



MORRO BAY
OUR WATER
RELIABLE. CLEAN. FOR LIFE.



City of Morro Bay
Water Reclamation Facility Program

QUARTERLY REPORT - ENDING MARCH 31, 2022

FY 2021-2022 – 3rd Quarter
January 1 through March 31, 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 third quarter (Q3) of the 2021-22 fiscal year (FY22). It includes information and data on the overall program budget and the status of the individual program components.

ES.1 Progress During Q3 FY22

The Water Reclamation Facility (WRF) is approximately 77 percent complete and Conveyance Facilities are approximately 62 percent complete. The WRF is anticipated to be completed and operational by December 2022, which will achieve compliance with the State’s Time Schedule Order 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 and Conveyance Facilities construction progressed significantly in Q3 FY22, and the major accomplishments are summarized below.

ES.2 Budget Status

The current program budget is \$144.67M and \$100.48M has been spent to-date.

ES.3 Key Q3 FY22 Accomplishments

- The WRF electrical service connection was completed and Filanc Black & Veatch (FBV) began testing the electrical, instrumentation and control loops of the WRF process areas.
- In late March, FBV began testing various treatment processes using clean water and began training City operations staff on process equipment.
- The City resolved all outstanding regulatory and permitting requirements and successfully excavated the abutments for the Conveyance Facilities’ pipe bridge in the southeast corner of Lila Keiser Park.
- Continued progressing the pipeline and pump station construction to recover time lost to regulatory and other delays.
- The pilot injection well, which is a key element of developing the basis of design for the RWF, was rebid during this period and one bid was received. Construction of the well is anticipated to begin in July 2022.

ES.4 Challenges and Upcoming Activities

The major challenge the program team is currently working to resolve is minimizing the City’s exposure to a delay claim from FBV due to the gap in time between when the WRF will be ready to accept and begin treating wastewater and when the pipelines and pump stations will be completed and able to pump wastewater from the existing wastewater treatment plant to the WRF. FBV has been progressing construction to be ready to accept wastewater sometime in May, and the current estimate for when the pipelines and pump stations will be completed is October. Consequently, the program team and contractors are working together on the plan for WRF startup that minimizes the City’s financial burden for the delay.

An additional challenge the team is working on is the reopening of South Bay Boulevard. Anvil Builders has been making good progress with the goal of reopening the road by the end of April.

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 ⁽¹⁾	FY 21/22	Prior Quarter	Current Quarter	Current % Change from Baseline
WRF Plant	\$62,414,000	\$77,687,023	\$74,697,995	\$74,697,995	20%
Conveyance Facilities	\$21,087,000	\$37,982,000	\$36,319,667	\$37,365,582	77%
RWF	\$8,593,000	\$6,668,000	\$6,668,000	\$6,668,000	-22%
General Project	\$24,403,000	\$15,445,000	\$25,362,730	\$25,362,730	4%
Construction Contingency ⁽²⁾	\$9,444,000	\$6,892,854	\$1,626,485	\$580,570	-94%
Total	\$125,941,000	\$144,674,877	\$144,674,877	\$144,674,877	15%

Notes:

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

(2) As of current Q3, FY 21/22, breakdown of remaining Construction Contingency is: WRF \$80,570, Conveyance \$0, and RWF \$500,000.

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
WRF Plant		\$67,234,512	\$76,697,995	14%
Design/Build	FBV (Overland)	\$67,234,512	\$76,697,995	14%
Conveyance Facilities		\$33,315,112	\$37,365,582	12%
Design	Waterworks Engineers	\$1,360,565	\$2,431,407	79%
Construction (Anvil Builders)	Anvil Builders	\$31,493,675	\$32,996,979	5%
Permitting	Cogstone, Far Western, KMA	\$460,872	\$1,937,196	320%
RWF		\$351,000	\$933,650	166%
Planning and Modeling	GSI Solutions, Inc. (GSI)	\$351,000	\$933,650	166%
Construction	TBD	--	--	--
General Project		\$293,000	\$12,230,201	4074%
Program and Construction Management	Carollo Engineers and subconsultants ⁽¹⁾	\$293,000	\$11,808,401	3930%
City Contracts	Note 2	Note 2	\$421,800	--
Total		\$101,193,624	\$127,227,428	--

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	Total To Date	Current Quarter Budget ⁽¹⁾	Percent Budget Expended
WRF Plant	\$49,221,493	\$8,454,400	\$57,675,893	\$74,697,995	77%
Conveyance Facilities	\$15,673,323	\$7,635,974	\$23,309,297	\$37,365,582	62%
RWF	\$599,350	\$67,239	\$666,589	\$6,668,000	10%
General Project	\$17,349,234	\$1,476,628	\$18,825,862	\$25,943,300	73%
Total	\$82,843,400	\$17,634,241	\$100,477,641	\$144,674,877	69%

Notes:

(1) Current Quarter's General Project Budget includes \$580,570 of Construction Contingency.

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
Total		\$138,679,974		

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 schedule progress percent complete to-date per contract spent is 83.3 percent for the WRF and 70.3 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 complete to-date.

