

# How PulseIQ helped Grady Management Realize Over 50% in HVAC Energy Savings

WOOD LEE ARMS APARTMENTS / GRADY MANAGEMENT CASE STUDY



## EXECUTIVE SUMMARY

Grady Management, a premier property management firm in the Washington DC area, manages Wood Lee Arms Apartments (WLA). Built in 1958, WLA is a ninety-one-unit mid-rise building with master-metered utilities and a central two-pipe hydronic HVAC system. Higher utility bills and the increasing HVAC maintenance costs were impacting profitability and tenant satisfaction at WLA. PulseIQ and Grady Management teamed up to implement PulseIQ's Energy Management Solution. *PulseIQ more than doubled the efficiency of WLA's cooling system leading to a 55% savings in associated electricity costs, decreased maintenance costs, and increased tenant satisfaction.*

## THE CHALLENGE

WLA's Building Automation System (BAS) was antiquated. It provided basic controls, but it did not collect granular operational data for HVAC assets such as the electricity consumed by the chiller, condenser pump, cooling tower fan, building pump, and each fan coil unit in every apartment. According to the US EPA, the average building wastes 30% of the energy it consumes, and HVAC is typically the single largest driver of a building's energy usage. Without system-wide or equipment specific data from critical HVAC assets, how could Grady Management understand the efficiency of their HVAC system and assess how to improve it? *WLA lacked visibility of how and where they were losing money. New challenges posed COVID-19 underscored the urgency to reduce waste and save money.*

*"In evaluating our HVAC and utility expenses year over year, we realized we needed a modern solution to help us control our energy costs and better manage our HVAC assets. PulseIQ's service has been exceptionally professional and proactive."*

**LIZZIE SMITH-BROWN**

REGIONAL PROPERTY MANAGER, GRADY MANAGEMENT

*"We are very impressed with PulseIQ's Energy Management Solution. PulseIQ's analytics gave us user-friendly visibility and insights to help us better manage our HVAC operations at Wood Lee Arms Apartments. We have saved a significant amount of money and our HVAC system is running smoothly!"*

**BRIAN S. ALFORD**

PRESIDENT,  
GRADY MANAGEMENT



## THE BENEFIT

### Taking Data from the Boiler Room to the Board Room

With PulseIQ invisible problems have become visible and therefore manageable. The PulseIQ solution **connects** to every piece of equipment in the mechanical room and the fan coil units in every apartment. It **collects** over 75 million points of real-time operational data and securely sends it to the cloud. Most importantly, it **saves** money with system optimization and actionable insights that help identify opportunities to stop energy waste and improve performance.

By bringing the power of IoT to the boiler room and data analytics to the board room, Grady Management was better able to serve WLA by delivering significantly improved NOI and increased asset value to WLA's ownership.

**Verifiable Cost Savings:** PulseIQ completed an analysis of WLA's energy usage for the 2019 cooling season. Data samples were taken in 5-minute increments from the chiller, condenser pump, cooling tower and building pump. Across a 153-day cooling season there were **3 million data points** taken for the cooling system in the mechanical room.

During the 2019 cooling season, WLA's mechanical room equipment used over 140,000 tons of cooling running at an average efficiency of 1.76 kW/Ton. The system

consumed 250,000 kW of electricity costing \$25,000 to cool the building for the season.

PulseIQ was able to identify inefficiencies and recommend improvements in the mechanical room operations including, but not limited to:

- ✓ Properly utilizing the building pump VFD to improve chiller efficiency
- ✓ Optimizing setpoints and reset schedules.
- ✓ Performing maintenance on a faulty compressor
- ✓ Chemically cleaning the cooling tower and condenser tubes.

The data collected by PulseIQ shows a dramatic improvement in efficiency across all temperatures.

### YEAR OVER YEAR COOLING EFFICIENCY



## RESULTS THAT SPEAK VOLUMES

By implementing PulseIQ's recommendations, *the overall efficiency of WLA's cooling system improved by 55%, from 1.76 kW/ton to 0.78 kW/ton!* If WLA had run at this higher level of efficiency in 2019 they would have saved \$14,000 in electricity to cool the building. At a cap rate of 5% a \$14,000 improvement in NOI increases the value of the building by \$280,000. Most importantly, these energy costs savings are several times greater than PulseIQ's service fee making their solution cash flow positive.

**FIGURE 1: ENERGY SAVINGS**

|   | Mechanical Room Efficiency | Energy Consumed | Energy Cost (\$0.10/kW) |
|---|----------------------------|-----------------|-------------------------|
| 2019 Baseline                                 | 1.76 kW/Ton                | 250,000 kW      | \$25,000                |
| 2019 Projections with Efficiency Improvements | .78 kW/Ton                 | 110,000 kW      | \$11,000                |

*If WLA had run at this higher level of efficiency in 2019, they could have increased the value of their building by \$280,000 at a 5% capital rate!*

### PulseIQ As A Strategic Partner

Grady Management and PulseIQ are partners in driving cost savings, operational improvements, and ensuring resident and staff health and safety. PulseIQ's advanced intelligent automation algorithms and 24/7 remote monitoring and alarms work around the clock allowing management to focus on what matters most.

Whether you are a building owner or a property management firm with inefficient or antiquated equipment, PulseIQ can provide cost-effective energy management solutions, provide ongoing support and assistance, and help you identify and capture for utility incentives.

PulseIQ's mission is to serve multifamily properties with reliable, impactful, and innovative energy efficiency solutions.

**FIGURE 2: ENERGY CONSUMPTION**



**55% IMPROVED**

*Achieved more than 2x Cooling System Efficiency!*



**140,000 KWH**

*Decrease in Energy Consumption*



*That's the equivalent of charging 12.6M smartphones or leaving a standard 9-watt LED light bulb running for 17 years.*



**\$14K SAVINGS**

*Decrease in Energy Costs During the Cooling Season*

**CONTACT US**

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*Contact PulseIQ for more information on how you can save money on your HVAC operations and keep your tenants and staff happier and healthier.*