

NOBLIN & ASSOCIATES, L. C.

Consulting Engineers

WINDOW AND DOOR REPLACEMENT

**DEERFIELD FOREST CONDOMINIUM
NATICK, MASSACHUSETTS**

OWNER:

OWNER'S REPRESENTATIVE:

DATE:

INVITATION TO BID

**WINDOW AND DOOR REPLACEMENT
DEERFIELD FOREST CONDOMINIUM
NATICK, MASSACHUSETTS**

_____ (Henceforth "Owner") invites sealed proposals for "Window and Door Replacement" at Unit _____ of the Deerfield Forest Condominium in Natick, Massachusetts. The property is located on Walden Drive, off of Newfield Drive in Natick, MA.

The Contractor shall be required to furnish certificates of Commercial General Liability Insurance in the following minimum amount:

\$1,000,000.00 per occurrence
\$2,000,000.00 general aggregate

including Product/Completed Operations and Premises/Operations.

The Contractor shall also be required to furnish certificates of Automobile Insurance in the following minimum amounts:

\$1,000,000.00 per person bodily injury
\$1,000,000.00 per accident bodily injury
\$1,000,000.00 property damage

The Contractor shall also be required to furnish certificates of Workman's Compensation Insurance, to cover Statutory Requirements, and Employer's Liability for 100/500/100.

Release of Liens forms shall be required from all suppliers and subcontractors prior to final payment to the Contractor.

Work may be performed between the hours of 8:00 AM and 5:00 PM, Monday through Friday. No Saturday, Sunday or holiday work (including religious holidays) shall be permitted, unless pre-approved by the Owner. Water and electricity shall be provided by the Owner at no cost, provided that these are not used wastefully by the Contractor.

Questions of a technical nature shall be directed to _____ (Owner's Representative) at (____) _____.

BID FORM

Contractor: _____

Address: _____

1. Lump Sum Costs

A. Base Bid

The Contractor agrees to remove the original double hung windows, and install new construction, solid vinyl double hung windows, as described in the Specifications and shown on the Plans and Detail Drawings, for the per window cost of:

_____ (\$ _____ /window)

B. Alternate #1

The Contractor agrees to remove the original pre-hung entry door, and install a new, embossed-fiberglass, pre-hung entry door, as described in the Specifications and shown on the Plans and Detail Drawings, for the per door cost of:

_____ (\$ _____ /door)

C. Alternate #2

The Contractor agrees to remove the original sliding glass panel door, and install a new, solid vinyl sliding glass patio door, as described in the Specifications and shown on the Plans and Detail Drawings, for the per door cost of:

_____ (\$ _____ /door)

(Amounts shall be given in both words and figures. In case of discrepancy, the amount shown in words shall govern).

2. Unit Prices

	Description	Unit Price
1.	Wood Framing Replacement	\$ _____ /bd. ft.
2.	R-13 Insulation Replacement	\$ _____ /sq. ft.
3.	Wall Sheathing Replacement	\$ _____ /sq. ft.
4.	Material Mark-up	_____ %
5.	Miscellaneous Repairs	\$ _____ /man hour

The Unit Prices shall be used in the even that unexpected (latent) conditions dictate additional work beyond the scope of the Lump Sum Costs. Any additional work shall be approved by the Owner's Representative, prior to commencing such work.

The undersigned hereby certifies under penalties of perjury, that this Bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this context, the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity.

SUBMITTED ON: _____

By:

Name of Corporation (Type of Print)

Name of Authorized Official of Corporation (Type of Print)

Signature

State of Incorporation

(Corporate Seal)

CONTRACT

This agreement is made as of the _____ day of _____ in the year of _____

Between the Owner:

and the Contractor:

The Project is:

Window and Door Replacement
Deerfield Forest Condominium
Natick, Massachusetts

The Owner's Representative is:

The Owner and Contractor agree as set forth below:

ARTICLE 1

THE CONTRACT DOCUMENTS

The Contract Documents consist of this agreement, Drawings, Specifications, Addenda issued prior to the execution of this Contract, and Bid Documents, and are as fully a part of this Contract as if attached to this Agreement or repeated herein.

ARTICLE 2

THE WORK

- 2.1 The Work shall include the window/door replacement and related work as described in the Specification and shown on the Detail Drawings bearing the title "Window and Door Replacement", at the Deerfield Forest Condominium in Natick, Massachusetts.
- 2.2 The Contractor agrees to perform the Work, as described in the Specification and shown on the Plans and Detail Drawings.