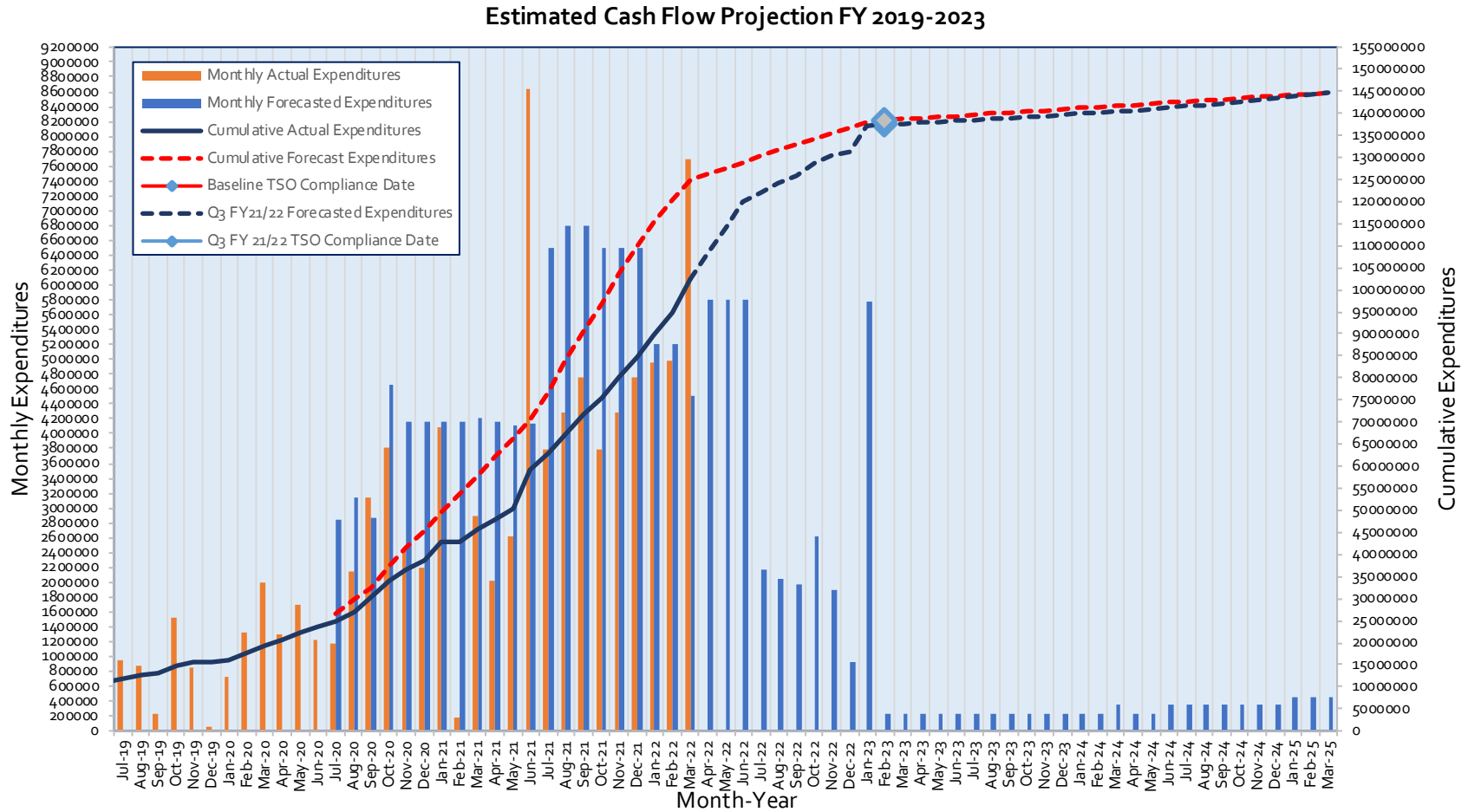


Figure 1 Program Cash Actual and Forecasted Expenditures



Morro Bay WRF Project
 Program Wide Schedule Summary
 Updated: FY 2021/2022 Q3

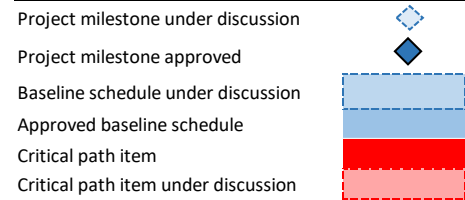
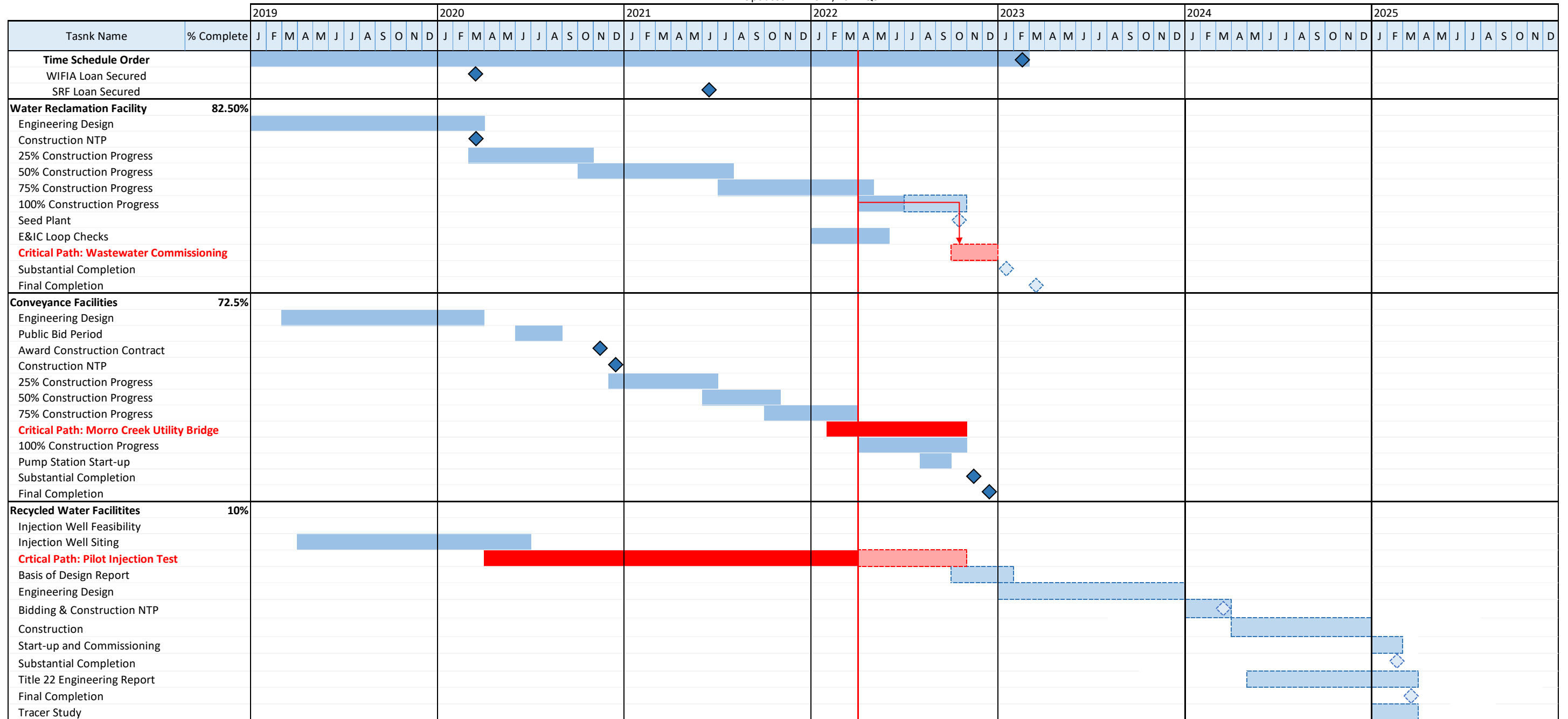


