Town of Belleair M+V Audit Presentation

June 15, 2021

Summary

Contract Dated – March 6, 2018

Performance Period – February 1, 2020 to January 31, 2035

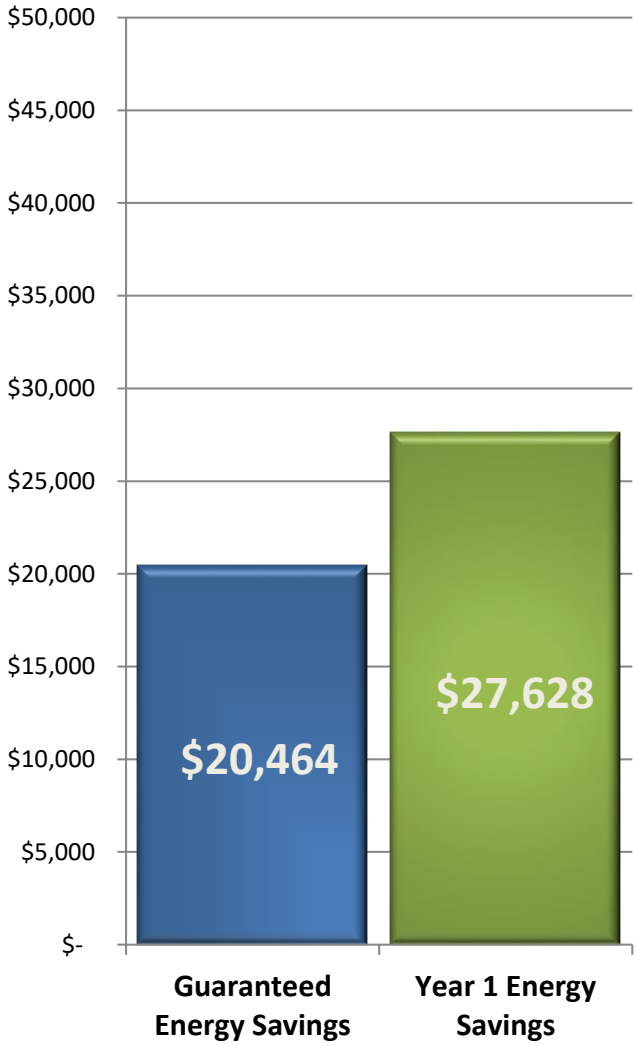
Five Energy Conservation Measures

- Lighting Improvements
- HVAC Replacement
- Cold Plasma Ionization
- Envelope Improvements
- Variable Frequency Drives on Town Well Pumps

$ 20,464 in Guaranteed Savings and **$ 44,209** in Agreed-to Operational Savings, escalated 2% annually

$ 27,628 Year 1 Energy Savings

M&V Option A – Retrofit Isolation



Installation Period Savings

- Savings were captured as ECMs were installed throughout the project starting with HVAC replacement in August of 2018

Table 2: Installation Period Savings

ECM	Last Site Completion Date	Average Months of IP Savings	IP Savings
ECM 4.1: HVAC Replacement	8/31/2018	17.03	$3,387
ECM 4.2: Cold Plasma	8/31/2018	17.03	$5,825
ECM 5.1: Lighting Upgrades	5/31/2018	20.05	$28,254
ECM 6.1: Building Envelope Upgrades	6/30/2018	19.07	$3,628
ECM 8.1: Variable Frequency Drives	10/31/2019	3.03	$491
Total IP Savings			$41,584

Option A: Technically and Financially Viable

Verifies each ECM's "*Potential to Perform*"

