

This is **EXHIBIT K**, consisting of pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services** dated March 16, 2020.

AMENDMENT TO OWNER-ENGINEER AGREEMENT
Amendment No. 1

The Effective Date of this Amendment is: December , 2021

Background Data

Effective Date of Owner-Engineer Agreement: March 16, 2020

Owner: Town of Johnstown

Engineer: AQUA Engineering

Project: Low Point Wastewater Treatment Plant Expansion

Nature of Amendment: [Check those that are applicable and delete those that are inapplicable.]

- Additional Services to be performed by Engineer
- Modifications to services of Engineer
- Modifications to responsibilities of Owner
- Modifications of payment to Engineer
- Modifications to time(s) for rendering services
- Modifications to other terms and conditions of the Agreement

Description of Modifications:

See Attachment 1 to this Exhibit K which defines the scope of additional services (Scope Items 10, 11 and 12) in this Amendment No. 1.

<i>Scope Item 10 – Additional Design Phase Services:</i>	<i>\$90,000 adder</i>
<i>Scope Item 11 – Construction Engineering Services:</i>	<i>\$903,032 adder</i>
<i>Scope Item 12 – SCADA Programming:</i>	<i><u>\$230,335 adder</u></i>
	<i>\$1,223,367 total adder</i>

Construction Engineering and SCADA Programming services were specifically excluded in the original Professional Services Agreement. This Amendment No. 1 adds construction and SCADA programming professional services to the contract. Exclusions, assumptions, and other clarifications in the original agreement not affected by this Amendment remain in effect.

Agreement Summary:

Original agreement amount:	\$ <u>590,084.00</u>
Net change for prior amendments:	\$ <u>10,000.00</u>
This amendment amount:	\$ <u>1,223,367.00</u>
Adjusted Agreement amount:	\$ <u>1,823,451.00</u>

Change in time for services (days or date, as applicable): Time for services is extended by this Amendment No. 1 to match the Project Final Completion date - November 20, 2023.

The foregoing Agreement Summary is for reference only and does not alter the terms of the Agreement, including those set forth in Exhibit C.

Owner and Engineer hereby agree to modify the above-referenced Agreement as set forth in this Amendment. All provisions of the Agreement not modified by this or previous Amendments remain in effect.

OWNER:

ENGINEER

By: _____

By:  _____

Print name: _____

Print name: Bob Frachetti, P.E.

Title: _____

Title: Principal

Date Signed: _____

Date Signed: 12/2/2021

Town of Johnstown
Attn: Matt LeCerf, Town Manager
Ellen Hilbig, Interim Director of Public Works
450 S Parish Avenue, PO Box 609
Johnstown, Colorado 80534

December 2, 2021

TRANSMITTED VIA EMAIL (NO HARD COPY WILL FOLLOW):

Matt LeCerf at MLeCerf@JohnstownCO.gov | Ellen Hilbig at EHilbig@JohnstownCO.gov

RE: Additional Services, Construction Engineering Services, and SCADA Programing Services for Johnstown Low Point Wastewater Treatment Plant Expansion Project

Dear Matt and Ellen:

AQUA Engineering (AQUA) is providing our scope of services and fee for Task 10 - Additional Services, Task 11 - Construction Engineering Services, and Task 12 - SCADA System Supply and Programing Services for the Johnstown Low Point Wastewater Treatment Plant. As noted in our current Agreement, these services will be incorporated by an Amendment to the existing *Agreement Between Owner and Engineer for Professional Services* (Agreement) with the Town dated March 16, 2020.

SCOPE OF WORK

TASK 10 . ADDITIONAL SERVICES

The Agreement, Exhibit A, Part 2 – Additional Services noted certain services that were excluded in the planning, permitting, and design phase scope and associated fee. The Town requested and AQUA has provided these Additional Services and thereby requests due compensation in accordance with the Agreement provisions. In consideration of the Town’s budget we are limiting our compensation request to a lump sum amount to result in a break-even cost of our services provided today.

AQUA Engineering has performed the following additional services:

10.1. Expanded Comprehensive Performance Evaluation (CPE)

The CPE was a larger effort and required more detailed analyses than planned. For example, BioWin models on the Central WWTP MBBR system and iterations of lagoon calculations were provided to formulate responses to the NOV/CDO, coordinated the lagoon dye testing, and coordinated the lab sampling program for both Low Point and Central WWTPs. AQUA requests \$10,000 for these Additional Services.

