



# 04 Adaptive Reuse

# Adaptive Reuse: Transforming a Parking Garage into a Medical Facility

Mount Sinai Health System, Mount Sinai Doctors Faculty Practice at 85th Street, New York, NY

## Problem

As Mount Sinai Health Systems' practice grew, expansion of its facilities became paramount in order to keep up with increased patient demands. While the uptown location is convenient for patients, finding an appropriate facility for expansion in the area was a challenge.

To tackle this challenge, the project team focused on creative property solutions that would provide the health system with much needed space for the expansion, while also remaining close by and convenient for patients and personnel. The solution came in the form of a six-story, 50,000 sf parking garage, located just one subway stop away from Mount Sinai's main campus.

Although the building met Mount Sinai's needs for size and location, the project team was faced with the challenge of designing and installing engineering systems suitable for healthcare facility needs within the parking garage.

## Challenge

The benefit of adaptive reuse is that facilities can be repurposed for evolving needs, extending the life of a building and avoiding material and carbon waste. However, turning a parking garage into a new outpatient center comes with its own engineering challenges.

Because the garage did not have any equipment appropriate for repurposing, the project required the design of all new engineering systems fit for medical use, code, and noise compliance. The existing garage required multiple new utility services and all new mechanical, electrical, plumbing, and life safety systems, as well as a natural gas emergency generator.

Although natural gas is not normally used for emergency generators, the team had to consider unique delivery limitations resulting from Super Storm Sandy, and was able to secure allowances for gas generators to keep the project on schedule.



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Specific challenges overcome by the project team included:

- New York City Noise Ordinances:** A residential building with balconies located directly behind the new facility required the team to design the generator and other roof equipment according to strict noise ordinance specifications.
- Local Law 97:** This New York law places carbon caps on most buildings larger than 25,000 sf. Vanderweil was ahead of the curve in designing a heat pump system before this law had even taken effect.
- Ceiling Heights:** Due to the height of the existing garage ceilings, creative routing and proactive coordination of all new utilities with the building department and utility providers was crucial to the project success.
- Natural Gas Generator:** Because the gas pressure available from the street was insufficient to start the generator, the project required duplex booster pumps with an uninterrupted power supply for the power source. Vanderweil designed a second UPS to serve both the MDF room and the bypass input to the booster pump UPS.

## Solution

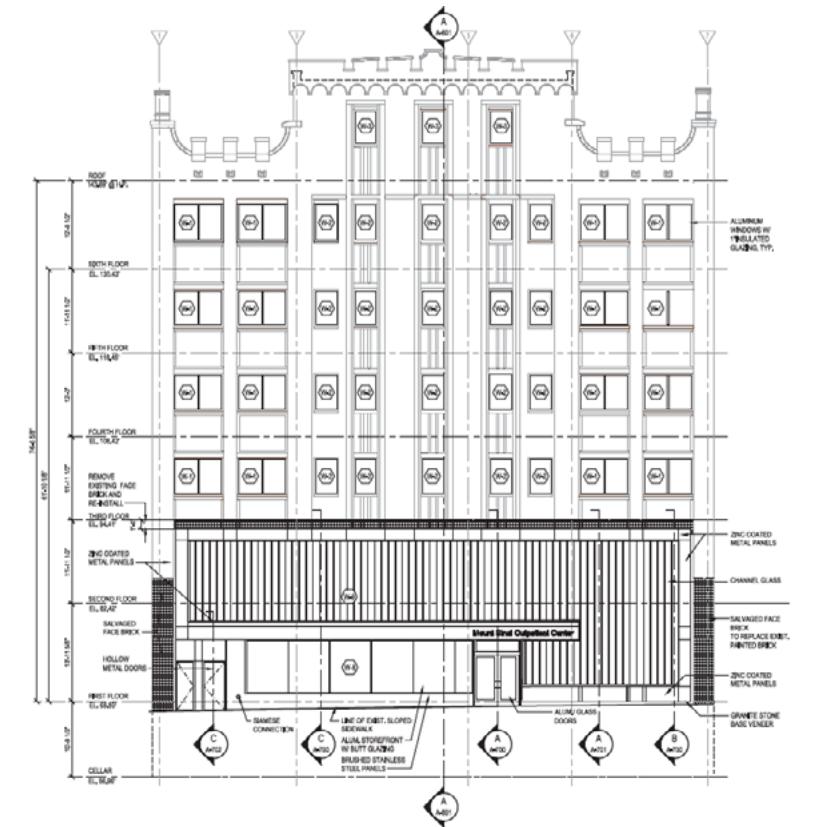
Vanderweil's creativity and expertise in the design of healthcare facilities meant that the team was able to quickly identify and provide solutions for code, equipment, and physical constraints throughout the project. Understanding the evolving needs of healthcare institutions meant anticipating future growth and designing adaptable systems for the long term.

Additionally, local knowledge of New York healthcare facilities allowed Vanderweil to seamlessly incorporate code and noise requirements into the design, while adapting to unique challenges posed by a post-Super Storm Sandy environment.

## Outcome

With Vanderweil's deep knowledge and creative thinking in healthcare facility design, the project team was able to repurpose a parking garage into a convenient outpatient center for Mount Sinai Health Systems to increase patient population outreach, expand the facility, and ensure code compliant and safe engineering systems.

The original building was built in 1930 as condominiums, and later also housed the parking garage pictured on the right.



Building North Elevation



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## Project Team

**Owner:** The Mount Sinai Health System

**Architect & Interiors:** Freeman White

**Structural:** Stratford Engineers

**Construction Manager:** Hunter Roberts Construction Group



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