



Please find the attached Year 7 Energy Services Guarantee Report for the City of Oakland Park. Please sign and return a .pdf copy of this letter to Edgar Ortiz, eortiz@energysystemsgroup.com.

In accordance with the 2017 Guaranteed Energy Savings Performance Contract, Customer's Acceptance of the Savings Report is assumed if no response has been received or if signed Acknowledgement Sheet has not been returned within 30 days of Customer's receipt of the Savings Report.

Thank you.

Performance Guarantee Savings Report prepared
by: Energy Systems Group

Received by: City of Oakland Park

Edgar Ortiz

A handwritten signature in black ink, appearing to read 'Edgar Ortiz', written over a horizontal line.

Sr. Measurement & Verification Analyst

Date: 8-4-2026

Name

Title

Date:

A handwritten signature in black ink, appearing to read 'John M. Topmiller', written over a horizontal line.

John Topmiller

Engineering Manager – East Region

Date: 8-5-2026

energysystemsgroup.com

t 812.471.5000 f 812.475.2544 • 9877 Eastgate Court, Newburgh, IN 47630

Oakland Park, Florida

Measurement & Verification Report – Year 7

Energy Services Guarantee

City of Oakland Park

Oakland Park, Florida

Year 7 — Annual Report

May 2025 — April 2026

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1. EXECUTIVE SUMMARY

1.1 Project Background

The City of Oakland Park and Energy Systems Group (ESG) entered into a Guaranteed Energy Savings Performance Contract (GESPC) in November 2017. ESG began the installation of improvement measures in December 2017 and received signed final acceptance in April 2019. The Guarantee Term is a period of 20 years, from May 1, 2019, through April 30, 2034.

1.1.1 Project Overview

The key objective of this project was to install water meter upgrades throughout the City of Oakland Park. As meters age over time, they become less accurate, thus creating an increasing percentage of unbilled water volume. By replacing the meters with new, more accurate models, the volume of water is more precisely measured, and consequently, billing is more precise. Additional operational savings and enhanced customer service capabilities are realized by utilizing automated reading features.

1.1.2 Annual Report Summary

The purpose of this report is to demonstrate the results achieved to date for the GESPC. This report documents detailed savings calculations and demonstrates the level of verified savings as compared to the savings guaranteed by contract.

During the Seventh Guarantee Year, ESG calculated verified project benefits as \$1,509,679. These savings are \$514,668 more than the Year 7 Guaranteed Benefits of \$995,011. The tables below provide a detailed breakdown of the Benefits for Year 7 by improvement measure, and a project wide benefits summary over term.

Benefits Summary by Improvement Measure						
Improvement Measure	Measured Meter Accuracy Benefits	Non-Measured Meter Accuracy Benefits	Non-Measured Operational Benefits	Total Verified Benefits	Year 7 Guaranteed Benefits	Variance
Water Meter Upgrades	\$1,240,477	\$39,685	\$229,517	\$1,509,679	\$995,011	\$514,668

Figure 1: *Benefits Summary by Improvement Measure – Year 7*

Project Performance Summary over Term				
Guarantee Year	Verified Benefits	Guaranteed Benefits	Variance	Verified Benefits over Term
Year 1	\$1,122,151	\$827,120	\$295,031	\$1,122,151
Year 2	\$1,154,403	\$863,755	\$290,648	\$2,276,554
Year 3	\$920,765	\$920,765	\$0	\$3,197,319
Year 4	\$908,880	\$908,880	\$0	\$4,106,199
Year 5	\$1,332,924	\$937,894	\$395,030	\$5,439,123
Year 6	\$1,536,249	\$966,030	\$570,219	\$6,975,372
Year 7	\$1,509,679	\$995,011	\$514,668	\$8,485,051
Totals through Year 7	\$8,485,051	\$6,419,455	\$2,065,596	

Figure 2: *Project Performance over Guarantee Term to Date*

1.2 Improvement Measures

This section provides a description of each improvement measure installed and its associated measurement and verification (M&V) method. The Measurement and Verification (M&V) methods discussed in this report are based on the signed Contract (November 2017) and specifically as discussed in Exhibit B, Section 4.2 of the GESPC.