10.2. Additional Utility Plan (UP) Services

A Utility Plan update was originally scoped, based on the Town and AQUA’s belief that a straightforward update to the Town’s Utility Plan was only required. However, the NFRWQPA Utility Planning Guidance Document was updated during the project and more information was required in the submittal. The UP was mostly rewritten.

AQUA requests \$10,000 for these Additional Services.

10.3. Major Equipment Bidding, Pre-Selection, and Procurement Services

Major equipment bidding, pre-selection, and procurement assistance was not included in the original scope of services but was conducted as requested by the Town to procure the best value equipment in consideration of the Town preferences and procurement policies. Equipment bidding and procurement is normally provided during the construction phase by the construction contractor.

These additional services involved bidding assistance, including RFP development and advertisement, RFI responses and issuing addenda, receipt of bids and document control, evaluation of bids (reference checks, scope of supply coordination, several Town meetings), Notice of Awards and notices of non-selection for all bidders. Contract administration support services were also provided along with pre-selected equipment submittal reviews, and value engineering of pre-selected equipment throughout project (for example, reduction from 8 blower units to the 6 designed units). These additional services do not include equipment sizing or specification development as these would have been completed during design regardless of equipment pre-selection.

AQUA requests \$40,000 for these Additional Services. AQUA notes that the pre-selection process resulted in significant savings to the Town since the Town was able to lock-in major equipment pricing before the significant cost escalation that occurred throughout the industry in 2021. Pre-selection also improved the final design and the associated CMAR GMP by adding design clarity and reduced contingency allowances.

10.4. CMAR Design Phase Coordination Services and GMP Development

Design phase services associated with the CMAR coordination and support were not originally scoped. Services include 60% and Final GMP reviews and meetings, several Value Engineering meetings, and assistance provided to Moltz to respond to RFI's and addenda required for GMP development. AQUA requests \$15,000 for these Additional Services.

10.5. Additional CDPHE Permitting

The Permit Modification Form and subsequent, on-going RFI response, including WET testing and CDPHE coordination, are services not included in the original contract scope.

AQUA requests \$15,000 for these Additional Services.

TASK 11 . CONSTRUCTION ENGINEERING SERVICES

The Town has selected Moltz Construction as the Construction Manager at Risk ("CMAR" or "Contractor") to perform construction of the Low Point Wastewater Treatment Facility upgrades and expansion project. The Town will execute a CMAR construction phase contract with Moltz.

AQUA Engineering will provide the construction phase office and field engineering services as required to fulfill the duties and responsibilities noted in the Construction Phase Services Agreement between the Town and Moltz, and as described in the following subtasks.

AQUA has based our fee estimate and scope of services on a construction duration of approximately 24 months beginning from the date of Construction Notice to Proceed (NTP) as noted in the

Construction Schedule prepared by the Moltz Construction (Moltz) and approved by the Town in then pending CMAR Construction Phase Agreement between the Town and Moltz. The anticipated construction NTP date is November 18, 2021.

11.1. Project Management and Quality Assurance / Quality Control (QA/QC)

AQUA will coordinate and manage the engineering services scope, budget, and schedule throughout the duration of the Agreement. Periodic coordination calls will take place as needed. Monthly progress reports or calls will be provided that include schedule and budget updates. AQUA Principals will be heavily involved in the Project and are responsible for providing overall quality assurance / quality control and ensuring that deliverables meet the highest of standards to meet the goals of the project

11.2. Construction Administration of Construction Contract

Consult with Town and act as Town's representative as provided in the Construction Contract. Engineer will render decisions regarding the requirements of the Construction Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth in the Construction Contract for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Town or Contractor, and will not be liable to Town, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

The extent and limitations of the duties, responsibilities, and authority of Engineer shall be as assigned in the project Contract Documents, and specifically, EJCDC C-700, which are the Standard General Conditions of the Construction Contract (2018 Edition), prepared by the Engineers Joint Contract Documents Committee, or other construction general conditions specified in the Town's Agreement with Moltz. Engineer shall not be required to furnish or perform services contrary to Engineer's responsibilities as a licensed professional. All of Town's instructions to Contractor will be issued through Engineer, which shall have authority to act on behalf of Town in dealings with Contractor to the extent provided in this Agreement and the Construction Contract except as otherwise provided in writing.

