



August 12, 2024

Mr. Andrew Bowen
Town Planner & Zoning Administrator
Town of Boonsboro
21 North Main Street
Boonsboro, Maryland 21713

Re: Proposal - Engineering Services during Construction and Construction Management and Inspection for the New Potable Water Reservoir

Dear Mr. Bowen:

Whitman, Requardt and Associates, LLP (WRA) is pleased to respond to your Request for Proposal for Engineering Services during Construction and Construction Management and Inspection Services. The following information is enclosed.

- A. Scope of Services
- B. Schedule
- C. Compensation
- D. Manhour Estimate and Cost Breakdown
- E. Terms and Conditions
- F. Assumptions

WRA proposes to provide services as described under the attached Scope. The fee for this work is **\$563,912.00**. If this proposal is acceptable, please sign and date in the space provided on page 6.

Very truly yours,

Whitman, Requardt and Associates, LLP

A handwritten signature in blue ink, appearing to read 'D. Hasson', is written over the printed name of Dennis J. Hasson.

Dennis J. Hasson, PE, BCEE
Partner

Enclosures

cc: File
Carl Scheffel, P.E.
David Chung, P.E.
P. Andrew Cooper, P.E., BCEE

A. Scope of Services

BACKGROUND

The Town's existing storage consists of a 1.5 MG finished water reservoir located along the northeast side of the Town on Boonsboro Mountain Road. The reservoir is a trapezoidal shaped stone and concrete lined earthen reservoir with a floating Hypalon cover. The reservoir was constructed in 1954 with a recent major renovation being completed on the facility in 1989 which included upgrades to piping, the construction of a new overflow structure, and the addition of a new fabric liner and floating cover. Testing completed by the Town indicates that the reservoir may be a source of water loss, so the Town is pursuing replacement of the facility.

As recommended in our January 20, 2022 Preliminary Engineering Report a prestressed concrete elliptical 1.0 MG multi-basin tank has been designed.

The following describes the proposed scope of work for Engineering Services during Construction and Construction Management and Inspection (ESDC and CMI) for the new potable water reservoir facility and associated replacement 12-inch water main:

1. Engineering Services during Construction

- a. **General Project Administration and Coordination** during this part of the project is based on a construction phase of 16.7 months (71.4 weeks, 500 calendar days) at 3 hours / week (214 Hours).
- b. **Conformed Documents-** Prepare an electronic set of conformed contract drawings and specifications incorporating changes issued via addenda during the project advertising phase. Up to 3 hard copies of plans and specifications will be provided, upon request. These documents will be for use by WRA, the Town, and the Contractor. (24 hours)
- c. **Shop Drawings-** Review shop drawings, product data and samples, operation and maintenance data, alternate material and product submittals and performance tests submitted by the Contractor for conformance with the design concept of the project and with the information provided in the contract documents. Assumed 120 submittals (360 hours).
- d. **RFIs-** Respond to the Contractor's formal request for information (RFI - 30 RFIs assumed, 150 hours).
- e. **Progress Meetings-** Attend monthly progress meetings (17 assumed) as requested by the Town and issue meeting minutes. We have assumed that 50% of the meetings are virtual.
- f. **Testing-** Witness the following tests by the respective disciplines:
 - i. Valve/tank system functional field test (1 trip by Mechanical, total 8 hrs.)
 - ii. Electrical Prefinal Testing (1 trip by Electrical, total 8 hrs.)
 - iii. Electrical Final Testing (1 trip by Electrical, total 8 hrs.)
 - iv. Instrumentation Demonstration testing (1 trip by I/C, total 8 hrs.)
 - v. Reservoir Control System field testing (1 trip by I/C & Mechanical, total 16 hrs.)
 - vi. Start-up of the Reservoir Operation Demonstration and Testing (1 trip by I/C, total 6 hrs.)
- g. **Record Drawings-** Provide record drawings to the Town. The record drawings will be made by entering the Contractor's "As-Built" field revisions onto the PDF design drawings in CADD. (80 hours).
- h. **Technical Observations-** Provide technical observation by architectural, structural, geotechnical, mechanical, electrical or civil engineering disciplines, as requested by the Town. These on-site inspections shall only be used with the approval of the Town (80 Hours).
- i. **Change Orders-** Provide engineering input to respond to change order requests from the Contractor (48 hours).