ARTICLE 3

DATE OF COMMENCEMENT AND FINAL COMPLETION

- 3.1 The date of commencement shall be the date of this Agreement, as first written above, unless a different date is stated below or provision is made for the date to be fixed in a notice to proceed issued by the Owner
- 3.2 The Contractor shall achieve Final Completion of the entire Work with _____ working days from the date of commencement.

ARTICLE 4
CONTRACT SUM

4.1 The Owner shall pay the Contractor in current funds for the Contractor's performance of the Contract the Contract Sum of \$_____, subject to additions and deductions as provided in the Contract Documents.

4.2 Unit Prices are as follows:

	Description	Unit Price
1.	Wood Framing Replacement	\$_____/bd. ft.
2.	R-13 Insulation Replacement	\$_____/sq. ft.
3.	Wall Sheathing Replacement	\$_____/sq. ft.
4.	Material Mark-up	_____%
5.	Miscellaneous Repairs	\$_____/man hour

The Unit Prices shall be used in the even that unexpected (latent) conditions dictate additional work beyond the scope of the Lump Sum Costs. Any additional work shall be approved by the Owner's Representative, prior to commencing such work.

ARTICLE 5
PROGRESS PAYMENTS

5.1 Based upon Applications for Payment submitted to the Owner's Representative (for review and approval) and forwarded to the Owner, the Owner shall make progress payments on the account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

ARTICLE 6
FINAL PAYMENT

Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when (1) the Contract has been fully performed by the Contractor including the submission of all warranty related paperwork, (2) a final Application for Payment has been submitted and approved and (3) Release of Liens forms from all suppliers and all subcontractors have been submitted.

ARTICLE 7
TERMINATION OR SUSPENSION

The Contract may be terminated or suspended by the Owner or Contractor as provided for in the General Conditions.

This agreement is entered into as of the day and year first written above and is executed in at least three original copies of which one is to be delivered to the Contractor, one to the Owner's Representative for use in administration of the Contract and the remainder to the Owner.

OWNER

CONTRACTOR

(Signature)

(Signature)

(Printed Name and Title)

(Printed Name and Title)

CONTRACTOR'S GUARANTEE

Whereas _____ (name) of _____ (address)
herein called "Contractor" has completed construction of the following project:

Owner: _____

Address of Owner: _____

Title of Project: Window and Door Replacement
 Deerfield Forest Condominium
 Natick, MA

The Contractor hereby warrants, subject to the conditions herein set forth, that during a period of (2) years from the Date of Commencement of this Guarantee, the Contractor shall, at its own cost and expense, following receipt of written notice, make or cause to be made such repairs to defects resulting from faulty workmanship and/or materials applied by or through the Contractor as may be necessary to maintain the construction in defect-free condition.

The Date of Commencement of this Guarantee shall be the date of Final Payment from the Owner to The Contractor.

This Guarantee is made subject to the following conditions:

- 1) Specifically excluded from the Guarantee is any and all damage caused by foundation settlement of the existing building, defects or failure of materials not installed by the Contractor, faulty construction materials not installed by the Contractor, fire, or acts of God. If the construction is damaged by reason of any of the foregoing, this Guarantee shall become null and void for the balance of the Guarantee until such damage is repaired.
- 2) No work shall be done on the construction unless the Contractor shall be first notified and shall be given the opportunity to make, at the expense of the Contractor, the necessary related construction thereto. Failure to observe this condition shall render this Guarantee null and void.
- 3) This Guarantee shall not become effective unless and until the Contractor has been paid in full for the work.

In Witness Whereof, this instrument has been duly executed this _____ day of _____, 200

(Contractor)

By: _____
(Authorized Name and Title)

(Signature)

(Date)

(Seal)

SUBCONTRACTOR'S FINAL WAIVER AND RELEASE

The undersigned _____ (Subcontractor), hereby acknowledges that _____ (General Contractor) has paid Subcontractor in full for all invoices for labor and materials supplied for _____ at the Deerfield Forest Condominium in Natick, Massachusetts. The Subcontractor does hereby waive, release and relinquish all claims against Owner and General Contractor and their surety, all claims and rights of lien, and all claims upon the General Contractor's bonds for work performed and materials supplied up to and including the date of _____. The Subcontractor certifies that payment has been received from the General Contractor through the aforementioned date in connection with the performance of this contract for all labor and materials supplied.

