FIRST AMENDMENT TO

SECOND ENGINEERING SERVICES AGREEMENT

This First Amendment to Second Engineering Services Agreement ("Amendment") is dated May 23, 2022, and is between Santa Clarita Valley Sanitation District of Los Angeles County, a county sanitation district organized and existing under the County Sanitation District Act, Health and Safety Code Section 4700 et seq., (the "District") and Carollo Engineers, Inc. ("Engineer"). The District and the Engineer are collectively referred to in this Amendment as the "Parties."

Effective August 9, 2018, Engineer and the District entered into the Second Engineering Services Agreement, Contract No. 4931B ("Agreement"). All capitalized terms used in this Amendment will have the same meaning as in the Agreement, unless specifically defined below.

The Work under the Agreement has been pursued at an accelerated pace and is ongoing. Unforeseen events during the performance of the Agreement have required and will require Engineer to provide engineering services beyond the scope of the Agreement. The Parties seek by this Amendment to modify the Scope of Work under the Agreement and increase the "not to exceed" amount of the Agreement by $863,819. This Amendment also modifies the Agreement by allocating the increase in the amount of the Agreement to various Tasks in the Work as itemized in “Exhibit A.1” to this Amendment, which is attached to this Amendment and is incorporated into the Work.

The Parties therefore amend the Agreement as follows:

1. In the Work referenced in Section 1.1 of the Agreement, the scope of Task Order Nos. 2 and 3 is increased by a net amount of $509,180 and $354,639, respectively, and is modified consistent with “Exhibit A.1”.

2. The second sentence of Section 3.1 of the Agreement is replaced in its entirety with the following sentence:

> "The “Not to Exceed” amount for the entirety of the Work is $6,762,175."

This Amendment may be executed in any number of counterparts and all such counterparts shall constitute a single instrument. Delivery of an executed counterpart by facsimile or electronic transmission (in .pdf format or other electronic imaging) shall have the same force and effect as delivery of an original counterpart.

CAROLLO ENGINEERS, INC.

By: Gil Crozes
Gil Crozes Senior Vice President

By: Eric M. Mills
Eric M. Mills Senior Vice President

SANTA CLARITA VALLEY SANITATION DISTRICT OF LOS ANGELES COUNTY

By: _____
Chairperson

Attest:

_____
Secretary

Approved as to Form:
Lewis Brisbois Bisgaard & Smith LLP

By: _____

EXHIBIT "A.1"

TASK ORDER NO. 2, AMENDMENT 1

SANTA CLARITA VALLEY SANITATION DISTRICT
(OWNER)

AND

CAROLLO ENGINEERS, INC.
(ENGINEER)

This Task Order Amendment is issued by the OWNER and accepted by ENGINEER pursuant to the mutual promises, covenants and conditions contained in the Agreement between the above named parties dated the _____ day of _____, 20__, in connection with:

ADVANCED WATER TREATMENT FACILITY
(Project)

ENGINEERING SERVICES DURING CONSTRUCTION
(Task Order No. 2)

PURPOSE

The purpose of this Task Order is to amend the Task Order No. 2 executed in August 2018 for the engineering services during construction of the Advanced Water Treatment Facility (Project) at the OWNER's Valencia Water Reclamation Plant (WRP) in Valencia, CA. An amendment is needed due to the changes that occurred during construction by Suez, the EMS equipment supplier, and COVID related delays during the construction process. The Engineers services that have been affected are described below.

ENGINEER'S SERVICES

TASK 1 - PROJECT MANAGEMENT

1.2 Project Control and Reporting

For the purposes of this project, it was assumed that the Project Manager would spend 4 hours per month preparing and reviewing the monthly Project Summary Reports and that the construction duration would occur over 32 months (February 18, 2019 – September 30, 2021). As of May 2022 the Construction is estimated to be 18 months behind schedule with Substantial Completion not occurring until January 2023.