- j. **Substantial Completion Punch list-** Perform substantial completion inspection (with the Contractor, WRA Design Team and Town representatives) and develop preliminary punch list for Contractor (1 trip by Structural, Civil, Mechanical, Electrical and I/C. total 50 hours).
- k. **Final Inspection-** Perform final inspection and develop punch list for the Contractor (with Contractor, 1 trip by Mechanical, Electrical & I/C. total 26 hrs.).
- l. **Final Completion and Acceptance-** Upon successful completion of all demonstration testing and verification of completion of punch list items, recommend Final Completion and Acceptance to Owner.

2. Construction Management and Inspection Services

- a. **Construction Management Services-** Provide a part-time Construction Manager/Scheduler to review Contractor CPM schedules and generate monthly schedule reports:
 - i. Pre-Construction Scheduling Meeting: WRA's scheduler will attend a virtual Pre-construction Conference for the discussion of the project's scheduling requirements and administrative procedures (6 hrs).
 - ii. Review of Contractor's Initial Project Schedule: WRA will review the Contractor's Initial Project Schedule (ICPM) submission for compliance with the Contract Specifications. WRA will complete the review and submit a report with recommendations to Owner and Contractor within 14 calendar days of receipt. Any revisions to the schedule identified during the review will be prepared by the Contractor and resubmitted. WRA will review the revised submission and submit a report with recommendations to Owner and Contractor within seven (7) calendar days of the receipt of the revised schedule submission. All schedules will be reviewed and analyzed using Primavera P6. We anticipate a maximum of 1 revision and reviews for the initial schedule (total 16 hrs.)
 - iii. Review of Contractor's Project Schedule Updates: WRA's scheduler will review the Contractor's monthly schedule updates, which will be submitted in an electronic format. Within seven (7) calendar days after the receipt of the update, WRA will submit a Monthly Schedule Review Report with recommendations to Owner (16 months- 8 hrs/month- total 128 hrs.)
 - iv. Review of Schedule Revisions: If the project begins to miss critical milestones or the Project Schedule no longer represents the actual progress of the work, the Engineer or Owner may request the development of schedule revisions or a recovery schedule. WRA will review the revised schedule to determine if the Contractor's logic is feasible with the resources that he has allocated and determine if the proposed schedule revision will impact the work of any third-party participants. WRA will prepare a report with recommendations for the Owner and Contractor. We anticipate a maximum of 2 schedule revisions (total 8 hrs.)
- b. **Resident Construction Manager (RCM) Services-** Provide full-time, on-site construction management and inspection services for the reservoir and transmission main construction from construction Notice to Proceed (NTP) through Substantial Completion for 67.4 weeks (472 calendar days) and an additional 4 weeks (28 calendar days) to Final Completion. Services will include daily monitoring of the Contractor's activities for compliance with the contract documents including equipment construction, site work, utilities, and Contractor's material sampling and testing (by Contractor's independent testing agency).
 - i. Construction Field Documentation- Field records will be maintained to document daily operations for the duration of construction, in accordance with the Town's requirements or standard procedures. Records will include Inspector Daily Reports (IDRs) with photos, measured quantities, field and laboratory testing reports, material receipts, RFIs & Response logs, PCO/Change Order logs, shop drawing logs, and "As-Built" Drawings. These records can be maintained on a web-based file share site with access provided to the Town and limited access provided to the Contractor for



uploading/downloading construction documents. Electronic copies of the IDRs will be emailed to the designated Town personnel, as requested. Copies of the IDRs and test reports will be copied to a CD and turned over to the Town upon project close-out.