Water Meter Upgrades

A cellular based Automated Water Metering system was installed throughout the City, both improving the accuracy of the system and providing real time meter usage data for billing and water leak detection purposes. Water meters with improved accuracy will result in an increase in revenue for the City due to the recovered billable gallons of water.

Improvement Measure	Summary of Measurement and Verification Plan
Water Meter Upgrades	Pre M&V: Pre-retrofit accuracy of the 5/8" x 3/4", 1", 1.5", and 2" meter sizes were calculated by testing a representative sample of the population and establishing the average accuracy of the meter population. This calculated pre-retrofit accuracy was applied to the larger meters (3", 4", and 6"). This baseline meter accuracy degrades 0.25% annually, and is outlined in Exhibit B, Section 4.1, Table 4F of the GESPC. Post M&V: On an annual basis, a random sample of retrofitted water meters (a combination of 5/8" x 3/4", 1", 1.5", and 2") are tested for post-retrofit accuracy. This accuracy is applied to the larger meters (3", 4", and 6").

Figure 3: *Improvement Measure & Verification Summary*

1.3 Utility Rates

1.3.1 Utility Rates and Escalation

The baseline utility rates used to calculate the guaranteed annual benefits are defined in the Guaranteed Energy Savings Performance Contract, Exhibit B, Section 4.1.1. The baseline utility rate, escalated annually by 3%, shall be used to determine Verified Project Benefits.

Utility	Units	Baseline Rate	Year 7 Utility Rate
Water	kGal	\$7.22	\$8.88
Sewer	kGal	\$5.14	\$6.32

Figure 4: *Baseline & Year 7 Utility Rates*

2. YEAR 7 BENEFITS DETAIL

2.1 Water Meter Upgrades

2.1.1 Water Meter Accuracy Benefits

The City of Oakland Park has increased revenue potential due to the upgraded water meters. As meters age over time, they become less accurate. By increasing meter accuracy, the City is able to bill more accurately for the water used. To calculate the increased billable volume, weighted average accuracy for the baseline and post-retrofit conditions are used along with the billed volume. Baseline water meter accuracy and billed volume were stipulated in the contract for the term of this project, and sample meters are tested annually to verify meter accuracy is maintained. Baseline water meter accuracy was provided in the Contract, Exhibit B, Table 4F, and the baseline volume billed was provided in Exhibit B, Table 4C.

Year 7 Water Meter Test Results

Per contract, a random sample of 25 meters, sized 5/8" – 2", were pulled and shipped to a third-party laboratory that abides by AWWA (American Water Works Association) Standards. In accordance with AWWA Standards, meters are tested at Minimum Flow, Intermediate Flow, and High Flow, with specific gallons per minute requirements by meter size for each category. The overall meter weighted average accuracy is then determined by weighting 15% Minimum Flow, 70% Intermediate Flow, 15% High Flow for each meter.

For each size of meter tested, the weighted averaged accuracy of all meters of that size are then averaged to determine the measured accuracy by meter size. As not all meter sizes are measured, a weighted average accuracy for all meters is calculated, utilizing the weighting specified in the contract based on percentages of baseline water from each size of meter.

When initial meters pulled were being tested at the lab, many of the screens to read meters would not display, making it impossible to perform testing. ESG confirmed with the manufacturer that this is a known issue, and there is not another way to test. Through discussion with the Oakland Park staff, ESG learned this has been an ongoing issue for the City. While the City can still pull data electronically through the system to bill, it is a defect for which many meters have been replaced under warranty. Meters from the test lab were shipped back to the City, to be sent in for warranty replacement, and the City shipped additional meters to the test lab. In this 2nd round of testing, there were 2 more meters that were unable to be tested due to display issues, resulting in only 23 meters tested rather than the 25 intended.

In addition to display register defects, ESG recommends shipping some additional meters in for testing. While the overall average meter accuracy met expectations, some meters are testing below the warrantied accuracy of $100\% \pm 1.5\%$. Test values outside this range are highlighted in the detail test results. ESG recommends considering warranty claims on these meters while meters are still fully covered.

Below are a summary of the detailed test results, average accuracy results by meter size, and calculation of weighted average accuracy.