11.2.1. Construction Contract Execution Assistance, Notice to Proceed, and Schedules Review

Assist the Town with CMAR Construction Contract execution, Issue the required Notice to Proceed (NTP) to Moltz (Contractor, or CMAR) and receive, review, and determine the acceptability of schedules that Contractor is required to submit to Engineer, including the Progress Schedule, Schedule of Submittals, and Schedule of Values. This task also includes conformance document development and 10-hours of labor associated with obtaining CDPHE chemical modification form approval and final design approval.

11.2.2. Construction Kick-Off and Progress Meetings

AQUA will facilitate a Construction Kick-off Meeting and attend weekly Construction Project Meetings with Moltz and the Town. Per the pending CMAR Construction Agreement, Moltz is responsible for administering the progress meeting and preparing and distributing meeting minutes.

11.2.3. Engineer Visits to Site and Observation of Construction:

In connection with observations of Contractor's Work while it is in progress:

- a. Make visits to the Site at intervals appropriate to the various stages of construction, as Engineer deems necessary, to observe as an experienced and qualified design professional the progress of Contractor's executed Work. Such visits and observations by Engineer, and the Resident Project Representative, are not intended to be exhaustive or to extend to every aspect of the Work or to involve detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in this Agreement and the Construction Contract Documents, but rather are to be limited to spot checking, selective sampling, and similar methods of general observation of the Work based on Engineer's exercise of professional judgment, as assisted by the Resident Project Representative (RPR). Based on information obtained during such visits and observations, Engineer will determine in general if the Work is proceeding in accordance with the Construction Contract Documents, and Engineer shall keep Town informed of the progress of the Work.
- b. The purpose of Engineer's visits to the Site, and representation by the Resident Project Representative at the Site, will be to enable Engineer to better carry out the duties and responsibilities assigned to and undertaken by Engineer during the Construction Phase, and, in addition, by the exercise of Engineer's efforts as an experienced and qualified design professional, to provide for Town a greater degree of confidence that the completed Work will conform in general to the Construction Contract Documents and that Contractor has implemented and maintained the integrity of the design concept of the completed Project as a functioning whole as indicated in the Construction Contract Documents. Engineer shall not, during such visits or as a result of such observations of the Work, supervise, direct, or have control over the Work, nor shall Engineer have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected or used by any Constructor, for security or safety at the Site, for safety precautions and programs incident to any Constructor's work in progress, for the coordination of the Constructors' work or schedules, nor for any failure of any Constructor to comply with Laws and Regulations applicable to furnishing and performing of its work. Accordingly, Engineer neither guarantees the performance of any Constructor nor assumes responsibility for any Constructor's failure to furnish or perform the Work, or any portion of the Work, in accordance with the Construction Contract Documents.
- c. Defective Work. Reject Work if, on the basis of Engineer's observations, Engineer believes that such Work is defective under the terms and standards set forth in the Construction Contract Documents. Provide recommendations to Town regarding whether Contractor should correct such Work or remove and replace such Work, or whether Town should consider accepting such Work as provided in the Construction Contract Documents. If Engineer has knowledge that a specific part of the Work that is not defective under the terms and standards set forth in the Construction Contract Documents is nonetheless not compatible with the design concept of the completed Project as a functioning whole, then inform Town of such incompatibility, and provide recommendations for addressing such Work.

11.2.4. Clarifications and Interpretations (RFI's)

Accept from Contractor and Town submittal of all matters in question concerning the requirements of the Construction Contract Documents (sometimes referred to as requests for information or interpretation (RFIs), or relating to the acceptability of the Work under the Construction Contract

Documents. With reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Construction Contract Documents.

11.2.5. Field Orders

Subject to any limitations in the Construction Contract Documents, Engineer may prepare and issue Field Orders requiring minor changes in the Work.

11.2.6. Change Orders and Work Change Directives

Recommend Change Orders and Work Change Directives to Town, as appropriate, and prepare Change Orders and Work Change Directives as required.

