Lori E. Lightfoot, Mayor
City of Chicago

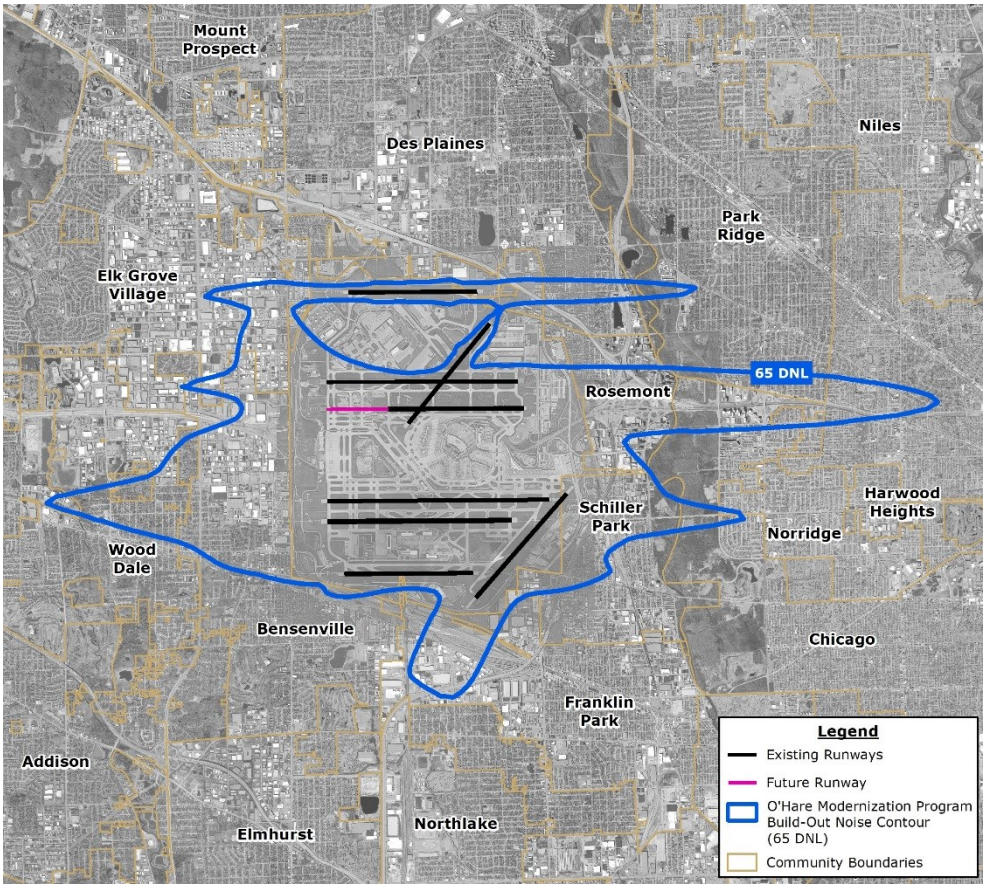
Sound Insulating Your Home

O'Hare Residential Sound Insulation Program

Jamie L. Rhee, Commissioner
Chicago Department of Aviation

Arlene A. Juracek, Chairman
O'Hare Noise Compatibility Commission

O'Hare Residential Sound Insulation Program



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CDA
CHICAGO DEPARTMENT OF AVIATION

Welcome

The City of Chicago Department of Aviation (CDA) and the O'Hare Noise Compatibility Commission (ONCC) are pleased to present you with this booklet about sound insulating your home. The development of this booklet came in response to requests from residents in municipalities near the airport that desire to insulate their homes to reduce the impact of aircraft and other noise sources. This booklet is the product of research and review by the CDA, its consultants to the Residential Sound Insulation Program (RSIP or Program), and the ONCC.

Creation of the ONCC resulted from an unprecedented commitment to share decision making with regional leaders in implementing effective and permanent noise reduction programs. The ONCC's membership as of 2019 consists of:

Addison	Harwood Heights	Rosemont	School District 81
Arlington Heights	Hoffman Estates	Schaumburg	School District 84
Bartlett	Itasca	Schiller Park	School District 84.5
Bensenville	Lincolnwood	South Barrington	School District 85.5
Bloomingdale	Maywood	St. Charles	School District 86
Chicago	Melrose Park	Stone Park	School District 87
Cook County	Mount Prospect	Wayne	School District 88
Des Plaines	Niles	Wood Dale	School District 89
Downers Grove	Norridge	School District 2	School District 100
DuPage County	Northlake	School District 7	School District 205
Elmhurst	Palatine	School District 48	School District 207
Elmwood Park	Park Ridge	School District 59	School District 214
Franklin Park	River Forest	School District 63	School District 234
Glenview	River Grove	School District 64	School District 299
Hanover Park	Rolling Meadows	School District 80	School District 401

Through its Committees and programs, the ONCC brings to the same table all the parties that are most able to reduce aircraft noise including: city and suburban leaders, the Federal Aviation Administration (FAA), the airlines, pilots, and air traffic controllers. Together, we are working on solutions to reduce the impacts of aircraft noise.

We hope you find the information on the following pages useful and comprehensive. To further guide you in your endeavor, a listing of material manufacturers who currently provide sound-attenuating products to the Program is provided on the inside of the back cover. Please contact them for material specifications and local distributors. The CDA and the ONCC appreciate the opportunity to provide this information and look forward to continuing our efforts to improve the quality of life for O'Hare's neighbors.

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Introduction

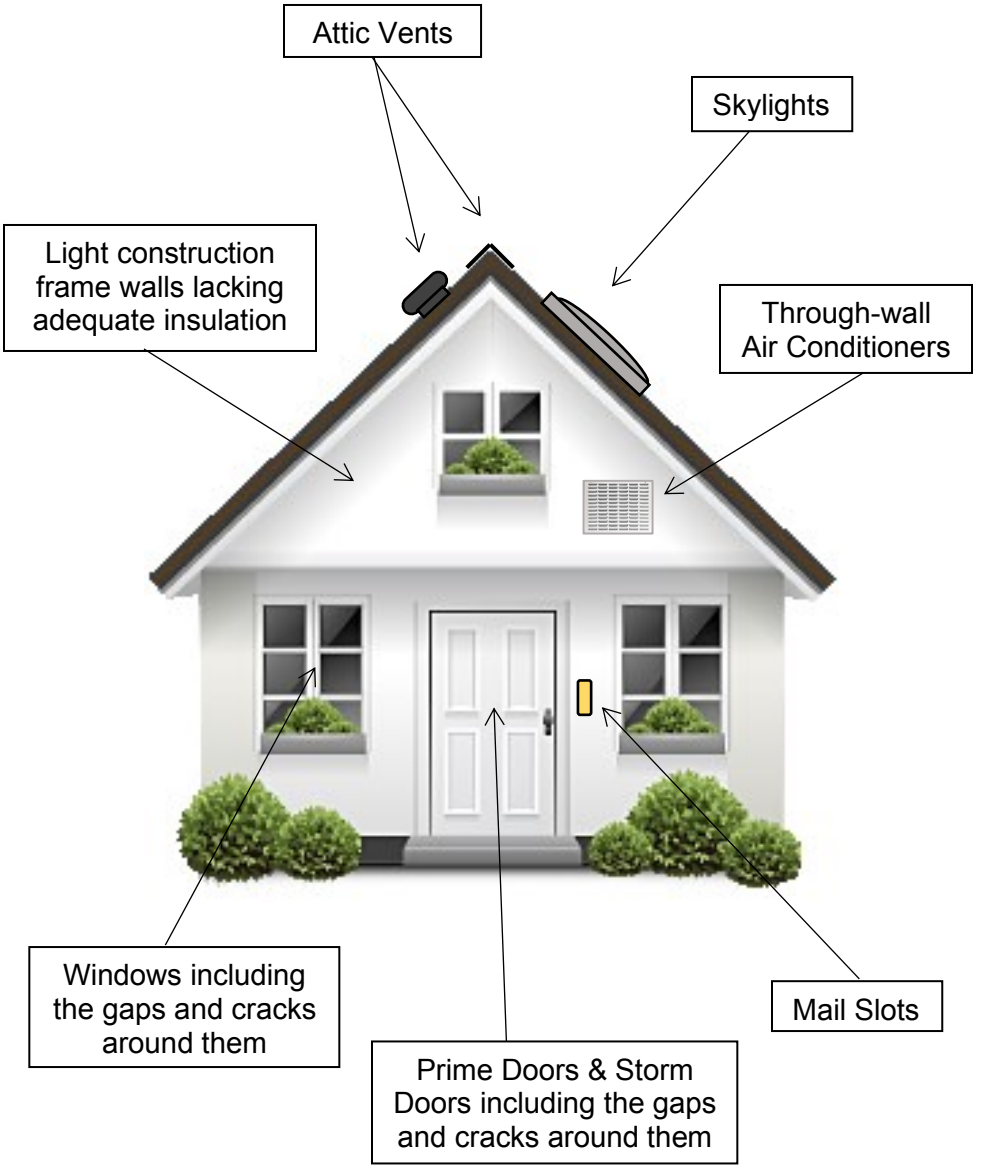
Noise enters your home in the same way air enters – through cracks and openings in your home's exterior. Sound insulating your home involves sealing the points of air entry and in some cases increasing the mass of the elements through which noise must travel. The CDA has been conducting the O'Hare RSIP since 1995. Under this program, homes are selected and invited to participate based on their locations within a noise contour shown in the front of this booklet.

