MEMORANDUM

To: Mayor McConnell and Members of the Assembly
Jim Dinley, Municipal Administrator

From: Michael Harmon, Public Works Director MH
Stephen L. Weatherman, P.E. Municipal Engineer

CC: Jay Sweeney, Finance Director
Mellissa Cervera, Contract Coordinator MC

Date: February 6, 2013

Subject: **Indian River Temporary Filtration**
Approval to Award Design Contract

Background:

The Blue Lake Dam Project will include a water outage to the City and Borough of Sitka (CBS) Water System. The outage is planned during the months of August and September 2014. Historically the CBS Water System has drawn water from the Indian River both as a primary source before the Blue Lake water source system was developed and as a temporary source when the Blue Lake system was off line.

The Indian River water intake facility will require some major maintenance to be brought back on line to provide the required flow. However, the current regulations for use of surface water have changed since the last time the Indian River source was used. The current regulations require the water source to be filtered to remove surface water biological contaminations such as Girada and Cryptosporidium from the surface water source. These biological contaminates are the same types as are being treated by the proposed UV Disinfection Facility.

Analysis

In order to develop a temporary water source we have drilled wells in the Indian River Valley and the Starrigavan Valley. The wells in the Indian River Valley did not produce any significant water. The wells in the Starrigavan Valley did produce considerable flow that could be used as water source except there is not an existing pipe system to bring the water to town.

In a parallel track we also investigated temporary filtration of the Indian River surface source. CH2MHill was contracted to evaluate the feasibility and practicability of developing a temporary filtration facility. We looked at both the Indian River site and a possible site at the Blue Lake outfall stream. In both cases surface source filtration is

required, Indian River is the best location due to the existing infrastructure in place to capture and distribute water into the CBS system. CH2MHill has completed the feasibility evaluation of the Indian River site. It is now time to move to the next step and prepare the final design for the facility. This will allow CBS to reserve the filtration units for use when needed and complete the water facility design so a construction contractor can construct the required facility.

We are recommending that the Assembly approve a sole source time and materials design contract to CH2MHill. They have prepared the feasibility study for the project that is the basis for the next step. Another design consultant would require more time and money to digest the previous work and prepare the final design. This is an area of CH2MHill's particular expertise and we have an ongoing relationship with them as they continue to assist CBS in the design of the UV Disinfection facility.

Fiscal Note

The funding is from the project 80291 Alternate Water Source Filtration which is a portion of the Blue Lake Dam project. The current budget to develop and construct the Alternate Water Source Filtration is $3,000,000. The current funds available in project 80291 to fund the Alternate Water Source Filtration are $87,649.34. We require an additional $313,350.00 transferred from the Blue Lake Dam project to the Alternate Water Source Filtration project to fund the design contract.

Recommendation:

Approve award of a Time and Materials Design Contract for the Indian River Temporary Filtration Final Design and Services During Construction and Operation with a not to exceed amount of $401,000. Authorize the transfer of $313,350.00 from the Blue Lake Dam project to the Alternate Water Source Filtration project.

CH2M HILL
1100 112th Avenue NE Suite 400
Bellevue, WA 98004
(425) 453-5000

February 4, 2013

Stephen Weatherman, PE
Engineering Manager
City and Borough of Sitka
100 Lincoln Street
Sitka, Alaska 99835

Subject: Scope and Budget for Indian River Temporary Filtration Final Design and Services During Construction and Operation

Dear Mr. Weatherman:

This proposal addresses development of a temporary treatment system for the Indian River site to provide water to the City and Borough of Sitka during the water outage resulting from construction on the Blue Lake Dam and associated facilities. This facility is planned for operation during August and September of 2014 utilizing rented mobile filtration equipment and improvements to the Indian River site to support their operation. This proposal includes tasks as follows:

1. Procurement assistance for the mobile filtration units,
2. Water Characterization
3. Permitting and approval assistance,
4. Final design for temporary filtration at the Indian River Treatment Plant site,
5. Construction services,
6. Facility Automation, and
7. Operations services.