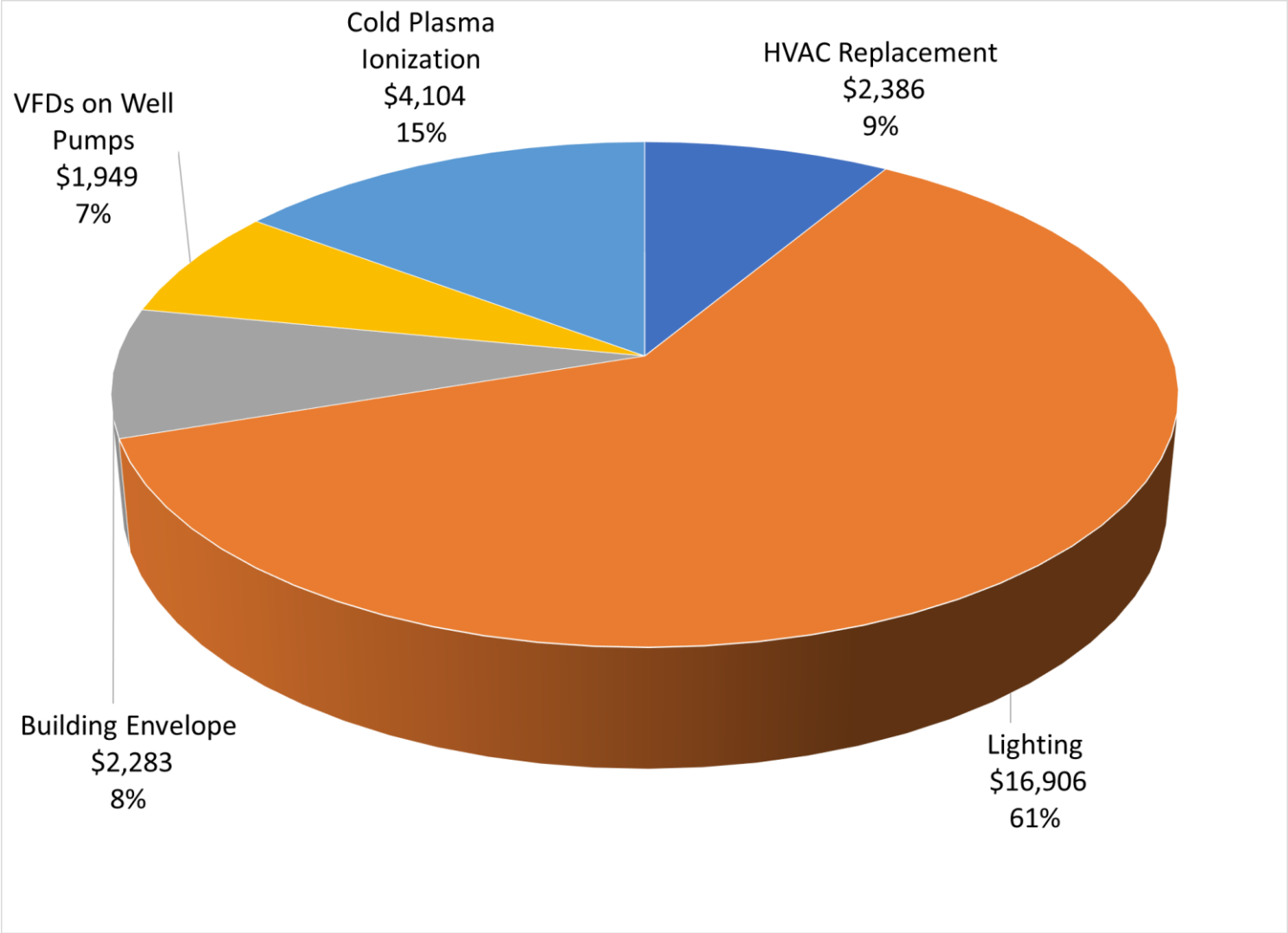
Targets the efficiency and/or operation that generate savings.

- Lighting – Fixture kW
- HVAC – Unit Efficiency

Occupied Hours & Runtime are Agreed-to

- Additional savings cannot be claimed from a closed/unoccupied building.
- Also provides freedom to operate the facilities as needed.

