



March 7, 2022

Mr. Paul Mantello
Town Manager
Town of Boonsboro
21 North Main Street
Boonsboro, Maryland 21713

Re: Proposal – Water System Metering Analysis

Dear Mr. Mantello:

Whitman, Requardt and Associates, LLP (WRA) is pleased to present our proposal for assisting the Town with automated metering system (Advanced Metering Infrastructure/Automatic Meter Reading or AMI/AMR) implementation by developing a meter zone system, or a system of District Metered Areas (DMAs). The study will recommend locations for master meters within the distribution system to assist with identification of water use and potential water loss.

Background

The Town's existing distribution system consists of approximately 24 miles of water mains serving 1,400 customers. By dividing the overall system into individually metered zones (DMAs), flow into the zone can be compared with meter readings (consumption data) to determine if loss is occurring within that zone. It will also allow the Town to detect water main breaks, or other events that require immediate attention. This will be performed in conjunction with the Town's implementation of an automated meter reading system (AMI/AMR) and the master meters will communicate with this system.

The following describes the proposed scope of work for the water system metering analysis:

A. Scope of Services

Upon Notice to Proceed, we will proceed with the analysis, as described below.

1) Meter Location Analysis

- a) Preliminary Meter Location Determination: WRA will meet with the Town to review the pertinent information and discuss key issues of the project. The goal of this phase is to review the existing distribution system to identify potential locations for review. The following documents will be provided by the Town if needed, and reviewed by WRA:
- The most recent GIS data of the Water Distribution System.
 - The existing water model of the system.
 - The AMR/AMI Study for the Town of Boonsboro.

- b) Meter Type Evaluation: WRA will review three (3) meter installation alternatives, including types of meters and their method of installation.
- c) Meter Layout Modeling and Mapping: WRA will evaluate the system and provide a figure showing the selected locations within the Town. The availability of electrical service will also be reviewed. The system hydraulic model will be used to check for flows and pressures if pipes need to be isolated to create the Meter Zones.
- d) Review Workshop: WRA will present preliminary locations for the in-line system meters to the Town. The locations will be discussed with the Town and operational staff to determine any issues or difficulties at the given sites.
- e) Technical Memorandum: WRA will present proposed locations for the in-line system meters to the Town. The locations will be further discussed with the Town and operational staff to determine any issues or difficulties at the given sites, and the memorandum will be finalized.

2) Deliverables

Project deliverables will include updated GIS mapping and database electronic files, and a technical memorandum including locations and approximate cost estimate for the meter installations.

B. Assumptions

- 1. Field Surveys: Surveys will not be required for this analysis.
- 2. Electrical Utility information is readily available from the local service provider.

C. Schedule and Deliverables

The proposal assumes that all work will be completed by July 2022 with Notice to Proceed on March 15, 2022; however, WRA will not be liable for delays beyond its reasonable control.

Milestone	Duration
1 Review Workshop	6 weeks after Notice to Proceed
2 Draft Technical Memorandum	2 weeks after review meeting
3 Final Technical Memorandum	1 week after Draft comments received

D. Compensation

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.

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
1.0 Meter Location and Type	\$11,488
2.0 Technical Memorandum	\$7,896
Total	\$19,384

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



E. Terms and Conditions

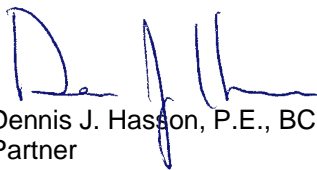
This work will be completed in accordance with our October 2018 Water System Contract as amended on September 27, 2021.

If this proposal is acceptable to you, please sign in the appropriate location below and return a copy for our files.

Thank you for the opportunity to present our Proposal. We look forward to working with you on this project.

Very truly yours,

Whitman, Requardt and Associates, LLP



Dennis J. Hasson, P.E., BCEE
Partner

Enclosures

cc: File

P. Andrew Cooper, P.E., BCEE
Francis Bonkowski, P.E.

APPROVAL:

Signature

Date



PROJECT NAME: TOWN OF BOONSBORO - WATER SYSTEM METERING STUDY															REVISION		0.00			
MANHOUR ESTIMATE AND PROPOSAL															DATE		2/28/2022			
CLIENT: Town of Boonsboro, MD															BY		A. Cooper			
TASK	PROJECT DESCRIPTION: Town of Boonsboro - Technical Memorandum investigating establishment of meter zones to coordinate water use and loss with the proposed AMI system.	QA/QC	Project Manager - Civil Assoc.	Senior Project Eng. - Civil	Design Eng. - Civil	Mech Assoc. / VP	Mechanical Eng.	Design Eng. - Mech.	Elect. Assoc. / Proj. Engr.	Elect. Engineer	SCADA Assoc. / Proj. Engr.	SCADA Designer	SCADA Engineer	WRA TOTAL HOURS	WRA TOTAL PAYROLL	WRA EXPENSES	Subcontractor hours	Subcontractor Payroll	Subcontractor Expenses	Line Item Totals
Use Labor Cost Rates for year: 2022		\$80	\$78	\$62	\$35	\$80	\$55	\$35	\$80	\$55	\$80	\$50	\$40			T, R, E S, or L (See Legend)			T, R, E S, or L (See Legend)	
1.a	Preliminary Meter Location		2	4										6	\$989	- \$		\$	- \$	\$989
1.b	Meter Type Evaluation	2	1	8	8	2	8							29	\$3,954	- \$		\$	- \$	\$3,954
1.c	Meter Layout Modeling and Mapping		2	8	16	2	4		2		2			36	\$4,683	- \$		\$	- \$	\$4,683
1.d	Review Workshop		4	4	4									12	\$1,713	T \$150		\$	- \$	\$1,863
1.e	Technical Memorandum	2	4	16	24	2	8		2		2			60	\$7,896	- \$		\$	- \$	\$7,896
SUBTOTALS =		4	13	40	52	6	20	0	4	0	4	0	0	143	\$19,234	\$150	Subcontractor Total		\$0	\$19,384
SUB-TOTAL DOLLARS =		\$784	\$2,476	\$6,076	\$4,459	\$1,176	\$2,695	\$0	\$784	\$0	\$784	\$0	\$0	\$19,234			Profit on Sub		0.0%	
			105	Civil	\$13,011	26	Mech	\$3,871	4	Electrical	4	SCADA	\$784				WRA Total		\$19,384	
																	TOTAL		\$19,384	

	QA/QC	Project Manager - Civil Assoc.	Senior Project Eng. - Civil	Design Eng. - Civil	Mech Assoc. / VP	Mechanical Eng.	Design Eng. - Mech.	Elect. Assoc. / Proj. Engr.	Elect. Engineer	SCADA Assoc. / Proj. Engr.	SCADA Designer	SCADA Engineer
Bare Labor Cost rates for year 2022	\$80.00	\$77.75	\$62.00	\$35.00	\$80.00	\$55.00	\$35.00	\$80.00	\$55.00	\$80.00	\$50.00	\$40.00
County IDQ Contract Rates - LOADED LABOR AT A FACTOR OF: 2.45	\$196.00	\$190.49	\$151.90	\$85.75	\$196.00	\$134.75	\$85.75	\$196.00	\$134.75	\$196.00	\$122.50	\$98.00

WRA EXPENSES

T = Travel
R = Reproduction
E = Equipment Rental