- TAF 2 covered 48 hours of Project Management
- Requesting authorization for an additional 24 hours of Project Management.

TASK 3 - ENGINEERING SERVICES DURING CONSTRUCTION

3.1 Shop Drawing & Submittal Review

The effort for Task 3.1 was originally based on 300 Contractor submittals and 150 resubmittals at 6 hours and 4 hours per review respectively. As of May 2022 Carollo has reviewed approximately 463 submittals and 268 resubmittals from the Contractor. Additionally, the EMS Equipment Supplier, Suez, has submitted 61 new submittals and 42 resubmittals that were unexpected during construction. An additional 30 resubmittals are expected.

- TAF 2 covered the Additional Suez submittals and 30 Submittals
- Requesting authorization to bill for an additional 133 submittals and 148 resubmittals

3.2 Requests for Information

The effort for Task 3.2 was originally based on 450 RFIs with an estimated 4 hours of review per RFI. As of May 2022 Carollo has reviewed 657 RFIs. Based on the rate of RFIs, 800 RFIs are expected by the end of the project.

- TAF 2 covered 145 RFIs
- Requesting authorization to bill for an additional 205 RFIs

PAYMENT

ENGINEER will prepare and submit invoices to the OWNER on a monthly basis showing the time and material required for each of the tasks above. To complete the work described in this Task order will require and additional $509,180above the original Contract amount of $2,759,169 and the authorized TAF 2 amount of $499,900.

Additional Task
The proposed SOP list will take an additional 540 hours to complete. Engineer requires an additional $132,858 to complete the proposed task.

Task	**Hours**
Task 1.2 Project Control and Reporting	24
Task 3.1 Shop Drawing and Submittal review	1,390
Task 3.2 Request for Information	820
Total	2234
Additional Cost Contract Tasks	**$509,180**

TIME OF PERFORMANCE
This scope of services and fee are based on the following primary milestones (based on the Contractor's construction schedule as of May 2022):

- Project is required to meet Substantial Completion by January 31, 2023.
- Project is required to meet Final Completion by June 30 , 2023.

EFFECTIVE DATE

This Task Order No. ____ is effective as of the _____ day of _____, 20____.

IN WITNESS WHEREOF, duly authorized representatives of the OWNER and of the ENGINEER have executed this Task Order No. ____ evidencing its issuance by OWNER and acceptance by ENGINEER.

CAROLLO ENGINEERS, INC.	OWNER
	Accepted this ___ day of _____, 20___
By: _____ Sr. Vice President	By: _____ Officer
By: _____ Vice President	

VALENCIA WRF AWTF - ENGINERING SERVICES DURING CONSTRUCTION TASK ORDER 2 - AMENDMENT 1

Santa Clarita Valley Sanitation Districts

	Process Mechanical								Structural/Architectural/Civil/Mechanical								Electrical/Instrumentation & Control										
	Senior Professional	Lead Project Professional	Project Professional	Professional	Assistant Professional	Drafting (Sr. Technician)	Drafting (Technician)	Word Processing	Senior Professional	Lead Project Professional	Project Professional	Professional	Assistant Professional	Drafting (Sr. Technician)	Drafting (Technician)	Word Processing	Senior Professional	Lead Project Professional	Project Professional	Professional	Assistant Professional	Drafting (Sr. Technician)	Drafting (Technician)	Word Processing	TOTAL HOURS	Subtotal Labor	Total
	$ 320	$ 298	$ 253	$ 209	$ 183	$ 219	$ 140	$ 143	$ 320	$ 298	$ 253	$ 209	$ 183	$ 219	$ 140	$ 143	$ 320	$ 298	$ 253	$ 209	$ 183	$ 219	$ 140	$ 143			
TASK 1 - PROJECT MANAGEMENT																											
1.2 Project Control and Reporting	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	$ 6,081	$ 6,081
TASK 3 - ENGINEERING SERVICES DURING CONSTRUCTION																											
3.1 - Shop Drawing & Submittal Review	0	0	200	327	0	0	0	0	0	0	280	166	0	0	0	0	0	0	0	217	110	40	50	0	1,390	$ 306,023	$ 306,023
3.2 - Requests for Information	0	0	267	248	0	0	0	0	0	140	140	0	0	0	0	0	0	0	25	0	0	0	0	0	820	$ 202,988	$ 197,076
																										TOTAL ENGINEERNIG FEE:	**$ 509,180**