Review and respond to Change Proposals. Review each duly submitted Change Proposal from Contractor and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to Town and Contractor. Provide information or data to Town regarding engineering or technical matters pertaining to Claims.

Respond to any notice from Contractor of differing site conditions, including conditions relating to underground facilities such as utilities, and hazardous environmental conditions. Promptly conduct reviews and prepare findings, conclusions, and recommendations for Town's use.

11.2.7. Shop Drawings, Samples, and Other Submittals

Review and approve or take other appropriate action with respect to Shop Drawings, Samples, and other required Contractor submittals, but only for conformance with the information given in the Construction Contract Documents and compatibility with the design concept of the completed Project as a functioning whole as indicated by the Construction Contract Documents. Such reviews and approvals or other action will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions and programs incident thereto.

Substitutes and "Or-equal": Evaluate and determine the acceptability of substitute or "or-equal" materials and equipment proposed by Contractor.

Inspections and Tests: Receive and review all certificates of inspections, tests, and approvals required by Laws and Regulations or the Construction Contract Documents. Engineer's review of such certificates will be for the purpose of determining that the results certified indicate compliance with the Construction Contract Documents and will not constitute an independent evaluation that the content or procedures of such inspections, tests, or approvals comply with the requirements of the Construction Contract Documents. Engineer shall be entitled to rely on the results of such inspections and tests. As deemed reasonably necessary, request that Contractor uncover Work that is to be inspected, tested, or approved.

Contractor's Completion Documents: Receive from Contractor, review, and transmit to Town maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance required by the Construction Contract Documents, certificates of inspection, tests and approvals, and Shop Drawings, Samples, and other data. Receive from Contractor, review, and transmit to Town the annotated record documents which are to be assembled by Contractor in accordance with the Construction Contract Documents to obtain final payment

11.2.8. Applications for Payment

Based on Engineer's observations as a qualified design professional and on review of Applications for Payment and accompanying supporting documentation; Determine the amounts that Engineer recommends Contractor be paid. Recommend reductions in payment (set-offs) based on the provisions for set-offs stated in the Construction Contract. Such recommendations of payment will be in writing and will constitute Engineer's representation to Town, based on such observations and review, that, to the best of Engineer's knowledge, information and belief, Contractor's Work has progressed to the point indicated, the Work is generally in accordance with the Construction Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Construction Contract Documents, and to any other qualifications stated in there commendation), and the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work. In the case of unit price Work, Engineer's recommendations of payment will include final determinations of quantities and classifications of the Work (subject to any subsequent adjustments allowed by the Construction Contract Documents).

By recommending payment, Engineer shall not thereby be deemed to have represented that observations made by Engineer to check the quality or quantity of Contractor's Work as it is performed and furnished have been exhaustive, extended to every aspect of Contractor's Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in this Agreement. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment including final payment will impose on Engineer responsibility to supervise, direct, or control the Work, or for the means, methods, techniques, sequences, or procedures of construction or safety precautions or programs incident thereto, or Contractor's compliance with Laws and Regulations applicable to Contractor's furnishing and performing the Work. It will also not impose responsibility on Engineer to make any examination to ascertain how or for what purposes Contractor has used the money paid to Contractor by Town; to determine that title to any portion of the Work, including materials or equipment, has passed to Town free and clear of any liens, claims, security interests, or encumbrances; or that there may not be other matters at issue between Town and Contractor that might affect the amount that should be paid.

11.2.9. Substantial Completion Review and Recommendation

Promptly after notice from Contractor that Contractor considers the entire Work ready for its intended use, in company with Town and Contractor, visit the Site to review the Work and determine the status of completion. Follow the procedures in the Construction Contract regarding the preliminary certificate of Substantial Completion, punch list of items to be completed, Town's objections, notice to Contractor, and issuance of a final certificate of Substantial Completion. Assist Town regarding any remaining engineering or technical matters affecting Town's use or occupancy of the Work following Substantial Completion.

11.2.10. Start-up and Commissioning Assistance Services

AQUA will facilitate and assist the Town and Moltz with equipment and system start-up and commissioning. This supplemental assistance does not modify the responsibilities of Moltz Construction regarding system start-up, demonstration, training, or commissioning as required by the Construction Contract Documents.