Year 1
ECM Savings vs Total Project Energy Savings



ABM Building Value

Lighting Improvements

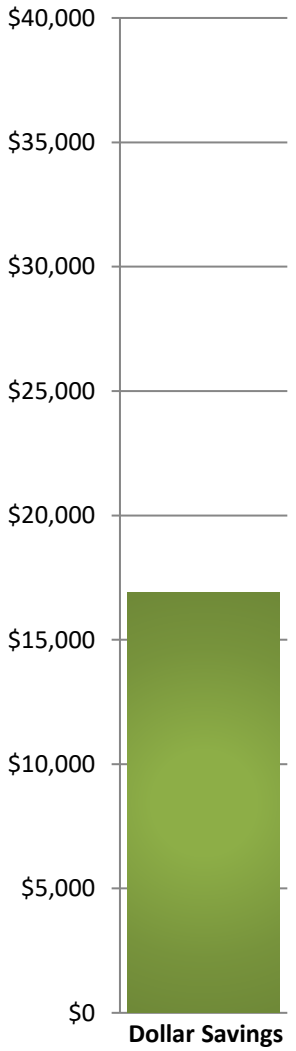
61% of Year 1 Energy Savings

Town Hall and Community Center – Retrofit/replaced 506 fixtures

Baseline: Fixtures were counted and identified by type during an initial site audit. Hours of operation were estimated through a combination of occupancy data loggers, site personnel interviews, and industry standards.

Post-Installation: A sample of fixtures was measured to obtain actual pre and post wattages. Actual quantities were documented and used to update the actual savings calculations.

Ongoing: Annually a visual inspection will be completed to verify fixtures are in place, remain in good condition, and have not been replaced with higher wattage equipment.



ABM Building Value

Cold Plasma Ionization (NBPI)

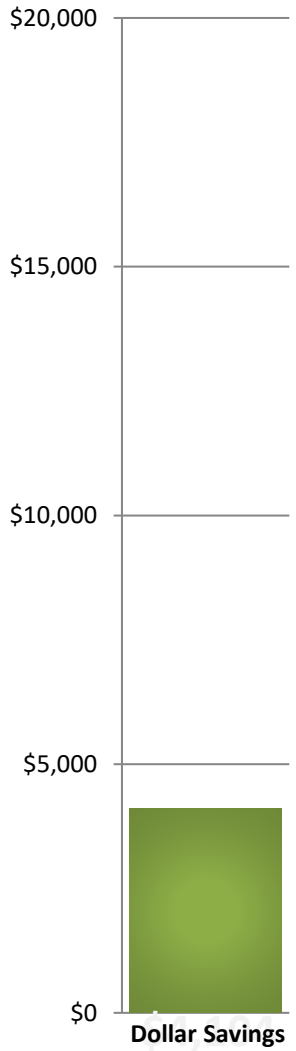
15% of Year 1 Energy Savings

Town Hall and Community Center– Installed on all RTUs and split systems

Baseline: Engineering methods used to calculate savings for the occupied annual hours measured using the data loggers and outside air damper positions were used for baseline conditions.

Post-Installation: Outside air dampers were manually adjusted to new settings and Needlepoint Bipolar Ionization equipment was verified to be operational.

