
46	Curbed Washdown Areas	This change adds containment curbs, sloped slabs, floor drains, and drainage piping to sewer for various wastewater washdown areas. The change adds curbed washdown areas for the MBR cassette maintenance area, the solids/sludge dewatering area, and the Headworks Coarse Screen and Grit Tank area. The City requested the curbed washdown areas to better contain sewage spills.	Approved	\$ 76,250.00	Executed - Part of GMP



**City of Morro Bay**  
**Water Reclamation Facility**  
**WRF Design/Build Project GMP**

PCO No.	Title	Descriptions	Status	CGO AMOUNT	Comments
47	Changes to Furnishings and Residential Equipment	This Change adds office furnishings and appliances for the Operations and Maintenance Buildings, including desks, chairs, tables, shelves, cabinets, control room console, flat-screen monitors, kitchen and laboratory appliances, lockers, and maintenance building storage racks. The items were discussed and requested by the City during design meetings with the DB team Architect.	Approved	\$ 85,194.00	Executed - Part of GMP
50	Revisions to Water/Sewer Supply Storage Sheds	The original design includes a Water and Collections Storage Shed, with two equal sized rooms each with an exterior double-wide pedestrian door. This change deletes the double doors and adds 10 ft wide roll-up doors and single pedestrian doors for each room.	Approved	\$ 13,142.00	Executed - Part of GMP
52	Analyzer Relocation and Enclosures	Relocate analyzers at Outfall/PR Pump Station to indoors at the RO/UV Building, including adding 120' of sample piping between the sample point and building. Relocate analyzers at Dechlorination Facility to indoors at the Water/Collections Storage Shed, including adding 70' of sample piping between the sample point and building, and adding 70' of drainage piping to sewer.	Approved	\$ 76,555.00	Executed - Part of GMP
55	Notice of Dispute - PG&E Temporary Power	This PCO addresses the cost paid to PG&E for temporary power service. It has been a disputed item and negotiation has led to an agreement to split the cost 50/50.	Approved	\$ 13,163.00	Executed - Part of GMP
56	Impacts of Water Quality Changes	In September 2019, the City provided updated influent Water Quality data to use as the basis of design. Multiple parameters were significantly different than listed in the DB Agreement. The revised Water Quality data impacted the RO equipment design. The added costs are for H2O Innovations (RO manufacturer) as well as for electrical and control changes by Electricraft.	Approved	\$ 282,420.00	Executed - Part of GMP
57	Soil Lateral Earth Pressure	This change adds foundation sub-drains around below grade water bearing concrete structures as recommended by FBV and the Geotechnical Engineer. This change adds Miradrain Panels and 4" PVC drain piping around the perimeter of the BNR basin and Sludge Holding Tanks, to relieve lateral soil pressure on the concrete structures.	Approved	\$ 116,329.00	Executed - Part of GMP
58	Permanent Exclusion Fencing	As required by environmental regulatory agencies, a concrete barrier wall for wildlife exclusion is added along the entire Eastern boundary of the site from Teresa Rd to the northern most tip of the site. The concrete barrier wall shall extend 24 inches above grade and 36 inches below grade, and include a nominal 6-inch top lip to serve as a climbing barrier.	Approved	\$ 855,991.00	Executed - Part of GMP
59	Increased Escalation Costs	This PCO includes escalation costs due to the delay in receiving construction NTP from October 23, 2019 to March 20, 2020.	Approved	\$ 1,232,677.00	Executed - Part of GMP
61	PCO Design Impacts	This PCO is in response to FBV's claim for engineering redesign costs from changes requested by the City but subsequently reversed due to the cost being too high or otherwise excessive. The PCO also addresses FBV's claim for inefficiencies resulting from "changes in direction throughout the design development process".	Approved	\$ 158,172.00	Executed - Part of GMP
62	Conduit Alternative Design	This change removed the original DB Agreement, Exhibit B, requirement to use PVC coated galvanized rigid steel conduit systems in all exterior and/or process areas on site. FBV proposed to use galvanized rigid steel conduit systems (without PVC coating) in all project locations as a value engineering suggestion. The City accepted the proposal in an attempt to reduce project costs.	Approved	\$ (268,400.00)	Executed - Part of GMP
64	Reduce Performance Period	The DB Agreement requires 6-months of FBV support during the Performance Test Period. The City requested to delete this requirement as not necessary. Note FBV remains responsible for the 12-month warranty against equipment and/or system malfunctions. The credit amount is taken directly from FBV's original bid proposal document.	Approved	\$ (35,450.00)	Executed - Part of GMP
65	Davis Bacon Wage Increases	The Contract amount is increased to compensate for the required implementation of CA Wage Determination dated 10/5/2018. FBV's original bid proposal document was based on CA Wage Determination dated 1/5/18	Approved	\$ 63,937.00	Executed - Part of GMP
66	Caltrans Intersection Improvements	Delete scope of work to extend intersection at Teresa Road and South Bay Blvd for the new WRF Access Road. Adjust centerline of the WRF Access Road to be offset from the centerline of South Bay	Approved	\$ (21,893.00)	Executed - Part of GMP
67	BNR System Modifications	This change was requested by City to increase Aeration Air systems as required for full nitrification in the biological process. The costs include upsizing 3 each aeration blowers, stainless steel aeration piping, air meters, air valves, and adding aeration diffusers in the BNR basins. The change also adds Ammonium Sulfate pumps, tank, piping, and increases the size of the Chemical Facility.	Approved	\$ 742,405.00	Executed - Part of GMP
68	SAFE Equalization Settle Tank Drain Piping	This change is requested by the City to provide a new pipeline to drain the SAFE Settle Tank. This pipeline will tie in to the existing dewatering feed pumps and will allow draining the tank back to the SAFE Diversion Box. The work includes adding 80 ft of 6" piping and adding 2 each 6" manual valves.	Approved	\$ 62,215.00	Executed - Part of GMP
69	Third Party Testing and Inspection	The responsibility for 3rd party testing and inspection costs were in dispute for several months prior to construction. In April 2020 the City and FBV agreed that the cost of these services would be split 50/50 between the parties, up to a cap of \$200K. The agreement included the provision that if additional services are required above \$200K, it would be paid by the City.	Approved	\$ 100,000.00	Executed - Part of GMP
71	CDFW Site Restrictions (Direct Costs / Inefficiencies)	The construction NTP on 3/20/2020 included restrictions from working in the designated spoils disposal area on site. The restrictions by CDFW were due to an erosional feature and were not resolved until 7/14/2020. As a result of the restrictions, FBV was required to stockpile spoils outside the disposal area, and then haul and grade the material a second time after the restrictions was lifted.	Approved	\$ 254,443.00	Executed - Part of GMP
72	Owner Trailer Utility Hook Ups	This change provides utility connections to the Owner/Carollo field office trailer at the WRF. The work includes grading the trailer site, installing a temporary potable water connection, connecting temporary electrical, and providing electrical power through the project duration. The work also includes installing a temporary USPS jobsite mailbox.	Approved	\$ 19,593.00	Executed - Part of GMP
73	Main Gates in Perimeter Fence	This change was requested by the City to add 2 pedestrian gates in the WRF perimeter fence, one north of the Operations Building and one at the northern most tip of site. Along with the pedestrian gate north of the Operation Building, also provide a 4' wide set of concrete stairs and a 4' wide sidewalk between paved areas.	Approved	\$ 27,031.00	Executed - Part of GMP
74	Parking Canopy Electrical Receptacles	This change adds 7 outdoor rated duplex 120VAC electrical outlets on canopy poles around the Vehicle/Equipment Storage Canopy, and the WRF Parking Canopy. The work includes a new 480V circuit from the RO Building Electrical Room, a new SKVA transformer, and all required underground and exposed power conduits, junction boxes, and outlet receptacles.	Approved	\$ 42,346.00	Executed - Part of GMP
75	Security Windows at Admin Building	This change was requested by the City to add a security window in the lobby of the new Operations Building to separate City staff from members of the public in the lobby (similar to City Hall).	Approved	\$ 11,079.00	Executed - Part of GMP
76	Additional Sodium Bisulfite Pump	This change was requested by the City to provide a redundant (second) Sodium Bisulfite feed pump at the Chemical Facility, including all associated mechanical work, piping, electrical and controls. This change also provides heated tote blankets for the Sodium Bisulfite storage totes to control temperature during cold weather. An electrical outlet is also added for the heated tote blankets.	Approved	\$ 58,243.00	Executed - Part of GMP
77	COVID-19 Costs	The DB Agreement stipulates that an "epidemic" or "quarantine restriction" is a compensable Force Majeure event. FBV originally submitted costs in the amount of \$152K for COVID-19 impacts based on added janitorial service, added COVID protective supplies, added Safety Officer time, added costs to send infected workers home for quarantine, and loss of efficiency (1 hr. per worker per day from 3/20/20 to 6/1/20 and 10 min. per worker per day from 6/1/20 to 3/20/21. The City was able to negotiate this cost down to \$125K based on a reduction of the assumed inefficiencies and was able to gain FBV agreement that this cost is considered final (i.e. that any future infections would be based on individuals deciding not to be vaccinated rather than Force Majeure).	Approved	\$ 125,000.00	Executed - Part of GMP
78	Soil Slip Differing Site Conditions	On May 5, 2020 an unidentified ancient landslide was discovered when mass grading the cut slope above the Operations Building. This is a differing subsurface condition per Section 3.10.2 of the Agreement. The costs represent the additional effort associated with remediating the landslide.	Approved	\$ 280,013.00	Executed - Part of GMP
79	Modify Water/Sewer Supply Storage Sheds (Ref. PCO 50)	This item is a continuation of PCO 50. FBV claims that their previous quote did not include all costs associated.	Approved	\$ 10,847.00	Executed - Part of GMP
82	PLC/SCADA Uniformity - Bal. of Equipment (Ref. PCO #37)	This PCO includes the cost to change PLC hardware and SCADA software from the standard offerings of the Belt Press and Cloth Disk Filter (SAFE) manufacturers to the City requested Allen Bradley and Wonderware products. This PCO applies to only those equipment items. PCO #37 was similarly executed for other equipment manufacturers on the project.	Approved	\$ 108,887.00	Executed - Part of GMP
84	Alternate Red Legged Frog Barrier (Ref. PCO 58)	Environmental agencies overseeing the project have allowed an alternate wildlife barrier along the Eastern boundary of site. The PCO 58 concrete barrier is only required from Teresa Rd to the facility gate (400'). The remaining 1700' of exclusionary barrier shall be 2 mm thick HDPE attached to 6' chain link fencing, 24" above grade, 36" below grade, with a rigid 4" FRP top lip climbing barrier.	Approved	\$ (468,768.00)	Executed - Part of GMP
86	Pothole Existing Water Valve in Teresa Road	The City requested that FBV pothole an existing City water line and shut off on Teresa Road. On the next day, the City requested FBV pothole the 8" branch line service to the WRF property. The work was on T&M.	Approved	\$ 5,189.00	Executed - Part of GMP
87	Modify Alternate Conduit Design Scope (Ref. PCO 62)	This change provides PVC coated electrical conduit systems (conduits, boxes, accessories) for all wastewater and product water processing and washdown areas, including outdoor process areas and indoors at the RO/UV Building. PVC coated Galvanized Rigid Steel (GRS) conduits provide superior corrosion protection. This PCO essentially reverses previous PCO #62.	Approved	\$ 272,822.00	Executed - Part of GMP