11.2.11. Final Completion Status Review and Notice of Acceptability of the Work / CDPHE Certification

Conduct a final visit to the Project to determine if the Work is complete and acceptable so that Engineer may recommend, in writing, final payment to Contractor. Accompanying the recommendation for final payment, Engineer shall also provide a notice to Town and Contractor that the Work is acceptable to the best of Engineer's knowledge, information, and belief, and based on the extent of the services provided by Engineer under this Agreement.

11.2.12. As-Built Documentation

AQUA will update the construction documents with as-built (record) information reflecting construction change orders and other deviations from the construction documents.

11.2.13. Post-Construction Phase/Warranty Period Engineering Services:

AQUA has included an allowance of \$10,000 for engineering services following final-completion within the warranty period.

11.3. Resident Project Representative (RPR)

Provide the services of a part-time RPR at the Site to assist the Engineer and to provide more extensive observation of Contractor's work. Duties, responsibilities, and authority of the RPR are as described in the EJCDC 2018 General Conditions in the Construction Contract Documents. The furnishing of such RPR's services will not limit, extend, or modify Engineer's responsibilities or authority except as expressly set forth. RPR services will be provided for an average of 15 hours per week for the assumed 24-week construction schedule.

TASK 12 . SCADA PROGRAMMING SERVICES

12.1. SCADA & PLC Programming, Computer Hardware, & Software

Provide a SCADA Computer for the system to be located in the office area. The computer will be a Dell computer running Inductive automation Ignition software with graphical displays, historical trending, and dial out capabilities. This server will be located in a small wall mounted rack including a fiber tray, network switch, and UPS. We will also provide one computer to act as a SCADA Terminal to be located in the office area for general use.

PLC and SCADA Programming will be provided per the P&IDs and SKM standardized programming configuration. HMI Programming will be provided for all points connected to the listed PLC systems. Dialer programming will be provided for points that are alarmed, and the alarms may be adjusted and enabled/disabled by operation staff with proper credentials. Programming work will take approximately 16-20 weeks to complete from time of PO prior to on site testing. The following lists SCADA Package assumptions:

1. Installation of all provided control panels to be provided by project electrician
2. All terminations and labeling of field cables to be provided by project electrician
3. Conduit and Wiring to be performed by others to power the instruments, and interconnect the signals to the Control Panels
4. Network Cable Testing prior to connection to the network switches per the contract specifications

5. Internet connection for remote access to be provided by the Town
6. Telephone connection for dial out connection if required to be provided by the Town

12.2. Startup, Training and Record Drawings

SKM will test the I/O with the electrician that performed the installation and start up the control loops. Up to 5 man-days are included for I/O testing, and up to 5 man-weeks are included for startup and commissioning, including operator training. Remote support during startup and commissioning via VPN to the site is also provided. PLC Panel record drawings will be provided after commissioning.

CLARIFICATIONS, EXCLUSIONS, AND ADDITIONAL SERVICES

Additional or supplemental services beyond the above Scope of Work shall be performed only upon mutual agreement in writing between the Town and AQUA. These services include additional work resulting from changes in the extent of the Project or its design including, but not limited to, changes in Project size, complexity, schedule, or character, or construction approach. Specifically, we note the following assumptions, clarifications, and exclusions to our Scope of Services:

1. These services are based on an estimated 24-month (104-week) construction schedule from Notice to Proceed through Final Completion. Per GMP construction schedule, the following timeframes are assumed:
 - a. 87-weeks from NTP to Substantial Completion.
 - b. 17-weeks from Substantial Completion through Final Completion and Project Closeout.
2. The following assumptions were made in the development of this scope of services:
 - a. Chemical Modification Form (via WET testing), Design review: 16-hours to obtain design approval
 - b. Engineer's site visits: 6-hours per weekly visit.
 - c. Attend one weekly progress meeting at 4-hours per meeting.
 - d. RPR's site visits: 2-days on-site per week through substantial completion, 1-day on-site between substantial completion and final completion.
 - e. Up to 100 requests for information at 4-hour average response time.
 - f. Up to 100 submittal reviews at 3-hour average review and response time.
3. Site visits more than those described above are additional services.
4. Development of a Facility O&M Manual is an additional service.
5. Provide witness of FAT test panels.
6. Special Inspections: Geotechnical engineering, surveying, materials testing services, and other special inspections by third-parties are excluded.