The details of these proposed services are described in more detail below.

Scope of Work

Task 1 – Mobile Filtration Unit Procurement and Contract Administration

CH2M HILL will prepare a Request for Proposals (RFP) for rental of the Mobile Filtration Units. The RFP will include raw water characterization based on available data, treatment requirements and related design criteria addressing 4 mgd supply capacity and reduced capacity for partial well utilization, preliminary schedule, and proposal evaluation criteria. Bidding services will also be provided including contact information for filtration equipment suppliers, RFP-ready documents, preparation of addenda if needed, response to questions from filtration equipment suppliers, and bid evaluation assistance.

CH2M HILL will assist CBS in the management of the Mobile Filtration Unit contract, including coordination and review of submittals and schedules and coordination with the Contractor for design and implementation related issues. CH2M HILL will also assist in the ADEC approval of the selected system as part of Task 3.

Deliverables

- Final Request for Proposal for Mobile Filtration Units

- Addenda, if required
- Equipment selection and contracting assistance

Assumptions

CBS will contact the equipment suppliers, distribute RFP documents, and serve as the primary point of contact during the RFP process.

Task 2 – Water Characterization and Analysis

Very little data are available to characterize the water from Indian River. Additionally, with the acceleration of the dam construction project requiring the temporary facility in August, fish taste and odors may be an issue. This task includes collection of additional water quality data during the summer of 2013 to refine the design for the temporary system. Sampling should begin in July and run through the latest anticipated time in the fall, as late as October. Samples can be collected and analyzed by CBS or its usual laboratory. CH2M HILL will provide a sample plan and analysis of the results.

Recommended Water Quality Sampling in Preparation for Temporary Filtration

Sample Location	Parameters	Purpose
Daily (as available)		
Run of River	Turbidity	Establish variability of water quality and maximum anticipated turbidity.
Weekly and During Storm Events		
At Point of Filtration, e.g. from the Infiltration Gallery Pond	Turbidity pH Alkalinity UVT	Basis of information for refining the size of the filtration system.
Weekly		
At Point of Filtration, e.g. from the Infiltration Gallery Pond	Taste and Odor panel. Procedure to be defined.	Determine if there is a need for additional treatment related to control of taste and odor.
Once – during storm event		
At Point of Filtration, e.g. from the Infiltration Gallery Pond	Iron * Manganese * Total Organic Carbon (TOC)*	Identify potential fouling or unanticipated impacts on treatment.

Deliverables

- Water Sampling Plan
- Indian River Raw Water Characterization Memo

Task 3 – Project Planning, Permitting and Approval Assistance

3.1 Project Planning

This task is called out separately from other work due to the importance of getting the filtration system on line to meet the dam project schedule. CH2M HILL will prepare a preliminary project schedule at the beginning of the project and update the schedule as new information becomes available. This task also includes regular communication with the Department of Environmental Conservation related to the treatment requirements for the

Indian River source and the project and construction review approvals as described below. As this is an unusual activity for DEC, we anticipate that an extra level of coordination will be required.

3.2 Permitting and Approval Assistance

Based on the Indian River Temporary Filtration Conceptual Design Report, we only anticipate project review and approval by the Department of Environmental Conservation (DEC). This task includes preparation of submittal packages and response to three rounds of comments for the Project Report, Approval to Construct, and Approval to Operate the new temporary filtration system. The task also includes a letter to ADEC and response to three rounds of comments for the treatment requirements for Indian River. Budget is included for a meeting in Juneau to review the project with ADEC to facilitate the approval process.

As a part of this task, CH2M HILL will contact the Department of Fish and Game and the Department of Conservation Discharge Program to verify that no additional approvals or permits are required for this project. Applications for any additional permits or approvals are not included in this scope.