**City of Morro Bay**  
Water Reclamation Facility  
WRF Design/Build Project GMP

PCO No.	Title	Descriptions	Status	CGO AMOUNT	Comments
88	Dead-Front Control Panels	City staff requested that all control panels be dead-front type, wherein no controls are exposed, and that a solid front door is furnished (i.e. keyed or with padlock hasp). FBV has submitted costs in the amount of \$37K and the City is in agreement. This change is being implemented on the following system control panels: Kusters (Headworks), Suez (MBR), Aerzen (Blowers), Gierlich- Mitchell (Sanitary Lift Station), Charter Machine (Dewatering), and other minor panels as required.	Approved	\$ 37,774.00	Executed - Part of GMP
90	24Vdc Digital Output Circuits	City staff requested that all control digital output circuits be 24VDC to match the 24VDC input signals as required by the DB Agreement. The City requested this to prevent potential signal interference. FBV had planned to use 120VAC digital outputs as the DB Agreement only stipulated the 24VDC signals on inputs (not outputs). This could potentially cause signal interferences and various control system disruptions. This item was disputed by the City as matching input and output signals is a design standard for some design firms (including Carollo). As part of negotiations the City elected to accept the proposed costs which include additional relays and power supply units in various Motor Control Centers (power distribution panels) for the 24Vdc PLC digital circuits being added.	Approved	\$ 25,689.00	Executed - Part of GMP
91	Standardize Equipment Color (Tnemec 32GR Light Gray)	City staff requested that a standard color be established for all manufactured equipment, piping, etc., including for all field applied coatings. This is being implemented so that plant staff only need to maintain supply of one coating color, to simplify coating spot repairs during normal maintenance. The selected color is Tnemec 32R Light Gray or equal. FBV coordinated and made requests to each equipment supplier to change their standard or typical factory color to the Tnemec Light Gray or equal. Some supplier had costs impacts for the equipment color change.	Approved	\$ 12,500.00	Executed - Part of GMP
92	Soil Slip Differing Site Conditions Claim (2021)	On January 28, 2021, the previous cut-slope landslide area reactivated during a major storm. The DB Team has performed extensive site investigation, and develop preliminary remediation drawings, and submitted total costs in the amount of \$825,300 to address the known conditions. The remediation scope of work includes: removal and stockpiling of approximately 17,000 cy of loose material to the mapped slip plane, benching into competent native subgrade material, installing a subdrain system at each bench with drainage to surface, placement and compaction of \$17,000+ cy of engineered fill, surface contours to enhance precipitation run-off, concrete v-ditches to divert run-off from the areas, and the installation of two inclinometer for future monitoring by the City (monitoring not included).	Approved	\$ 825,300.00	Executed - Part of GMP
93	NEMA 4X Electrical Enclosures per Exhibit B	The City is requiring that all exterior electrical enclosures be NEMA 4X type. FBV submitted costs in the amount of \$97K to provide the NEMA 4X enclosures. The City does not agree with the contractual merits of this cost request. The City's contention is that the DB Agreement calls for all exterior and exposed electrical and control enclosures are to be NEMA 4X rated. FBV has argued that their intention, and the approved IFC design documents indicate reasonable alternatives to NEMA 4X. The City and FBV have agreed to the settlement amount noted herein and all applicable panels will be	Approved	\$ 40,000.00	Executed - Part of GMP
94	Security System Revisions	The City requested the following improvements to the facility security system: add one exterior security camera to enhance coverage of the facility grounds (6 other cameras already in design), add door detectors and motion sensors at the RO Bldg, Storage Shed, Electrical Bldg (detectors and sensors at Ops Bldg and Maint Bldg are already in design). FBV submitted costs in the amount of \$25K and the City is agreeable to the proposed amount.	Approved	\$ 25,659.00	Executed - Part of GMP
96	January 2021 Storm Event & Texas Ice Storm	FBV has submitted costs in the amount of \$40K for actual expenditures associated with the January 2021 major storm (8" of precipitation in 48 hours). The work included: actual labor, equipment, and materials to prepare for the storm, maintain the site during the storm while work was otherwise shutdown, and significant post storm efforts to clean and repair storm drain facilities, repair damaged embankments, and repair other erosional damage. The DB Agreement stipulates that "storms" are compensable Force Majeure events. As part of the settlement, City and FBV agree to amend the DB Agreement in that only non-compensable time extensions will be requested by FBV, and/or granted by the City, for any future weather related delay or impact.	Approved	\$ 40,195.00	Executed - Part of GMP
98	Materials Testing & Inspection (3rd Party)	Filanc-Black&Veath (FBV) is reimbursed for costs associated with 3rd party materials testing and special inspections. Under previous Amendment #3, FBV and the City agreed "... All 3rd party testing and inspection shall be provided by FBV up to \$200,000. Anything in excess of \$200,000 shall be borne by the City". This change amount is based on actual applicable testing and inspection costs above	APPROVED	\$ 143,120.00	Executed - Part of GMP
100	Add Thin-Client Licenses and Maint Bldg Work Station	FBV is reimbursed and compensated for extra work associated with additional Control System elements as follows: (1) Add a thin client workstation in the Maintenance Building, including thin client machine with keyboard and mouse, currently there is just a 42" monitor; and (2) Add two additional Wonderware Supervisory Client License w/ Historian Client and one (1) Dell Wyse 570 Thin Client w/	APPROVED	\$ 17,229.00	Executed - Part of GMP
101	COVID-19 Related Material Cost Escalation Claim	FBV is reimbursed for extra costs associated with COVID-19 material cost escalations from EDV (air diffusers), Jensen Precast (vaults and manholes), Millmore Tile (bathroom tile), Pacific Acoustics (ceiling tiles) and S&M Fire (fire protection systems). FBV is requesting this material cost escalation reimbursement beyond normal yearly inflation statistics based on stipulations encompassed within the Design-Build Agreement between the City and FBV.	APPROVED	\$ 48,744.00	Executed - Part of GMP
102	City Requested SCADA Screen Revisions	FBV is reimbursed for extra work associated with the following City requested SCADA screen upgrades: City and FBV screen development subcontractor shall meet to agree on upgrades to the control screen features, then screen development subcontractor shall implement City preferences including screen readability, graphics use, color use, layout of equipment, use of navigational features, etc. This change item also includes costs for similar modifications to control screens provided by equipment vendors to match the new standard, and costs for two additional empty SCADA server racks in Operations Building for the City's future use.	APPROVED	\$ 60,000.00	Executed - Part of GMP