SCHEDULE

Per the Moltz GMP and construction schedule, construction Notice-to-Proceed is anticipated to be issued in November 2021 and construction final completion by end of November 2023. These construction phase engineering services are based on a 24-month construction schedule.

COMPENSATION

AQUA respectively requests a lump sum of \$90,000 for the Task 10 – Additional Services outlined above. Considering the prior contract amount for planning, permitting, design, and bidding services, these additional Task 10 services bring the total design fee to \$690,084. This is 3.0% of the total construction cost.

Task 11 – Construction Engineering services will be provided on a time and material basis (T&M) not-to-exceed fee of \$903,032. This is 4.0% of the total construction cost including SCADA programming.

Task 12 – SCADA Engineering services will be provided on a time and material basis (T&M) not-to-exceed fee of \$230,335.

Refer to the attached Exhibit K for the total Amendment No. 1 amount and overall contract amount.

Additional services will be provided upon request and mutual agreement. AQUA will submit progress invoices based on actual labor hours expended and reimbursable expenses.

Please refer to the original Agreement for a copy of our standard Terms and Conditions and the attached Billing Rate Schedule. If this Professional Services Agreement is acceptable to you, please sign the Authorization section below and on the first page of the Terms and Conditions, keep one original copy for your records and return one complete original copy to AQUA.

If you have any questions, please contact Bob Frachetti or Craig Matsuda at 720-667-1250.

Sincerely,



Bob Frachetti, P.E.
Principal

Encl.: Standard Terms & Conditions
Billing Rate Schedule

AUTHORIZATION

Project: Johnstown Low Point WWTF Construction Phase Services
Client: Town of Johnstown

Scope of Services Accepted by:
Town of Johnstown

Authorized Signature

Date

2021 BILLING RATE SCHEDULE

Civil Engineering Hourly Billing Rates

Senior Principal Engineer	\$190
Principal Engineer/Project Manager	\$180
Project Engineer III	\$165
Project Engineer II	\$150
Project Engineer I	\$125
Planner/Funding Specialist	\$115
CAD Designer III	\$115
CAD Designer II	\$105
CAD Designer I	\$95
Administrative/Project Coordinator	\$85
Const. Management Specialist	\$140
On-Site Construction Inspection	\$115

Electrical & Controls Engineering (SKM) Hourly Billing Rates

Electrical Principal Engineer	\$175
Project Engineer III	\$160
Electrical Engineer II	\$155
Electrical EIT	\$125
Electrical Project Manager	\$155
CAD Designer III	\$115
CAD Designer II	\$105
CAD Designer I	\$95
Senior Controls Engineer	\$145
Controls Engineer	\$135
Junior Controls Engineer	\$125
Electrical Transmission Engineer	\$175
Administrative	\$65

Reimbursable Expenses Schedule

Direct expenses will be charged at actual cost plus 10% for handling and insurance. Reimbursable (direct) expenses may include, but are not limited to:

Additional outside professional services provided beyond those stipulated in the scope of work; Additional copies of reports, drawings, etc. beyond those stipulated in the scope of work; Postage, courier fees, and shipping; Project vehicle mileage (which will be charged at the current IRS rate); Town-approved, project-related purchases; Project business meals and lodging; Resident project engineer equipment and rental; and Printed Photos.