Task 4 – Design

CH2M HILL will conduct the necessary civil, mechanical, electrical, and control system engineering to prepare drawings and specifications for the Indian River Temporary Filtration System. Architectural and structural design components are not anticipated and not included. All work with the exception of the filter units is anticipated to be packaged in one bid document. The facility will be designed for 4 mgd capacity with the option of scaling back the installed capacity if a well supply is available to meet some of the demands. Contract document deliverables in accordance with those described in the following sections will be submitted to CBS for review and approval at 60%, 90% and 100% completion. The CAD drawings will be prepared in Microstation and the specifications will be Engineer's Joint Council format as modified by CH2M HILL and will employ the new 49 Divisions. The drawings and specifications will be sent for permitting and approval as required by each agency. The preliminary drawing list is below. Variation from the number and type of drawings may result in a change in the cost. The site survey will be performed by others contracted separately with CBS.

Preliminary Drawing List for the Indian River Temporary Filtration System:

Sheet No.	DWG No.	Title
General		
1	G-1	Cover Sheet
2	G-2	Drawing Index
3	G-3	Basis of Design and Flow Schematic
4	G-4	Hydraulic Profile
Civil		
5	C-1	Civil Legend
6	C-2	Existing Site and Survey Control Plan
7	C-3	Overall Site and Grading Plan
8	C-4	Temporary Erosion and Sed. Control Plan
9	C-5	Details
10	C-6	Details
Process Mechanical		
11	M-1	Legend and Flow Stream Identification
12	M-2	Pipe Schedule
13	M-3	Process Plan
14	M-4	Process Sections and Details
15	M-5	Chemical Room Plan, Section, and Details

16	M-6	Pumping Sections and Details
17	M-7	Standard Details
Electrical		
18	E-1	Legend
19	E-2	One-Line Diagram and Elevations
20	E-3	Overall Electrical Plan
21	E-4	Power Plan
22	E-5	Schedules
23	E-6	Standard Details
Instrumentation and Control		
24	I-1	Legend
25	I-2	P&ID - Filtration
26	I-3	P&ID - Chemicals
27	I-4	Control System Block Diagram
28	I-5	Standard Details

An engineer's opinion of probable cost will be submitted with the 60%, 90% and 100% design documents. In providing opinions of cost, financial analyses, economic feasibility projections, and schedules for the project, CH2M HILL has no control over cost or price of labor and materials; unknown or latent conditions of existing equipment or structures that may affect operation or maintenance costs; competitive bidding procedures and market conditions; time or quality of performance by operating personnel or third parties; and other economic and operational factors that may materially affect the ultimate project cost or schedule. Therefore, CH2M HILL makes no warranty that Owner's actual project costs or schedules will not vary from CH2M HILL's opinions, analyses, projections, or estimates.

Task 4.1 60% Design Documents

The purpose of this task is to utilize the decisions of the project that were made in the conceptual design and the selected filtration equipment to complete and finalize the calculations and develop the project design to achieve a working design concept that can be fully reviewed by CBS staff. Structures, equipment, major piping, process, site plan are all established during this phase to allow detailing of the same in the next phase of design. Specific activities, and work products from this phase include draft specifications, 60% complete drawings, and engineer's opinion of probable cost.

60% Design Review:

The 60% design documents and supporting information will be reviewed by CH2M HILL Quality Control reviewers, and subsequently submitted to CBS for review. Comments will be incorporated into the 90% design documents.

CH2M HILL will conduct a design review workshop in Sitka with CBS staff to review the work products from the 60% design submittal. An action/task list from the workshop will be compiled and submitted to CBS. The 60% design submittal will also be shared with ADEC for planning purposes.

60% Design Deliverables

The 60% submittal to CBS will include 3 paper copies and electronic pdf of the following items:

- 60% Design Drawings
- 60% Specifications
- 60% Engineer's Opinion of Probable Cost
- Design Review Workshop Action List

Task 4.2 90% Design Documents

Structures, equipment, major plant piping, process, site plan are all finalized during this phase. Drawings and other bidding documents that are required for permitting review will be available at the conclusion of this phase. The majority of the quality control review and approval will occur prior to the finalization of the work products from design development phase (60% design).

