

The sample set was then sorted by meter size and the results averaged to determine an average tested accuracy per meter size. The average tested meter accuracy by meter size is listed in the table below:

Meter Size	Baseline Overall Weighted Accuracy
5/8 inch	96.10%
1 inch	93.10%
2 inch	92.60%
Large Meters	Weight Accuracy 84.19%

Adjustments to Guaranteed Performance- If all or a portion of the proposed scope of work cannot be implemented due to site conditions or Customer requirements, Guaranteed Performance will be adjusted equitably.

Financial Summary

Using the above initial Baseline Rates, Consumption, Weighted System Accuracy, and the annual Guaranteed Weighted System Accuracy, the projected Financial Benefit, Operational Savings, and Capital Avoidance Savings for Measurement Year One is \$ **751,440**

The year one breakdown is as follows:

- 1. **Meter Accuracy Financial Benefit** **\$ 564,606**
- 2. **Agreed Upon Operational & Maintenance Savings** **\$ 186,834**

Meter Accuracy Financial Benefit shall be calculated using the escalated Water Rates or actual water rates, whichever results in greater Financial Benefit. Financial Benefit will be calculated at the end of each Agreement year using the same methodology as was employed to determine the Financial Benefit in the Analysis Report.

Projected Operational / Maintenance Savings

The following dollar savings/cost avoidance values have been agreed to by both parties and will occur as a result of the installation of the project. The sum of these savings/cost avoidance values for each guarantee year will be added to the Financial Benefit for each specific year as noted and will therefore be deemed achieved upon execution of this Agreement

<u>Fiscal Year</u>	<u>O&M Savings</u>
Year 1-20	\$ 186,834

Exhibit E

Measurement & Verification

ABM and the Agency agree that the Verified Savings will be determined using the following Measurement and Verification Plan. Through this plan, the Guaranteed Savings generated by the ECM installed in the Facilities will be verified.

Measurement & Verification Plan: ABM and the Agency agree that the Verified Savings by ECM will be determined using the following Measurement & Verification plans further described in this section. Through this plan, the guaranteed savings generated by the ECMs installed in the Facilities will be validated. The M&V methodologies proposed for these ECMs are based on industry standard Measurement and Verification Guidelines.

During the term of the Agreement, ABM may adjust energy savings due to changes in the standards and comforts as described in Exhibit C, building occupancy, weather data, and utility rate schedules, etc. The unit costs of energy will be applied to the energy savings calculated by this M&V plan

The following is a brief overview of the measurement and verification methodologies applicable to the Improvement Measures set forth below. ABM shall apply these methodologies, as more fully detailed in the guidelines and standards of the International Measurement and Verification Protocol (IPMVP) and/or the Federal Energy Management Program (FEMP), in connection with the provision of M&V Services hereunder.

OPTION A: PARTIALLY MEASURED RETROFIT ISOLATION

Measured Project Benefits are determined by partial field measurement of the energy use of the system(s) to which an Improvement Measure was applied separate from the energy use of the rest of the facility. Measurements will be short-term with only one-time measurements before and after the Installation Period.

Partial measurement means that some but not all parameters will be measured. Careful review of the design and installation of Improvement Measures is intended to demonstrate that the stipulated values fairly represent the probable actual values. Engineering calculations using short-term pre and post-retrofit measurements and stipulations are used to calculate Measured Project Benefits for the duration of the Guarantee Term.

The M&V plan for this project does not include a utility bill comparison (known as Option C or Whole Facility monitoring). In this case, Option C would not be cost-effective, requiring extensive ongoing review of equipment not impacted by this project. The ECM's within this Project will generate energy savings that are expected to have minimal variation, so Retrofit Isolation will provide the appropriate level of cost/benefit to the Agency.

Measurement and Verification Activities

The table below details the selected IPMVP protocols for the ECMs identified in this project