EXHIBIT "A.1"

TASK ORDER NO. 3, AMENDMENT 1

SANTA CLARITA VALLEY SANITATION DISTRICT OF LOS ANGELES COUNTY
(OWNER)

AND

CAROLLO ENGINEERS, INC.
(ENGINEER)

This Task Order is issued by the OWNER and accepted by ENGINEER pursuant to the mutual promises, covenants, and conditions contained in the Agreement between the above-named parties dated the _____ day of _____, 20___, in connection with:

VALENCIA ADVANCED WATER TREATMENT FACILITY
(Project)

PROFESSIONAL SERVICES FOR SYSTEM INTEGRATION
(Task Order No. 3)

PURPOSE

The purpose of this Task Order is to amend the Task Order No. 3 executed in August 2018 for the Programming and Control Systems Integration services provided by PROGRAMMER during the construction phase of the Advanced Water Treatment Facility (Project) at the OWNER's Valencia Water Reclamation Plant (WRP) in Valencia, CA. An amendment is needed due to the following changed conditions:

- COVID-related construction delays: per the February 2022 commissioning schedule (dated February 9, 2022), the substantial and final completion date have moved out 18 months. Most of the regularly scheduled PROGAMMER coordination and construction meetings will be extended for a period of one year.
- Process changes required by Suez to maintain their process performance guaranty,
- Addition of a second redundant PLC 38-2, and
- Revised CEET and SFT testing plan.

SCOPE DEVELOPMENT CRITERIA

"SCOPE DEVELOPMENT CRITERIA" stated in Task Order 3 are amended as follows (note **Bold Font** and ~~**Strike Through**~~ text for changes):

A. This Programming and Control System Integration scope of work is based upon the following requirements, work by others and the listed assumptions:

a. 95% Design and Specifications (May 2018) **and the status of the Project as scope has changed during construction (as of February 2022)**:

   i. PLC programming for 1296 Hard-wired PLC I/O and 1094 soft I/O including

      ~~**1. Equalization and MF feed pumping**~~

      2. Equalization and NF ~~feed pumping~~

      3. Nine (9) chemical storage and feed systems

      4. Brine storage system

   ii. Development of approximately 60+/-5 SCADA screens

   ~~**iii. Development of equipment performance and operational reports**~~

   iv. Trending ~~**of all**~~ Analog I/O Included in PLC-38

   v. Furnish and configure the Engineering and Supervisory Control Workstations

   vi. Furnish and configure two (2) Local Operator Interface – Panel Mount PC's (LOI) to host local HMI clients at PCM 38 and CP-38E00.

   vii. Furnish and configure Network Rack NR03

   viii. Use a VNC/VPN tunnel over the SCADA network to the Vendor systems (MF and EMS) to access those systems from the ~~**Plant PAX**~~ **HMI** application.

   ix. Coordinate process control system software development with Vendor supplied systems and existing Valencia Water Reclamation Plant (VWRP).

b. OWNER requirements:

   i. Supervisory control and OWS to monitor and control all of the major processes.

   ii. Integrate the Project's control system with the existing VWRP network.

   iii. Integrate the Project's SCADA application with the existing VWRP SCADA application.

   iv. Automatic startup and shutdown sequences for the entire Project.

   v. Sequences enabled from both local (PLC panel) and remote plant control system.

   vi. Redundant Control Logix Model 7 with Ethernet I/P communications, DLR ring topology.

   vii. Programming shall utilize RS Logix 5000 and Plant PAX library.