90% Design Submittal:

The 90% design documents and supporting information will be reviewed by CH2M HILL Quality Control reviewers. 90% design documents will subsequently be submitted to CBS for review. The comments will be incorporated into the 100% Contract Documents.

90% Design Deliverables

The 90% submittal to CBS will include 3 paper copies and up to 3 additional paper copies for submittal to permitting agencies which will include the following items:

- 90% Design Drawings
- 90% Technical Specifications
- Updated Engineer's Opinion of Probable Cost

Task 4.3 100% Contract (Bid) Document Preparation

The purpose of this task is to develop the final contract drawings, specifications, and schedules for competitive bidding. Key activities during this phase will include:

- Contract Document Completion based on comments from permitting agencies and CBS
- Finalize specification front-end documents, including General Conditions, General Requirements, bidding documents, bonds, and Instruction to Bidders. Owner input is required at this point to determine construction contract requirements and insurance requirements.
- Complete final Engineer's Opinion of Probable Cost
- Coordinate with CBS on advertising and bidding process.
- Prepare final construction drawings.
- Prepare final technical specifications.
- Prepare final calculations.
- Complete final checking and coordination review.

Incorporation of Final Review Comments:

CH2M HILL will modify the contract documents to reflect all agreed upon final review comments from CBS, applicable regulatory agencies and CH2M HILL's quality control review team. The final documents will then be submitted to the CBS and prepared for bidding.

100% Design Deliverables

- 100% Contract Drawings
- 100% Technical Specifications
- 100% Engineer's Opinion of Probable Cost (It is assumed that little to no update will be required from the 95% Cost Opinion).

Task 4.4 Project Management

Project management covers activities required for project set-up, regular communications and updates to CBS staff and design team, coordination activities, coordination of project personnel, preparation of invoices, meeting attendance, project phase closeout, and general project management of issues that arise during execution of the Temporary Filtration Facility design. Monthly invoices will be prepared.

Task 5 – Construction Services

CH2M HILL will provide Services During Construction (SDC) as defined below. These SDC are intended to assist CBS to administer the contract for construction, monitor the performance of the construction Contractor, verify that the Contractor's work is in substantial compliance with the contract documents, and assist CBS in responding to events that occur during the construction. These SDC are based upon the understanding that CBS will contract directly with the Contractor and will be actively involved in the construction process to make decisions, provide approvals, and perform other actions necessary for the completion of the construction.

The presence or duties of CH2M HILL's personnel at a construction site, whether as onsite representatives or otherwise, do not make CH2M HILL or CH2M HILL's personnel in any way responsible for those duties that belong to Owner and/or the construction contractors or other entities, and do not relieve the construction contractors or any other entity of their obligations, duties, and responsibilities, including, but not limited to, all construction methods, means, techniques, sequences, and procedures necessary for coordinating and completing all portions of the construction work in accordance with the construction Contract Documents and any health or safety precautions required by such construction work.CH2M HILL will provide services to assist in coordinating the site activities, administering the contract for construction, monitoring the contractor's performance, responding to design and technical submittals, and closing out the contract for construction.

5.1 Bidding Phase Services

CH2M HILL will provide bidding services including bid package preparation, bidding phase assistance, review of contractors' questions, and preparation of addenda. CBS will be responsible for all bid advertising and other bidding related costs during the bidding phase. CBS will be the primary point of contact for bidders during the bid phase.

5.2 Submittals and Requests for Information (RFIs)

CBS will act as the primary contact with the contractor and have primary responsibility for logging and storing documents. Submittals and RFIs are assumed to be received and responded to in electronic format where possible. CH2M HILL will establish a system and set of procedures for managing, tracking and storing relevant documents between CH2M HILL and the Contractor and CBS produced during the Bid/Award, Construction and Closeout phases of the project.

