Residential Sound Insulation Program
Historic Homes Pilot Program

O'HARE NOISE COMPATIBILITY COMMISSION

October 21, 2015

- The Historic Homes Pilot Program was conducted on 3 Phase 16 dwelling units
    - A home that had been a farm house in Wood Dale
    - A two-unit home in Bensenville
- A brick Phase 17C home was added from the Norwood Park Historical District so an additional pilot program would not be necessary
    - The addition of the Phase 17C home was approved by the FAA and the Illinois Historic Preservation Agency
- The pilot program will determine the types of sound-insulating modifications that must be performed on the contributing homes in Phase 17C
- The RSIP is not restoring the homes to their original conditions, it is preserving what is currently installed.

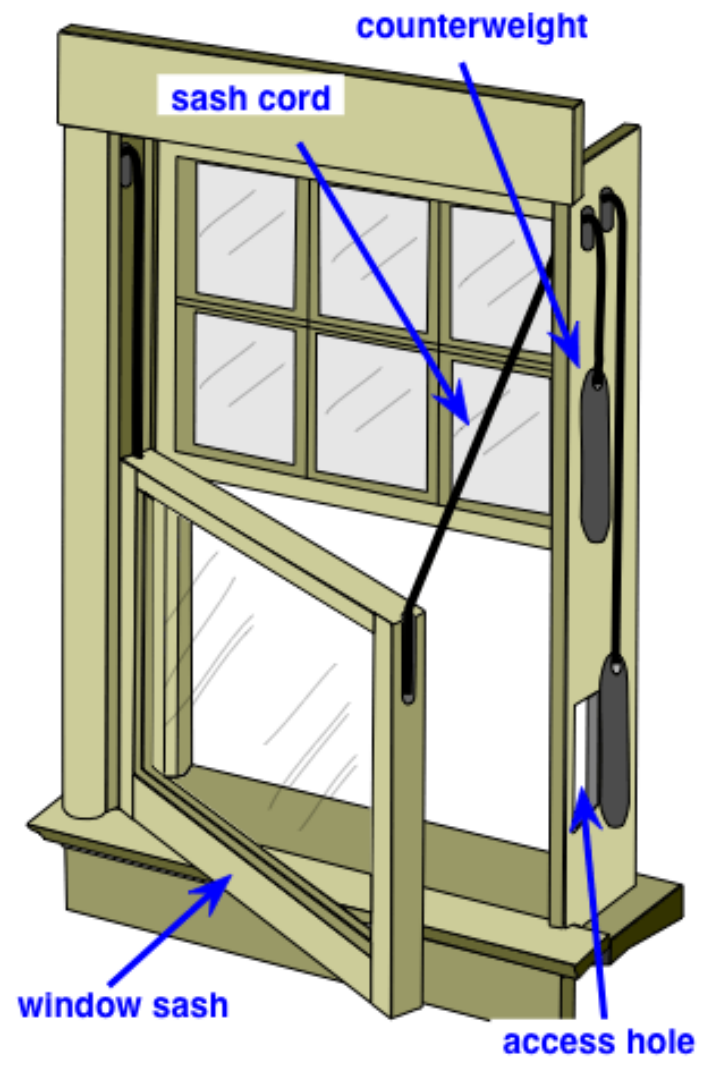
Wood Dale Home

This home was originally built as a farmhouse in 1877.

The intent of the historic homes pilot program is to determine what needs to be done in different types of homes to achieve a
5 dB noise reduction while maintaining the historic integrity of the homes.

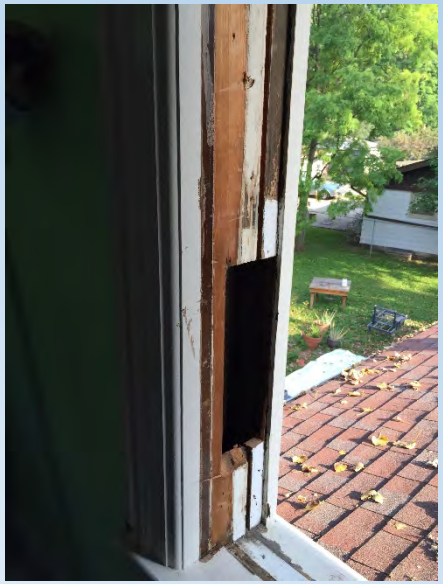
Sound-insulating modifications start with work performed on the windows and doors and may include the installation of drywall on the interior perimeter walls and central air conditioning.