105	WRF Monument Entry Sign Modifications	FBV is reimbursed for extra work associated with upgrading the project entrance sign beyond the simple placard sign called for in the Design-Build Agreement, which would have a service life of about 5 years. The modified sign shall consist of 12' long, 4 ft tall, concrete monument (wall) sign, which includes additional grading/earthwork, concrete footing, concrete wall, raised lettering, and 18" diameter City Seal.	APPROVED	\$ 23,738.00	Executed - Part of GMP
109	Procurement of Teletruck for City Operations Staff	FBV is reimbursed for the procurement of a JCB Teletruck from Central California Power for City staff use after the project. Details of the purchase are encompassed in the quote dated 2/7/22 from Central California Power (JCB Dealer) to the City of Morro Bay (Stock Order/Serial No:3405218 - Model 30G4x4 CON).	APPROVED	\$ 74,562.00	Executed - Part of GMP
110	Chem Facility Fencing Revisions	FBV is reimbursed for extra work associated with modifying the chain link fencing enclosure at Chemical Facility as per the City's direction. The changes entails widening 6 each double swing gates that had already been installed at each chemical bay. The work required removal of existing fence posts, fencing, and anchors, patching of concrete, re-installation of gate posts, and procurement, delivery, and installation of new wider gate panels (12 total).	APPROVED	\$ 24,767.00	Executed - Part of GMP
113	Modify H2O SCADA Screen for RO System	FBV is reimbursed for extra work associated with the following City requested SCADA screen upgrades: City and RO System supplier (H2O Innovations) shall meet to agree on upgrades to the screens, and provide additional RO System SCADA screen re-work so that color use and terminologies match the other project SCADA screens.	APPROVED	\$ 13,264.00	Executed - Part of GMP
114	RO/UV Building Wall & Ceiling Insulation (DISPUTE)	FBV was directed on 3/3/22 to provide wall and ceiling insulation at Building 16, Storage Shed and Building 50, RO/UV Facility. The City's directive was based upon an ICC Inspection Report dated 10/22/21, from a Certified Deputy Inspector for Code compliance, stating "The R.O. Building has heating, but no insulation at this time, but per Title 24 should be insulated." FBV considered this outside the original GMP scope and submitted original costs of approximately \$109K on 5/2/22. On 5/4/22, FBV was informed by email that since the amount was disputed it required City Council approval to proceed. On 5/23/22, FBV was reminded by email that the GMP increase was not currently authorized. On 7/28/22, FBV submitted the current cost of \$32,025 for insulation materials only, based on a insulation vendor quote dated 7/11/22. The City will need to take possession of the insulation materials or pay FBV additional cost for disposal.	APPROVED	\$ 32,025.00	Executed - Part of GMP
117	Water Main Connection on Teresa Road	FBV is reimbursed for extra work associated with providing and additional length of 18" water line piping, fittings, and gate valve for the new WRF City Water service connection. FBV had originally assumed their connection would be near the edge of pavement on Teresa Road. The final installation includes additional trenching, piping, fittings, and a valve extended to a connection point in the center of Teresa Road. This change also includes installing temporary piping and appurtenances to obtain construction water for the project site until the final connection is completed.	REVIEW	\$ 37,503.00	Executed - Part of GMP



**City of Morro Bay**  
 Water Reclamation Facility  
 WRF Design/Build Project GMP

PCO No.	Title	Descriptions	Status	CCO AMOUNT	Comments
118	Fine Screen LOTO Capability (Disputed Item)	FBV is reimbursed for work associated with changes to the fine screens control panel and power feed that will facilitate safe and proper Lockout/Tagout procedures as follows: (1) Relocate flow meter transmitter 180 degrees from current position adjacent to fine screens vendor LCP to make room for new enclosures/equipment. (2) Remove fine screens and conveyor starters, circuit breakers, load monitors, and control wiring. (3) Relocate starters, circuit breakers, load monitors, and control wiring to new individual enclosures for each fine screen and conveyor. (4) Install one 480V main fused disconnect switch for local shutdown of existing 480V circuit. (5) Install one 480V fused disconnect on each new starter enclosure for individual load shutdown. Three individual 480V circuits will tap off of existing 480V circuit per NEC tap rule. (6) Install new 120V circuit from electrical building electrical panel, through local plant control panel, and terminate in vendor LCP for new control power. (7) Remove vendor control power transformer and re-wire door switch. (8) Install galvanized anchor based stand and kickers to support new enclosures. (9) Modify vendor LCP shroud to install conduits for extending new 480V power conductors and 120V control wiring. (10) Energize and test.	REVIEW	\$ 26,905.00	Executed - Part of GMP
119	Credit for Chemicals Supplied by City	The City is credited back and reimbursed for process facility chemicals to be purchased and supplied by the City rather than FBV as was otherwise required by the Design Build Agreement.	REVIEW	\$ (141,972.00)	Executed - Part of GMP

Appendix F

## ANVIL AMENDMENT DETAILS



**City of Morro Bay**  
**Water Reclamation Facility**  
**Lift Stations and Offsite Pipelines Project**  
**CHANGE ORDER 001**

**Project:** WRF Lift Stations and OffSite Pipelines Project      **Contractor:** Anvil Builders, Inc.  
**Date:** October 12, 2021      **Project Manager:** Gary Silveira

Upon mutual acceptance and execution of this document by the City of Morro Bay (City) and Anvil Builders, Inc. (Contractor), Contractor is hereby directed to make the following changes for the consideration set forth below:

See following page(s) for Descriptions and Reasons for Change

PCO #	DESCRIPTION	Reason For Change	Amount	Contract Time (Calendar Days)
1	SHPO Delay (35 days no dig moratorium)	REG	\$ 443,000.00	40 Days
2	Add 2 Each 10-in Valves and 10-in Tee	CR1	\$ 23,498.00	0 Days
3	PS-B MAS-Relay Pump Protection Module per DC-01	CR1	\$ 13,477.00	0 Days
4	PS-A & PS-B Conduit Changes per DC-02	CR1	\$ 6,436.00	0 Days
7	Extend Waterline Relocation from Sta 71+00 to Sta 77+43	DSC	\$ 131,096.00	0 Days
12	CA-SLO-2232H Work Interruptions from Stat 147 to Sta 150	REG	\$ 56,978.00	0 Days
NET CHANGE ORDER ADJUSTMENT			\$ 674,485.00	40 Days

ORIGINAL CONTRACT AMOUNT	\$ 31,493,675.00
Previous Change Orders	\$ -
Previous Contract Amount	\$ 31,493,675.00
Adjustments by this Change Order	\$ 674,485.00
New Contract Amount	\$ 32,168,160.00

CURRENT FINAL COMPLETION DATE	2/22/2022
Extension Days s (Calendar)	40 Days
NEW FINAL COMPLETION	4/3/2022

Acceptance of this Change Order constitutes an agreement between the City and Contractor, and the work is to be performed subject to the same terms and conditions as are contained in the Agreement with Contractor and for work on the above-mentioned project.