A noise contour is generated by compiling all the aircraft flight information for an entire year. This information is entered into a computer that calculates noise levels and generates a noise contour map which displays the Day/Night Average Sound Level (DNL) in the areas surrounding the airport. A ten-decibel penalty is added to all flights between 10 PM and 7 AM to account for the additional disturbance caused by an increased sensitivity to nighttime activity. This computer-generated noise contour must then be reviewed and accepted by the Federal Aviation Administration before it can be used as the basis of determining eligibility for the RSIP. For an eligible dwelling unit to be considered for inclusion in the CDA's RSIP, it currently must be located within the 65 DNL noise contour.

This booklet outlines several improvements you can make to your home to minimize the impact of aircraft noise. You may be able to do some of these things yourself rather inexpensively; however, some items are more difficult and may require the work to be performed by professionals. To assist you further, we have provided a few basic installation recommendations for some improvements, though***, it should be understood that this is not an installation procedure manual.*** Please be sure to follow all manufacturer's requirements relating to safety as a part of any modification discussed in this booklet.

In conclusion, no home can be completely soundproofed, but incorporating improvements such as the ones included in this booklet can noticeably reduce the aircraft noise you experience inside your home.

The following graphic shows some of the points of entry for air and noise:



Windows

Old, loose-fitting windows that rattle when an airplane passes overhead have in most cases shown to allow the greatest amount of noise into your home. The most effective way to address windows like this would be to install quality replacement windows in accordance with the installation recommendations described in this booklet. If you do not wish to purchase new windows, adding storm windows or repairing the seal around your existing windows will help alleviate some air and noise transmission.

Replacement Windows

The acoustic windows being used in the RSIP are designed to have a minimum Sound Transmission Class (STC) rating of 40. The STC rating of a window denotes a material's ability to resist airborne sound and the higher the STC number the more resistance to sound can be provided. The combination of the glass layers (typically 3 total with 2 in the insulated glass unit and 1 in the storm window), glass thickness (ranging anywhere from 1/8" to 1/4"), and the air spaces between the panes of glass give the windows the necessary STC 40 rating. There are currently only a few manufacturers that make windows with an STC 40 or greater acoustic rating that are designed for residential applications; however this may change in the near future as more window manufacturers begin to identify the need to address community noise concerns. If you decide to install replacement windows, be sure to ask the manufacturer if they have conducted any acoustical testing on their windows and try to select a window with an STC rating of 40 or greater.

Windows that have laminated glass can provide better protection from noise than a non-laminated pane of glass; however, it should be noted that replacement laminated glass may not be as readily available and is rather costly. Increasing glass thickness also improves acoustical performance.
If a replacement window with an STC rating of 40 does not work for your

application, the Chicago area has several manufacturers of good-quality thermal pane windows with STC ratings from 28 to 32 that will provide some noise relief. Please note that this booklet does not provide the names or contact information for any of these manufacturers as they are readily available in the marketplace. If you decide to purchase thermal pane windows and would like to add a secondary storm window as well, we recommend that the thermal pane windows you buy have wood or metal frames and that you provide a minimum 2 inch air space between the storm window glass and prime window glass. Windows with wood or metal frames tend to allow for the installation of a secondary storm window while vinyl windows typically are not as compatible. Furthermore, be sure to check with your prime and storm window manufacturers concerning compatibility in order to avoid damage to either product and to prevent voiding any warranties.

While the quality and design of the window you select is important, the method of installation is just as important, if not more important. Most window installers do not use sound reducing techniques when installing replacement windows. To obtain the full acoustical benefit, all voids around the windows including counterweight pockets must be filled with insulation and wood blocking, and the perimeter of the windows must be thoroughly caulked so no air can leak through. As these installation techniques are not typically included in a standard window installation, you may want to have your purchase agreement with the window company state that the windows will be installed in accordance with the details included in this booklet - (*Refer to Detail W1 on page 18 and Detail W2 on page 19 for installation recommendations for both frame and brick walls.*) By installing your new windows in this fashion you will enable them to perform to their full potential and reduce the greatest amount of noise.

Storm Windows

If your existing windows are in good condition, adding new storm windows may offer a more cost effective option than replacing each window all together. In fact, depending on what kind of windows you have now, adding a new storm over them can offer the same noise reducing properties as a new thermal pane window replacement. Storm windows are usually constructed with 3/16" or 1/4" glass and the storms used on the RSIP have an acoustical rating of STC 30.

Maintenance and Repair of Existing Windows

Windows that rattle are a source of air and noise infiltration. While replacing them with a new window would provide the greatest improvement, there are a few simple things that can be done to improve their performance. Start by replacing any pieces of glass that are cracked or broken. Then apply new glazing compound around the perimeter of the new glass to secure the glass to the frame. You can also apply clear silicone caulk around the window frame and replace any damaged or missing weatherstripping to prevent air and noise from leaking in around the window.

Skylights

Skylights whether they open or not, perform very much like a window and can be a significant path for noise to enter your home. There are some window companies that sell replacement skylight units with high acoustic ratings; however, adding a storm window to the interior of the existing skylight offers equal noise reduction and avoids exterior work that may cause the roof to leak if improperly installed. Be sure to follow the manufacturer's instructions regarding proper installation to ensure the best performance. Please note that both hinged and fixed skylight storm windows are available.

Doors

There are generally two kinds of doors - prime doors and storm doors. Prime doors serve as the primary seal between the interior of your home and exterior elements. Storm doors are secondary thinner doors (typically made of aluminum and glass) that protect your prime doors from bad weather and provide a secondary seal from the exterior. Over time, the weatherstripping around both prime and storm doors can become damaged or fall off creating paths for air and noise to enter your home. Replacing your existing doors with a new pre-hung prime and storm door assembly will give you the greatest noise reduction; however, any of the following modifications will help.

Replacing Prime Doors

Whenever possible, pre-hung wood solid-core doors should be used. Steel or metal prime doors are generally not recommended as they are constructed of a thin outer layer of metal filled with cork or foam, and do not have sufficient mass to provide adequate sound reduction. A pre-hung door unit is preferred to installing a new slab within the existing frame because all of the necessary weatherstripping is included with a pre-hung door and it will align better offering a tighter seal. The installation should include removing the existing door and frame, filling all voids around the door with wood blocking and insulation, and installing the new pre-hung unit. (*Refer to Details D1, D2, and D3 on pages 20, 21, and 22.*) Weatherstripping should be applied around the top and side frames, and a sweep installed on the bottom of the door.

Two critical aspects to look at when choosing a pre-hung prime door are: (1) the weatherstripping and (2) the mass of the door slab. A solid-core door slab pre-hung tightly into a new frame with weatherstripping will reduce the greatest amount of noise. When checking the seals of a prime door, make sure there is good contact between the weatherstripping on the door frame and the top and sides of the door slab. Make sure the sweep is made of a durable material and that it makes solid contact with the threshold. The threshold may need to be adjusted to enable the sweep to seal properly.

Check to make sure that there is no light infiltration along any of the perimeter seals.
Please note that standalone prime doors with a high acoustic rating are available, however, they are very expensive. If cost is a concern, installing a prime and storm door combination with roughly an STC 28 prime and STC 30 storm will achieve similar acoustical results.

Replacing Storm Doors

As with prime doors, the acoustical performance of a storm door is also dependent on the door's weatherstripping and mass. With this in mind, try to select a storm door of a solid-core design with a glass thickness of 3/16" and weatherstripping that seals the entire perimeter of the door. There are several manufacturers who can meet those requirements. A storm door that has been properly installed should have no light visible around the perimeter of the door when closed. (*Refer to Detail D4 on page 23.*) Keep in mind that a storm door only has acoustical benefit when the storm window is installed and closed. Consider self-storing glazing units that can easily be opened or closed if you occasionally want to use the screens for ventilation purposes.

Weatherstripping Existing Doors

As your existing doors age, the weatherstripping that seals the perimeter can become damaged or fall off. This can impact acoustical performance but is easily corrected as most hardware stores carry replacement weatherstripping intended for this very purpose. We recommend weatherstripping of sufficient thickness to compress at least 3/8" when the door closes against it. To check existing weatherstripping, close the door from the inside and carefully inspect the entire perimeter of the door where it meets the frame and sill. There should be no light visible. If there is, the weatherstripping must be replaced so that no light is visible *(Refer to Detail D3 on page 22).*

Door Installation and Maintenance

Routine door maintenance is important. As often as needed, cracks in doors should be filled, sanded and covered with paint or an exterior grade stain sealer. When installing new prime doors, make sure there is no spacing or gaps greater than 1/2" between the door frame and the existing wall framing (rough opening). Gaps less than 1/2" wide should be filled. A method that provides good insulation and sound attenuation includes using fiberglass wrap insulation and polyethylene foam backing rod and caulking. All of these materials should be available at your local hardware store.

Sidelights

Sidelights are decorative wood or glass panels installed on one or both sides of a prime door and a large percentage of prime door manufacturers also produce replacement sidelights. Unfortunately, very few sidelights come with any kind of interior or exterior storm, so regardless of whether you decide to replace your existing sidelights or reuse them, it is recommended to add an additional storm unit. Manufacturers of acoustic storm doors typically manufacture matching pre-fabricated storm units for sidelights. If you are unable to find one, mounting a minimum 3/16" thick interior tempered or laminated glass panel in a custom wood frame approximately 2" from the existing sidelight will also help. If you choose to build your own storm unit, mount the storm on the inside of the existing sidelight. If purchasing a pre-fabricated unit, follow the manufacturer's installation instructions for either interior or exterior applications.

