

# GEATAIN ENGINEERING

## CASE STUDY-THE ROYALTON HOTEL



### BACKGROUND

The Royalton Hotel located at 420 Park Avenue South in the NoMad neighborhood of Manhattan is a 19-story building, constructed in 2010. This sleek and modern hotel has a restaurant, several bars, and offers many other amenities to its clients as well as grace and comfort. The majority of heating and cooling is done by fan coil units that are located in each of the guest rooms. Common area cooling is provided by multiple air handling units that work together with the cooling towers that are located on the roof. AHUs supply hydronic heating provided by the boiler. Central ventilation is provided by a system of rooftop exhaust fans. There is a central BMS system to control equipment. While the building is well maintained, some of the equipment and infrastructure is beginning to show its age.

### HOW GEATAIN ENGINEERING HELPED

- Determined building envelope tightness with several different tests to determine building specific heat loss.
- Analyzed building operations to determine precise recommendations to improve occupancy comfort, streamline operations and lower carbon emissions.
- Historical maintenance records evaluated to uncover latent equipment deficiencies.
- Provided exhaustive evaluation of property infrastructure to reveal hidden savings opportunities.

### BENEFITS

- Through a few simple setpoint improvements, significant carbon emissions were saved.
- Improved operations of infrastructure subcomponents to align more comprehensive solutions.



### CHALLENGES

- Supply water throughout the building found to be deteriorated.
- No set daily and weekly occupancy schedules that allow easy implementation of reduced modes in building.

### SOLUTIONS

- LED replacement.
- Lighting delamping.
- Occupancy sensors.
- Seal vertical shaft.
- Smart plug loads.
- Cooling tower VFD.
- DHW boilers.

### FIVE YEAR SAVINGS

\$ 362,150

For more information,  
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