Review of Shop Drawings, Samples and Submittals: CBS will receive all submittals from the Contractor and forward submittals to CH2M HILL for review as required. CH2M HILL will review the Contractor's shop drawings, samples, and other submittals. CH2M HILL's review of all shop drawings, samples and submittals shall be for general conformance with the design concept and general compliance with the requirements of the contract for construction. Such review shall not relieve the Contractor from its responsibility for performance in accordance with the contract for construction, nor is such review a guarantee that the work covered by the shop drawings, samples and submittals is free of errors, inconsistencies or omissions.

Requests for Information: CBS will receive all requests for information from the Contractor and forward to CH2M HILL for review and response as required. CH2M HILL will review the Contractor's requests for information or clarification of the contract for construction. CH2M HILL will coordinate such review with the design team and with CBS as appropriate. CH2M HILL will coordinate and issue responses to the requests. CBS will log and track the Contractor's requests.

5.3 Site Coordination and Field Inspection

CBS will provide an on-site project representative to observe the work of the Contractor on a daily basis. CBS will also will employ, or cause the Contractor to employ, independent firms for the material testing, specialty inspection, survey, or other services related to verifying the quality of the Contractor's work. CBS will conduct daily on-site observations of the Contractor's work for the purposes of determining if the work generally conforms to the contract for construction and that the integrity of the design concept as reflected in the contract for construction has been implemented and preserved by the Contractor.

Pre-Construction Conference: CH2M HILL shall attend one pre-construction conference with CBS and the Contractor to review the project communication, coordination and other procedures and discuss the Contractor's general work plan and requirements for the project. CH2M HILL will take minutes or otherwise record the results of this conference.

Project Site Meetings: CH2M HILL will participate in meetings with the Contractor and the CBS on-site representative via phone to review progress and address field issues.

Design Team Visits: CH2M HILL will visit to the site to review progress and quality of the work one time between the pre-construction meeting and the commissioning activities. The visit shall observe the general quality of the work at the time of the visit and review any specific items of work that are brought to the attention of the design team member by the Contractor or CBS. A total of 1 site visit has been assumed with an overnight stay for one person.

Substantial Completion: CH2M HILL will assist CBS with inspections at substantial completion, in accordance with the contract for construction. This inspection is assumed to occur at the beginning of the commissioning period. CH2M HILL will prepare a punch list of items requiring completion or correction. CH2M HILL shall make recommendations to CBS regarding acceptance of the work based upon the results of the final inspection. CH2M HILL will assist CBS in issuing documents for completion and acceptance of the work. CH2M HILL will advise CBS on payment, and release of retention, and release of insurance bonds.

Safety: CH2M HILL and CH2M HILL's personnel have no authority to exercise any control over any construction contractor or other entity or their employees in connection with their work or any health or safety precautions and have no duty for inspecting, noting, observing, correcting, or reporting on health or safety deficiencies of the construction contractor(s) or other entity or any other persons at the site except CH2M HILL's own personnel. The presence of CH2M HILL's personnel at a construction site is for the purpose of providing to Owner a greater degree of confidence that the completed construction work will conform generally to the construction documents and that the integrity of the design concept as reflected in the construction documents has been implemented and preserved by the construction contractor(s). CH2M HILL neither guarantees the performance of the construction contractor(s) nor assumes responsibility for construction contractor's failure to perform work in accordance with the construction documents. For this Agreement only, construction sites include places of manufacture for materials incorporated into the construction work, and construction contractors include manufacturers of materials incorporated into the construction work.

5.4 Start-Up Support and Commissioning

CH2M HILL will furnish assistance to CBS in plant startup and initial plant operation as described below:

- Prepare a Plan of Operation to identify specific actions and related completion dates for startup and operation of the new facilities and developing a transition plan for introducing water flow through the new facility.
- Provide field testing, startup and training services for the automation system after installation. All process control functions will be tested and demonstrated to CBS for verification of proper operation. The testing will be documented on testing forms signed by CH2M HILL. The budget includes two (2) weeks on-site for the automation integrator.
- Witness filtration equipment performance test.