Figure 2 Program-Wide Summary Schedule

Section 2 – WRF Project

2.1 Construction Progress Summary

Major accomplishments during this period are summarized below:

General and Administrative

- Completed installation of treatment process equipment and began testing the individual treatment process control systems.
- Began implementation and testing of the overall WRF process control system.
- Conducted equipment vendor site visits.
- Began training City operations staff on the different treatment processes and equipment.
- Began recirculating clean water throughout the WRF to test the operation of the plant as a whole.
- Continued to maintain Stormwater Pollution Prevention Plan (SWPPP) Best Management Practices (BMPs).
 - The State Waterboards issued two notices of violation (NOV) for stormwater discharges from the site .
 - NOV dated 11/8/2021 was responded to by FBV and the City on 12/17/2021.
 - NOV dated 12/20/2021 was responded to by the City and FBV on 1/7/2022.
 - The FBV implemented extensive additional BMPs in response to the NOVs.
 - Pursuant to both NOVs, the Waterboards concluded that, “the City has addressed the issues identified and has implemented additional erosion and sediment control BMPs”.
 - The City and FBV consider both NOVs resolved at this time.

Sitework

- Completed and tested underground piping systems.
- Contractor completed concrete flatwork throughout site including sidewalks, curbs, gutters, etc.
- Completed earthwork operations and placed gravel pavement base in all paved areas.
- Installing power cables and control wires through underground duct banks and vaults on site is nearly complete.

Headworks

- Completed installation of piping, valves, supports, handrails, etc.
- Completed electrical connections and coordinated equipment vendor site visit(s).

Biological Nutrient Removal (BNR)/Membrane Bioreactor (MBR) Treatment

- Completed BNR and MBR equipment installation.
- Completed electrical connections and coordinated vendor site visit(s).

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

- Continued installing RO equipment.
- Continued installation of UV AOP equipment.
- Continued installing process piping, pipe support racks, heating, ventilation, and air conditioning (HVAC) equipment, building amenities, etc.
- Continued pulling and connecting power and control wires.

Purified Water Facilities

- Completed installation of purified water pump station equipment including pumps, piping, valves, etc.
- Completed electrical connections and coordinated vendor site visit(s).

Residuals/Sludge Processing

- Completed sludge dewatering equipment including the belt filter press, sludge pumps, polymer mixing and feed system, process piping, valves, supports, appurtenances, etc.
- Completed SAFE filter area equipment including the cloth disk filter, etc.
- Completed sludge holding tank including blowers, diffusers, mixers, instruments, etc.
- Completed electrical connections and coordinated vendor site visit(s).

Electrical and Controls

- Continued installing miscellaneous panels, conduits, boxes, etc.
- Power and control wires are nearly complete.
- Completed the PG&E service connection and the site is using permanent PG&E power.

Chemical Storage and Feed

- Chemical feed pump skids and storage tanks and conduit and panels are nearly complete.

Operations Building

- Building exterior and interior work is nearly complete.
- Building furnishings including appliances, desks, tables, monitors, white boards, etc. have been delivered and assembled.
- Completed connection of cables and wires throughout the building, and the WRF control room and plant controls has also been completed.

Maintenance Building

- Laboratory interior, appliances, doors, fixtures, HVAC equipment, lighting, electrical, storage racks, fire protection systems, etc. are nearing completion.

City Yard Facilities

- Completed remaining buildings including roofing and paneling.
- Completed building amenities, etc. at the storage shed building.

Planned activities for the next reporting period include:

- Testing of electrical instrumentation and controls systems.
- Complete plant control system setup.
- Paving and landscaping of WRF Site.

2.2 Project Photographs

The following photos show progress during this period.