Dated this _____

(Subcontractor)

By _____

Subscribed and sworn to and before me this _____

Notary Public _____

My Commission Expires: _____

SUPPLIER'S FINAL WAIVER AND RELEASE

The undersigned, _____ (Supplier), hereby acknowledges that _____ (Purchaser and General Contractor) has paid Supplier in full for all invoices for materials supplied for _____ at the Deerfield Forest Condominium in Natick, Massachusetts. The Supplier does hereby waive, release and relinquish all claims against Purchaser, Owner and General Contractor and their surety, all claims and rights of lien, and all claims upon the Purchaser's and General Contractor's bonds for work performed and materials supplied up to and including the date of _____. The Supplier certifies that payment has been received from the Purchaser through the aforementioned date in connection with the performance of this contract for all materials supplied.

Dated this _____

(Supplier)

By _____

Subscribed and sworn to and before me this _____

Notary Public _____

My Commission Expires: _____

SECTION 08110

EMBOSSSED-FIBERGLASS ENTRY DOORS

PART 1 - GENERAL

1.01 SUMMARY

The Contractor shall supply all materials, equipment and labor required for completion of the work under this section. This work includes the removal and disposal of the existing doors, and installation of new, pre-hung embossed-fiberglass entry doors and associated hardware. All new materials shall be installed in a first class, workmanlike manner. The Contractor shall schedule and coordinate the work to minimize any inconvenience to the building occupants and any disruption of the normal use of the building.

1.02 RELATED WORK

The work under this section shall be directly related to the work under the following Sections:

- None

The work shall include all materials, equipment and labor required to properly complete the work under this and related sections. Specific details and conditions not noted in the specifications and drawings shall be completed in conformance with the material manufacturer's required details and proper construction practices.

1.03 REFERENCES

The following publications and references shall be included as part of this specification to the extent referenced:

- American Iron and Steel Institute (AISI);
- American National Standards Institute (ANSI);
- American Society for Testing and Materials (ASTM);
- Architectural Access Board (AAB);
- Federal Specification (FS);
- Underwriters Laboratory (UL).

1.04 SCOPE OF WORK

- A. Remove the surrounding vinyl siding and accessories, as necessary to facilitate the work.
- B. Removal and disposal of the existing entry door and all related flashings.
- C. Installation of a new pan flashing and self-adhering jamb and head flashings into the existing rough opening, in accordance with Detail Drawing SK - 01.
- D. Installation of new pre-hung embossed-fiberglass entry doors (See SK - 08 thru SK - 12).
- E. Insulation of exposed wall cavities around new door units.
- F. Installation, inspection and adjustment of new door hardware.

- G. Re-installation of all vinyl siding and accessories removed to facilitate the work.
- H. Sealing of door perimeters.

1.05 REQUIREMENTS OF REGULATORY AGENCIES

All work shall be in strict accordance with Local, State and Federal laws, as well as the following:

- Material Manufacturer's Requirements;

1.06 SUBMITTALS

The following items must be submitted to the Owner's Representative for approval prior to the commencement of the work:

- Door Manufacturer's Standard Literature;
- Contractor's Sample Guarantee;
- Project schedule including start dates and durations of the various phases of the work.

1.07 PRODUCT DELIVERY, HANDLING AND STORAGE

- A. All materials shall be new and of the best quality. All materials shall be delivered to the site in the Manufacturer's unopened containers with Manufacturer's labels intact.
- B. Materials shall be delivered to the site in sufficient quantities to allow continuity of the work.
- C. All materials shall be handled and stored in strict accordance with the Manufacturer's requirements. All materials shall be stored in dry locations, protected from the weather and elevated off the ground.
- D. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Follow precautions outlined on containers or supplied by material Manufacturer/supplier.
- E. The Contractor shall provide all storage facilities.
- F. The location of all storage facilities and staging shall be coordinated with the Owner.

1.08 JOB CONDITIONS

- A. All new materials shall be applied only by personnel familiar with the application and handling of the specified materials and familiar with the Manufacturer's requirements.
- B. All materials shall be applied in accordance with the Manufacturer's requirements for temperature and weather conditions.
- C. All materials shall be installed over dry, sound, properly prepared surfaces.
- D. All applicable OSHA requirements for protective equipment for workers shall be strictly adhered to at all times during the work.
- E. The Contractor shall take all reasonable measures to minimize disruption of the normal use of the surrounding buildings and inconvenience to the surrounding buildings' occupants.