- ii. Coordination & Liaison- Provide coordination, liaison and communications between Contractor and Town for the duration of the project.
- iii. Meetings- Attend monthly progress meetings and other construction related meetings.
- iv. Review Contractor Pay Requisitions- Review Contractor's Schedule of Values. Review monthly Contractor payment requisitions and make recommendations to the Town for approval or adjustments.
- v. Monitor Contractor Quality Control (QC)- Material sampling and testing performed by the Contractor's testing agency will be monitored for compliance with the contract documents. Timely submission of all test reports by the Contractor's independent testing agency will also be monitored. Deficiencies in materials or constructed improvements will be issued as a formal Deficiency Notification with a request for Contractor response for implementing corrective action(s).
- vi. Substantial Completion Punch List- Perform Substantial Completion inspection (with the Contractor, WRA Design Team and Town representatives) and develop preliminary punch list for the Contractor.
- vii. Final Inspection- Perform final inspection (with the Contractor, WRA Design Team and Town representatives) and verify completion of punch list items by Contractor.
- viii. Final Completion Acceptance/ Final Payment- Verify completion of outstanding punch list items; review and submit recommendation for Contractor's final payment.
- ix. Construction Phase Contract Close-out- Compile and turn over to the Town construction phase records including IDRs and QC test reports in an electronic format for record storage; review Contractor's "As-Built" field revisions for completeness and accuracy.

B. Assumptions

1. Contractor shall provide office trailer on-site per the specifications for the Resident Construction Manager for the duration of the construction.
2. RCM Overtime (OT) will only be utilized with the advance approval of the Town, and will be paid by the Contractor.
3. The Contract Time is 500 Calendar Days; 472 Calendar Days to Substantial Completion; followed by 28 Calendar Days to Final Completion/ Final Acceptance.
4. Any services required beyond the 500-day calendar period will require additional fees for engineering and/ or construction management services.

C. Schedule

The proposal assumes that all work will be completed within 500 calendar days after Notice to Proceed. Anticipated NTP is October 2024.



Milestone		Duration
1	Substantial Completion	472 Calendar Days after Notice to Proceed
2	Final Completion/Acceptance	28 Calendar Days after Substantial Completion

D. Compensation

A detailed workhour breakdown showing the derivation of this estimated fee is provided in the manhour spreadsheet which is attached. Our total compensation to perform these services is **\$563,912.00**.

We will perform the Scope of Services on a time and material basis. The estimated cost for the Scope of Services is included below. This fee will not be exceeded without your authorization.

If a work effort for this project is recognized as being outside of this scope of services by WRA or is requested by the Town of Boonsboro, a scope amendment will be submitted for the Town's authorization, prior to proceeding with that effort.

Invoices will be rendered every four weeks for the actual services performed during the previous four-week period and are due within 30 days of receipt.

Scope Item	Cost
1.a. Project Management	\$36,285
1.b. Conformed Documents	\$2,450
1.c. Shop Drawings	\$55,056
1.d. RFIs	\$23,030
1.e. Progress Meetings	\$26,705
1.f. Testing	\$9,251
1.g. As-Built/Record Drawings	\$10,447
1.h. On-Site Technical Observation	\$14,935
1.i. Change Order Input	\$9,829
1.j. Substantial Completion Punch List	\$9,026
1.k. Final Inspection	\$5,400
1.l. Final Completion and Acceptance	\$4,341
2.a. Construction Management	\$21,291
2.b. Resident Const. Mgr. for 17 Months	\$335,866
Total	\$563,912

E. Manhour Estimate and Cost Breakdown

A detailed Manhour Estimate and Cost Breakdown by task is included herein.

F. Terms and Conditions

This work will be completed in accordance with our October 2018 Water System Contract as amended on September 27, 2021.