Measure	M&V Activity Description
Lighting & Controls	<p>Baseline: Lighting on/off loggers were used to verify the annual burn hours and will be stipulated for the term of the guarantee. Measure the kW for a sample set of fixture types representing 75% of the total connected load.</p> <p>Post-Installation: Measure the kW for a sample set of fixture types representing 75% of the total connected load. The test results will be used to verify the projected post-installation kW/fixture values proposed in the contract and will be used in lieu of annual performance period measurements for the term of the guarantee.</p> <p>Ongoing M&V: Annual visual inspection of fixtures and replacement inventory.</p>
Transformer	<p>Baseline: Transformer energy wastage was calculated based on the transformed type and age</p> <p>Post-installation: Savings will be deemed achieved upon verification of proper installation of new transformers.</p> <p>Ongoing: Annual visual inspection of all scope items.</p>
HVAC Armor	<p>Baseline: Baseline energy usage was calculated based on the EER shown in the appendix</p> <p>Post-Installation: Savings will be deemed achieved based on verification of Armor application and RSO addition. Historical test results from previous application are used to estimate typical savings</p>
HVAC Equipment Replacement	<p>Baseline: Name plate efficiency of the equipment de-rated based on the age</p> <p>Post-Installation: Post installation operational verification of the HVAC equipment. Savings will be deemed based on confirmation that equipment specifications meet design</p>
BAS Upgrades	<p>Baseline: Data Loggers were used to confirm the runtime of the equipment and that data was extrapolated for the entire year to calculate the base energy usage</p> <p>Post-Installation: Key parameters such as set points and schedules will be reviewed to verify that are aligned with the standards of comfort listed in Exhibit B. Should the customer choose to deviate from the design, the full calculated savings amount will be claimed, and any deviation will be quantified and provided in the savings report for informational purposes.</p> <p>On-going: If remote access is provided, buildings schedules will be verified against the scheduled in Exhibit C. No further calculations will be done.</p>

Measurement & Verification of Water Meters

Measurement & Verification Plan: Through this plan, the guaranteed accuracy of the water meters included in the installed scope of work will be validated. The objective of the plan is to quantify the Annual Measured Weighted System Accuracy and compare it to the specific Guaranteed Weighted System Accuracy.

ABM's Guarantee is based solely upon water meter accuracy as determined by testing a statistically valid random sample of water meters operating under normal conditions, which have been replaced pursuant to the contract. No guarantee, express or implied, is provided with respect to any other matters, including, without limitation, the following items (and the effects thereof):

- water system revenue
- water usage/consumption trends
- water rationing programs
- demographic and/or population shifts
- changes in the industrial or commercial base
- regulatory changes
- droughts, floods, rainfall, or other weather or climactic conditions
- water system pressure variations
- non-metered water usage
- failure to collect amounts due for billable consumption
- changes in monthly base charges, monthly allowable minimum base consumption, or monthly volume charges
- changes to water and sewer rate schedules
- water quality
- failure of the water system to meet governmental requirements
- improper maintenance or unsound usage of the Improvement Measures or any related equipment
- performance of automatic meter reading equipment
- performance of cellular network or other factors impacting data transmission

Baseline and New meter accuracy to be used from Exhibit D

The difference between the guaranteed Meter Accuracy and the baseline Accuracy will be applied to the baseline billed consumption (provided by RMWD) to calculate the potential financial benefit to City of Zanesville. The calculation will be performed per account to apply the increase in accuracy to the monthly baseline consumption to determine the potential total annual financial benefit.

The maximum annual shortfall as described in Exhibit C of the Contract will be the maximum ABM annual financial obligation to City of Zanesville

Annually, ABM will test a statistically valid random sample of meters to determine the weighted average new meter accuracy. The sample size will be based on a statistical formula utilizing 80% confidence, 20% precision and a Coefficient of Variation (Cv) of 0.5. The quantity of meters tested is outlined in the following table:

Size	5/8"	3/4"	1"	1-1/2"	2" + 2C	3"	4"	6"	8"	10"
Total Population	12023	21	378	22	114	33	21	6	2	3
Test Freq.	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual	Annual
Sample Test Size	11	8	11	8	11	9	8	6	2	3

Meter sizes below 2" will be removed from service and tested on a calibrated test bench. Meter sizes 2" and above will be field tested in place. Tested meters will be returned to the District and restocked to supply replacement meters for subsequent years testing.

Repeat measurements and reporting will be provided annually if Customer renews annual M&V contract. City of Zanesville and ABM agree that the number of meters shown in the District-wide Meter Replacement Project Agreement Attachment "A" Scope of Work constitutes the entire system eligible for upgrades and therefore influences increased billable gallons.

Meter accuracy guarantee is contingent upon Customer providing required manufacturer routine and preventative maintenance on meters.