WRF Site Aerial Capture on February 28, 2022



Aerial Capture of Headworks, BNR, MBR, Sludge Holding Tanks, SAFE System on February 28, 2022

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 F.

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
Total		\$9,463,483

2.4 Project Schedule

Figure 3 shows the WRF construction and startup schedule.



Morro Bay WRF Project
 Program Wide Schedule Summary
 Updated: FY 2021/2022 Q3

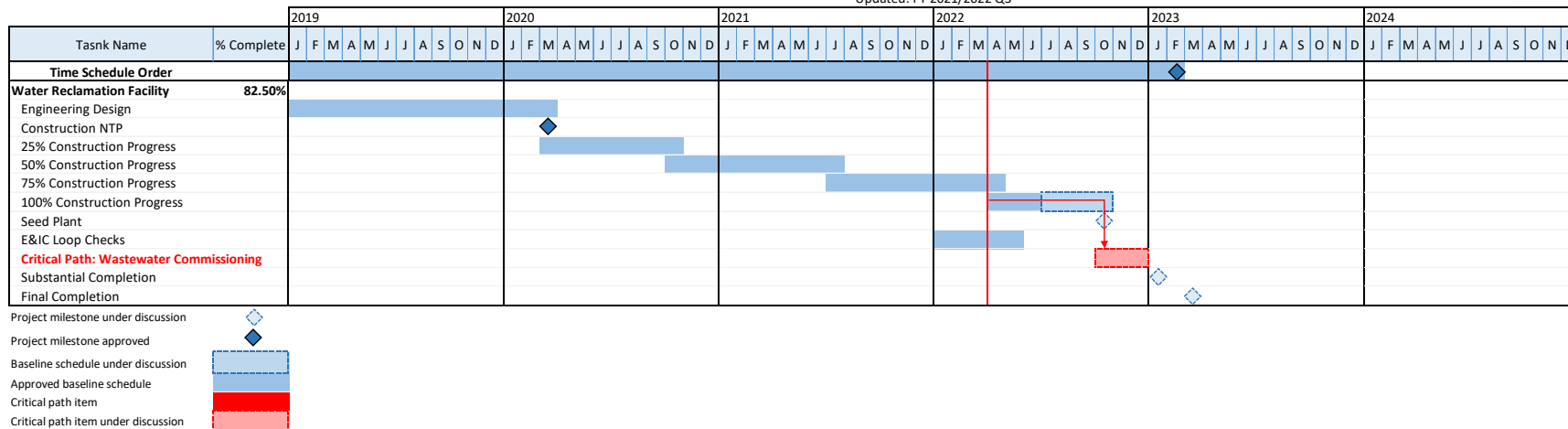


Figure 3 WRF Project Component Schedule

Section 3 – Conveyance Facilities Project

3.1 Construction Progress Summary

Major accomplishments during this period are summarized below:

Pump Station A

- Completed leak testing and backfilling the pump station wet well.
- Constructed three 96-inch diameter emergency storage tanks and backfilled the site.
- Continued installing underground piping.
- Installed electrical building underground conduits and building connections.
- Set forms and installed rebar for the electrical building slab.

Pump Station B

- Continued installing underground piping.
- Set forms, installed rebar, and placed concrete for the electrical building slab.
- Constructed concrete block electrical building walls.
- Set forms, installed rebar, and placed concrete for equipment slabs at the surge tank, emergency generator, and odor control equipment.

Pipelines

Work was performed on the following segments:

- Bike Path Between Atascadero Road and Main Street:
 - Installed dewatering system for excavation of the pipe bridge abutments and began excavation of both abutments.
 - Completed pipeline installation between Main Street and the bike path entrance.
 - Continued clearing/grubbing and installing temporary fencing along the 70-foot construction easement.
- Main Street Between the Bike Path and Quintana Road:
 - Completed pipeline installation across north side of Main Street.
 - Completed PG&E power feed conduit across Main Street, including trenching, conduit, backfill, and paving.
- Quintana Road Between Morro Bay Boulevard and South Bay Boulevard:
 - Conducting pipeline pressure testing.
- South Bay Boulevard Between Quintana Road and the WRF:
 - Installing and backfilling pipelines with final paving and road reopening planned for late April 2022.
- Vistra Property (Lift Station 2 Force Main):
 - Trenching, pipe installation, and site restoration continues in this segment.

Planned activities for the next period include the following:

- Progress construction pipe bridge over Morro Creek.
- Progress construction of above ground facilities for both pump station.
- Continue pipeline pressure testing.
- Begin construction of pipelines on Atascadero Road between Highway 1 and the beach.
- Coordinate with City staff and FBV on Anvil's start up plan and connecting the existing wastewater facilities to the Conveyance Facilities.

3.2 Project Photographs

The following photos show progress during this period.



Asphalt removal beneath Highway 1 and Joint Trench on South Bay Boulevard near Highway 1



Soil improvements at Pump Station A Site

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
Total		\$1,503,304

3.4 Project Schedule

Figure 4 shows the Conveyance Facilities construction and startup schedule.