PART 2 - MATERIALS

2.01 MATERIALS

A. Exterior Doors

1. Replacement Entry Doors shall be Therma-Tru Smooth Star, Pre-hung Embossed Fiberglass entry door units with primed wood frames and mill finish fixed composite sill, or approved equal.

2.02 RELATED MATERIALS

A. Fasteners shall be of proper length and size to provide adequate securement for their intended use. All fasteners shall be compatible with surrounding materials to prevent galvanic corrosion.

1. Fasteners used to secure doors to wood surfaces shall be heat treated self-tapping screws conforming to AISI 1022 specifications with a bright zinc clear chromate plating. Fasteners shall be of sufficient length to penetrate the substrate a minimum of 1".

B. New metal flashings shall be shop fabricated from .040" thick 3003-H 14 alloy aluminum conforming to ASTM B-209 and FS QQ-A-250/2 specifications. Finish shall match be white.

C. Insulation shall be unfaced fiberglass insulation. Insulation shall be properly sized to fill the cavities surrounding the door frames.

D. Self-adhering membrane flashing for door installation shall be a cross-laminated, high-density polyethylene sheet with a pressure-sensitive rubberized asphaltic adhesive. Membrane flashing shall be 9" Vycor Plus, as manufactured by W. R. Grace & Co. or Cambridge, MA.

E. Sealant materials shall be a low modulus, one part, moisture curing polyurethane terpolymer sealant conforming to FS TT-S-00230C, Type II, Class A and ASTM C920-79, Type S, Grade NS Class 25 specifications. Sealant shall be Dymonic as manufactured by Tremco, of Cleveland, Ohio. Color shall match the surrounding materials to the satisfaction of the Owner.

All sealant accessories including primers, solvents, cleaners, backer rod, and bond breaker tapes shall be by or approved by the sealant manufacturer.

PART 3 - EXECUTION

3.01 EXAMINATION

A. The Contractor shall field verify all dimensions and quantities.

B. The Owner reserves the right to inspect the work at all times. Failure to inspect the work by the Owner does not relieve the Contractor of his responsibility to perform the work in accordance with the specifications. Any deficiency in the work noted by the Owner will be reported to the Contractor. Corrective measures for such deficiencies shall be taken by the Contractor in a timely fashion, and before final acceptance of the work.

3.02 INSTALLATION OF NEW MATERIALS (see SK - 01 and SK - 08 thru SK - 12)

All materials shall be installed in a first class, workmanlike manner. All materials shall be installed in accordance with the Manufacturer's requirements and in accordance with final shop drawings, and as specified.

- A. Install a self-adhering membrane pan at the base of all door openings, in accordance with Detail Drawing SK - 01.
- B. Install pre-fabricated metal pan below all new doors. Construct pan flashing in accordance with Detail Drawing SK - 01.
- C. Install self-adhering waterproofing membrane at the door jambs. Jamb flashings shall extend over the jamb returns of the new pan flashing. Jamb flashing shall turn into the rough opening, and extend approximately 5" across the face of the wall sheathing.
- D. New doors shall be hung plumb and true, centered within the door opening. New doors shall be installed with proper spacing between the door and frame on all sides as recommended by the Manufacturer.
- E. All voids between the openings and new door frames shall be filled with the specified insulation materials to minimize the circulation of air around the new door units. Fiberglass insulation shall not be compressed to less than 50% of its original thickness.
- F. Install new drip cap flashing above all new door units. Top edge of the drip cap flashing shall be covered with self-adhering waterproofing membrane.
- G. Sealant materials shall be applied to door perimeters and joints in strict accordance with the sealant Manufacturer's requirements to form a watertight, airtight condition.