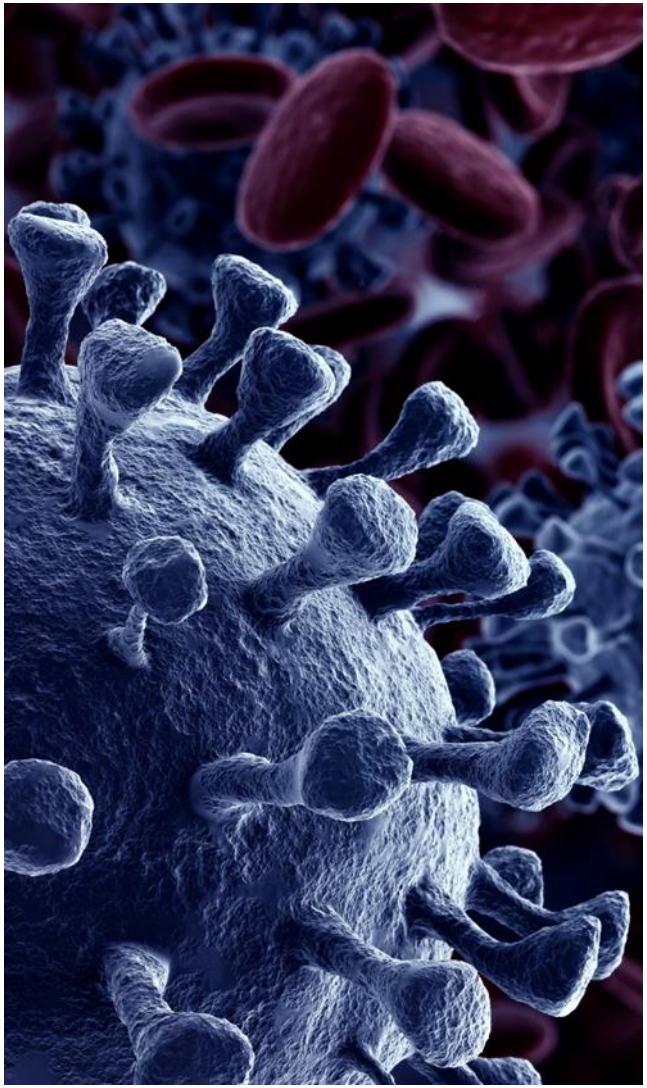
Ongoing: Annual visual inspection of a sample of scope items.



ABM Building Value

What is Cold Plasma Ionization (NBPI)?

- **What It Does:** The ions generated by NPBI technology within HVAC systems attach themselves to particles and unwanted gas molecules in the air, leading to multiple helpful effects:
  - Ions attach to sub-micron particles, making them filterable or causing them to fall out of the air.
  - Ions break down harmful volatile organic compounds (VOCs), rendering them into simpler, harmless compounds like oxygen and water.
  - Ions kill or inactivate pathogens by creating oxidative stress that reduces bacterial survival.
- A 2020 study reported by one company demonstrated a **99.4% reduction of coronavirus** at the 30-minute mark using ABM's preferred bipolar ionization solution.
- **Needlepoint bipolar ionization technologies that produce no ozone hold substantial promise for effectively impacting indoor air quality** during a time where optimization of strategies is critical.



HVAC Replacement

9% of Year 1 Energy Savings

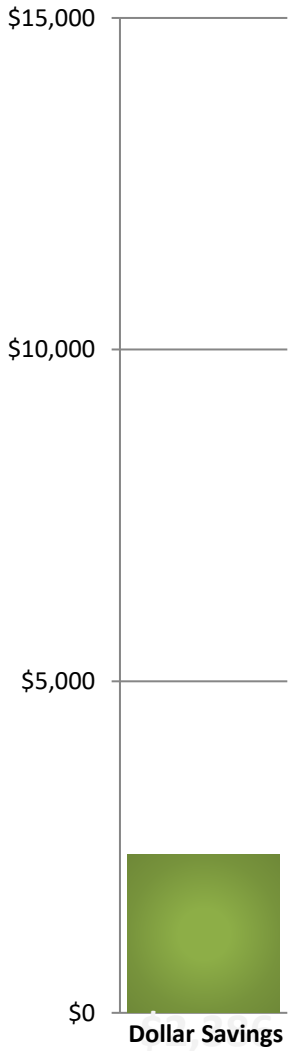
Community Center – Replaced 4 RTUs and 1 split system
Town Hall – Replaced 5 split systems and 1 RTU

Recommissioned all units not replaced

Baseline: Engineering methods used to calculate savings for the occupied annual hours measured using the data loggers. Existing nameplate efficiency (EER/COP) used for baseline conditions.