Morro Bay WRF Project
 Program Wide Schedule Summary
 Updated: FY 2021/2022 Q3

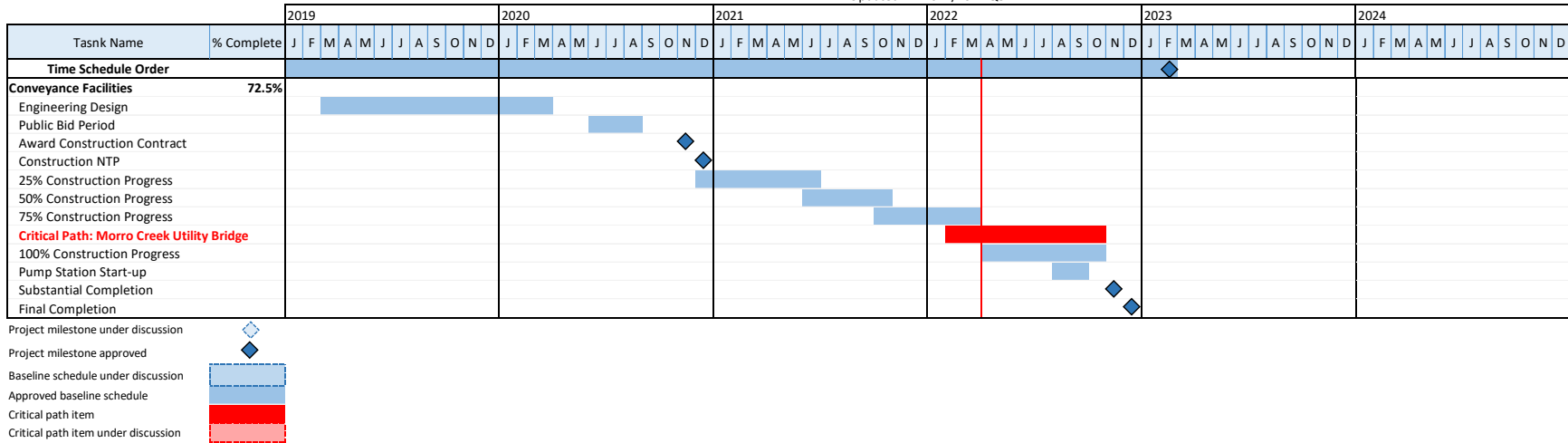


Figure 4 Conveyance Facilities Project Component Schedule

Section 4 – Recycled Water Facilities Project

4.1 Project Progress Summary

The RWF component of the WRF program is currently in the planning and pre-design phase. Major accomplishments during this reporting period include the following:

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:

- The injection well No. 1, also known as the Pilot Injection Well, will be constructed to be a full-scale groundwater injection well that will initially be used to perform a pilot injection study. 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 RWF component. The City, program management team, and the project hydrogeologist, GSI have continued to progress the procurement of a contractor to install and complete the pilot injection well task of the recycled water facilities.
- The City did not receive any bids for the first advertisement of the pilot injection well project, and the well was re-advertised for bid on January 27, 2022.
- The City received one bid from Pacific Coast Well Drilling on March 22, 2022. Pacific Coast Well Drilling was evaluated by the City and the program team, and their bid was found to be responsive and qualifying. The City is anticipating award of this contract to Pacific Coast Well Drilling on April 12, 2022.

Planned activities for the next quarterly report include the following:

- Execute agreement with Pacific Coast Well Drilling for the pilot injection well scope of work.
- Conduct a pre-construction meeting with the Pacific Coast Well Drilling to discuss site constraints and potential changes to scope of work.
- Begin pilot injection well installation and injection testing.

4.2 Project Photographs

Project photos for this component are not yet available.

4.3 Project Schedule

Figure 5 shows the Conveyance Facilities construction and startup schedule.



Morro Bay WRF Project
 Program Wide Schedule Summary
 Updated: FY 2021/2022 Q3

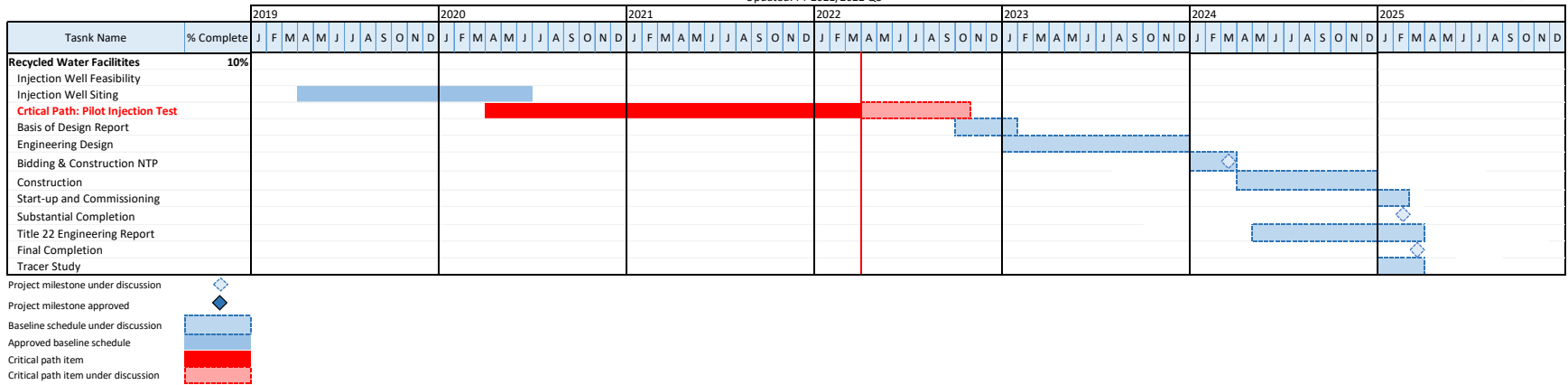


Figure 5 Recycled Water Facilities Project Component Schedule

APPENDIX A - ABBREVIATIONS

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 EXPENDITURES BY BUDGET CODE