Wall Modifications

Many homes built with frame construction can benefit from wall modifications intended to increase the mass of the exterior walls which will also increase the wall's ability to block out unwanted sound. There are a couple of different sound-insulating modifications that can be used depending on your existing interior wall material and how much noise reduction you would like.

Homes with thin decorative paneling and no drywall behind it

Exterior walls that have thin decorative paneling attached directly to the wall studs without any drywall behind the paneling should be modified to improve their acoustical performance. Begin by removing the paneling and installing blanket (batt) insulation (R13 or 3 1/2" thick fiberglass) in the walls with kraft paper or other vapor barrier at the room side of the wall. Then vertically attach one (1) layer of 5/8" thick gypsum board (drywall) to the studs, and tape joints using paper reinforcing tape and an all-purpose joint compound. Be sure that all corners and edges are taped. The paneling may then be reinstalled or the walls sanded and painted as desired.

Looking for even more noise reduction from your walls?

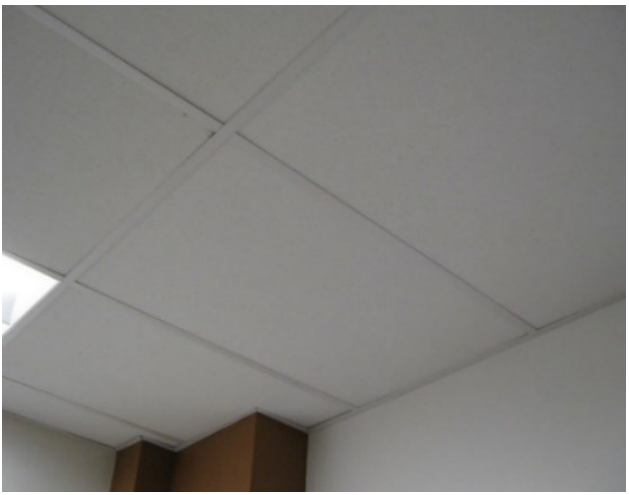
If you have an existing layer of drywall or plaster, you can take your wall modifications even further by installing a second layer of 1/2" or 5/8" thick gypsum board (drywall) to increase your wall's mass even more. If you choose this option, be sure to attach the second layer directly to the existing drywall using construction adhesive and screws of sufficient length so that both layers of drywall are attached to the wall studs. Furthermore, it is recommended to offset the second layer at least one stud cavity over from the first layer in all directions to avoid any overlapping joints. Tape the second layer's joints using paper reinforcing tape and an all-purpose joint compound ensuring that all corners and edges are taped. *(Refer to Detail G1 on page 24).*

Ceiling Modifications

Ceiling modifications should be done when a home has a suspended tile ceiling in a room that does not have a second story above it, and when the top floor in a home already has a drywall ceiling but a greater level of noise reduction is desired.

Modifications to Ceilings with Suspended Tile

Suspended ceiling tiles, while useful for absorbing reflected sounds on the interior of a room, are very thin and do a poor job of stopping exterior noise from entering the interior of your home. Some manufacturers have developed replacement ceiling tiles that perform better acoustically, however, even the best suspended ceiling tile system cannot block as much noise as 5/8" gypsum wallboard (drywall). Nonetheless, if you decide to install a new suspended ceiling tile system, be sure to select tiles with no less than a 40 Ceiling Attenuation Class (CAC) and at least a .70 Noise Reduction Coefficient (NRC). Both CAC and NRC are used to describe the acoustical performance of the tile system. If there is an attic above the suspended ceiling, ensure that the attic has an adequate amount of insulation and ventilation present.



When there is no attic above the suspended ceiling, you are encouraged to remove the suspended tile and install a 5/8" gypsum board ceiling. Before installing the gypsum board to the roof rafters, install blanket (batt) insulation in each rafter cavity with kraft paper or other vapor barrier at the room side of the ceiling. Ensure that vent channels are used to allow air to circulate between the insulation and the roof deck. Tape joints using paper reinforcing tape and an all-purpose joint compound. Be sure that all corners and edges are taped. If you want to use suspended ceiling tile as a finish material, it is recommended that at least one layer of 5/8" gypsum board be installed above the ceiling tile.

Modifications to Existing Gypsum Board Ceilings

If the top floor of your home already has one layer of finished drywall and you are looking to provide even more noise reduction, install a second layer of 1/2” or 5/8” drywall. As mentioned in the wall modification section, it is important to select screws of sufficient length so that both layers of drywall are attached to the ceiling joists. Once installed, tape all joints using paper reinforcing tape and an all-purpose joint compound. Be sure that all corners and edges are taped. If there is an attic above the room, install at least R49 insulation above the ceiling. Check your local building codes for vapor retarder and ventilation requirements.

Insulation

Adding insulation to walls and attics will help diminish noise. *(Refer to Detail I1 on page 25)*.

Walls

Frame homes require insulation in exterior walls for energy efficiency, as well as to aid in the noise reduction process. Fiberglass or cellulose blown-in insulation can be installed from the interior or exterior of the home. In most cases, homeowners will hire an insulation contractor to perform this work. Holes are drilled into the wall near the top and bottom of the wall between each pair of studs. A hollow wand is inserted into the holes through which insulation is blown into the wall.

Attics

Current building code requires that attics have at least R49 insulation which can be achieved using several materials such as blown-in insulation, blanket (batt) fiberglass insulation or mineral wool. Considering the importance of proper attic insulation and ventilation, it is not recommended to modify your home's insulation system without first consulting an architect or building code inspector. To increase the noise reduction properties of your ceilings even further a layer of 1/2" or 3/4" plywood can be installed on the attic floor along with proper insulation and vapor barrier in the cavity.

Vents

Attic Vents

Vents are openings in the exterior of your home through which air is allowed to enter and then escape circulating the air in your attic. These vents are needed to prevent moisture from building up in your attic which can lead to mold growth and framing rot. Unfortunately, vents like this also serve as another path for noise to enter your home. One way of reducing noise while still allowing for ventilation is to install a partial enclosure built around each vent called a baffle box. *(Refer to Details V1, V2 and V3 on pages 26, 27, and 28.)* Just like a muffler on your car's exhaust pipe, baffles act as mufflers to deflect and absorb a portion of the noise. Considering the importance of proper attic ventilation, it is not recommended to install baffles or modify your home's ventilation system without first consulting a professional mechanical contractor, architect or building code inspector as your local building code dictates minimum vent area requirements for attics.

Kitchen Exhaust Vents

There are two main types of kitchen exhaust fans, each requiring different sound insulating modifications:

1) Through-Wall Exhaust: Remove exhaust fan, insulate wall and patch interior drywall. The exterior can be patched by installing plywood and covering it with the same material as existing. If a replacement source of ventilation is necessary, install a ducted exhaust hood as described in Item 2 below.

2) Ducted Exhaust Hoods: All ducted exhausts should extend to an exterior location. Modifications need to be made only if the ductwork to the exterior is predominantly straight and does not have any elbows. An elbow is defined as a transitional piece used to change the direction of travel in a run of ductwork. To reduce sound transmission, the ductwork in the attic should be modified with an offset so that you do not have a straight line of sight from one end of the ductwork to the other. Care should be taken to avoid any extreme offsets (greater than a 90 degree change) that could lead to the collection of grease in the ductwork and potentially develop into a fire hazard.

HVAC Modifications

The acronym HVAC stands for heating, ventilation and air conditioning.

Central Air Conditioning

The installation of central air conditioning to the entire home will attain the most noise reduction in the summer since it gives you the ability to keep doors and windows closed. The exterior unit of a central air conditioning system, called a condenser, will generate noise when the system is running due to the fan blades spinning and the noise of the compressor. When selecting an exterior condensing unit, try and select the quietest unit you can find within your budget.

Through-Wall Heaters and Air Conditioners

Normally, these devices are found in room additions because it was less expensive when building the addition to install small independent units than to extend existing ductwork and upgrade the entire home's HVAC system. However, both of these items require vents through the exterior wall which allows air and noise a direct route into your home. The preferred treatment would be to remove these devices, fill the wall cavity with insulation and patch the exterior and interior to match existing materials.

This may be an option when it comes time to replace your current furnace or air conditioning condenser. There are also ductless air conditioning and combination heating/air conditioning units that require a far smaller penetration through the exterior wall. Installation of these units would require patching the wall as stated above.

Return Air

Many times, homes with central air conditioning still require the use of supplemental air conditioning units on the upper floor due to poor air circulation. In the majority of cases, this is due to the upper floor having only supply ductwork and no return-air ductwork. The cost of installing return-air ductwork varies greatly, depending on the construction of the home. In some instances, return-air ductwork can be installed in a wall and tied into the existing ductwork for the lower floors. It may be valuable to call a few HVAC contractors and get proposals on the cost of installing return-air ductwork where none exists. The methods used by different contractors and the costs associated with such methods make it advisable to get more than one proposal.

Whole-House Exhaust Fans

These fans are typically installed in the ceiling of a main hallway of your home and are designed to pull air from the whole house and exhaust it through your attic vents. While this can be an efficient way to cool your home, it does present another noise path if not properly covered when not in use. It is recommended that these fans be removed and the opening patched with materials matching the existing ceiling. If you want to keep your fan, a plywood box with doors can be built around it; however, the doors would then have to be manually opened before the fan is turned on.