Scope Item	Title	Description	Major Deliverables	Duration	Task Cost	% of Construction Cost
1-9	PLANNING AND DESIGN PHASE SERVICES					
1-9	Planning and Design Phases	Planning and design phase services associated with the Low Point WWTP Expansion, including comprehensive performance evaluation, Utility Planning, Site Location application, Design drawings and specifications, Process Design Report, and construction drawings and specifications.	<ul style="list-style-type: none"> ▪ Comprehensive Performance Evaluation for Low Point and Central WWTP ▪ Basis of Design Memorandum ▪ Survey and Geotechnical Reconnaissance ▪ Utility Plan for Low Point and Central WWTP ▪ 30% Design Documents ▪ SA Submittal to Town and then NFRWQPA and CDPHE ▪ 60% Design Documents ▪ PDR Submittal (P.E. Stamped) ▪ Bid set (Contract Documents) ▪ Final Design to Town and to CDPHE. 	<ul style="list-style-type: none"> ▪ March 2020 to present 	<ul style="list-style-type: none"> ▪ Contract Amount: \$587,584 	<ul style="list-style-type: none"> ▪ 2.05% of construction cost
10	ADDITIONAL DESIGN PHASE SERVICES					
10.1	Expanded Comprehensive Performance Evaluation (CPE)	More detailed analyses were required: BioWin models on the Central WWTP MBBR system and iterations of lagoon calculations were provided to formulate responses to the NOV/CDO, coordinated the lagoon dye testing, and coordinated the lab sampling program for both Low Point and Central WWTPs	<ul style="list-style-type: none"> ▪ Calculations and Biowin supporting NOV/CDO response ▪ Dye Testing ▪ Sampling Plan 	<ul style="list-style-type: none"> ▪ May through July 2020 	<ul style="list-style-type: none"> ▪ Not included in original contract ▪ \$10,000 reimbursement requested 	<ul style="list-style-type: none"> ▪ Total Additional Services Requested: \$90,000 ▪ Original Contract plus Additional Services: \$690,084 ▪ 3.0% of construction cost
10.2	Additional Utility Plan Services	NFRWQPA Utility Planning Guidance Document was updated during the project and more information was required in the submittal. The UP was mostly rewritten.	<ul style="list-style-type: none"> ▪ New Utility Plan conforming to updated NFRWQPA guidance 	<ul style="list-style-type: none"> ▪ August 2020 through January 2021 	<ul style="list-style-type: none"> ▪ Not included in original contract ▪ \$10,000 reimbursement requested 	
10.3	Major Equipment Bidding, Pre-Selection, and Procurement Services	Major equipment was pre-selected during the design phase. Services included requests for proposals, bid evaluations, value engineering, development of notice of awards and non-selection letters, and submittal reviews through October 2021.	<ul style="list-style-type: none"> ▪ Equipment Request for Proposals ▪ Notice award and non-selection letters ▪ Preselected equipment 	<ul style="list-style-type: none"> ▪ November 2020 through October 2021 	<ul style="list-style-type: none"> ▪ Not included in original contract ▪ \$40,000 reimbursement requested 	
10.4	CMAR Design Phase Coordination Services and GMP Development	60% and Final GMP reviews and meetings, several Value Engineering meetings, and assistance provided to Moltz to respond to RFI's and addenda required for GMP development	<ul style="list-style-type: none"> ▪ GMP Reviews and associated meetings ▪ Value Engineering modifications to design and GMP ▪ GMP bidding phases addenda and RFI responses 	<ul style="list-style-type: none"> ▪ June 2021 to present 	<ul style="list-style-type: none"> ▪ Not included in original contract ▪ \$15,000 reimbursement requested 	
10.5	Additional CDPHE Permitting	Permit Modification Form and subsequent, on-going RFI response, including WET testing and CDPHE coordination	<ul style="list-style-type: none"> ▪ Permit Modification Form ▪ Permit Modification Form RFI response to CDPHE 	<ul style="list-style-type: none"> ▪ June 2021 to present 	<ul style="list-style-type: none"> ▪ Not included in original contract ▪ \$15,000 reimbursement requested 	
11	CONSTRUCTION ENGINEERING SERVICES					
11.1	Project Management and Quality Assurance / Quality Control (QAQC)	Coordinate and manage the engineering services scope, budget, and schedule throughout the duration of the Agreement. AQUA Principals will be heavily involved in the Project and are responsible for providing overall quality assurance / quality control and ensuring that deliverables meet the highest of standards to meet the goals of the project	<ul style="list-style-type: none"> ▪ Progress Reports as necessary ▪ Quality Assurance and Quality Control 	<ul style="list-style-type: none"> ▪ Throughout Construction 	<ul style="list-style-type: none"> ▪ \$48,700 	<ul style="list-style-type: none"> ▪ Total Task 11: \$903,032 ▪ 3.87% of construction cost