ABM Building Solutions, LLC		Bundled Energy Solutions Project Agreement	
Proposal Date	Proposal	Agreement Number	Page
January 19, 2020	JS200101	85050780	1 of 63
BY AND BETWEEN			
ABM Building Solutions, LLC 1817 O'Brien Rd Columbus, OH 43228	AND	City of Zanesville 401 Market St Zanesville, OH 43701	
Hereinafter: Contractor		Hereinafter: Customer	
PROJECT DESCRIPTION AND LOCATION			
<p>Professional Services for energy efficiency improvements for The City of Zanesville, which are individually listed on Attachment A – Scope of Work. Contractor will provide all professional services; engineering; design; procurement; and installation of the infrastructure improvements indicated in Attachment A – Scope of Work (the “Work”), to deliver a complete installation. All Work will be subject to the terms and conditions set forth on Exhibits A and B and Appendix A and B hereto.</p> <p>The purchase price for the Work will be \$11,590,985. The work performed under this Agreement will be substantially complete and ready for Customer’s beneficial use within 18 months of Customer’s acceptance and Contractor’s approval of this Agreement. Customer’s acceptance and obligations hereunder are contingent upon and subject to the Customer obtaining financing satisfactory to Customer within forty-five (45) days hereof. Upon timely notification by Customer to Contractor of the inability to obtain financing satisfactory to Customer, this Agreement shall be null and void.; Otherwise, if Customer obtains satisfactory financing or fails to notify Contractor, then this Agreement shall become the valid obligations of both Contractor and Customer.</p> <p>This proposal is proprietary property of Contractor and is provided for Customer’s use only, subject to the requirements of any applicable Open Records Acts. Contractor guarantees the price stated in this Agreement for forty-five (45) days from proposal date above. The proposal will become a binding Agreement only after acceptance by Customer and approval by an officer of Contractor as evidenced by their signatures below. This Agreement, including all Exhibits, Attachments and Appendices hereto, sets forth all the terms and conditions binding upon the parties hereto; and no person has authority to make any claim, representation, promise or condition on behalf of Contractor which is not expressed herein.</p>			
ABM Building Solutions, LLC		The City of Zanesville	
Signature (Authorized Representative)		Signature (Authorized Representative)	
TOM WOODRUFF Senior VP of ABM Technical Solutions			
Date		Date	

Exhibit A

Terms and Conditions to Project Agreement

The term "Contractor" shall mean and include **ABM Building Solutions, LLC, 1817 O'Brien Rd Columbus, OH 43228**

The term "Customer" shall mean and include **The City of Zanesville, 401 Market St. Zanesville, OH 43701**

The term "Agreement" shall mean the Project Agreement these Terms and Conditions accompany and to which these Terms and Conditions are expressly made a part of.

1. Contractor warrants that the materials and workmanship provided by the Contractor under this Agreement will be free from defects for a period of 12 months after Customer's acceptance or beneficial use of the systems or any portion thereof, whichever is earlier, provided that the Contractor is given prompt written notice of the defect. In addition, if any replacement part or item of equipment proves defective, Contractor will extend to Customer the benefits of any warranty Contractor has received from the manufacturer. Contractor agrees to act on behalf of the Customer for purposes of processing any warranty claims against applicable manufacturers. Such obligation includes only administrative processing and not enforcement. Notwithstanding the above, with regard to the water meters that Contractor will be installing under this Agreement, Customer agrees to look solely to the manufacturer for any warranty claims and shall interact with the manufacturer directly and Contractor will have no involvement or responsibility for warranty claims related to the water meters. Contractor agrees to respond to emergency warranty claims of Customer within 24 hours of call from Customer. Customer shall permit only Contractor's personnel or manufacturer's agent to perform the warranty work unless expressly authorized herein. If Contractor responds to a warranty call made at Customer's request and inspection indicates a condition which is not covered under this Agreement, Contractor may charge Customer at the hourly rate for such services. EXCEPT FOR THE WARRANTIES EXPRESSLY PROVIDED HEREIN, NO OTHER WARRANTIES, EXPRESS OR IMPLIED UNDER LAW, ARE PROVIDED, INCLUDING NO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE EXPRESSLY DISCLAIMED. Customer expressly assumes the risk of, and agrees to hold Contractor harmless from, damage or liability that results from Customer's selection of lighting equipment, whether lights, bulbs, ballasts, or otherwise, or water meters, including the water meter endpoints, that are installed under this Agreement.
2. Equipment that is to be replaced shall maintain a high standard of quality. The Customer shall review all product and manufacturer cut sheets on new equipment that is to be installed. The following shall be a minimum standard of equipment:
 - All equipment provided will meet or exceed the minimum efficiency standards as set forth by the Department of Energy and will comply with all applicable EPA regulations.
 - Badger Water Meters with Cellular Endpoints
3. Contractor shall provide a Performance Bond and Payment Bond in the full amount of the contract price \$11,574,056. The costs for said bonds shall be included in the contract price. The Payment and performance Bonds shall be issued by a surety company authorized to do business in the State of Ohio, having a financial strength rating by A.M. Best Company of "A -" or better and shall be delivered to