

# GEATAIN ENGINEERING

## CASE STUDY-136-20 ROOSEVELT AVENUE



### BACKGROUND

The New World Mall at 136-20 Roosevelt Avenue is a commercial building with 108 retail shops that cater to thousands of people a day. The basement has a 28-restaurant food court, and the third floor has one of the largest Chinese dim sum restaurants and banquet halls in the Tri-State area. The building was not sealed well, causing operators to keep the temperature in the property the same year-round. Property managers helped aid the discussion of limitations and possible energy conservation strategies focusing on the most practical solutions with low simple return years. The team helped introduce ways to save energy and operating costs, while maintaining the quality of food and comfort for patrons. After the methods were reviewed by the property owners, a detailed report consisting of capital and saving sums, simple return years and carbon emission reduced for these solutions was written.

### HOW GEATAIN ENGINEERING HELPED

- Determined building envelope tightness with several different tests to determine building specific heat loss.
- Quantified thermal capacity of building envelope to retain more winter heat and summer air conditioning.
- Regression analysis helped to uncover hidden envelope savings opportunities.

### BENEFITS

- Improved operations of infrastructure subcomponents to align more comprehensive solutions.
- Tracking equipment records revealed trending equipment challenges.



### CHALLENGES

- HVAC equipment nearing end of useful life.
- Envelope and conveyance nearing end of useful life.

### SOLUTIONS

- Installation of air handling unit variable frequency drives.
- Building management system.
- Reducing plug loads.
- Insulate and seal ducts.
- Natural ventilation.
- New DHW for the food court.
- Sealing the envelope.

### FIVE YEAR SAVINGS

\$ 1,005,000

For more information,  
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