By signature of this Change Order, the Contractor acknowledges that the adjustments to the Contract Cost and Time contained in the Change Order are in full satisfaction and accord and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by this Change Order.

ACCEPTED

Anvil Builders Inc.

Contractor (Company Name)

(Authorized Signature)

(Date)

Gary Silveira - Project Manager

(Print Name and Title)

When signed by the Owner and Construction Manager and received by Contractor, this document becomes effective IMMEDIATELY, and the Contractor shall proceed with the change(s) described above.

APPROVED

Carollo Engineers Inc

Construction Manager

Authorized Signature

(Date)

Paul Amico - Project Manager

(Print Name and Title)

ACCEPTED

City of Morro Bay

Owner

Authorized Signature

(Date)

Scott Collins - City Manager

(Print Name and Title)



**City of Morro Bay**  
**Water Reclamation Facility**  
**Lift Stations and Offsite Pipelines Project**  
**CHANGE ORDER 001**

**Project:** WRF Lift Stations and OffSite Pipelines Project

**Contractor:** Anvil Builders, Inc.

**Date:** October 12, 2021

PCO #	TILE	DESCRIPTION OF CHANGE	Reason For Change
1	SHPO Delay	Project NTP was issued on 12-14-20. Based on a notification from SHPO, a stop work order was issued by the City on 2-16-21 restricting Anvil from conducting any ground-disturbing activities. Upon resolution of SHPO concerns, Anvil was allowed to begin most project ground-disturbing activities on 3-15-21 (35 calendar days later). This issue arose from the Section 3 Consultation between EPA and SHPO required as part of the City's WIFIA loan. The process included submittal of a Monitoring Plan to EPA that SHPO needed to approve before any ground-disturbing activities could begin. The Monitoring Plan was submitted to EPA on 10-3-2020, and EPA sent the document to SHPO in early November 2020. SHPO has a statutory requirement to provide a response within 30 days. EPA received SHPO comments in February 2021, past the 30 day limit. Under the regulations, EPA and the City could have moved forward since the statutory 30 day requirement was not met. However, EPA was not willing to do so. Consequently, the City was not approved by SHPO to move forward with any ground disturbing activities until 3-15-2021. Anvil subsequently filed a delay claim and time impact analysis resulting in this change order.	REG
2	Add 2 Each 10-in Valves and 10-in Tee	Anvil exposed the existing Waterline near Sta 121+30 as required to relocate the line per Contract. The existing piping configuration was discovered to be different from what was shown on the as-built drawings. After a review, City staff concluded that a new 10" Valve and 10" Tee fitting were needed to replace the existing piping configuration. This change will increase the reliability and operability of the water distribution system.	CR1
3	PS-B MAS Pump Relay Module per DC-01	The electrical Design Engineer issued Clarification No. 1 on 3-12-2021, indicating that the Pump Station B Pumps have been provided with a different pump protection system than shown in the design. The conduit and wire changes are required to incorporate the pump protection module. As a result conduit/wiring revisions were necessary at PS-B on Drawings 20-E-02, 03, 04, 05, 08 & and 20-I-01.	CR1
4	PS-A & PS-B Conduit Changes per DC-02	The electrical Design Engineer issued Clarification No. 2 on 4-19-2021, indicating that isolation of AC and DC signals is desired to prevent potential signal interferences. The following revisions will isolate the AC signals from the DC signals. As a result conduit/wiring revisions were necessary at PS-A on Drawings 10-E-3, 10-E-6, and 10-E-7, and at PS-B on Drawings 20-E-4, 20-E-5, 20-E-8, and 20-E-9.	CR1
7	Extend 12" RO Waterline Relocation	The original Contract includes relocating an existing 12" Waterline on Quintana between Sta 77+43 and Sta 82+05, due to the waterline being in conflict with the main Joint trench. Anvil's trenching crew on Quintana encountered the waterline entering the main Joint Trench alignment at Sta 73+50. After additional potholing, the City decided to extend the water line relocation back to Sta 71+00 (adding approximately 643 LF of waterline relocation).	DSC
12	CA-SLO-2232H Work Interruptions	Trenching operations on Quintana Rd near South Bay Blvd (Sta 147 to Sta 150) was significantly impacted by two known archaeological sites (CA-SLO-2232/H and CA-SLO-1183), one of which contains recently discovered human burials. This area needed to have excavations treated differently in that direct loading of trucks was not allowed without first confirming the soil was negative for resources or remains. These instruction were provided and enforced by State mandated archeological and tribal monitors assigned to the project.	REG

**REASON FOR CHANGE CODES**

**CR1:** City requested (required)

**CR2:** City requested (Optional)

**E&O:** Design Error or Omission

**ABI:** Anvil request / claim item

**DSC:** Differing Site Conditions

**REG:** Regulatory Agency Item





**City of Morro Bay**  
**Water Reclamation Facility**  
**Lift Stations and Offsite Pipelines Project**  
**CHANGE ORDER 002**

**Project:** WRF Lift Stations and OffSite Pipelines Project      **Contractor:** Anvil Builders, Inc.  
**Date:** January 11, 2022      **Project Manager:** Matt Scholfield

Upon mutual acceptance and execution of this document by the City of Morro Bay (City) and Anvil Builders, Inc. (Contractor), Contractor is hereby directed to make the following changes for the consideration set forth below:

See following page(s) for Descriptions and Reasons for Change

PCO #	DESCRIPTION	Reason For Change	Amount	Contract Time (Calendar Days)
9	SoCal Gas Delays and Disruptions	ABI	\$ 43,017.00	0 Days
22	6-Inch Waterline Relocation at Pump Station A	DCS	\$ 20,147.00	0 Days
23	Miscellaneous Unforeseen Utility Work	DSC	\$ 27,198.00	0 Days
27	MTBM Delays and Disruptions - Claim Resolution	ABI	\$ 111,161.00	0 Days
28	SLO County APCD Generator Mandates – Procurements	REG	\$ 301,703.00	0 Days
34	Bike Path Jack & Bore Concrete Debris Obstruction	DSC	\$ 84,276.00	0 Days
NET CHANGE ORDER ADJUSTMENT			\$ 587,502.00	0 Days

ORIGINAL CONTRACT AMOUNT	\$ 31,493,675.00
Previous Change Orders	\$ 674,485.00
Previous Contract Amount	\$ 32,168,160.00
Adjustments by this Change Order	\$ 587,502.00
Change Order to Date	\$ 1,261,987.00
New Contract Amount	\$ 32,755,662.00

CURRENT FINAL COMPLETION DATE	4/3/2022
Extension Days (Calendar)	0 Days
NEW FINAL COMPLETION	4/3/2022

Acceptance of this Change Order constitutes an agreement between the City and Contractor, and the work is to be performed subject to the same terms and conditions as are contained in the Agreement with Contractor and for work on the above-mentioned project.

By signature of this Change Order, the Contractor acknowledges that the adjustments to the Contract Cost and Time contained in the Change Order are in full satisfaction and accord and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by this Change Order.

ACCEPTED

Anvil Builders Inc.

Contractor (Company Name)

(Authorized Signature)

(Date)

Matt Scholfield

(Print Name and Title)

When signed by the Construction Manager, and upon execution of source document Amendment by City Council, this document becomes effective IMMEDIATELY, and Contractor shall proceed with the change(s) described above.

APPROVED

Carollo Engineers Inc / MEG Inc.