City Budget Code ⁽¹⁾	Fund Name	Total Q3 FY21/22 Expenditures	Vendor Name	Project Component
4110	Regular Pay	Summarized in Total Personnel Services below	City of Morro Bay	General Project
4120	Overtime Pay			
4310	Part-Time Pay			
4910	Employer Paid Benefits			
4911	Pension Normal Cost			
4999	Labor Costs Applied			
Total Personnel Services				
5114	Laboratory Testing Supplies	Summarized in Total Supplies below	Various	General Project
5115	Water Distribution System Supplies			
5116	Wastewater Collection System Supplies			
5199	Miscellaneous Operating Supplies			
Total Supplies				
6101	Legal Services – General	\$28,248.00	Aleshire & Wynder	General Project
6103	Financial Audits	-	-	-
6107	Advertising	-	-	-
5307	Blueprint/Copy Charges	-	-	-
6220	Postage	\$15.40	Mechanic’s Bank	General Project
6301	Electricity	-	-	-
6303	Water	\$8,599.00	City of Morro Bay	General Project
6510	Meetings and Conferences	-	-	-
6513	Meals and Lodging	-	-	-
6514	Travel Expense	\$1,338.74	Grant Chase, US Bank Voyager Fleet	General Project
6640	Maintenance Contracts	-	-	-
6710	Notices & Publications	-	-	-
Total Services		\$38,201.14		
6104	Engineering Services	\$67,239.17	GSI Water Solutions	Recycled Water Facilities
6105	Consultation Services	\$39,549.00	Bartle Wells, Confluence	General Project
6152	Outside Lab Testing	\$3,132.00	Abalone Coast, Pace Analytical	General Project

City Budget Code ⁽¹⁾	Fund Name	Total Q3 FY21/22 Expenditures	Vendor Name	Project Component
6161	Licenses & Permits	\$7,476.75	SWRCB, SLO APCD	General Project
6162	Mandated Fees/Inspections	-	-	-
6196	Program Management & DB Procurement	\$1,332,603.27	Carollo Engineers and Subconsultants ⁽²⁾	General Project
6197	Grant Support	-	-	-
6198	Government Relations	-	-	-
6640	Maintenance Contracts	-	-	-
7101	Land Acquisition	-	-	-
Total Project Soft Costs		\$1,450,000.19		
6106	Contractual Services	\$7,061,532.78	Anvil Builders	Conveyance Facilities
7103	Design/Build-On-Site Improvement Design Phase	-	-	-
7104	Design-Lift Station/Force Main	\$46,351.71	Water Works Engineers	Conveyance Facilities
7105	Planning & Permitting	\$528,089.75	Cogstone, KMA, Far Western	Conveyance Facilities
7106	Design-Injection Wells & Recycled Water Pipeline	\$2,095.00	Joann Head Land Surveying	RWF
7107	Design/Build-On-Site Improvement Build Phase	\$8,454,399.59	FBV Overland	WRF
7108	Injection Well Construction	-	-	-
7109	Lift Station/FM Construction Phase	-	-	-
7110	Pilot Well Construction	-	-	-
Total Construction Costs		\$16,092,468.83		
Total Quarterly Expenditures		\$17,634,240.81		

Notes:

(1) City Budget Codes are from the latest Accounts Payable Report run on 4/26/2022.

APPENDIX C - WRF PROGRAM FUNDING REQUESTS AND REIMBURSEMENT STATUS SUMMARY

Agency	Description	No.	Date Submitted	Requested Amount	Approved Amount	Received
SWRCB	CWSRF Planning Loan	1	Dec-18	\$289,595	\$217,441	Yes
SWRCB	CWSRF Planning Loan	2	Nov-19	\$6,431,295	\$5,312,748	Yes
SWRCB	CWSRF Planning Loan	3	Oct-20	\$3,910,211	\$2,415,669	Yes
SWRCB	CWSRF Planning Loan	4	Oct-21	\$930,385	\$484,617	No
SWRCB	CWSRF Planning Loan	5	TBD	\$773,331	Pending	No
SWRCB	CWSRF Construction Loan	1	Sep-21	\$11,185,433	\$11,185,433	Yes
SWRCB	CWSRF Construction Loan	2	Nov-21	\$10,886,581	Pending	No
SWRCB	CWSRF Construction Loan	3	Dec-21	\$5,463,514	Pending	No
SWRCB	CWSRF Construction Loan	4	Feb-22	\$5,943,018	Pending	No
SWRCB	CWSRF Construction Loan (Note 2)	5	Mar-22	\$6,095,373	Pending	No
EPA	WIFIA Loan	1	May-20	\$1,100,944	\$1,100,944	Yes
EPA	WIFIA Loan	2	Jun-20	\$61,014	\$50,486	Yes
EPA	WIFIA Loan	3	Jul-20	\$3,489,409	\$3,489,409	Yes
EPA	WIFIA Loan	4	Jul-20	\$2,461,121	\$2,461,121	Yes
EPA	WIFIA Loan	5	Aug-20	\$142,863	\$142,863	Yes
EPA	WIFIA Loan	6	Oct-20	\$1,635,106	\$1,635,106	Yes
EPA	WIFIA Loan	7	Dec-20	\$3,008,572	\$3,008,572	Yes
EPA	WIFIA Loan	8	Dec-20	\$3,671,499	\$3,671,499	Yes
EPA	WIFIA Loan	9	Jan-21	\$5,553,851	\$5,553,851	Yes
EPA	WIFIA Loan	10	Mar-21	\$2,440,399	\$2,440,399	Yes
EPA	WIFIA Loan	11	Apr-21	\$1,621,783	\$1,621,783	Yes
EPA	WIFIA Loan	12	May-21	\$2,988,342	\$2,988,342	Yes
EPA	WIFIA Loan	13	Jun-21	\$3,544,987	\$3,544,987	Yes
EPA	WIFIA Loan	14	Sep-21	\$2,692,977	\$2,692,977	Yes
EPA	WIFIA Loan	15	Oct-21	\$1,328,552	\$1,328,552	Yes
EPA	WIFIA Loan	16	Nov-21	\$488,601.54	\$488,601.54	Yes
EPA	WIFIA Loan	17	Dec-21	\$321,117.49	\$321,117.49	Yes
EPA	WIFIA Loan	18	Dec-22	\$346,278.65	\$346,278.65	Yes
EPA	WIFIA Loan	18	Dec-22	\$346,278	\$346,278	Yes
EPA	WIFIA Loan	19	Jan-22	\$1,005,341	\$1,005,341	Yes
Total				\$90,157,772	\$57,854,416	