- Assist during the initial startup of the facilities. The budget includes two (2) weeks on-site for the process engineer.

5.5 Record Drawings

As this is a temporary facility, record drawings will not be prepared.

5.6 Operations Manual

CH2M HILL will develop an Operations Manual describing the operation of the Project facilities and systems. This manual will explain the various primary modes of operation that may be used. Where appropriate, reference will be made to the manufacturer's detailed O&M submittals. It will include instructions for process operations and test or laboratory procedures that may be required to monitor the performance of the facilities. The manual will be suitable for use as an operational tool and to facilitate operator training. The manual will be produced in a computerized format using commercially available software.

5.7 Operation Training

CH2M HILL will provide supplemental instruction to CBS's staff in the operation, maintenance and testing of the equipment provided under this Project. This instruction shall cover both the basic operational concept and actual operation of the systems and components under both normal and abnormal operations that are likely to occur. The instruction will also include training of the staff for equipment maintenance. One half day of training will be provided two times to allow for operator shifts.

Task 5.8 Project Management

Project management covers activities required for project set-up, regular communications and updates to CBS staff and design team, coordination activities, coordination of project personnel, preparation of invoices, meeting attendance, project phase closeout, and general project management of issues that arise during execution of the Temporary Filtration Facility construction and operations services. Monthly invoices will be prepared.

Task 6 – Facility Automation: Control System Programming and SCADA Development

CH2M HILL will provide the equipment, software, and services required for a complete and operational automation system. The automation system will provide basic controls to keep the chlorine contact tanks full and flow pace the chlorine system. The Mobile Filtration Unit vendor supplied controls are assumed to operate independently of the temporary plant controls. Raw water pumping is expected to be controlled manually by turning on/off or up/down the pump(s) to provide flow to the filtration units. Alarming, monitoring, communication, and remote access have not been defined at this time. Since this scope is not yet well defined, the budget provides an allowance of 160 hours and $30,000 of equipment and software.

Task 7 – Operation and Decommissioning Services

CH2M HILL will provide support for on-going operations during the 2 to 3 month operation of the temporary filtration system at Indian River. Support during this phase is anticipated to be primarily over the phone; however, one site visit is also included for one person for two days. CBS will provide routine operation of the temporary facility and all necessary reporting. CBS will furnish a certified operator as required by DEC.

Budget

The budget for the scope of this task is provided below, based on 2013 and 2014 rates.

No.	Task	Budget
1	Mobile Filtration Unit Procurement	$28,000
2	Water Characterization	$7,000
3	Planning and Permitting	$39,000
4	Design	$135,000
5	Construction Services	$115,000
6	Operation Services	$19,000
7	Facility Automation	$58,000
	Total	$401,000

Schedule

CH2M HILL is available to begin work upon Notice to Proceed (NTP). The filtration units are to be on-line no later than August 1, 2014 and complete the operational period by October 31, 2014.