Window Treatments

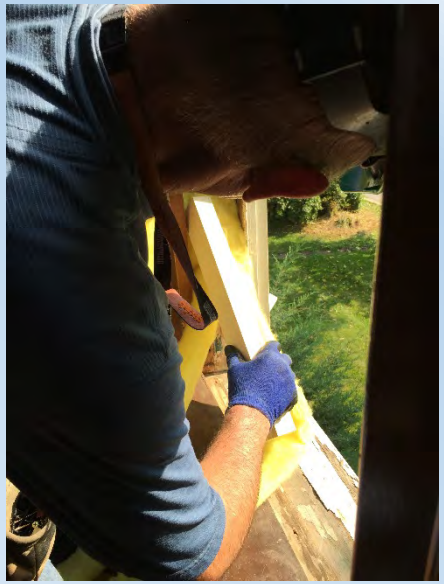


If possible, the original window sash is retained and the area framing the window opening is treated.

Original Weight Pocket



Insert Wood Blocking



Fill with Insulation

At times, a new window sash needs to be installed, but the treatment of the opening is the same.

Install New Jamb Liner

New Sash Kit Installed with Finished Interior Trim

New Jamb Liner Installed with New Sash

Jamb Liners

Window sills are replaced to maintain the acoustical integrity of the window opening.

Before

After

New wooden storm windows are then installed over the prime windows.

Before

After

After

Original Window

Installation of New Window Sash

New Window Sashes with New Wooden Storm Window

Door Treatments

Prime Doors are repaired and refinished when possible.

And, the original hardware is maintained.