Measurement & Verification Report – Year 7

Test Date	Manufacturer	Serial #	READING	Minimum Flow		Intermediate Flow		High Flow		WAA (%)
				Rate (gpm)	Accuracy (%)	Rate (gpm)	Accuracy (%)	Rate (gpm)	Accuracy (%)	
5/8" Meters										
5/13/2025	BADGER	18567755	1,048,668	0.13	100.0%	0.40	100.0%	15.00	99.0%	99.9%
5/13/2025	BADGER	18567039	1,118,199	0.13	101.0%	0.40	101.0%	15.00	100.0%	100.9%
5/13/2025	BADGER	18566402	NO DISPLAY							
5/13/2025	BADGER	18566384	NO DISPLAY							
5/13/2025	BADGER	18566299	NO DISPLAY							
5/13/2025	BADGER	18567745	NO DISPLAY							
5/13/2025	BADGER	18567100	NO DISPLAY							
5/13/2025	BADGER	18566642	NO DISPLAY							
5/13/2025	BADGER	18568225	NO DISPLAY							
7/28/2026	BADGER	240288190	725,484	0.13	101.8%	0.40	100.3%	15.00	99.6%	100.4%
7/28/2026	BADGER	231636805	130,106	0.13	101.9%	0.40	100.8%	15.00	100.8%	101.0%
7/28/2026	BADGER	18405195	397,208	0.13	99.2%	0.40	101.6%	15.00	100.3%	101.0%
7/28/2026	BADGER	251572968	13,268	0.13	101.1%	0.40	100.2%	15.00	98.1%	100.0%
7/28/2026	BADGER	211211614	731,341	0.13	100.4%	0.40	101.0%	15.00	97.1%	100.3%
7/28/2026	BADGER	230677466	85,469	0.13	102.4%	0.40	99.5%	15.00	100.8%	100.1%
7/28/2026	BADGER	18569458	NO DISPLAY							
Average: 5/8" meters										100.5%
1" Meters										
5/5/2026	BADGER	180158869	340,160	0.30	93.0%	1.50	97.0%	40.00	99.0%	96.7%
5/5/2026	BADGER	18569371	179,463	0.30	99.0%	1.50	98.0%	40.00	98.0%	98.2%
5/5/2026	BADGER	180159088	749,462	0.30	103.0%	1.50	93.0%	40.00	98.0%	95.3%
5/5/2026	BADGER	18568151	1,097,235	0.30	93.0%	1.50	97.0%	40.00	96.0%	96.3%
5/5/2026	BADGER	18569358	549,851	0.30	98.0%	1.50	99.0%	40.00	99.0%	98.9%
5/5/2026	BADGER	18568072	1,245,979	0.30	99.0%	1.50	99.0%	40.00	100.0%	99.2%
5/5/2026	BADGER	18566968	12,584,730	0.30	96.0%	1.50	95.0%	40.00	96.0%	95.3%
5/5/2026	BADGER	180158981	NO DISPLAY							
5/5/2026		18405855	NO DISPLAY							
7/28/2026	BADGER	251528545	24,801	0.30	97.5%	1.50	99.5%	40.00	93.8%	98.3%
7/28/2026	BADGER	220896164	90,468	0.30	98.6%	1.50	99.0%	40.00	99.9%	99.1%
Average: 1" meters										97.5%
1.5" Meters										
5/5/2026	SENSUS	18565695	640,184	0.60	100.0%	4.00	99.0%	60.00	102.0%	99.6%
5/5/2026	SENSUS	18565743	NO DISPLAY							
5/5/2026	SENSUS	18385202	NO DISPLAY							
7/28/2026	BADGER	180231869	40,150	0.60	101.0%	4.00	100.4%	60.00	101.5%	100.7%
7/28/2026	BADGER	251437276	84,784	0.60	100.0%	4.00	99.8%	60.00	101.0%	100.0%
Average: 1.5" meters										100.1%
2" Meters										
5/12/2026	BADGER	18430250	128,853	1.00	99.0%	5.00	100.0%	100.00	100.0%	99.9%
5/12/2026	BADGER	18335451	NO DISPLAY							
5/12/2026	BADGER	18430395	NO DISPLAY							
5/12/2026	BADGER	18430296	10,416,486	1.00	99.0%	5.00	101.0%	100.00	101.0%	100.7%
7/28/2026	BADGER	18335368	NO DISPLAY							
7/28/2026	BADGER	240032430	2,001,239	1.00	100.0%	5.00	101.5%	100.00	101.0%	101.2%
Average: 2" meters										100.6%