Post-Installation: Verification of proper installation and new equipment efficiencies (EER/COP) based on manufacturer data and operation.

Ongoing: Annually a visual inspection.



Building Envelope

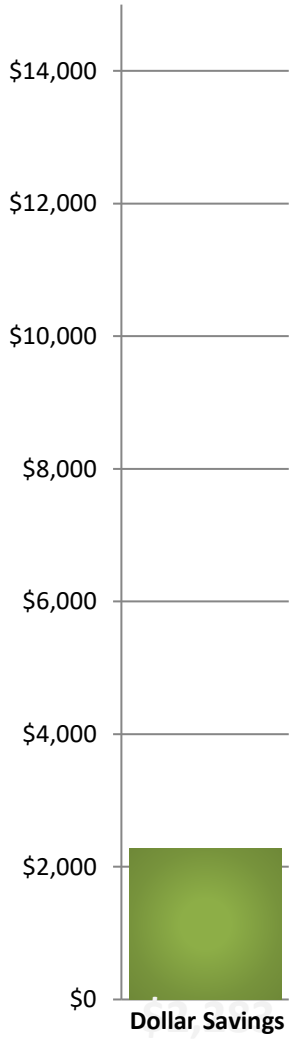
8% of Year 1 Energy Savings

All Sites - Sealed openings around windows and doors, wall penetrations, areas where walls meet the roofline, and other areas impacted by heat gain.

Baseline: Existing conditions were surveyed, and openings were measured for dimension and gap width. Building heating and cooling loads were modeled and based on local temperature patterns, the impact of these gaps was calculated.

Post-Installation: Scope completion and on-site verification of proper installation was completed. Savings were updated based on as-built conditions.

Ongoing: Annually a visual inspection will be completed to verify materials are in place and remain in good condition.



Variable Frequency Drives

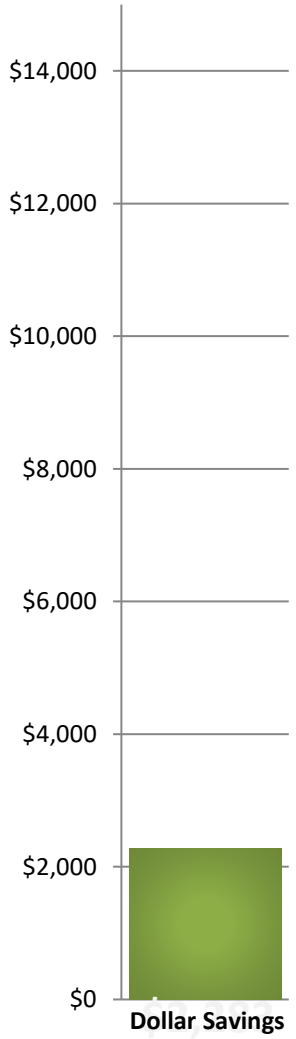
7% of Year 1 Energy Savings

Town Well Pumps - Variable Frequency Drives (VFDs) installed on Well Pumps #2, #3, #5, #6, #7, #9 and #10

Baseline: Well Pumps #2, #5, #6 and #7 pump sizes and calendar year 2017 runtime hours serve as the baseline minimum operation.

Post-Installation: Visual inspection to confirm VFDs are installed, set to Auto, and VFDs modulate.

Ongoing: Annually a visual inspection will be completed to verify materials are in place and remain in good condition.



ABM Building Value

Ongoing HVAC Preventive Maintenance

- Guaranteed Preventive Maintenance Contract

- Key Benefits:
  - Saves Money
    - Prevents costly repairs
    - Saves in utility costs
    - Reduces operating costs
  - Saves Energy, Improves Performance
    - Maximizes efficiency
    - Improves system reliability
    - Reduces Energy use/expenses
  - Employee Satisfactions
  - More Maintenance=less replacements

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