Construction Manager

Authorized Signature

(Date)

Steve Mimiaga - Construction Mngr.

(Print Name and Title)



**City of Morro Bay**  
**Water Reclamation Facility**  
**Lift Stations and Offsite Pipelines Project**  
**CHANGE ORDER 002**

<b>Project: WRF Lift Stations and OffSite Pipelines Project</b>			
<b>Contractor: Anvil Builders, Inc.</b>			
<b>Date: January 11, 2022</b>			
<b>PCO</b>	<b>TILE</b>	<b>DESCRIPTION OF CHANGE</b>	<b>Reason For Change</b>
9	SoCal Gas Delays and Disruptions	The project's joint trench, containing multiple pipelines, parallels an existing 16" diameter SoCal Gas high pressure gas main for nearly the entire alignment along Quintana Road. SoCal Gas requires a representative to be on site during all digging activities as well as other work activities occurring within 10 ft of the high pressure gas main (i.e. that could potentially damage or otherwise impact the main). There have been several occurrences where the SoCal Gas representative did not show up for scheduled assignments, which prevented Anvil from performing contract work and/or progressing the joint trench. In these cases Anvil's entire crew was forced to literally stand-by and wait for the SoCal Gas representative to arrive. The City/Carollo have spent considerable time and effort to coordinate between Anvil and SoCal Gas to improve communication and cooperation, but nevertheless, Anvil was negatively impacted on the following days: 5/3/21 for 2 hours, 5/17/21 for 2.5 hours, 5/18/21 for 3 hours, 6/3/21 for 2 hours, 6/17/21 for 2.5 hours for 2 different crews, 8/10/21 for 4 hours.	ABI
22	6" Waterline Relocation at Pump Sta. A	New Pump Station A is located on City property at the City's existing corporation yard on Atascadero Road. As part of the site preparation and demolition work at Pump Station A, an unknown 6" Waterline was discovered and needed to be relocated to construct the pump station. The extra work included potholing and locating the unknown utility, trenching and installation of new by-pass piping, pressure testing and disinfection of the relocated waterline, backfill and other site work.	DSC
23	Miscellaneous Unforeseen Utility Work	During the project work to date, the below noted miscellaneous unforeseen minor utility work was required for contract work to proceed. The following items are acknowledged as unforeseen conditions and as such warrant reimbursement of verified extra costs: (1) potholing unmarked utility at Pump Station A on 5/3/21, (2) emergency work to recover trench caving due to adjacent utilities from Sta 71+75 to Sta 71+85 on 6/13/21, (3) excavating around unmarked 4" (asbestos) Waterline at Sta 146+00 on 7/8/21, (4) Anvil crew standby time during potholing of incorrectly marked telephone conduit on 8/5/21, (5) unknown and unmarked Sanitary Sewer crossing at Sta 88+50, line was struck and repaired on 8/6/21, (6) potholing unknown and unmarked Sanitary Sewer lines on 8/9/21, and (7) unknown and unmarked Sanitary Sewer crossing at Sta 90+50, line was struck and repaired on 8/23/21.	DSC
27	MTBM Delays and Disruptions Claim Resolution	Anvil and their Microtunnel Boring Machine (MTBM) subcontractor, Vadnais Trenchless Services (Vadnais) encountered several unknown utilities, potential obstructions, and differing soil conditions along the MTBM alignment below the Morro Bay Roundabout, including complete equipment stoppages at approximately Sta 98+50 and Sta 98+65. Anvil's subcontractor (Vadnais) claimed delay and equipment standby time for these equipment stoppages that lasted over 8 weeks. During the 8 weeks of work stoppage, Anvil excavated and shored two separate 23 ft deep emergency recovery shafts to clear the apparent obstructions from in front of the MTBM cutting head. However, no actual obstruction was found, located, or confirmed during the recovery shaft excavations. Subsequently, the MTBM casing pipe installation was completed without further incidents. Anvil and Vadnais provided notifications of potential costs under PCO #14 and PCO #27 in excessive \$500,000 for the Vadnais equipment downtime, Vadnais loss of crew efficiencies, and for the cost of the two recovery shafts by Anvil. The City initially denied the claim for stoppages at Sta 98+50 and Sta 98+65, as no obstruction was found. The City does not dispute the other costs related to unknown utilities noted herein. After several meetings between the City, Carollo, Anvil, and Vadnais, a claim settlement was reached in the amount of \$111,161, wherein all other costs and impacts associated with both PCO #14 and PCO #27, are waived or otherwise agreed upon for the final lump sum amount noted herein.	ABI
28	SLO County APCD Emergency Generator Mandates – Procurements	On 9/24/21, the City received a Notice of Incomplete Applications from SLO County Air Pollution Control District (APCD), pursuant to the Pump Station A emergency generator and the Pump Station B emergency generator. It is City staff understanding that both generators were in compliance with APCD requirements at the time of Bid Opening in 2020. However, in late 2020, APCD rules were revised causing the two generators to now need retrofitted emissions reduction components to attain APCD compliance and approval. APCD is now also requiring Health Risk Assessments (HRAs) for both pump station sites which Carollo is undertaking via specialty subconsultant. This change order encompasses the below noted initial known costs for emissions reduction components, however it is acknowledged that there will be a subsequent change order for additional structural, mechanical, electrical, and sitework revisions necessary to implement the changes. This change order includes costs for the following assumed necessary procurement items: At Pump Station A add a Diesel Particulate Filter (DPF); and at Pump Station B add the DPF, plus Selective Catalytic Reduction (SCR) and Diesel Oxidation Catalysts (DOC) technologies.	REG
34	Bike Path Jack & Bore Concrete Debris Obstruction	On 11/11/21, about 3 pm, Anvil and their jack & bore subcontractor (Pacific Boring) encountered a concrete obstruction in the path of the 60" casing pipe. Anvil and Pacific Boring were immediately instructed to suspend the jack & bore mechanical operation and hand excavate to investigate and confirm the size and extent of the concrete obstruction. For the following 6 consecutive days (including Saturday 11/13/21 and Sunday 11/14/21), Anvil and Pacific Boring worked 8 to 10 hour shifts to hand excavate and jack hammer out the concrete obstruction, while simultaneously advancing the casing pipe about 20 ft using the hydraulic jacking equipment. On 11/18/21, the obstruction was cleared and Pacific Boring resumed normal jack & bore operations, finishing the casing installation the same day. Note that the obstruction appears to be an old Caltrans culvert structure from the original CA Route 1 highway. Also note that the jack & bore work through jurisdictional wetlands needed to proceed without delay, working through the weekend, in order to meet a California Department of Fish and Wildlife (CDFW) mandate for the tunnel to be completed by 11/19/21.	DSC

**REASON FOR CHANGE CODES**  
**CR1:** City requested (required)  
**CR2:** City requested (Optional)  
**E&O:** Design Error or Omission  
**ABI:** Anvil request / claim item  
**DSC:** Differing Site Conditions  
**REG:** Regulatory Agency Item



**City of Morro Bay**  
**Water Reclamation Facility**  
**Lift Stations and Offsite Pipelines Project**  
**CHANGE ORDER 003**

**Project:** WRF Lift Stations and OffSite Pipelines Project      **Contractor:** Anvil Builders, Inc.  
**Date:** March 22, 2022      **Project Manager:** Chris Fassari

Upon mutual acceptance and execution of this document by the City of Morro Bay (City) and Anvil Builders, Inc. (Contractor), Contractor is hereby directed to make the following changes for the consideration set forth below:

See following page(s) for Descriptions and Reasons for Change

PCO #	DESCRIPTION	Reason For Change	Amount	Contract Time (Calendar Days)
8	Additional Project Signage Costs	CR2	\$ 9,196.00	0 Days
9.2	SoCal Gas Delays and Disruptions (Part 2)	ABI	\$ 20,750.00	0 Days
13.1	CA-SLO-16 Work Revisions (Time Extension)	REG	\$ -	153 Days
16	Reroute Joint Trench below State Waterline at 121+75	DSC	\$ 144,616.00	0 Days
20	Pothole Utilities for WRF Pilot Injection Well Layout	CR2	\$ 15,291.00	0 Days
32	Broken Waterline at Quintana Road and Kings Avenue	ABI	\$ 6,198.00	0 Days
39	Cultural Monitor Extra Work at MTBM Launch Pit	DSC	\$ 45,266.00	0 Days
NET CHANGE ORDER ADJUSTMENT			\$ 241,317.00	153 Days

ORIGINAL CONTRACT AMOUNT	\$ 31,493,675.00
Previous Change Orders	\$ 1,261,987.00
Previous Contract Amount	\$ 32,755,662.00
Adjustments by this Change Order	\$ 241,317.00
Change Order to Date	\$ 1,503,304.00
New Contract Amount	\$ 32,996,979.00

CURRENT FINAL COMPLETION DATE	4/3/2022
Extension Days (Calendar)	153 Days
NEW FINAL COMPLETION	9/3/2022

Acceptance of this Change Order constitutes an agreement between the City and Contractor, and the work is to be performed subject to the same terms and conditions as are contained in the Agreement with Contractor and for work on the above-mentioned project.