Miscellaneous

Mail Slots

Mail slots, whether installed through your wall or in a door, can be minor noise paths. You can remove the interior and exterior mail slot fixtures, stuff the mail slot cavity with batt insulation and patch both sides to match the existing wall finish. Alternatively, the existing mail slot fixture can remain if the mail slot cavity is filled with insulation and both slot doors are caulked shut.

Carbon Monoxide Detectors

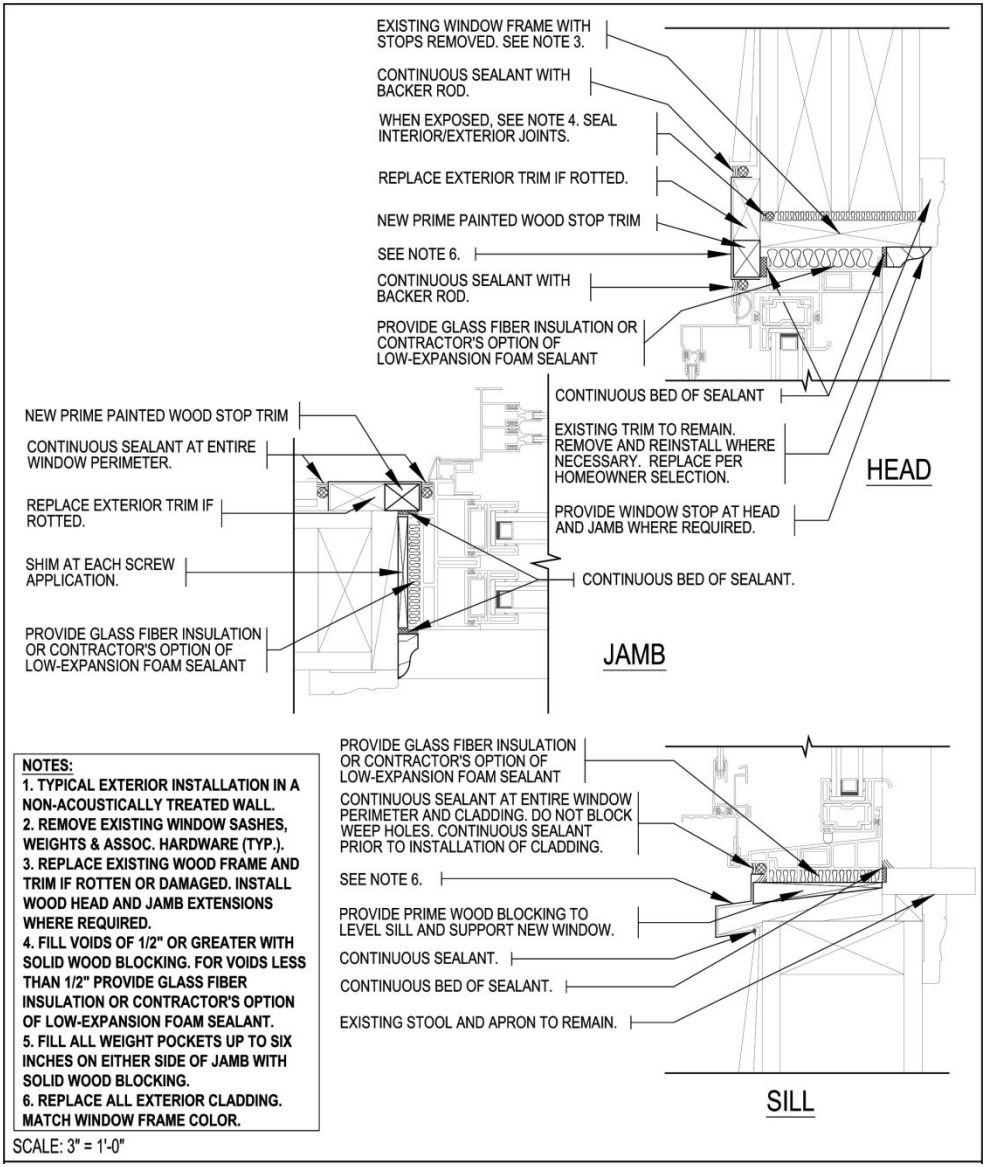
The sound-insulation process essentially reduces or eliminates air infiltration and natural ventilation. This means your home will become more airtight, making you more susceptible to your home's normal emissions from such things as gas appliances and furnaces. Illinois law requires you to install a carbon monoxide detector within 15 feet of every room used for sleeping purposes to monitor the CO levels in your home. Be sure to follow the manufacturer's installation instructions.

Glass Block Windows

Glass block windows often have a small vent or louvered window in them which may be used for air circulation or ventilation. Acoustically, the best remedy would be to replace the glass block window with a new operable window with an STC 40 rating. As an alternative, depending on the construction of the existing window, an operable storm or glass insert could help reduce sound coming through the small vent or louvered window.

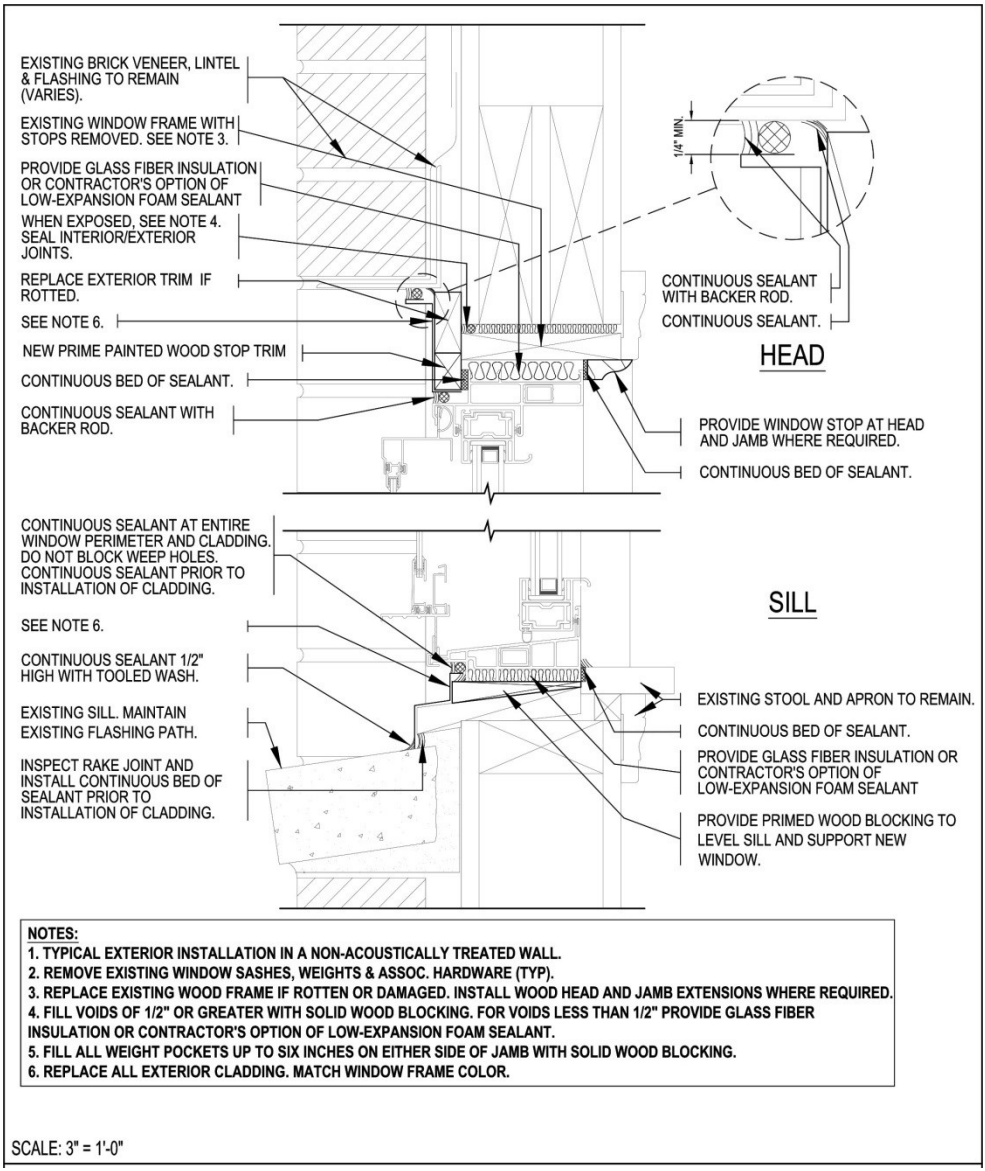
Fireplaces

Fireplaces provide a direct route for air and noise to enter your home. Installing tight-fitting glass doors in lieu of a fireplace screen will lessen the air infiltration when the fireplace is not in use. Noise can further be reduced by installing an operable chimney cap damper that when closed seals the top of your chimney and when open allows proper chimney exhaust.



W1 – New Window in Frame Home

This detail is provided for reference only and may be shared with a professional contractor for guidance.