viii. Project shall be configured with Factory Talk View utilizing Plant PAX graphics.

ix. Hold four (4) software design workshops at 8 hours duration each.

x. ISA Level 3 O&M documentation requirements.

xi. WSAT – Witnessed Software Acceptance Test

xii. FT - Functional Testing (Strategy Field Testing).

xiii. Working Day – to accommodate the project schedule and the overall work required, there are 6 working days in a week.

c. Work by others:

i. Vendor-supplied PLC and LOI/OIT Work Effort

1. The development of the PROGRAMMER provided PLC code and SCADA software includes the integration of two (2) Vendor-supplied PLC control systems with corresponding LOI. To allow the PROGRAMMER sufficient time to develop their final PLC programs and SCADA screens before the on-site Installation and Functional Tests, the Vendors supplying the Microfiltration (MF) and Enhanced Membrane Systems (EMS) shall provide the following to the PROGRAMMER no later than 70 days before the start date of the Vendor Factory Acceptance Test (refer to the attached Baseline Schedule for specific requirements):

a. All “Final” PLC programs, completely tested, with full annotation and documentation.

b. A complete and “Final” I/O list provided in Excel format, with additional columns denoting all “send” and “receive” global data and PLC-PLC Interlocks (each interlock explained in a word document and/or flow chart).

c. A complete list of tags, which the Vendor requires, displayed on the plant-wide SCADA system matching the existing SCADA system format for tag naming and description (both tag naming conventions and descriptions will be discussed in the first mandatory programmer meeting).

d. All operating parameters, set points, alarm levels, historical data, and trending which the Vendors systems require being functions of the plant-wide SCADA system.

e. Vendor shall not be required to follow OWNER’s Plant PAX standards, so the vendor screens will differ from the master SCADA application. The vendors HMI

software configuration shall follow these client/project software Standards.

i. Color Scheme

ii. Indication

iii. Use Produced/Consumed tags in PLC programming

d. Assumptions – Project Schedule **(Status as of July 2021)**

i. As of February 2022, the construction project duration will be extended by 18 months. From notice to proceed through Substantial Completion and beginning of the Warranty Period, the following assumptions and conditions apply:

1. Task Order 3 assumed the 800 Working Days. There are 6 Working Days in a week.

2. The Construction Schedule as of February 2022 shows 988 Working Days.

PROGRAMMER will also provide Warranty Period services for 12 months. A total construction project duration of 1112 Working Days is expected to reach final completion, which includes addressing any punch list items.

ii. From the completion of the certified installation tests by the Contractor, the following assumptions and new conditions apply:

1. Task Order 3 assumed that commissioning period will require 16 weeks (96 days) prior to the Clean Water Facility Testing, Process, Start and the Process Operational Period. This 16-week period will include the CEET & FT periods. Remote access will be available to the PROGRAMMER during this period.

2. The Construction Schedule as of February 2022 shows

a. The certified installation tests (System Installation Milestone) will not be complete across the entire AWTF before the PROGRAMMER is expected to engage in CEET and FT activities. Instead, multiple System Installation Milestones will be issued as individual unit processes are cleared. This may lead to quality control problems that are expected to increase the Programmer's work effort.

b. CEET and FT will occur over a 136 day period.

c. Remote access will still be available to the PROGRAMMER during this period.

Because certified installation testing ("Installation Test") will not have been completed across the entire AWTF, 40

days (i.e., 558 labor hours) of additional time and effort by the Programmer is expected for both PLC and SCADA Programming.