Scope Item	Title	Description	Major Deliverables	Duration	Task Cost	% of Construction Cost
11.2	Construction Administration and Construction Contract	Consult with Town and act as Town's representative as provided in the Construction Contract.	<ul style="list-style-type: none"> ▪ Conformance Documents ▪ Final Design Approval (including WET testing and Chemical Modification Form) ▪ Kick-off meeting agenda and minutes ▪ Participation in progress meetings ▪ Review of construction schedules (progress, submittals, values) ▪ Engineer's construction site visits (1 trip per week) for construction observation ▪ Responses to Requests for Clarifications and Interpretations ▪ Prepare and issue Change Orders, Work Change Directives, Field Orders ▪ Review and approve shop drawings, samples, and other submittals, including electrical and instrumentation (substitutes, "or-equals", tests and inspection reports) ▪ Review and recommend Contractor's Applications for Payment ▪ Substantial Completion Site Visit, punch list, and issuance of Certificate of Substantial Completion ▪ Start-up and Commissioning Assistance ▪ Final Completion Site Visit, recommendation for final payment, CDPHE construction completion certification ▪ As-Built (record) documentation ▪ Post-Construction Phase services (\$10,000 allowance) within warranty period 	<ul style="list-style-type: none"> ▪ Throughout Construction 	<ul style="list-style-type: none"> ▪ \$627,712 	<ul style="list-style-type: none"> ▪ Total Task 11: \$903,032 ▪ 3.87% of construction cost
11.3	Resident Project Representative (RPR)	Part-time, on-site services (2 days per week through substantial completion, 1 day per week between substantial and final completion) providing more extensive construction observation	<ul style="list-style-type: none"> ▪ Site visits ▪ Field reports ▪ Daily inspection logs ▪ Participation in meetings 	<ul style="list-style-type: none"> ▪ Throughout Construction 	<ul style="list-style-type: none"> ▪ \$226,620 	
12	SCADA PROGRAMMING					
12.1	SCADA & PLC Programming, Computer Hardware, & Software	Provide a SCADA computer (Dell computer running Inductive automation Ignition software) with graphical displays, historical trending, and dial out capabilities. Provide one computer to act as a SCADA Terminal for general use. Provide PLC and SCADA Programming per the P&IDs and SKM standardized programming configuration. Provide HMI Programming for all points connected to the listed PLC systems. Provide Dialer programming	<ul style="list-style-type: none"> ▪ SCADA computer ▪ PLC and SCADA programming ▪ HMI programming ▪ Dialer programming 	<ul style="list-style-type: none"> ▪ 20-weeks from time of PO, prior to onsite testing 	<ul style="list-style-type: none"> ▪ \$166,580 	<ul style="list-style-type: none"> ▪ Total Task 12: \$230,335
12.2	Startup, Training and Record Drawings	Test the I/O with the electrician that performed the installation and start up the control loops. Remote support during startup and commissioning via VPN to the site is also provided. PLC Panel record drawings will be provided after commissioning	<ul style="list-style-type: none"> ▪ I/O test ▪ Up to 5 man-days for I/O testing ▪ Up to 5 man-weeks for startup and commissioning, including operator training. ▪ PLC Panel record drawings 	<ul style="list-style-type: none"> ▪ Startup Period 	<ul style="list-style-type: none"> ▪ \$63,755 	

COMMENTS AND CLARIFICATIONS TO THE SCOPE, SCHEDULE, AND FEE

1. These services are based on an estimated 24-month (104-week) construction schedule from Notice to Proceed through Final Completion. Per GMP construction schedule, the following timeframes are assumed:
 - a. 87-weeks from NTP to Substantial Completion.
 - b. 17-weeks from Substantial Completion through Final Completion and Project Closeout
2. Site visits more than those described above are additional services.
3. Development of a Facility O&M Manual is an additional service.
4. Provide witness of FAT test panels.
5. SCADA Package assumptions:
 - a. Installation of all provided control panels to be provided by project electrician
 - b. All terminations and labeling of field cables to be provided by project electrician
 - c. Conduit and Wiring to be performed by others to power the instruments, and interconnect the signals to the Control Panels
 - d. Network Cable Testing prior to connection to the network switches per the contract specifications
 - e. Internet connection for remote access to be provided by the Town
 - f. Telephone connection for dial out connection if required to be provided by the Town
6. Special Inspections: Geotechnical engineering, surveying, materials testing services, and other special inspections by third-parties are excluded.
7. No permitting or CDPHE Review Fees are included.