Refinished Doors

Before

After

After with Storm Door

Modifications to Dining Room Door

Existing Door

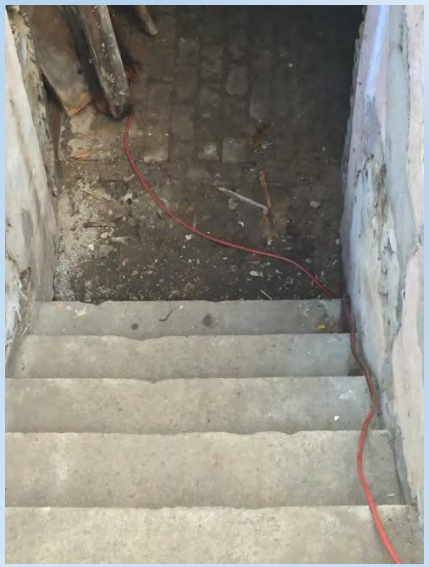
Door Refinished

Refinished Door with Storm Door

Basement Door

Basement Access

Original Landing



Original Door

New Door

New Landing

New Threshold

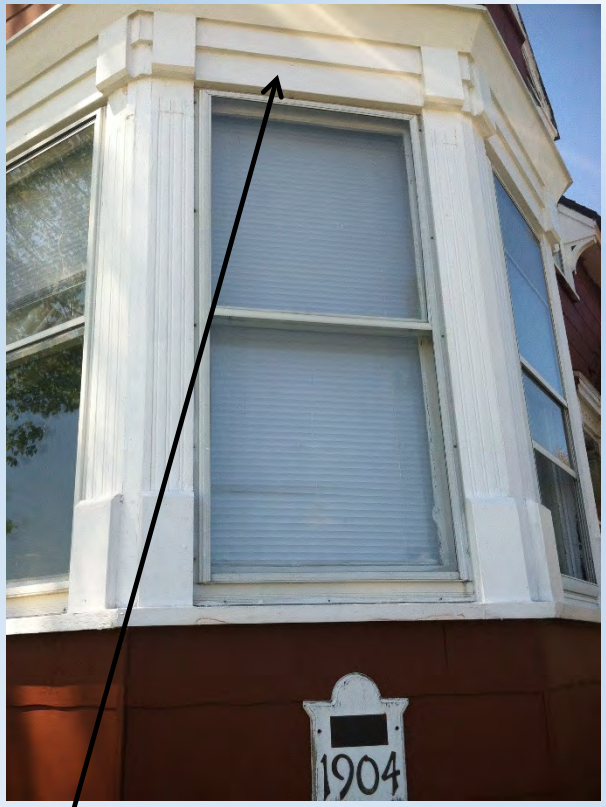
Bensenville Home

The owner of this 2-unit home built in 1904 began some remodeling of his own after we did the initial home inventory. In the following slides, you will note the variance in the exterior color of the home, as well as, some of the window trim.

Progression of Work

Original Windows Prior to Homeowner Remodeling

Original Windows at Start of Sound Insulation Work



Note – the ornate exterior trim was removed by homeowner

Metal Storm Windows Installed Over Original Windows

Modification of Existing Windows

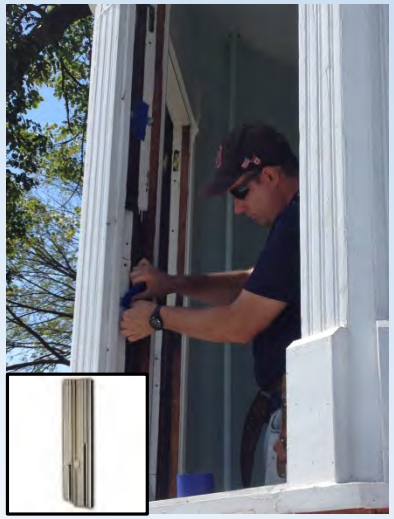
Repairing Existing Sash

Planing Existing Sash to Fit New Jamb Liner

Cutting Jamb Liner

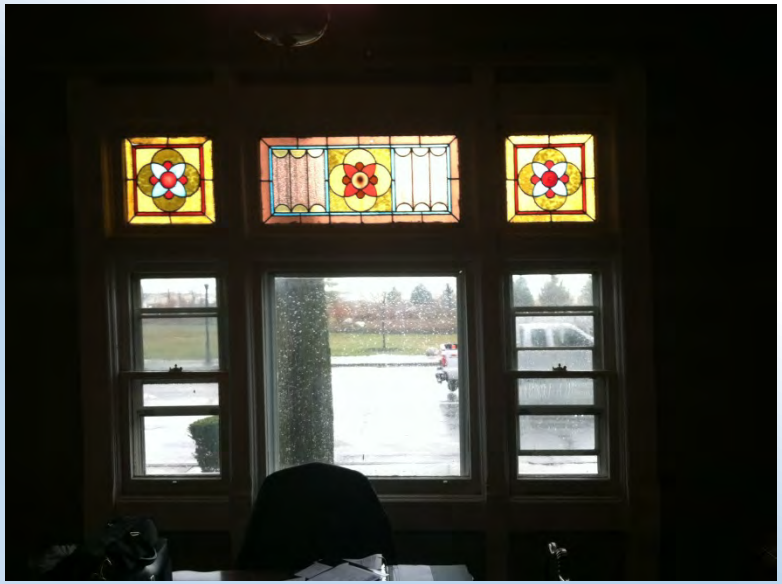
Trimming Jamb Liner

Installing New Jamb Liner Clips in Opening



Existing Sash with New Jamb Liner

Interior View of Stained Glass Windows



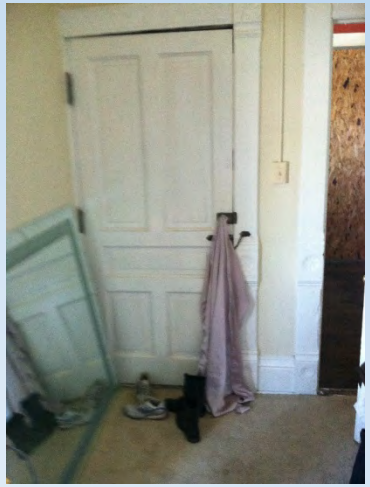
Treatment of Stained Glass Windows in Living Room of First Floor Dwelling Unit

