



# COLLINGSWOOD MANOR

HUNG AND CASEMENT WINDOW DESIGNS  
PROJECT PROFILE

# Window Designs Create Peaceful Living Environment in Close Proximity to High Speed Rail Track

REHAU's team of window designers worked with Kohltech Windows & Entrance Systems to ensure that the residents of Collingswood Manor in New Jersey would enjoy the tranquility of a peaceful home, despite the high speed trains that whiz by less than 100 ft (30m) from the back wall.

Owned by United Methodist Homes of New Jersey (UMH), the venerable nursing home was well established in an aging manor house. UMH faced the need to both expand and upgrade services by planning a major expansion to Collingswood. The agency wanted to modernize the original manor house, and expand from a 20-bed nursing home with 40 assisted living apartments to a 60-bed nursing home with 160 apartments. Not only did architects and suppliers have the challenge of blending the new building with the old, but also, the addition needed extra sound insulation to protect it from street and train noise.

The architectural firm, Donnelly Wagner Nelson Rebilas Associates, had specified windows with a very high sound transmission rating. REHAU, in conjunction with Shenandoah Sash and Door and Kohltech, developed a product with an STC rating of 37 to meet the specs.

Sound transmission is not blocked well when two panes of glass in an insulating window are the same thickness. As the outside glass vibrates with sound, the inside glass vibrates identically and certain pitches (wavelengths) will pass through the window to the inside of the structure. The solution is to change the thickness on one of the panes to break the transmission of sound. This design raised the STC rating but not enough for the architectural firm.

REHAU then designed a window unit that would accept a traditional storm window, creating yet another barrier of glass and sound-deadening air space. This additional pane needed to be several inches from the window sash for maximum benefit. The final assembly, a storm window and a double hung window separated by up to 3 in. (76.2 mm), met the specifications.

"Everyone told us that we couldn't do it," recalls Mike Simpson, commercial sales manager for Shenandoah Sash and Door, a distributor for Kohltech. REHAU and Shenandoah worked closely to improve and test the new design.



**Project:** Collingswood Manor, Collingswood, New Jersey

**Construction:** Nursing Home, renovated/expanded in 1995

**Owner:** United Methodist Homes of New Jersey

**Architect:** Donnelly Wagner Nelson Rebilas Associates

**Fabricator:** Kohltech Windows & Entrance Systems

**Distributor:** Shenandoah Sash & Door Company

**REHAU Systems Used:** Double-hung and casement windows

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