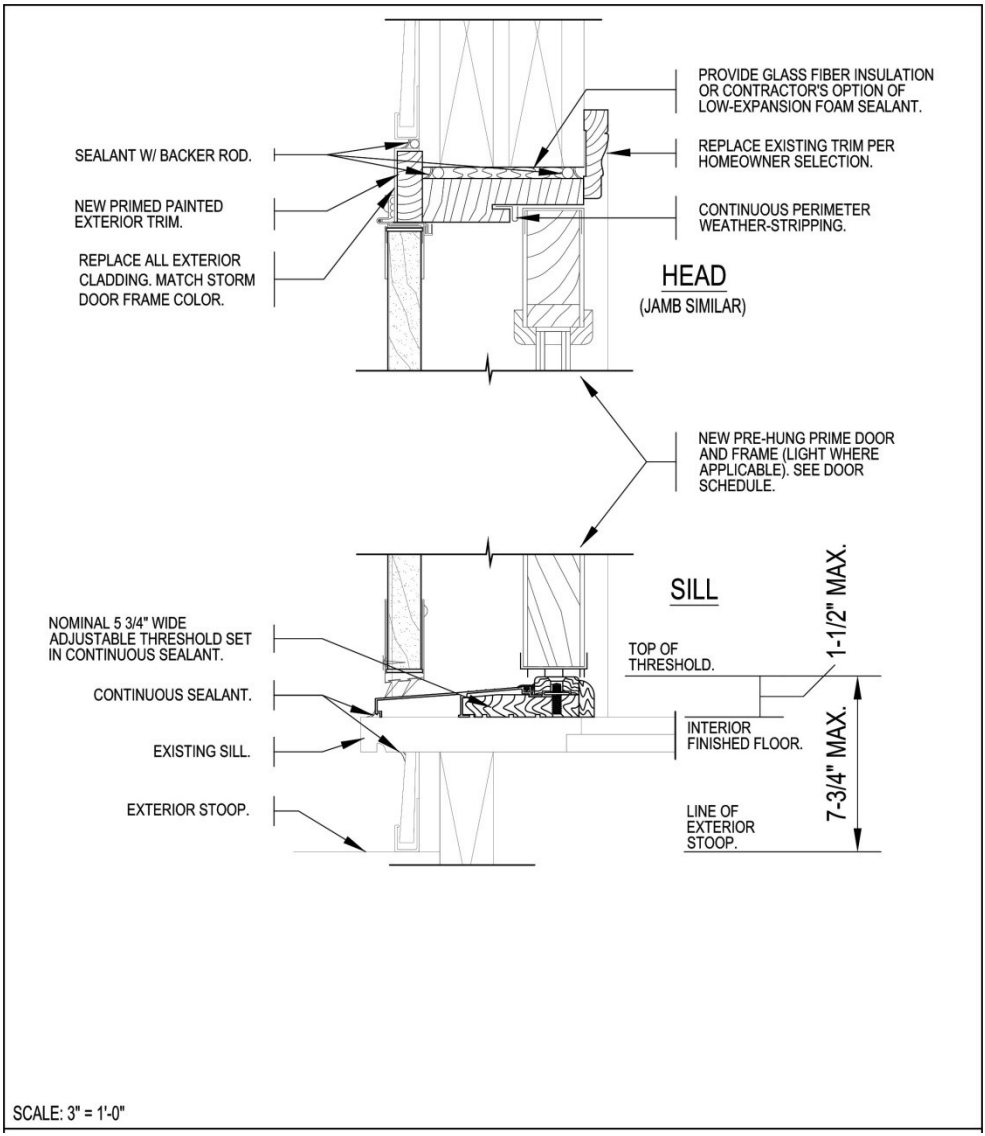
NOTES:

1. TYPICAL EXTERIOR INSTALLATION IN A NON-ACOUSTICALLY TREATED WALL.
2. REMOVE EXISTING WINDOW SASHES, WEIGHTS & ASSOC. HARDWARE (TYP).
3. REPLACE EXISTING WOOD FRAME IF ROTTEN OR DAMAGED. INSTALL WOOD HEAD AND JAMB EXTENSIONS WHERE REQUIRED.
4. FILL VOIDS OF 1/2" OR GREATER WITH SOLID WOOD BLOCKING. FOR VOIDS LESS THAN 1/2" PROVIDE GLASS FIBER INSULATION OR CONTRACTOR'S OPTION OF LOW-EXPANSION FOAM SEALANT.
5. FILL ALL WEIGHT POCKETS UP TO SIX INCHES ON EITHER SIDE OF JAMB WITH SOLID WOOD BLOCKING.
6. REPLACE ALL EXTERIOR CLADDING. MATCH WINDOW FRAME COLOR.

SCALE: 3" = 1'-0"

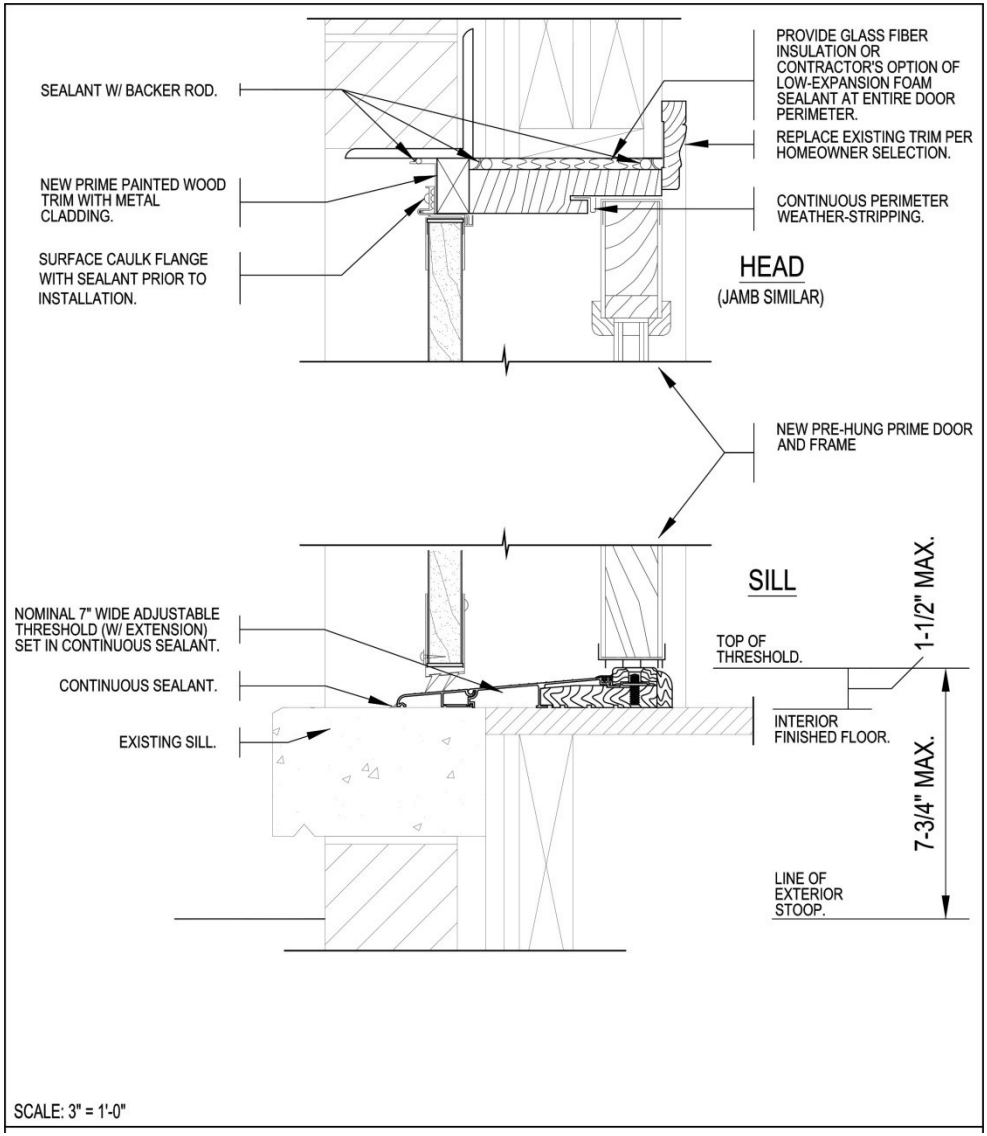
W2 – New Window in Brick Home

This detail is provided for reference only and may be shared with a professional contractor for guidance.