Notes:

- (1) CWSRF Planning Loan Disbursement Request No. 5 expected to be sent April 2022.
- (2) CWSRF Construction Loan Disbursement Request No. 5 is for WIFIA ineligible costs only.

APPENDIX D - PROGRAM MILESTONES

Milestone	Planned Completion Date
General Project	
Compliance with the TSO	2/23/2023
WIFIA Loan Secured	3/9/2020
SRF Loan Secured	7/31/2021
WRF	
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
Conveyance Facilities	
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
RWF	
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 Redamation Facility
CHANGE ORDER DESCRIPTIONS

CCO Codes (REASON FOR CHANGE):
 -CR1: City requested (required for Plant ops)
 -CR2: City requested (enhanced functionality)
 -CR3: City requested (to lower project costs)
 -FBV: DB Team request or claim
 -DSC: Differing Site Conditions
 -REG: Required by Regulatory Agency

PCO NO.	TITLE	AMEND NO.	CHANGE ORDER SHORT DESCRIPTIONS	CCO AMOUNT	CAL DAYS	STATUS	REASON FOR CHANGE
1	New Sodium Hypochlorite Feed for Plant Water	1	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.	\$ 78,576.00		Executed Part of GMP	CR1
2	Change Architecture of Operations Building	1	The City requested to change the Operations Building exterior architecture back to a basic style, to delete the clerestory but to include cupolas and solatubes. The City requested the change to reduce project costs.	\$ (21,623.00)		Executed Part of GMP	CR3
4	Headworks Odor Control	1	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 adding to reduce foul air emissions.	\$ 18,422.00		Executed Part of GMP	CR1
5	Remove Canopy and Monorail at MBR	1	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.	\$ (185,434.00)		Executed Part of GMP	CR3
9	Consolidate Chemical Facilities	1	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.	\$ 218,978.00		Executed Part of GMP	CR2
10	Modify Chemical Piping	1	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.	\$ (15,856.00)		Executed Part of GMP	CR3
15	Remove Solids Dumpster Lid	1	At the Solids Handling Area, delete the Solids Dumpster Lid and delete the Hygalon 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.	\$ 14,543.00		Executed Part of GMP	CR2
16	Modify Outfall Pump Station	3	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.	\$ 367,632.00		Executed Part of GMP	CR1
17	Add SAFE Settle (Equalization) Tank	1	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 upisized as required.	\$ 504,116.00		Executed Part of GMP	CR1
18	Instrumentation and Control Changes	1	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.	\$ 75,266.00		Executed Part of GMP	CR1
19	Reduce Size of the Product Water Tank	3	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.	\$ (129,681.00)		Executed Part of GMP	CR3
21	Revise Maintenance Building Layout and Size	1	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.	\$ 516,583.00		Executed Part of GMP	CR2
22	Influent Piping and Metering	1	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.	\$ 411,766.00		Executed Part of GMP	CR2
23	Install Outdoor-Rated PD Blowers at BNR Facility	1	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.	\$ (58,210.00)		Executed Part of GMP	CR3
24	Remove Bypass of Coarse Screens	1	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.	\$ (37,137.00)		Executed Part of GMP	CR3
26	SAFE Diversion Box Additions	1	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.	\$ 58,304.00		Executed Part of GMP	CR2
28	Size Dewatering as a Building in the Future	1	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.	\$ 30,983.00		Executed Part of GMP	CR2
30	Match Sludge Blowers to MBR Air Scour Blowers	4	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.	\$ 17,426.00		Executed Part of GMP	CR2
31	Stairs for the Coarse Screens and Grit Basins	1	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.	\$ 52,870.00		Executed Part of GMP	CR1
32	Sulfuric Acid System	3	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.	\$ 315,652.00		Executed Part of GMP	CR1
37	PLC/SCADA Software Uniformity	3	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.	\$ 201,577.00		Executed Part of GMP	CR2
38	IPR Product Water Tank Bypass	1	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.	\$ (26,087.00)		Executed Part of GMP	CR3
39	NTP Delay	3	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.	\$ 1,220,532.00		Executed Part of GMP	FBV
40	Headworks Valve Automation	3	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.	\$ 249,946.00		Executed Part of GMP	CR1
41	Perimeter Barbed Wire Fence (Plus 8 days w/ EA 18.1)	3	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.	\$ 79,935.00	8	Executed Part of GMP	REG
42	UV/AOP System Modifications	3	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 controls.	\$ (33,481.00)		Executed Part of GMP	CR3