Figure 5: Meter Accuracy Test Results

Measurement & Verification Report – Year 7

Meter Test Results			
Meter Size	Quantity Tested	% Water of Annual Total that Flows via this size	Year 7 Accuracy %
5/8" and 3/4"	8	35.2%	100.5%
1"	9	16.0%	97.5%
1.5"	3	11.0%	100.1%
2"	3	34.7%	100.6%
Weighted Average Accuracy			100.00%

Figure 6: **Meter Accuracy Test Results Summary**

Once overall weighted average accuracy is determined, the following equations are used to calculate increased billable volume of water and therefore increased billable revenue.

$$\text{Increased Billable kGal} = \text{Baseline Billed kGal} * \left(\frac{\text{Actual Post Retrofit Measured Weighted Average Accuracy}}{\text{Baseline Water Meter Accuracy}} \right) - \text{Baseline Billed kGal}$$

$$\text{Increased Revenue} = \text{Increased Billable kGal} * \text{Current Year Utility Rate} \left(\frac{\$}{\text{kGal}} \right)$$

Year 7 Increased Billable Volume and Revenue	
Baseline Water (kGal billed)	1,101,246
Baseline Sewer (kGal billed)	916,956
Year 7 Weighted Average Accuracy	100.00%
Year 7 Baseline Accuracy	92.40%
Year 7 Increased Billable Water Volume (kGal)	90,520
Year 7 Increased Billable Sewer Volume (kGal)	75,371
Year 7 Increased Water Revenue	\$803,814
Year 7 Increased Sewer Revenue	\$476,348
Total Increased Revenue	\$1,280,162

Figure 7: **Billed Volume and Revenue Increase Summary**

2.1.2 Water Meter Accuracy Benefits by Meter Size

To calculate the water meter benefits by size, Exhibit B, Table 4G is referenced to obtain the “% Water of Annual Total that Flows via this size”. The total billable volume, calculated in Section 2.1.1 of this report, is then multiplied by the “% Water of Baseline Annual Total...”. This method allows for allocation of benefits for each meter size and is shown below in a table and chart. As noted in Exhibit B, Section 5.1, the post-retrofit measured weighted average accuracy of the 2” and smaller meters are utilized to calculate savings associated with the 3”, 4”, and 6” meters.

Measurement & Verification Report – Year 7

Year 7 Increased Billable Volume and Revenue						
Meter Size	% Water of Baseline Annual Total that Flows via this size	Increased Billable Volume Water (kGal)	Increased Billable Volume Sewer (kGal)	Increased Water Revenue \$	Increased Sewer Revenue \$	Total Increased Revenue \$
5/8" and 3/4"	35.2%	31,863	26,531	\$282,943	\$167,674	\$450,617
1"	16.0%	14,483	12,059	\$128,610	\$76,216	\$204,826
1.5"	11.0%	9,957	8,291	\$88,420	\$52,398	\$140,818
2"	34.7%	31,410	26,154	\$278,923	\$165,293	\$444,216
*3", 4", 6"	3.1%	2,806	2,337	\$24,918	\$14,767	\$39,685
Total	100.0%	90,520	75,371	\$803,814	\$476,348	\$1,280,162

*Note: Savings for 3", 4", and 6" are considered "Non-Measured Benefits". See Exhibit B, Section 5.1 for further details

Figure 8: *Increased Billable Volume and Revenue by Meter Size*

2.1.3 Operational Avoided Future and Replacement Cost Savings

The Operational Avoided Future and Replacement Cost Savings shown in the table below is sourced from Exhibit B, Section 5.2, Table 5B. These savings are agreed upon between the City and ESG and were considered fully satisfied upon Final Acceptance of the project.