Original Front Windows

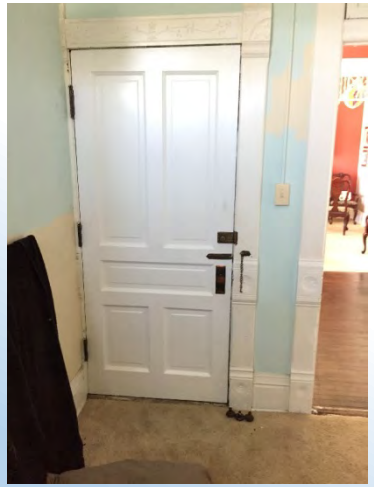
Storm Windows Over Original Front Windows

Refinished Doors

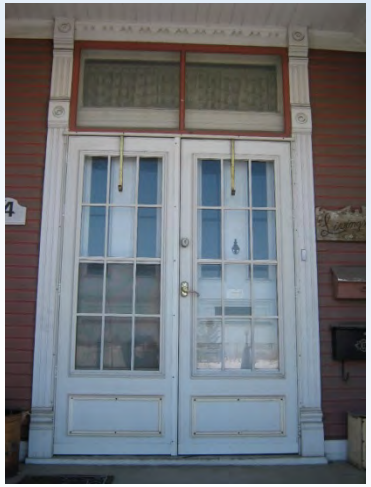
Bedroom Door Before



Bedroom Door After



Front Doors Before



Refinished Doors with New Storm Doors and Transom Window

Side Door Before

Side Door After

New Stile and Rail Prime Doors

Interior Kitchen Door Before

Interior Kitchen Door After

Installation of Acoustically-Rated Transom Window

Exterior Kitchen Door Before

Exterior Kitchen Door With Storm Door After

Chicago Home

This home was built in 1925 and is in the Norwood Park Historical District.