44	Tank Access Improvements	3	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.	\$	210,327.00	Executed Part of GMP	CR1
45	Maintenance Ceiling Revisions and Automated Roll-Up Door	3	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.	\$	21,009.00	Executed Part of GMP	CR2
46	Curbed Washdown Areas	3	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.	\$	76,250.00	Executed Part of GMP	CR1
47	Changes to Furnishings and Equipment	3	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.	\$	85,194.00	Executed Part of GMP	CR2
50	Revisions to Water/Sewer Supply Storage Sheds	3	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.	\$	13,142.00	Executed Part of GMP	CR2
52	Analyzer Relocation and Enclosures	3	Relocate analyzers at Outfall/PPR Pump Station to indoors at the RO/LV 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.	\$	76,555.00	Executed Part of GMP	CR2
55	Notice of Dispute - PG&E Temporary Power	3	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.	\$	13,163.00	Executed Part of GMP	FBV
56	Impacts of Water Quality Changes	3	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.	\$	282,420.00	Executed Part of GMP	CR1
57	Soil Lateral Earth Pressure	3	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.	\$	116,329.00	Executed Part of GMP	FBV
58	Permanent Exclusion Fencing	3	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.	\$	855,991.00	Executed Part of GMP	REG
59	Increased Escalation Costs	3	This PCO includes escalation costs due to the delay in receiving construction NTP from October 23, 2019 to March 20, 2020.	\$	1,232,677.00	Executed Part of GMP	FBV
61	PCO Design Impacts	3	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".	\$	158,172.00	Executed Part of GMP	FBV
62	Conduit Alternative Design	3	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.	\$	(268,400.00)	Executed Part of GMP	CR3
64	Reduce Performance Period	3	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.	\$	(35,450.00)	Executed Part of GMP	CR3
65	Davis Bacon Wage Increases	2	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	\$	69,937.00	Executed Part of GMP	REG
66	Caltrans Intersection Improvements	3	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 Blvd.	\$	(21,893.00)	Executed Part of GMP	CR3
67	BNR System Modifications	3	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.	\$	742,405.00	Executed Part of GMP	FBV
68	SAFE Settle (Equalization) Tank Drain Piping	3	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 lf of 6" piping and adding 2 each 6" manual valves.	\$	62,215.00	Executed Part of GMP	CR1
69	Third Party Testing and Inspection	3	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.	\$	100,000.00	Executed Part of GMP	FBV
71	CDFW Site Restrictions (Direct Costs / Inefficiencies)	4	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 were lifted.	\$	254,443.00	Executed Part of GMP	REG
72	Owner Trailer Utility Hook Ups	4	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.	\$	19,593.00	Executed Part of GMP	CR2
73	Main Gates in Perimeter Fence	4	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.	\$	27,031.00	Executed Part of GMP	CR2
74	Parking Canopy Electrical Receptacles	4	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 5KVA transformer, and all required underground and exposed power conduits, junction boxes, and outlet receptacles.	\$	42,346.00	Executed Part of GMP	CR2
75	Security Windows at Admin Building	4	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).	\$	11,079.00	Executed Part of GMP	CR2
76	Additional Sodium Bisulfite Pump	4	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.	\$	58,243.00	Executed Part of GMP	CR1
77	COVID-19 Costs	6	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 initial 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).	\$	125,000.00	Executed Part of GMP	FBV
78	Soil Slip Differing Site Conditions	4	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.	\$	280,013.00	Executed Part of GMP	DSC
79	Modify Water/Sewer Supply Storage Sheds (Ref. PCO 50)	4	This item is a continuation of PCO 50. FBV claims that their previous quote did not include all costs associated.	\$	10,847.00	Executed Part of GMP	CR2
82	PLC/SCADA Uniformity - Bal. of Equipment (Ref. PCO #37)	4	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.	\$	108,887.00	Executed Part of GMP	CR2

84	Alternate Red Legged Frog Barrier (Ref. PCO 58)	5	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.	\$	(468,768.00)		Executed Part of GMP	CR3
86	Pothole Existing Water Valve in Teresa Road	4	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.	\$	5,189.00		Executed Part of GMP	CR2
87	Modify Alternate Conduit Design Scope (Ref. PCO 62)	5	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.	\$	272,822.00		Executed Part of GMP	CR1
88	Dead-Front Control Panels	6	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.	\$	37,774.00		Executed Part of GMP	CR2
90	24Vdc Digital Output Circuits	6	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.	\$	25,689.00		Executed Part of GMP	CR1
91	Standard Equipment Color (Tnemec 32GR Light Gray)	6	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.	\$	12,500.00		Executed Part of GMP	CR2
92	Soil Slip Differing Site Conditions Claim (2021)	6	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).	\$	825,300.00		Executed Part of GMP	DSC/FBV
93	NEMA 4X Electrical Enclosures per Exhibit B	6	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 NEMA 4X rated.	\$	40,000.00		Executed Part of GMP	FBV
94	Security System Revisions	6	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.	\$	25,659.00		Executed Part of GMP	CR2
96	January 2021 Storm Event (1-26 thru 1-29)	6	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.	\$	40,195.00	7	Executed Part of GMP	FBV

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.

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.

ACCEPTED

APPROVED

ACCEPTED

Anvil Builders Inc.

Carollo Engineers Inc

City of Morro Bay

Contractor (Company Name)

Construction Manager

Owner

(Authorized Signature)

(Date)

Authorized Signature

(Date)

Authorized Signature

(Date)

Gary Silveira - Project Manager

Paul Amico - Project Manager

Scott Collins - City Manager

(Print Name and Title)

(Print Name and Title)

(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

Project: WRF Lift Stations and OffSite Pipelines Project			
Contractor: Anvil Builders, Inc.			
Date: January 11, 2022			
PCO	TILE	DESCRIPTION OF CHANGE	Reason For Change
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
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