iii. **Task Order 3 assumed that the Contractor would complete all construction and equipment installation activities needed to commence functional testing for all systems (microfiltration, nanofiltration, reverse osmosis, ion exchange, filters, chemical, decarbonator, brine disposal, etc.), equipment, and instrumentation, including but not limited to construction completion and Engineer acceptance of all piping, mechanical equipment, electrical and instrumentation, power supply to properly energize all electrical equipment/instrumentation, and any and all other work needed for the Contractor and OWNER's programmer to commence instrumentation devices and subsystems CEET (specified in Section 40_80_01), and to commence functional tests (specified in Section 46_08_17 Commissioning) by Working Day 557. However, as of February 2022, the construction is behind schedule and the PROGRAMMER can assist the OWNER and Contractor to recover some time by performing CEET and FT immediately after Installation Tests described in Section 04_80_01 on each system/process area (i.e., requiring multiple SI milestones instead of just one for the entire plant). As of February 2022, this work is expected to commence on Working Day 1084. Because the revised plan for Installation Testing, CEET and FT concurrently, the PROGRAMMER's effort has increased by 40 days (i.e., 558 labor hours for both PLC and HMI programming).**

e. Assumptions – Contractors Responsibilities
   i. The Contractor shall be responsible for preparing formal testing and startup plans in accordance with the contract documents.
   ii. The Contractor shall be responsible for creating field signals and verifying proper operation of final control elements. It is assumed that full-time dedicated Contractor staff assistance shall be provided during the CEET.
      3. **Task Order 3** assumed that the CEET will last ten (10) weeks.
      4. **Based on the July 2021 Construction Schedule, this work is expected to require an additional 21 days for CEET (i.e., 270 labor hours) of time and effort by the Programmer (and 19 days / 288 labor hours for FT).**
   iii. The Electrical Contractor shall perform complete testing of all Ethernet cabling (fiber and/or copper) per the Specifications. Testing must certify all paths to CAT 6 specifications and provide a formal written report to PROGRAMMER.
   iv. The Contractor's Commissioning Coordinator (CC) shall be responsible for coordinating the work of the Contractor with the PROGRAMMER's programming and testing activities. The CC shall submit construction project schedules and startup plans to PROGRAMMER for review and comment.

f. Assumptions – OWNER's responsibilities:

i. It is the OWNER's responsibility to ensure that the existing VWRP SCADA application software version and all patches are in place when the PROGRAMMER begins the integration of the new application additions for the AWTF.

g. Assumptions - PROGRAMMER
   i. PROGRAMMER's scope and fee estimate is based on the assumption that the existing base SCADA / HMI software application and its configuration will be compliant with newly developed application and system standards. This effort shall include process graphic displays, analog trend charts, animation, alarm system management, system security, scripting, menu system / navigation, communications, diagnostics, and the base SCADA application foundation.
   ii. PROGRAMMER will use standard Rockwell PLC programming function blocks and add-on instructions as much as possible to develop the PLC code for this Project.
   iii. PROGRAMMER will review and confirm the control strategies provided by ENGINEER.
   iv. PROGRAMMER will attend the MF and EMS Factory Acceptance Tests (FAT) prior to the shipment of MF and EMS equipment. All vendor PLC and LOI programming will be tested for I/O verification, all send/receive data and interlocks
   v. PROGRAMMER will exercise programs, conduct tests, and record results. Contractor staff shall be responsible for equipment operation and verification of correct field operation results. PROGRAMMER will tune any feedback loops.
   vi. The instrumentation devices and subsystems CEET (specified in Section 40_80_01) shall be performed by the Contractor and PROGRAMMER working together, with assistance from the OWNER or the inspection staff, as needed. The PROGRAMMER will provide staff to verify input signals at and create output signals from the SCADA Station. The Contractor shall be responsible for creating field signals and verifying proper operation of final control elements. Full-time Contractor staff assistance dedicated to only CEET testing shall be required.
   vii. PROGRAMMER will coordinate with the OWNER to establish "Remote Access" to the AWTF Process Control System and use that access during the instrumentation devices and subsystems CEET (specified in Section 40_80_01) and FT (specified in Section 46_08_17).
   viii. The PROGRAMMER is responsible for the programming of the SBS, HC and AA chemical feed system in PLC-38. Due to the fact that these will be constructed under the UV Disinfection project, the commissioning of these three chemical systems will require close coordination with the OWNER and OWNER's PROGRAMMER.
   ix. PROGRAMMER's services exclude final loop testing of I/O, cable, and fiber optic networks. ENGINEER will specify that these services will be provided by the Contractor's ICSC (refer to Section 40_80_01).
   x. No special site security and/or safety training will be required for the programming staff for this Project.