New Stile and Rail Door

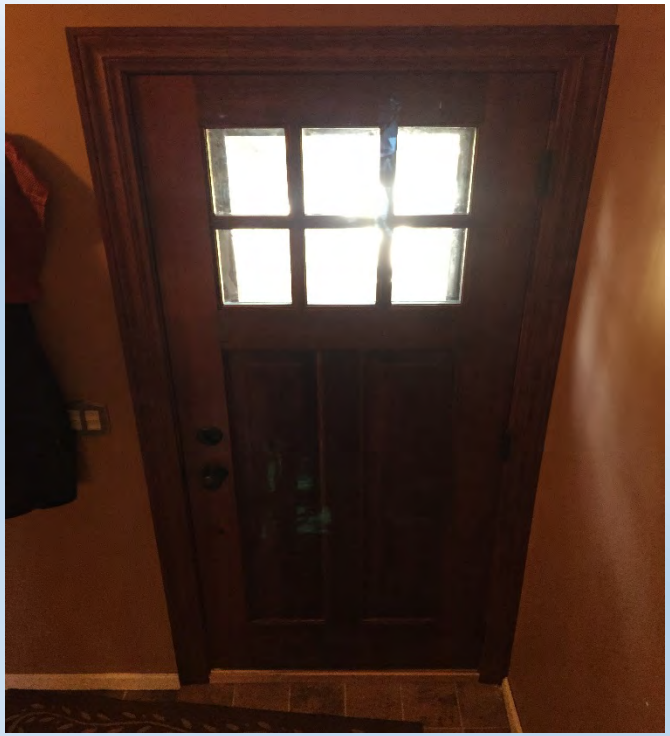
Existing Door

New Door

New Rear Door

Existing Door

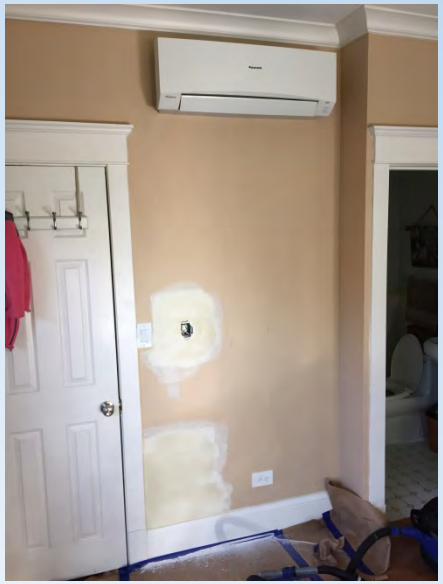
New Door

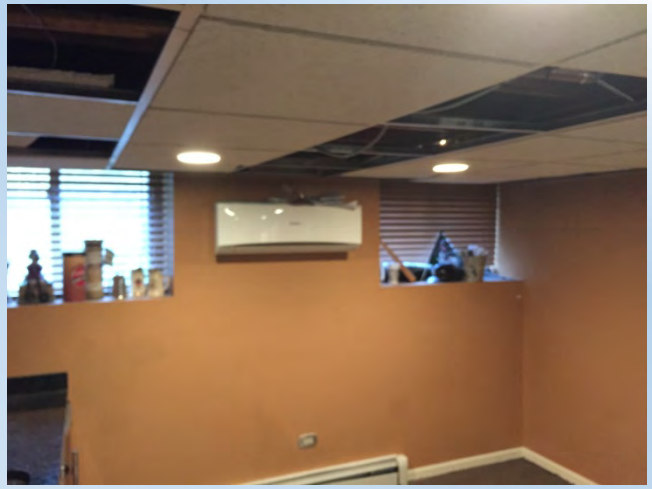


New HVAC Work

This home did not have central air conditioning. Rather than have ductwork run through the home, the homeowner chose to have the basement and first floor served by a split ductless system. The second floor served by an air handling unit in the attic.

1st Floor Evaporators

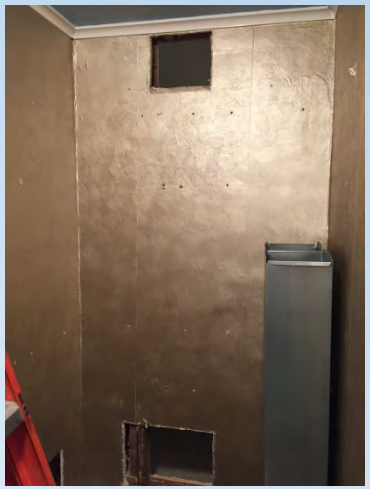




Basement Evaporator

Condensing Units

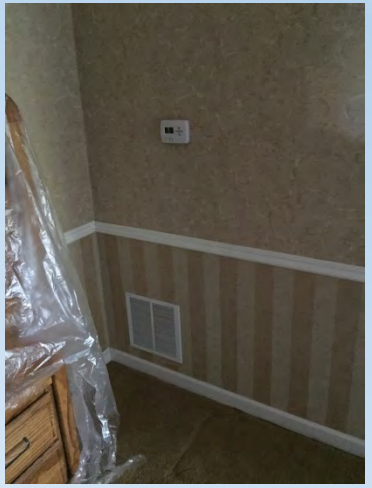
The second floor is served by an air handling unit in a closet.



Ductwork needed to be run through some of the rooms.

Through wall supply registers were installed on both sides of the duct.

Return air grills were installed at the base of the walls.



The condenser was placed in the rear yard.

Proposed Window Treatments

The original plan was to install wood storm windows on the existing windows to maintain the appearance of the front façade.

During field measurements, it was discovered the front picture window had a seal failure so, it could not remain in place.

Installing a new acoustic thermal pane fixed picture window of this size presented serious safety issues for the contactor. They were concerned with worker safety regarding the installation of a 400- 450 lb. picture window.

So with this challenge, what was the solution?

Historical Discovery

It was discovered through historic photographs that the original configuration on the first floor was 5 double-hung (DH) windows in the same structural opening.

Since IHPA had already approved the placement of storm windows over the existing windows, its approval had to be obtained to go back to the original 5 window configuration. IHPA approved this.

All remaining windows in the home will get new wood prime and storm replacement windows. All windows on the entire home will receive acoustic storm windows.

We anticipate this last phase of the RSIP Historic Pilot Program work being finished in December.

Thank You.