APPROVAL:

Signature

Date



PROJECT NAME: Town of Boonsboro - Potable Water Reservoir Construction Engineering and Inspection Services																											REVISION 1																															
MANHOUR ESTIMATE AND PROPOSAL																											DATE 8/6/2024																															
CLIENT: Town of Boonsboro																											BY PAC																															
TASK	PROJECT DESCRIPTION: Engineering Services during Construction and Construction Management and Inspection for Boonsboro Reservoir Replacement	Project Manager	Senior Project Engineer - Civil	Design Engineer - Civil	Civil Designer / CADD	Project Manager - Geotech	Senior Project Engineer - Geotech	Registered Prof. Engineer - Geotechnical	Project Manager - Architect	Architect	Arch. Designer / CADD	Project Manager - Structural	Design Engineer - Structural	Struct. Designer / CADD	Project Manager - Mechanical	Design Engineer - HVAC/Plumb.	Design Engineer - WWW	Project Manager - Electrical	Design Engineer - Electrical	Electrical Designer / CADD	Project Manager - I&C	Design Engineer - I&C	I&C Designer / CADD	Construction Manager	Resident Construction Manager	Construction Inspector	WRA TOTAL HOURS	WRA TOTAL PAYROLL	WRA EXPENSES	Subcontractor hours	Subcontractor Payroll	Subcontractor Expenses	Line Item Totals																									
		Use Labor Cost Rates for year: 2024																											T, R, E	S, or L	T, R, E	S, or L																										
1. Engineering Services during Construction																																																										
a	Project Management 16.7 months (71wks@3hrs/wk)	140		74																							214	\$36,285	- \$0	0	\$0	- \$0	\$36,285																									
b	Conformed Documents			8	16																					24	\$2,450	- \$0	0	\$0	- \$0	\$2,450																										
c	Shop drawings (assume 120 @ 3.0hrs/submittal)	20	24	12	24		12		8	12		8	32		8	72		8	60		16	44				360	\$55,056	- \$0	0	\$0	- \$0	\$55,056																										
d	Response to Contractors RFIs (assume 30 RFIs)	16	16				8			8			24			32			28			18				150	\$23,030	- \$0	0	\$0	- \$0	\$23,030																										
e	Monthly Progress Meetings (17)	100		60																						160	\$26,705	- \$0	0	\$0	- \$0	\$26,705																										
f	Testing:																																																									
f.i	Valve/Tank system functional field test, 8 Mech. hrs.															8										8	\$1,274	- \$0	0	\$0	- \$0	\$1,274																										
f.ii	Electrical Prefinal Testing, total 8 Elect. hrs.																		8							8	\$1,078	- \$0	0	\$0	- \$0	\$1,078																										
f.iii	Electrical Final Testing, total 8 Elect. hrs.																		8							8	\$1,078	- \$0	0	\$0	- \$0	\$1,078																										
f.iv	Instrumentation Demonstration testing (1 trip by I/C, total 8 hrs.)																					8				8	\$980	- \$0	0	\$0	- \$0	\$980																										
f.v	Reservoir Control System field testing (1 trip by I/C & Mech., total 16 hrs.)															8						8				16	\$2,254	- \$0	0	\$0	- \$0	\$2,254																										
f.vi	Start-up of the Res Operation Demonstration and Testing (1 trip by I/C, 8 hrs.)	8																				8				16	\$2,587	- \$0	0	\$0	- \$0	\$2,587																										
g	As Builts/Record Dwgs	2		16	18				2				2			20			16			4				80	\$10,447	- \$0	0	\$0	- \$0	\$10,447																										
h	On-site technical observation, as requested	8		8			8				8			22				8	8		10					80	\$14,935	- \$0	0	\$0	- \$0	\$14,935																										
i	Change Order Input	16							4			4		8				8			8					48	\$9,829	- \$0	0	\$0	- \$0	\$9,829																										
j	Substantial Completion Punch List	2		8							8			8				8			8					50	\$9,026	- \$0	0	\$0	- \$0	\$9,026																										
k	Final Inspection	2									8			8				8			8					26	\$5,400	- \$0	0	\$0	- \$0	\$5,400																										
l	Final Completion and Acceptance	6												4	4			4			4					22	\$4,341	- \$0	0	\$0	- \$0	\$4,341																										
TASK 1 SUBTOTALS =		320	40	186	58	0	28	0	14	20	0	28	58	0	58	144	0	44	128	0	54	90	0	8	0	1278	\$206,756	\$0	Subcontractor Total \$0		\$206,756																											
TASK 1 SUB-TOTAL DOLLARS =		\$64,288	\$6,664	\$20,507	\$5,684	\$0	\$4,802	\$0	\$2,744	\$2,940	\$0	\$5,831	\$8,526	\$0	\$12,079	\$22,932	\$0	\$9,163	\$17,248	\$0	\$11,246	\$11,025	\$0	\$1,078	\$0	\$0	\$206,756																															
			284	Civil	\$32,855	28	Geotech	\$4,802	34	Architect	\$5,684	86	Structural	\$14,357	202	Mech.	\$35,011	172	Electrical	\$26,411	144	SCADA	\$22,271	8	CMI	\$1,078																																
TASK A TOTAL																																																										
WRA Total																																																										
Profit on Sub																																																										