PROGRAMMER'S SERVICES

PROGRAMMER's services presented in Task Order 3 are hereby amended as follows:

TASK 1 PROJECT MANAGEMENT

1.2 – Project Control Reporting/Invoicing

For the purposes of this project, it was assumed that the PROGRAMMER would spend 8 hours per month preparing and reviewing the monthly Project Summary Reports and invoices. and that the construction duration would occur over 32 months with Substantial Completion occurring in January 2023. **As of July 2021, the Construction is estimated to be 18 months behind schedule with Substantial Completion not occurring until January 2023.**

1.3 – Project Meetings

For the purposes of this project, it was assumed that the PROGRAMMER would hold weekly coordination calls (4 hours each) and that the construction duration would occur over 32 months with Substantial Completion occurring in July 2021. **As of July 2021, the Construction is estimated to be 18 months behind schedule with Substantial Completion not occurring until January 2023.**

- **1.3.2** Programming Team Weekly Coordination Calls – Programming Project Manager will host weekly coordination calls with the programming team.

Meeting Title	Duration	PROGRAMMER's Team	Other Attendees
Programming Team Internal Weekly Coordination Calls	4 hours	Programming Team & Project Manager	TBD

TASK 3 – PROGRAMMING SERVICES DURING CONSTRUCTION

PROGRAMMER will provide programming services during the construction phase. The services will include PLC and SCADA configuration services, various coordination meetings during construction, factory testing, field-testing, start-up services, commissioning, and O&M training.

3.3 – Construction Coordination Meetings

For the purposes of this project, it was assumed that the PROGRAMMER would attend construction coordination calls and progress meetings and that the construction duration would occur over 32 months with Substantial Completion occurring in July 2021. **As of February 2022, the Construction is estimated to be 18 months behind schedule with Substantial Completing not occurring until January 2023**.

PROGRAMMER will attend construction coordination calls and progress meetings. The anticipated meetings are listed below and in the following table:

- **3.3.1** Construction period weekly coordination calls with OWNER, Contractor, and key subcontractors including electrical, ICSC, and vendors via conference call.
- **3.3.2** Construction testing and startup period planning and progress meetings with OWNER, Contractor, and key subcontractors including electrical, ICSC, and vendors as required during the testing and startup period via conference call and/or onsite. Construction project duration of 27 months is assumed from notice to proceed through final completion and beginning of the warranty period.

Meeting Title	Duration (Each)	Location	Programmer	Other Attendees
Weekly Coordination Calls as Required	.5 hours	Phone	TBD	Programmer, Contractor, Subcontractors, Vendors and Owner Staff
Construction Progress Meetings (Monthly – First 12 months, Bi – Weekly Months 13-18, Weekly – Months 19-27)	1 hour	Phone, unless required to be on site	TBD	Programmer, Contractor, Subcontractors, Vendors and Owner Staff

TASK 6 – PCS CONTROL SYSTEMS ONSITE TESTING, STARTUP AND COMMISSIONING

For the purposes of this project, it was assumed the PROGRAMMER would conduct the CEET and SFT as two, single contiguous tests. The current schedule has broken out those tests to be performed as separate tests by each process area. This will require numerous CEET and SFT mobilization and testing coordination efforts.