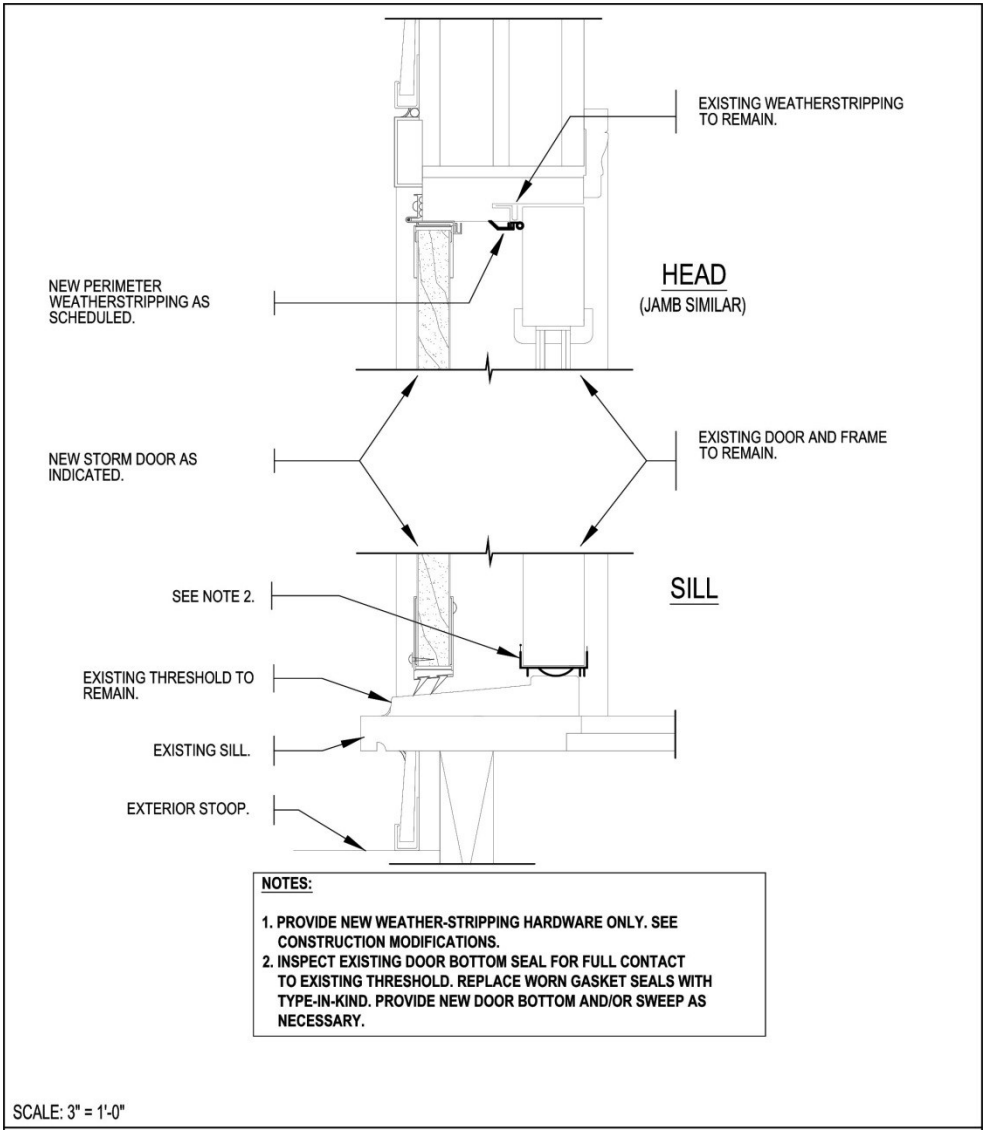
D1 – New Prime Door in Frame Home

This detail is provided for reference only and may be shared with a professional contractor for guidance.



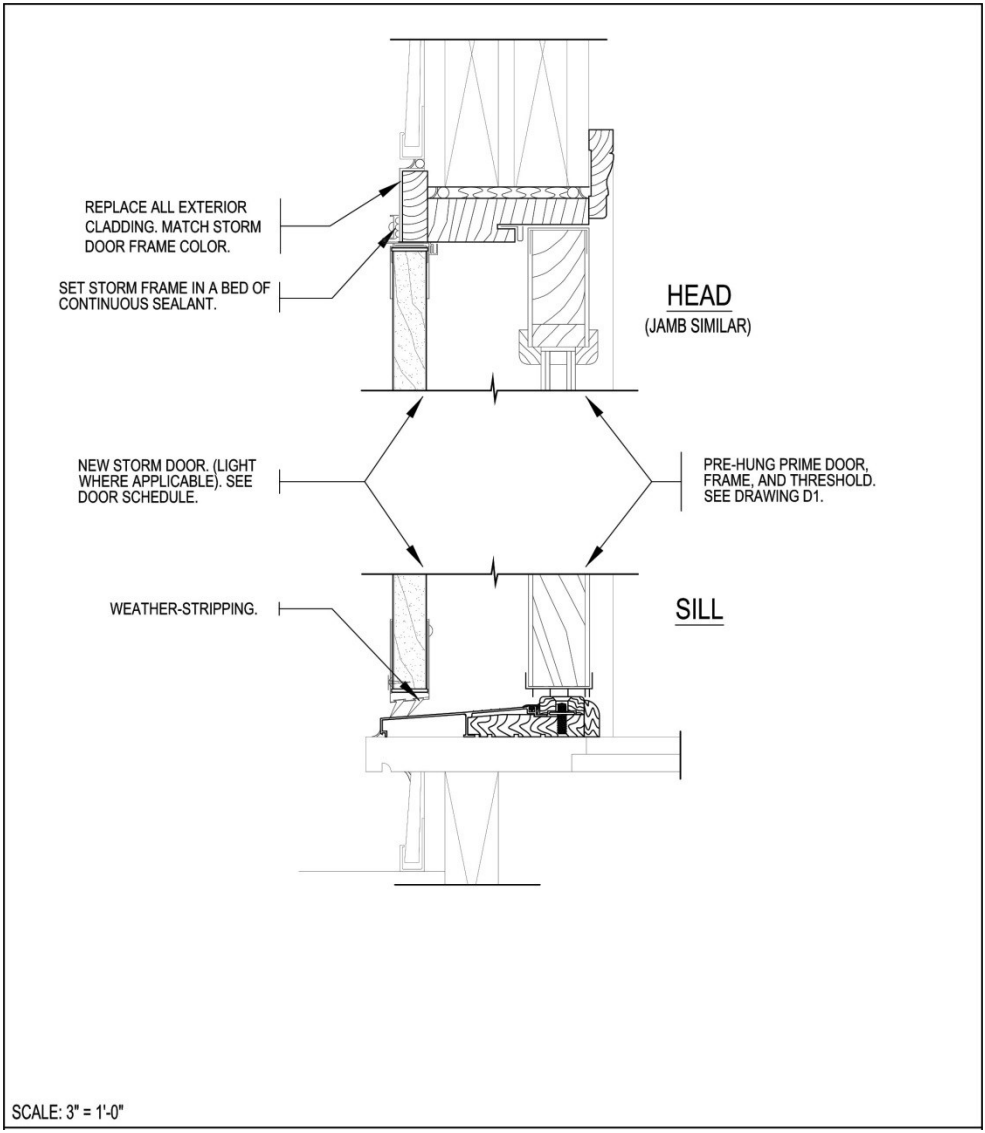
D2 – New Prime Door in Brick Home

This detail is provided for reference only and may be shared with a professional contractor for guidance.



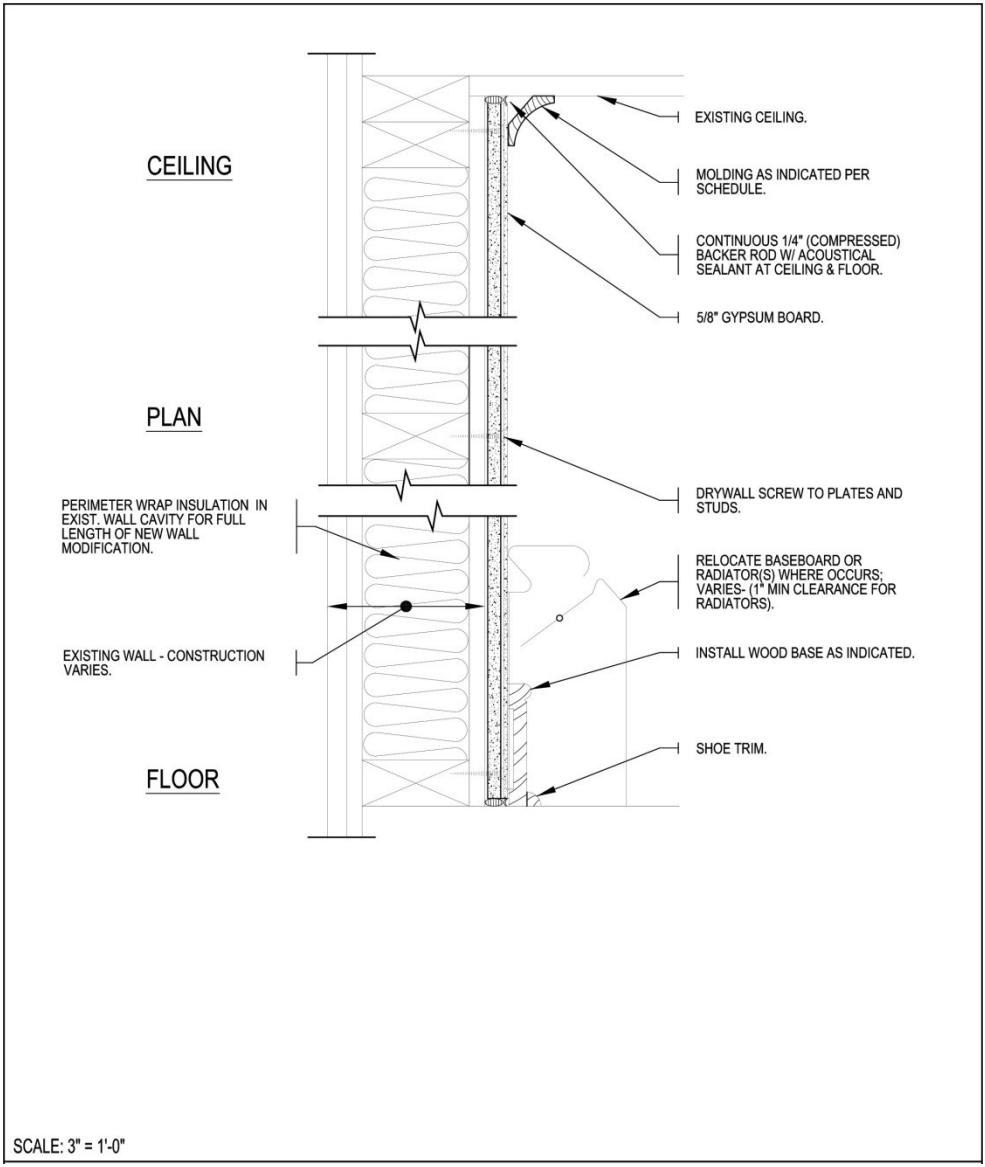
D3 – Existing Prime Door New Weatherstripping

This detail is provided for reference only and may be shared with a professional contractor for guidance.