By signature of this Change Order, the Contractor acknowledges that the adjustments to the Contract Cost and Time contained in the Change Order are in full satisfaction and accord and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by this Change Order.

ACCEPTED

Anvil Builders Inc.

Contractor (Company Name)

(Authorized Signature)

(Date)

Chris Fassari

(Print Name and Title)

When signed by the Construction Manager, and upon execution of source document Amendment by City Council, this document becomes effective IMMEDIATELY, and Contractor shall proceed with the change(s) described above.

APPROVED

Carollo Engineers Inc / MEG Inc.

Construction Manager

Authorized Signature

(Date)

Steve Mimiaga - Construction Mngr.

(Print Name and Title)



**City of Morro Bay**  
**Water Reclamation Facility**  
**Lift Stations and Offsite Pipelines Project**  
**CHANGE ORDER 003**

**Project:** WRF Lift Stations and OffSite Pipelines Project

**Contractor:** Anvil Builders, Inc.

**Date:** March 22, 2022

PCO	TILE	DESCRIPTION OF CHANGE	Reason For Change
8	Additional Project Signage Costs	The original contract included a \$5,000 allowance for additional signage not shown on the plans or required by the specifications. Anvil has exhausted this original budget responding to signage requests from City staff to date. This change order item provides reimbursement of Anvil costs to date to provide additional signage, including custom signs, above the \$5,000 allowance as directed by the City. These additional signs are deemed necessary for public safety, public information, enhanced traffic flow, and/or to enhance access to businesses open during construction.	CR2
9.2	SoCal Gas Delays and Disruptions (Part 2)	The project's joint trench, containing multiple pipelines, parallels an existing 16" diameter SoCal Gas high pressure gas main for nearly the entire alignment along Quintana Road. SoCal Gas requires a representative to be on site during all digging activities as well as other work activities occurring within 10 ft of the high pressure gas main (i.e. that could potentially damage or otherwise impact the main). There have been several occurrences where the SoCal Gas representative did not show up for scheduled assignments, which prevented Anvil from performing contract work and/or progressing the joint trench. In these cases Anvil's entire crew was forced to literally stand-by and wait for the SoCal Gas representative to arrive. The City/Carollo have spent considerable time and effort to coordinate between Anvil and SoCal Gas to improve communication and cooperation, but nevertheless, Anvil was negatively impacted on the following days: 8/25/21 for 2 hours, 8/26/21 for 3.5 hours, 9/16/21 for 1.5 hours, 10/7/21 for 2 hours. This is the second change order to reimburse Anvil for SoCal Gas monitor disruptions, the previous change order amount was \$43,017.00.	ABI
13.1	CA-SLO-16 Work Revisions (Time Extension)	Anvil is provided a 153 day non-compensable time extension due to impacts caused by SHPO mandated work restriction at the Morro Creek Utility Bridge, based on the following analysis and terms: Per Anvil's approved Baseline Schedule, the Utility Bridge was to start Feb 1, 2021 with 23 days of float. Per Anvil's Feb 2022 Update, the Utility Bridge was actually started Feb 24, 2022, now with 153 days of negative float (delay). It is acknowledged that SHPO restrictions prevented Anvil from starting any work at the Utility Bridge prior to Feb 24, 2022. It is acknowledged that the on-going (thru March 2022) archeologist supervised work on site, required by SHPO, continues to impact Anvil's schedule. Direct cost impacts resulting from these circumstances are being tracked separately from this analysis. Anvil is provided the 153 calendar day non-compensable time extension at this time based on the applicable Critical Path Schedule Update negative float duration discuss herein above. Anvil has submitted a Time Impact Analysis requesting 201 calendar days. Anvil and the City agree to allow Anvil to seek additional time extensions if warranted in the future when the full extent of this on-going impact is known. The current Contract completion date is 4/3/2022 (through Amendment No. 3). With 153 calendar days added, the new Contract Completion Date will be Sept 3, 2022. The City currently views the SHPO restrictions at Utility Bridge as concurrent with other Anvil caused delays (i.e. the Pump Station A Electrical Building currently has 164 days of negative float). As such the City considers this delay as non-compensable at this time (no extended overhead merit). Similar to above, Anvil and the City agree to allow Anvil the opportunity to present substantiating documentation of extended overhead merit in the future when the full extent of this on-going impact is known.	REG
16	Reroute Joint Trench below State Waterline at 121+75	Prior to starting the Joint Trench excavation near Sta 121+75, an existing 10" State Waterline was marked incorrectly in the field by the pipeline operator. Anvil excavated (potholed) the pipeline at the location marked in the field to verify its position. The State Waterline was not found at the marked location. The pipeline operator re-marked the line again in the field, this time where shown on the Contract Drawings at Sta 121+75. A pipeline was located at this location and the pipeline operators confirmed the line as the correct pipe in the field. Anvil then began excavating the 8-ft wide by 10-ft deep Joint Trench through the area. While excavating the Joint Trench, Anvil discovered another existing pipeline running adjacent to and below the pipe previously identified as the State Waterline shown on the plans. The pipeline operator subsequently confirmed that the adjacent lower pipe was actually the State Waterline to be protected in place. This caused Anvil to have to move back, re-excavate, and deepen the Joint Trench excavation from 10 ft to approximately 14 ft deep. This would allow the Joint Trench pipelines to pass below the lower pipe with required DDW clearances. In doing so, Anvil was also required to provide additional trench shoring measures and trench dewatering for the deeper trench; then Anvil encountered additional difficulties and inefficiencies installing the Joint Trench pipelines in the deeper trench, with additional groundwater, with increased soil instabilities, and additional shoring to work around, etc. Anvil was subsequently required to also provide additional Controlled Low Strength Material (CLSM) backfill and then additional select fill compaction as well. Anvil's pipe installation operation was significantly impacted over the period from 8/4/21 to 8/16/21.	DSC
20	Pothole Utilities for WRF Pilot Injection Well Layout	Anvil provided additional potholing and utility locating at the request of the City, near Anvil's stockpile and staging area on Vistra property (along Bike Path). This additional potholing and utility locating was required to determine the best location and layout for the future Pilot Injection Well to be installed under a separate City contract, as part of the Recycled Water facilities associated with the Morro Bay "Our Water" program. At the City's direction, Anvil contacted Underground Service Alert (USA), had the area underground utilities marked by utility owners, potholed several critical utilities, backfilled and restored the area, and provided resulting survey data to the City.	CR2



**City of Morro Bay**  
**Water Reclamation Facility**  
**Lift Stations and Offsite Pipelines Project**  
**CHANGE ORDER 003**