2. Construction Management and Inspection Services																											T, R, E		S, or L					
Use Labor Cost Rates for year: 2024																											(See Legend)		(See Legend)					
a	Construction Management (ICPM&Revs - 2 hrs/wk)																									158	\$21,291	- \$0	0	\$0	- \$0	\$21,291		
b	Resident Construction Manager for 71.4wks@40hrs/wk																									2856	\$335,866	- \$0	0	\$0	- \$0	\$335,866		
c	RCM OT for 12 months - pd by Contractor																									0	\$0	- \$0	0	\$0	- \$0	\$0		
TASK 2 SUBTOTALS =		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	158	\$21,291	\$0	0	\$0	- \$0	\$21,291			
TASK 2 SUB-TOTAL DOLLARS =		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$21,291	\$335,866	\$0	\$0	- \$0	\$21,291			
			0	Civil	\$0	0	Geotech	\$0	0	Architect	\$0	0	Structural	\$0	0	Mech.	\$0	0	Electrical	\$0	0	SCADA	\$0	158	CMI	\$21,291								
TASK B1 TOTAL																																		
WRA Total																																		
Profit on Sub																																		

PROJECT TOTAL \$563,912

Bare Labor Cost rates for year		2024	Project Manager	Senior Project Engineer - Civil	Design Engineer - Civil	Civil Designer / CADD	Project Manager - Geotech	Senior Project Engineer - Geotech	Registered Prof. Engineer - Geotechnical	Project Manager - Architect	Architect	Arch. Designer / CADD	Project Manager - Structural	Design Engineer - Structural	Struct. Designer / CADD	Project Manager - Mechanical	Design Engineer - HVAC/Plumb.	Design Engineer - WWW	Project Manager - Electrical	Design Engineer - Electrical	Electrical Designer / CADD	Project Manager - I&C	Design Engineer - I&C	I&C Designer / CADD	Construction Manager	Resident Construction Manager	Construction Inspector	
Contract Rates - LOADED LABOR AT A FACTOR OF:		2.45	\$200.90	\$166.60	\$110.25	\$98.00	\$208.25	\$171.50	\$147.00	\$196.00	\$147.00	\$98.00	\$208.25	\$147.00	\$98.00	\$208.25	\$159.25	\$98.00	\$208.25	\$134.75	\$98.00	\$208.25	\$122.50	\$98.00	\$134.75	\$117.60	\$117.60	\$0.00

WRA EXPENSES
T = Travel
E = Equipment Rental
S = Subcontractor
L = Laboratory Cost
R = Reproduction