Operational Avoided Future and Replacement Cost Savings	
Descriptions	Year 7 Savings
Labor Efficiency (Operations Efficiency)	\$117,084
Vehicle Maintenance (Operations Efficiency)	\$19,555
*Truck Replacement (Operations Efficiency)	\$0
Material for Meter Repair & Replacement (Capital Cost Avoidance)	\$92,878
*New/Replacement Handheld Device Cost (Operations Efficiency)	\$0
Total Operational Savings	\$229,517
*Note 1: Truck Replacement savings occur Guarantee Year 3, 9, and 15.	
*Note 2: New/Replacement Handheld Device Cost savings occur Guarantee Year 2, 8, and 15.	

Figure 9: *Operational & Capital Cost Avoidance Savings*

3. YEAR 7 BENEFITS SUMMARY

3.1 Benefits Summary

Overall, the improvement measures are performing as expected, and the project is exceeding guaranteed benefits, which provides assurance that the financial obligations undertaken in this project will be met. As described in this report, the benefits are verified using a combination of Measured and Non-Measured Benefits. The chart below represents how each improvement measure contributes to the Year 7 Total Benefits.

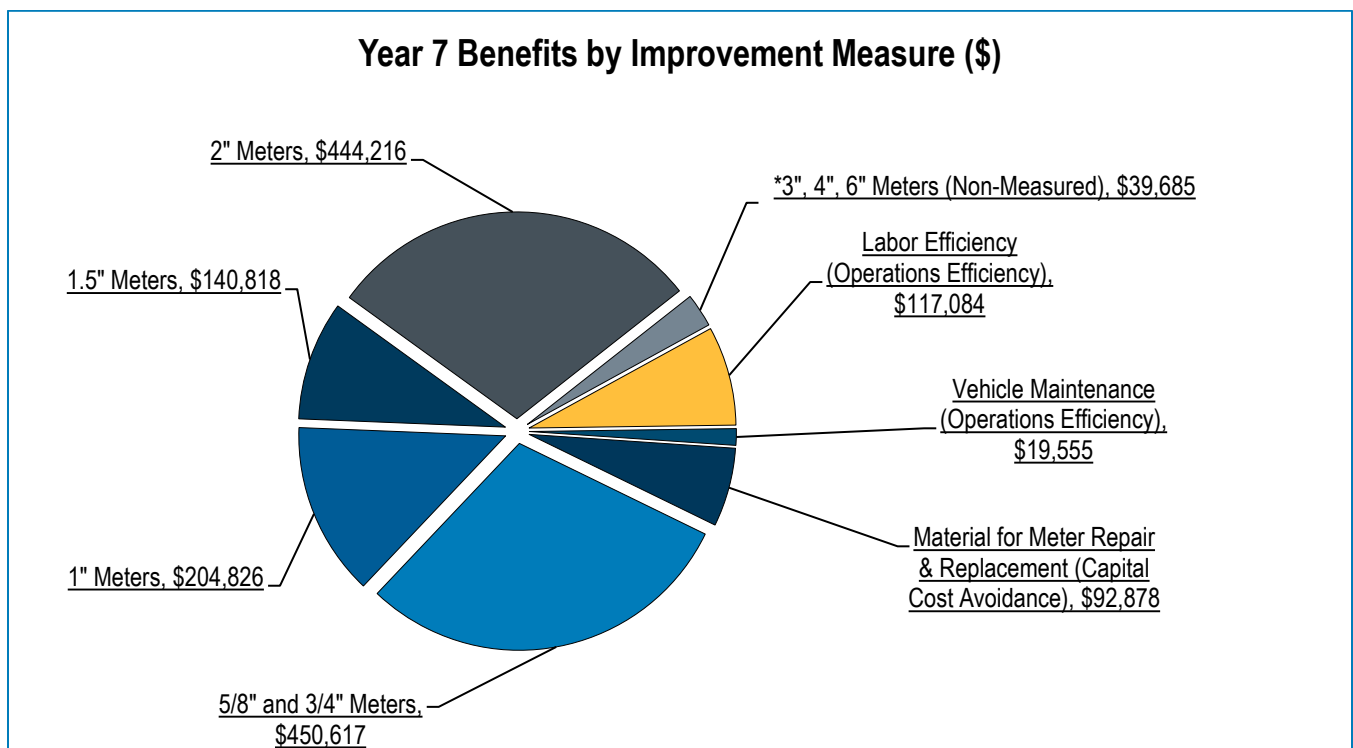


Figure 10: *Project-Wide Benefits*



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