Sincerely,

CH2M HILL

Kim Ervin, P.E.
Project Manager

CH2M HILL

Tom Wolf, P.E.
Vice President

Sitka Temporary Filtration

Design, Construction, and Operations

Updated 2/4/13 by K. Ervin

Year of Performance		Task Number	Task Name	Ervin	Venot	Yang	Haapala	Alderson	Erb	Zheng	Moore	Accnt./	E6	Tech 5	Total Hours	Labor	Expenses	Travel	Total	Task Total
2013	2014		Role	PM	Process	Lead CAD	Civil	Electrical	I&C	I&C	Cost	Specs/	Engr. 6	Tech 5						Rounded
			Rate Category	PM	Engr. 3	Tech 5	Engr. 1	Engr. 5	Engr. 4	Engr. 3	Engr. 4	Office					Includes markup			to 1000's
			2013 Rate*	$200	$145	$136	$123	$187	$167	$145	$167	$94	$200	$136			10%	10%		
			2014 Rate*	$206	$150	$140	$126	$193	$172	$150	$172	$97	$206	$140						
		C3.01.03.35	**Task 1: Mobile Filtration RFP and Admin**																	
100%			RFP Development	20	60							10	16		106	$16,840	$0	$0	$16,840	
50%	50%		Contract Admin and Shop Drawings	16	40								8		64	$10,772	$0	$0	$10,772	
			Task 3 Total	36	100	0	0	0	0	0	0	10	24	0	**170**	**$27,612**	**$0**	**$0**	**$27,612**	**$28,000**
		C3.02.03.31	**Task 2: Water Characterization**																	
100%			Water Characterization	8	40										48	$7,400	$0	$0	$7,400	**$7,000**
		C3.03.03.35	**Task 3: Planning and Permitting**																	
75%	25%		Schedules	20	20										40	$6,955	$0	$0	$6,955	
75%	25%		ADEC	48	100										148	$24,297	$0	$4,400	$28,697	
100%			Other Agency Contacts	4	16										20	$3,120	$0	$0	$3,120	
			Task 3 Total	72	136	0	0	0	0	0	0	0	0	0	**208**	**$34,372**	**$0**	**$4,400**	**$38,772**	**$39,000**
		C3.04.03.35	**Task 4: Design**																	
100%			Design Development (60% Design)	36	40	14	18	31	28	0	12	22	32	78	311	$48,671	$0	$4,400	$53,071	
100%			Contract Documents (90% Design)	36	40	14	18	31	28	0	8	22	32	78	307	$48,003	$0	$0	$48,003	
100%			Final Bid Documents (100% Design)	18	20	7	9	16	14	0	4	11	16	39	154	$24,095	$0	$0	$24,095	
100%			Project Management	24								50			74	$9,500	$0	$0	$9,500	
			Task 4 Total	114	100	34	44	78	70	0	24	105	80	196	**846**	**$130,269**	**$0**	**$4,400**	**$134,669**	**$135,000**
		C3.05.02.20	**Task 5: Construction Services**																	
100%		C3.05.02.20.05	Bid Services	24											24	$4,800	$0	$0	$4,800	
	100%	C3.05.02.20.10	Submittals and RFIs		50							40	30		120	$17,560	$0	$0	$17,560	
	100%	C3.05.02.20.20	Site Visits	40											40	$8,240	$0	$4,400	$12,640	
	100%	C3.05.02.20.30	Startup and Commissioning	24	100				24	100					248	$39,072	$0	$12,210	$51,282	
	100%	C3.05.02.20.40	Operations Manual	8	40					8					56	$8,848	$220	$0	$9,068	
	100%	C3.05.02.20.45	Operator Training	8	20										28	$4,648	$220	$2,503	$7,371	
	100%	C3.05.02.20.80	Project Management	24								50			74	$9,794	$220	$2,503	$12,517	
			Task 5 Total	128	210	0	0	0	24	108	0	90	30	0	**590**	**$92,962**	**$660**	**$21,616**	**$115,238**	**$115,000**
		C3.06.02.55	**Task 6: Facility Automation**																	
	100%	C3.06.02.55.01	Facility Automation						80	80					160	$25,760	$0	$2,500	$28,260	
	100%	C3.06.02.55.EX	Equipment												0	$0	$30,000	$0	$30,000	
			Task 6 Total	0	0	0	0	0	80	80	0	0	0	0	**160**	**$25,760**	**$30,000**	**$2,500**	**$58,260**	**$58,000**
		C3.07.02.60	**Task 7: Operation and Decommissioning Services**																	
	100%		Operation and Decommissioning	24	40					40					104	$16,944	$0	$2,500	$19,444	**$19,000**
			Total Budget	**382**	**626**	**35**	**45**	**78**	**174**	**228**	**24**	**205**	**134**	**195**	**2126**	**$335,319**	**$30,660**	**$35,416**	**$401,395**	**$401,000**

* Note: Staff rates are tied to their Rate Category. Staff will be billed at their current rate category at the time of billing.