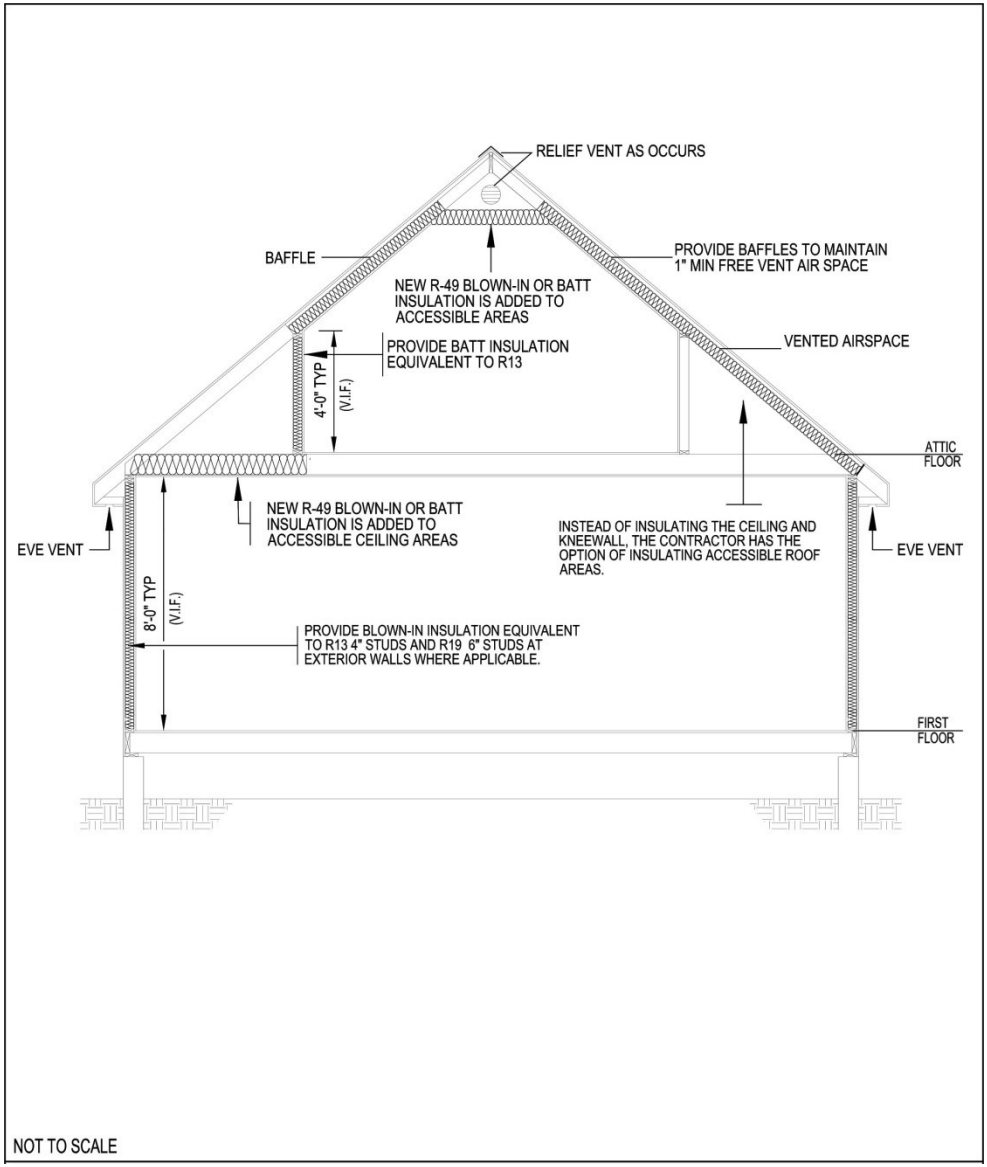
D4 – New Storm Door

This detail is provided for reference only and may be shared with a professional contractor for guidance.



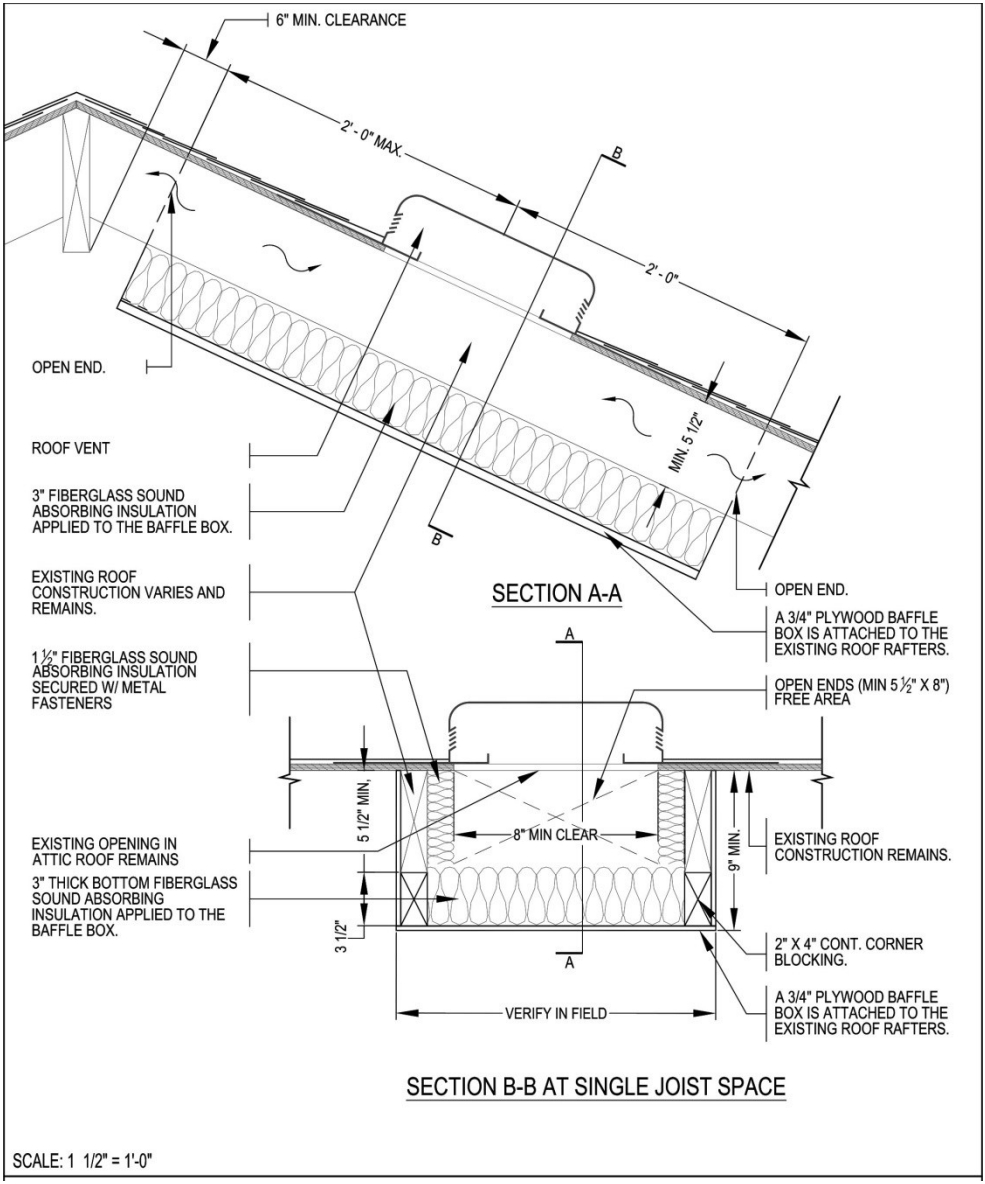
G1 – New Gypsum Board over Existing Wall

This detail is provided for reference only and may be shared with a professional contractor for guidance.