6.1 – Conduct Complete End-to-End Testing (CEET)

Working with the Contractor, PROGRAMMER will provide instrumentation devices and subsystems CEET (specified in Section 40_80_01). Prerequisite for the instrumentation devices and subsystems loop check/validation installation tests is the submission of all loop drawings for review and approval and the ICSC's completed control system installation. The instrumentation devices and subsystems loop check/validation installation tests will occur only after the Contractor has submitted certified test reports that all field wiring has been tested and verified against the loop drawings. The PROGRAMMER will go to the field and load the PLC program for testing and the PLC will be connected to the network at this time. During the instrumentation devices and subsystems loop check/validation installation tests, signals are tested through the PLC program, the network, and all the way to the operator's SCADA graphic screens.

The instrumentation devices and subsystems loop check/validation installation tests will be performed by the PROGRAMMER and Contractor working together, with assistance from the OWNER and/or the inspection staff, as needed. PROGRAMMER will provide staff to verify input signals at, and create output signals from, the SCADA system.

As stated in the assumptions, the original scope of work presented in Task Order 3 assumed that CEET would occur after Installation Testing was completed. To assist the OWNER and Contractor to recover (i.e., expedite the current) schedule, PROGRAMMER's efforts will increase by 21 days 270 labor hours (for both a PLC and HMI Programmer) based on the February 2022 construction schedule for the CEET testing alone.

6.2 – Conduct Functional Testing

PROGRAMMER will provide Functional Testing (FT) as specified in Section 46_08_17. After instrumentation devices and subsystems CEET (specified in Section 40_80_01) and the Contractor's testing of the manual operation of equipment, the FT will be performed by PROGRAMMER with assistance from the Contractor and assistance from the OWNER and/or the inspection staff, as needed.

The purpose of the FT is to verify the proper operation of all PLC control logic and its interaction with field equipment and devices. PROGRAMMER will exercise programs, conduct tests, and record results. Contractor staff will be responsible for equipment operation and verification of correct field operation results. PROGRAMMER will tune any feedback loops. It has been assumed that the FT will last six (6) weeks.

As stated in the assumptions, the original scope of work presented in Task Order 3 assumed that FT would occur after Installation Testing was completed. To assist the OWNER and Contractor to recover (i.e., expedite the current) schedule, PROGRAMMER's efforts will increase by 19 days / 288 labor hours (for both a PLC and HMI Programmer) based on the February 2022 construction schedule for the FT testing alone.

8.0 ADDITIONAL WORK BY PROGRAMMER DUE TO CHANGES IN PROJECT SCOPE

8.1 – PLC Process Logic & SCADA/HMI Application Development - PLC 38-2

For the purposes of this project, it was assumed the PROGRAMMER will develop the process logic programming for one (1) new Rockwell Redundant Control Logix PLC supplied by the

Contractor under the instrumentation and controls sections of the specifications. Due to the amount of logic development in PLC 38 and IAB estimate, a second redundant CPU has been added to PLC-38. The addition of a second redundant CPU required re-configuration of PLC-38 process logic and additional PLC code development to separate the NF trains from the original PLC-38(1) program.

The separation of the PLC 38 program required readdressing the SCADA application.

8.2 – PLC Process Logic & SCADA/HMI Application Development – Suez Changes

During Construction, the EMS Supplier (Suez), after having provided pricing and awarded a contract for their work (i.e., negotiated with the Districts and assigned to the construction Contractor), indicated that they were not confident that their process design would meeting the performance guarantee and requested changes to the EMS process. These changes will be made at no cost to the Districts, however, the Programmers efforts are impacted and these real costs will be paid by the Districts and deducted from the EMS Supplier's contract (through a deductive change order assigned to the General Contractor).

The work associated with this Task is the real cost/effort associated with the Programmers efforts to make the EMS process changes. These changes include:

- Adding
    - Caustic Soda metering pump 17
    - Caustic Soda flow meter to EMS recovery cartridge filter
- Addressing EMS Supplier's omission of required UPS system.
    - Two separate power source for Suez and AWTF systems. Needs some additional
      PLC<->PLC handshaking
- EMS Permeate flush (after power outage)
- Having multiple SCADA factory acceptance tests (FATs) because of the changes

PAYMENT

PROGRAMMER will prepare and submit invoices to the OWNER on a monthly basis showing the time and material required for each of the tasks above. To complete the work described in this Task Order, Amendment 1 will require and additional $354,639 to the original Contract amount of $2,740,003. These costs are further detailed in Exhibits A and B (attached).