**Project:** WRF Lift Stations and OffSite Pipelines Project

**Contractor:** Anvil Builders, Inc.

**Date:** March 22, 2022

PCO	TILE	DESCRIPTION OF CHANGE	Reason For Change
32	Broken Waterline at Quintana Road and Kings Avenue	On Saturday, 10/29/21, City of Morro Bay staff observed a waterline leak where the waterline crosses the Anvil trench in the intersection of Quintana Road at Kings Avenue. The City subsequently confirmed that a 6" Water line, made of Transite (AC) pipe, had deflected and come apart just beyond Anvil's trench line. Anvil had been working in this intersection the previous week and there was strong indication that Anvil activities caused the line brake. Anvil indicated their position that they have no reason to assume they caused the water line break. The City has no reason to believe that the rupture would have occurred if not for Anvil trenching across and backfilling around the existing pipe. After additional discussion and negotiation it was agreed that the City would pay a portion of the Anvil crew expenses for repairs. The settlement amount is less than half of Anvil actual costs. Note that City staff also incurred costs for various activities including temporary repairs made when the leak was first discovered.	ABI
39	Cultural Monitor Extra Work at MTBM Launch Pit	Trenching operations just north of the Microtunnel launch pit on Quintana Road near the Morro Bay Blvd Roundabout (Sta 94 to Sta 95) was significantly impacted by a known archaeological site. Anvil work was significantly impacted by instructions provided and enforced by State mandated archeological and tribal monitors assigned to the project. During trenching in the subject area, all excavated spoils were treated differently in that direct loading of trucks was not allowed without first confirming the soil was negative for resources or remains, by hand investigations performed by the archeological and tribal monitors. Anvil's trenching and shoring operation was significantly impacted over the period from 10/21/21 to 11/8/21.	DSC

**REASON FOR CHANGE CODES**

**CR1:** City requested (required)

**CR2:** City requested (Optional)

**E&O:** Design Error or Omission

**ABI:** Anvil request / claim item

**DSC:** Differing Site Conditions

**REG:** Regulatory Agency Item



**City of Morro Bay**  
**Water Reclamation Facility**  
**Lift Stations and Offsite Pipelines Project**  
**CHANGE ORDER 004**

**Project:** WRF Lift Stations and OffSite Pipelines Project      **Contractor:** Anvil Builders, Inc.  
**Date:** June 14, 2022      **Project Manager:** Chris Fassari

Upon mutual acceptance and execution of this document by the City of Morro Bay (City) and Anvil Builders, Inc. (Contractor), Contractor is hereby directed to make the following changes for the consideration set forth below:

See following page(s) for Descriptions and Reasons for Change

PCO #	DESCRIPTION	Reason For Change	Amount	Contract Time (Calendar Days)
11	Reroute IPR and Water Line Below Sta. 144 Culvert	DSC	\$ 103,893.00	0 Days
19	Remove City's Existing Desalination Iron Media Tank	CR2	\$ 54,189.00	0 Days
28.1	SLO County APCD Generator Mandates (Rescind)	REG	\$ (301,703.00)	0 Days
33	Paving Repairs Near Todd's Garage	CR2	\$ 6,895.00	0 Days
41	Unknown Cementitious Subgrade at South Bay Blvd	DSC	\$ 26,600.00	0 Days
42	Unknown Conduits at South Bay Bvd and Quintana Road	DSC	\$ 7,788.00	0 Days
49	Vistra/PG&E Easements Unknown Extra Work Items	DSC	\$ 48,273.00	0 Days
NET CHANGE ORDER ADJUSTMENT			\$ (54,065.00)	0 Days

ORIGINAL CONTRACT AMOUNT	\$ 31,493,675.00
Previous Change Orders	\$ 1,503,304.00
Previous Contract Amount	\$ 32,996,979.00
Adjustments by this Change Order	\$ (54,065.00)
Change Order to Date	\$ 1,449,239.00
New Contract Amount	\$ 32,942,914.00

CURRENT FINAL COMPLETION DATE	9/3/2022
Extension Days (Calendar)	0 Days
NEW FINAL COMPLETION	9/3/2022

Acceptance of this Change Order constitutes an agreement between the City and Contractor, and the work is to be performed subject to the same terms and conditions as are contained in the Agreement with Contractor and for work on the above-mentioned project.

By signature of this Change Order, the Contractor acknowledges that the adjustments to the Contract Cost and Time contained in the Change Order are in full satisfaction and accord and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by this Change Order (EXCEPT AS NOTED IN ITEM 13.1 HEREIN WHEREIN DELAY IMPACTS ARE ON-GOING).

ACCEPTED

Anvil Builders Inc.

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Contractor (Company Name)

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(Authorized Signature) (Date)

Chris Fassari

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(Print Name and Title)

When signed by the Construction Manager, and upon execution of source document Amendment by City Council, this document becomes effective IMMEDIATELY, and Contractor shall proceed with the change(s) described above.

APPROVED

Carollo Engineers Inc / MEG Inc.

Construction Manager

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Authorized Signature (Date)

Steve Mimiaga - Construction Mngr.

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(Print Name and Title)



**City of Morro Bay  
Water Reclamation Facility  
Lift Stations and Offsite Pipelines Project  
CHANGE ORDER 004**

**Project:** WRF Lift Stations and OffSite Pipelines Project

**Contractor:** Anvil Builders, Inc.

**Date:** June 14, 2022

PCO	TILE	DESCRIPTION OF CHANGE	Reason For Change
11	Reroute IPR and Water Line Below Sta. 144 Culvert	The original design called for the IPR and Waterline relocation in this area to be placed above the existing stormwater culvert. After the trench was excavated, it was discovered that there was insufficient soil cover over the existing culvert to allow the IPR and Waterline to be installed over the top per Drawings. Consequently, these pipelines needed to be routed under the culvert, which increased the depth of excavations from 2 ft to 8 ft at Sta 143+99, thereby also increasing requirements for trench shoring, excavated spoils, backfill and compaction, , and potential groundwater management, between Sta 142+95 and Sta 144+95. Reference RFI #52.	DSC
19	Remove City's Existing Desalination Iron Media Tank	The City requested a quote from Anvil to remove and dispose of the existing Desalination Iron Media Tank (horizontal pressure filter) located east of Pump Station A, along Atascadero Rd. Anvils quote includes removal of the tank, tank supports, and air vacs atop the tank. Bid includes the removal of a max. of 20 CY of concrete inside the tank. Bid is based on the steel tank weighing a maximum of 55,000 lbs (once concrete is removed). Anvil will remove and replace the existing chain link with barbed wire fence; 50 LF max. Removal of adjacent piping and appurtenances (air-vacs, anchor bolts, etc.) is not included in this work.	CR2
28.1	SLO County APCD Generator Mandates (Rescind)	On 9/24/21, the City received a Notice of Incomplete Applications from SLO County Air Pollution Control District (APCD), pursuant to the Pump Station A emergency generator and the Pump Station B emergency generator. The City subsequently completed and submitted Health Risk Assessments (HRAs) at each Pump Station, as was required by APCD as part of their Notice of Incomplete Applications. After submission of the HRAs, APCD reversed its initial determination and accepted both generators without modifications. As such, the City and Anvil agree to rescind the associated previous change order for added (assumed) emissions control devices included in Amendment No. 2. Reference PCO #28.	REG
33	Paving Repairs Near Todd's Garage	The City requested that Anvil repair existing failing pavement in the City right-of-way adjacent to Anvil's Joint Trench excavation. It was determined that the damaged asphalt was not the fault of Anvil operations but rather the on-going inclement weather and existing deteriorated pavement conditions. This occurred near Todd's Garage at 972 Quintana Rd, Morro Bay. The area was re-paved 12/10/2021.	CR2
41	Unknown Cementitious Subgrade at South Bay Blvd	During Joint Trench and IPR excavation work on South Bay Blvd, the Contractor encountered cement-treated aggregate base-rock material below the existing pavement. This cementitious base material required additional effort and expenses in mechanical removal work and subsequent off-site disposal (material was not re-useable as backfill). This extra work warrants reimbursement of verified extra costs including documented labor, equipment, and other expenses on 2/1/2022, 2/3/2022, 2/4/2022, 2/5/2022, 2/10/2022, 2/11/2022, and 2/14/2022.	DSC
42	Unknown Conduits at South Bay Blvd and Quintana	During Joint Trench excavation work near the South Bay Blvd and Quintana Road intersection, the Contractor encountered and damaged unknown existing conduits which required additional effort and expenses to hand-dig around and repair. This extra work warrants reimbursement of verified extra costs including documented labor, equipment, and other expenses on 1/25/2022. The conduits were not shown on the plans or claimed by any known utility owner.	DSC
49	Vistra/PG&E Easements Unknown Extra Work Items	During the project work within PG&E/Vistra easements to date, the below noted miscellaneous unforeseen minor utility work was required for contract work to proceed. The following items are acknowledged as unforeseen conditions and as such warrant reimbursement of verified extra costs: (1) Excavate "test percolation ponds" at City request along Bike Path on 2/16/2022, (2) Unknown utilities encountered from Sta 53+00 to Sta 54+00 which impacted production on 2/16/2022, (3) Installation of exclusionary fencing along LS-2 as required by SHPO on 2/23/2022, (4) Potholing LS-2 alignment for unknown utilities not shown on plans but marked by utility companies on 3/7/2022, (5) Unforeseen concrete slab not shown on plans along LS-2 alignment impacting production on 3/22/2022, (6) Excavate around utilities not marked on plans along LS-2 alignment, 8 utilities total, between 3/17/2022 and 3/31/2022, (7) Sawcut, remove, and stockpile unknown concrete slab at Sta 21+00 of LS-2 alignment on 3/30/2022, and (8) Excavate and install 4" pipe and fittings to re-route existing Vistra waterline above LS-2 force main pipe on 4/6/2022.	DSC