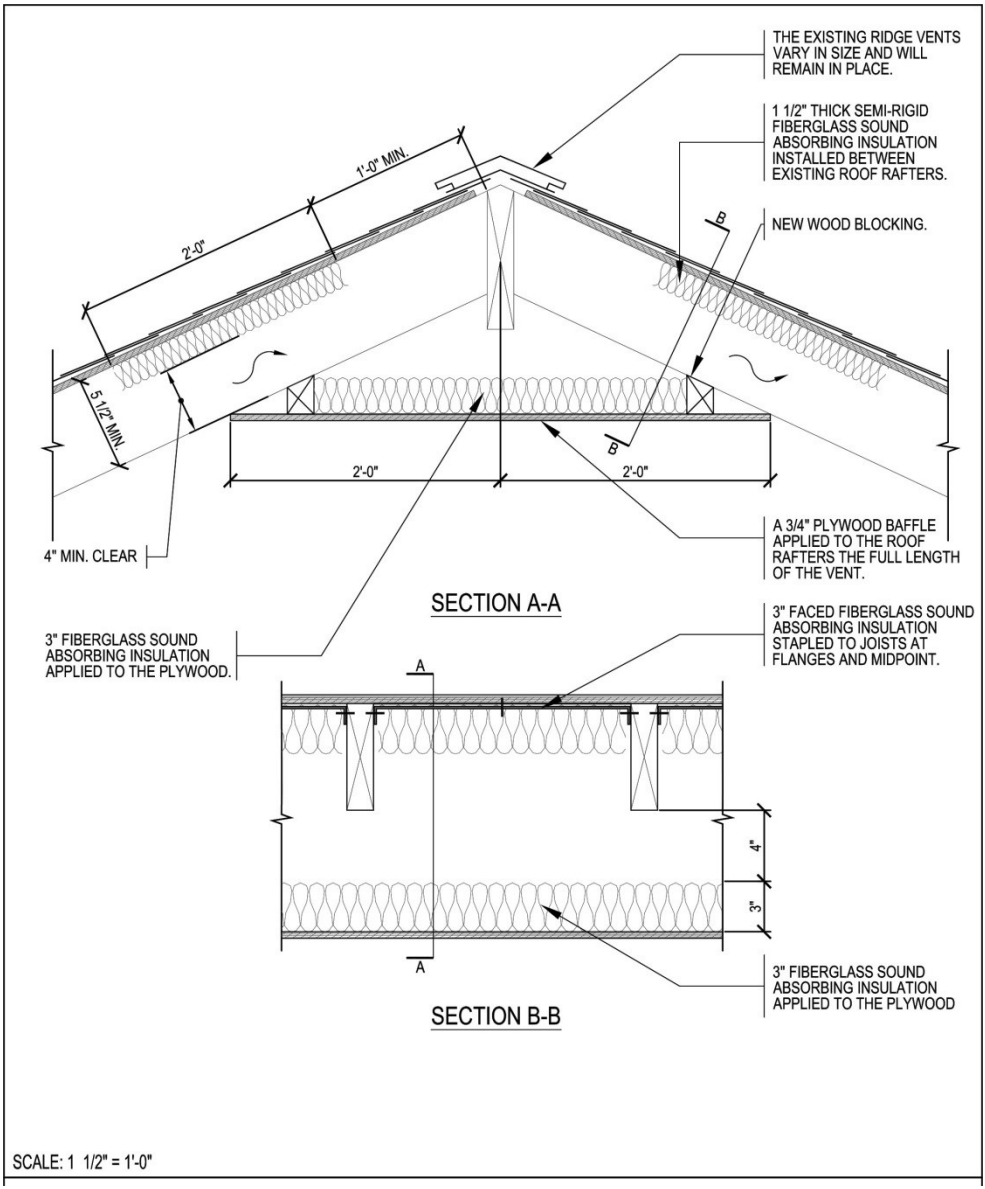
I1 – Insulation for Typical Home

This detail is provided for reference only and may be shared with a professional contractor for guidance.



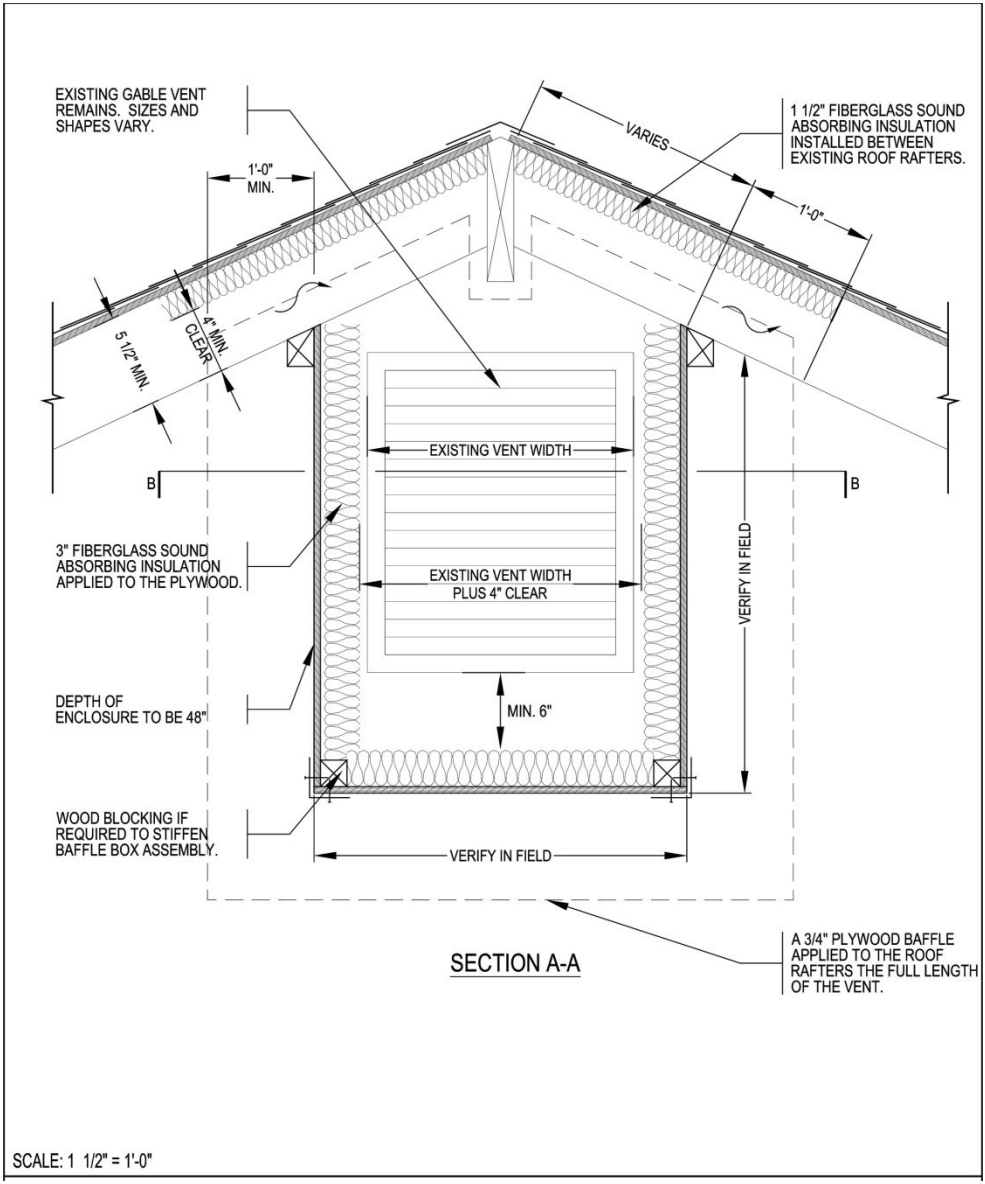
V1 – New Roof Vent Baffle

This detail is provided for reference only and may be shared with a professional contractor for guidance.



V2 – New Ridge Vent Baffle

This detail is provided for reference only and may be shared with a professional contractor for guidance.



V3 – New Gable Vent Baffle

This detail is provided for reference only and may be shared with a professional contractor for guidance.

Suppliers for Residential Sound Insulating Products

Vinyl Windows

Sound Control Systems
A Division of Larson
Manufacturing Company
2333 Eastbrook Drive
Brookings, SD 57006
800-334-1328
www.larsondoors.com

Aluminum Windows

Peerless Products, Inc.
2403 S. Main Street
Fort Scott, KS 66701
620-223-4610
www.peerlessproducts.com

St. Cloud Window, Inc.
390 Industrial Blvd.
Sauk Rapids, MN 56379
800-383-9311
www.stcloudwindow.com

Traco, a division of Kawneer
555 Guthridge Ct.
Technology Park/Atlanta
Norcross, GA 30092
770-449-5555
www.kawneer.com

Storm Windows

Allied Window, Inc.
11111 Canal Road
Cincinnati, OH 45241
800-445-5411
www.alliedwindow.com

Sound Control Systems
A Division of Larson
Manufacturing Company
2333 Eastbrook Drive
Brookings, SD 57006
800-334-1328
www.larsondoors.com

Soundproof Windows, Inc.
4673 Aircenter Circle
Reno, NV 89502
877-438-7843
www.soundproofwindows.com

Mon-Ray, Inc.
8224 Olson Memorial
Highway
Minneapolis, MN 55427
800-544-3646
www.monray.com

Prime Doors

Pella Corporation
102 Main Street
Pella, IA 50219
877-473-5527
www.pella.com

Storm Doors

Mon-Ray, Inc.
8224 Olson Memorial Highway
Minneapolis, MN 55427
800-544-3646
www.monray.com

Sound Control Systems
A Division of Larson Manufacturing Company
2333 Eastbrook Drive
Brookings, SD 57006
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Sliding Glass Prime Doors

Sound Control Systems
A Division of Larson Manufacturing Company
2333 Eastbrook Drive
Brookings, SD 57006
800-334-1328
www.larsondoors.com

Torrance Aluminum
430 Nevada Street
Redlands, CA 92373
844-312-7456
www.torrancealuminum.com

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555 Guthridge Ct.
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Norcross, GA 30092
770-449-5555
www.kawneer.com

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The above manufacturers are currently listed in the City of Chicago's Residential Sound Insulation Program specifications and can put you in contact with local distributors for acoustical products. You may also be able to find acoustical products that are capable of meeting the needs of your project by reviewing the web pages of building material manufacturers associations such as the Window & Door Manufacturers Association (www.openuptoperformance.com) or the American Architectural Manufacturers Association (www.aamanet.org). Further resources may also be available by contacting your local building products supplier and/or general contractors in your area.

Additional copies of this booklet can be obtained at the following websites:

www.oharenoise.org
www.flychicago.com/oharenoise

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