Task	**Hours**
Task 1.2 Project Control and Reporting	96
Task 1.3 Project Meetings	96
Task 3.3 Construction Coordination Meetings	48
Task 6.1 Conduct Complete End to End Testing (CEET)	270
Task 6.2 Conduct Functional Testing	288
Task 8.1 PLC 38-2	180
Task 8.2 Suez Changes	120
Total	
Additional Cost	**$354,639**

TIME OF PERFORMANCE

This scope of services and fee are based on the following primary milestones:

- Project is required to meet Substantial Completion by January 31, 2023.
- Project is required to meet Final Completion by June 30, 2022.

EFFECTIVE DATE

This Task Order No. ____ is effective as of the _____ day of _____, 20___.

IN WITNESS WHEREOF, duly authorized representatives of the OWNER and of the ENGINEER have executed this Task Order No. ____ evidencing its issuance by OWNER and acceptance by ENGINEER.

CAROLLO ENGINEERS, INC.	OWNER
	Accepted this ___ day of _____, 20___
By: _____	By: _____
Sr. Vice President	Officer
By: _____	
Vice President	

EXHIBIT A

CAROLLO ENGINEERS, INC.
FEE SCHEDULE

As of January 1, 2021

	Hourly Rate
Engineers/Scientists	
Assistant Professional	$203.00
Professional	246.00
Project Professional	288.00
Lead Project Professional	310.00
Senior Professional	334.00
Technicians	
Technicians	156.00
Senior Technicians	213.00
Support Staff	
Document Processing / Clerical	139.00

Other Direct Expenses

Travel and Subsistence	at cost
Mileage at IRS Reimbursement Rate Effective January 1, 2018	$.56 per mile
Other Direct Cost	cost + 10%
Expert Witness	Rate x 2.0

This fee schedule is subject to annual revisions due to labor adjustments (with a maximum 3% per year annual adjustment per labor billing classification).

TASK ORDER 3, AMENDMENT 1

EXHIBIT B: PROJECT LABOR AND COST SUMMARY

CAROLLO ENGINEERS, INC.
VALENCIA ADVANCED WATER TREATMENT FACILITY (AWTF)
PROFESSIONAL SERVICES FOR SYSTEM INTEGRATION

	Fee Schedule	T.Seacord	A.Najafi	J.Janowick	E.Moore	TOTAL LABOR HOURS	Travel	Printing & ODCs	TOTAL ODCs	TOTAL LABOR COST	TOTAL COST
	2021	$ 310	$ 310	$ 310	$ 246						
	2022	$ 319	$ 319	$ 319	$ 253						
	2021-2022	$ 315	$ 315	$ 315	$ 250						
Task 1.2 Project Control and Reporting	2021-2022	72	24			96	$ -	$ -	$ -	$ 30,206	$ 30,206
Task 1.3 Project Meetings	2021-2022	48	48		12	108	$ -	$ -	$ -	$ 33,203	$ 33,203
Task 3.3 Construction Coordination Meetings	2021-2022	24	48			72	$ -	$ -	$ -	$ 22,655	$ 22,655
Task 6.1 Conduct Complete End to End Testing (CEET)	2021-2022		210	60		270	$ -	$ -	$ -	$ 84,956	$ 84,956
Task 6.2 Conduct Functional Testing	2021-2022		190	98		288	$ -	$ -	$ -	$ 90,619	$ 90,619
Task 8.1 PLC 38-2	2021		180			180	$ -	$ -	$ -	$ 55,800	$ 55,800
Task 8.2 Suez Changes	2021		120			120	$ -	$ -	$ -	$ 37,200	$ 37,200
										TOTAL FEE:	**$ 354,639**