**REASON FOR CHANGE CODES**  
**CR1:** City requested (required)  
**CR2:** City requested (Optional)  
**E&O:** Design Error or Omission  
**ABI:** Anvil request / claim item  
**DSC:** Differing Site Conditions  
**REG:** Regulatory Agency Item





**City of Morro Bay**  
**Water Reclamation Facility**  
**Lift Stations and Offsite Pipelines Project**  
**CHANGE ORDER 005**

**Project:** WRF Lift Stations and OffSite Pipelines Project      **Contractor:** Anvil Builders, Inc.  
**Date:** August 23, 2022      **Project Manager:** Chris Fassari

Upon mutual acceptance and execution of this document by the City of Morro Bay (City) and Anvil Builders, Inc. (Contractor), Contractor is hereby directed to make the following changes for the consideration set forth below:

See following page(s) for Descriptions and Reasons for Change

PCO #	DESCRIPTION	Reason For Change	Amount	Contract Time (Calendar Days)
13	Utility Bridge Abutment Changes	REG	\$ 500,000.00	60 Days
17	Add Tracer Wire, Ground Rods, Terminal Stations	CR2	\$ 108,521.00	0 Days
25	Construction Cost Escalation Increases from Vendors	DSC	\$ 292,000.00	0 Days
50	DSC at South Bay & Teresa (Utilities & Bedrock)	DSC	\$ 210,000.00	0 Days
52	High Level Switch Alarm Termination at Utility Bridge	CR1	\$ 8,743.00	0 Days
61	City Sales Tax Increase During Project	DSC	\$ 134,403.00	0 Days
NET CHANGE ORDER ADJUSTMENT			\$ 1,253,667.00	60 Days

ORIGINAL CONTRACT AMOUNT	\$ 31,493,675.00	CURRENT FINAL COMPLETION DATE	9/3/2022
Previous Change Orders	\$ 1,449,239.00	Extension Days (Calendar)	60 Days
Previous Contract Amount	\$ 32,942,914.00	NEW FINAL COMPLETION	11/2/2022
Adjustments by this Change Order	\$ 1,253,667.00		
Change Order to Date	\$ 2,702,906.00		
New Contract Amount	\$ 34,196,581.00		

Acceptance of this Change Order constitutes an agreement between the City and Contractor, and the work is to be performed subject to the same terms and conditions as are contained in the Agreement with Contractor and for work on the above-mentioned project.

By signature of this Change Order, the Contractor acknowledges that the adjustments to the Contract Cost and Time contained in the Change Order are in full satisfaction and accord and so waives any right to claim any further cost and time impacts at any time during and after completion of the Contract for the changes encompassed by this Change Order (EXCEPT AS NOTED IN ITEM 13.1 HEREIN WHEREIN DELAY IMPACTS ARE ON-GOING).

ACCEPTED

Anvil Builders Inc.

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Contractor (Company Name)

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(Authorized Signature) (Date)

Chris Fassari

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(Print Name and Title)

When signed by the Construction Manager, and upon execution of source document Amendment by City Council, this document becomes effective IMMEDIATELY, and Contractor shall proceed with the change(s) described above.

APPROVED

Carollo Engineers Inc / MEG Inc.

Construction Manager

 8/23/2022

Authorized Signature (Date)

Steve Mimiaga - Construction Mngr.

(Print Name and Title)





**City of Morro Bay**  
**Water Reclamation Facility**  
**Lift Stations and Offsite Pipelines Project**  
**CHANGE ORDER 005**

**Project:** WRF Lift Stations and OffSite Pipelines Project

**Contractor:** Anvil Builders, Inc.

**Date:** August 23, 2022

PCO	TILE	DESCRIPTION OF CHANGE	Reason For Change
13	Utility Bridge Abutment Changes	Anvil is reimbursed and compensated for extra work associated with SHPO mandated work revisions including: (1) revising trenching and finish grade requirements between Atascadero Road and the North Bridge Abutment, (2) revised slide rail shoring at both Bridge Abutment excavations, (3) mandated dewatering systems regardless of groundwater level/status, (3) and Archeologist supervised excavations with severely impacted excavation operations throughout the entire CA-SLO-16 zone. Anvil is provided a 60 day non-compensable time extension through 11/2/2022. Anvil and the City agree to allow Anvil to present substantiating documentation of associated extended overhead impacts for incorporation in a future Amendment.	REG
17	Add Tracer Wire, Ground Rods, Terminal Stations	Anvil is reimbursed and compensated for extra work associated with adding Tracer Wire on all project pipelines that are not located in a Joint Trench. This includes: 7 segments of IPR line, 2 segments of BR line, and 4 segments of Relocated Waterlines. Anvil shall provide Tracer Wire starting and/or ending terminals (Tracer Wire Test Stations per Std Det 2060 and Ground Rods per Std Det 16410). Anvil shall also provide Tracer Wire Test Stations at approximately 500' intervals throughout all associated tracer wire systems.	CR2
25	Construction Cost Escalation Increases from Vendors	Anvil is reimbursed and compensated for construction cost escalation increases from specific vendors resulting from the unprecedented COVID-19 caused inflation. The reimbursement is based on several specific vendors including: Aegion for special HDPE fusing, P&F Distributors for piping materials, Big Wakoo for fencing, Pacific Steel Group for rebar, R&B for construction materials, David Crye for trucking, JB Dewar for diesel fuel, and SC Fuels for diesel fuel. The compensation amount represents a 50/50 settlement split with Anvil.	DSC
50	DSC at South Bay & Teresa (Utilities & Bedrock)	Anvil is reimbursed and compensated for extra work associated with differing site conditions (DSC) encountered while installing project pipelines through the intersection of South Bay Blvd and Teresa Road including significant impacts for unknown bedrock over about 100-ft of trenching. This change item also includes impacts for utility conflicts encountered including for AT&T, SoCal Gas, State Water, City Water, and City Sewer. This change item also includes costs to remove and replace segments of existing City Sewer pipe and City Water pipe that were in poor condition and failing due to the adjacent bedrock excavation operations.	DSC
52	High Level Switch Alarm Termination at Utility Bridge	Anvil is reimbursed and compensated for extra work associated with eliminating the PLC at the Utility Bridge. The PLC only operated a flood sensor. The flood sensor will now be connected to the PLC at Pump Station A via added twisted shielded pair (control wire) running in one of the innerducts in the 4" FO conduit. The purchased PLC, solar panel, and other related equipment will be provided to the City as spare parts.	CR1
61	City Sales Tax Increase During Project	Anvil is reimbursed and compensated for extra costs associated with the City raising local Sales Tax by 1% effective 4/1/2021, essentially just after Anvil started working on the project. This settlement amount is calculated to reflect 1% of all goods and materials purchased within the City and delivered to the site.	DSC

**REASON FOR CHANGE CODES**  
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