3.03 PROTECTION

- A. All new doors and associated materials shall be protected from damage including breakage, scratches, dents, and deformation.
- B. The Contractor shall be responsible for maintaining the watertightness of the building at all times during the work. No more materials shall be removed than can be replaced and made watertight in the same day's work. No materials shall be removed during periods of inclement or threatening weather.
- C. The Contractor shall be responsible for replacement or refurbishment of any items damaged as a result of the work. This shall include damage due to construction activities, water infiltration or other conditions related to the work. The Owner will make corrective measures, including replacement or refurbishment of damaged items, and deduct the cost from the contract price.
- D. The Contractor shall repair and/or clean all interior finishes damaged or stained as a result of the work. This shall include but not be limited to all painted, gypsum sheathing and other interior finishes.
- E. The Contractor shall have the option of, and responsibility for performing preconstruction surveys for the purpose of identifying pre-existing damage inside the building(s).

3.04 CONTRACTOR'S GUARANTEE

The Contractor shall provide the Owner a guarantee, in the specified form, guaranteeing the work to be free from material or workmanship defects.

3.05 FINAL CLEAN-UP

- A. All interior and exterior door surfaces shall be cleaned upon completion of the work to the satisfaction of the Owner. All excess glazing materials, dirt and other stains shall be properly removed.
- B. All building and surrounding areas shall be cleaned of all trash, dirt and debris associated with the work to the satisfaction of the Owner at the end of each day's work.
- C. Any items stained, discolored or otherwise damaged as a result of the work shall be cleaned, restored or replaced to the satisfaction of the Owner.
- D. All landscaped areas shall be raked clean at the end of each day's work.
- E. All paved areas shall be swept clean at the end of each day's work.
- F. Any vehicular damage to landscaped or other areas around the building shall be repaired or restored to the satisfaction of the Owner.
- G. A final inspection of the work, including final clean-up, shall be required by the Owner and Owner's Representative.

END OF SECTION

SECTION 08530

VINYL WINDOWS

PART 1 - GENERAL

1.01 SUMMARY

The Contractor shall supply all materials, equipment and labor required for completion of the work under this section. This work includes the removal and disposal of the existing windows, and installation of new vinyl windows and associated materials. All new materials shall be installed in a first class, workmanlike manner. The Contractor shall schedule and coordinate the work to minimize any inconvenience to the building occupants and any disruption of the normal use of the building.

1.02 RELATED WORK

The work under this section shall be directly related to the work under the following Sections:

- None

The work shall include all materials, equipment and labor required to properly complete the work under this and related sections. Specific details and conditions not noted in the specifications and drawings shall be completed in conformance with the material manufacturer's required details and proper construction practices.

1.03 REFERENCES

The following publications and references shall be included as part of this specification to the extent referenced:

- American Architectural Manufacturer's Association (AAMA);
- American National Standards Institute (ANSI);
- American Society for Testing and Materials (ASTM);
- Federal Specification (FS);
- National Fenestration Rating Council (NFRC);

1.04 SCOPE OF WORK

- A. Remove the surrounding vinyl siding and accessories, as necessary to facilitate the work.
- B. Removal and disposal of the existing window(s) and all related flashings.
- C. Installation of new metal sill flashings in window openings.
- D. Installation of waterproofing membrane flashings below new window units.
- E. Installation of new window units and associated hardware.
- F. Insulation of exposed wall cavities around new window units.
- G. Installation of self-adhering flashing strips over the nailing flanges.
- H. Re-installation of all vinyl siding and accessories removed to facilitate the work.

- I. Inspection and adjustment of new operable window components.
- J. Cleaning of window surfaces.
- K. Provide final clean-up.

1.05 REQUIREMENTS OF REGULATORY AGENCIES

All work shall be in strict accordance with Local, State and Federal laws, as well as the following:

- AAMA/NWWDA 101/I.S.2-97, "Voluntary Specification for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors";
- Material Manufacturer's Requirements;
- SMACNA Specification for Thermal and Moisture Protection.

1.06 SUBMITTALS

The following items must be submitted to the Owner's Representative for approval prior to the commencement of the work:

- Window Manufacturer's Standard Literature;
- Window Test Results from an AAMA Accredited Testing Laboratory;
- Shop Drawings showing installation details including size and spacing of fasteners, spacing from each end, minimum penetration of fasteners into structural material and flashing and sealant details;
- Staging and scaffolding programs including current certificates of inspection for all applicable equipment;
- Contractor's Sample Guarantee;
- Project schedule including start dates and durations of the various phases of the work.

1.07 PRODUCT DELIVERY, HANDLING AND STORAGE

- A. All materials shall be new and of the best quality. All materials shall be delivered to the site in the Manufacturer's unopened containers with Manufacturer's labels intact.
- B. Materials shall be delivered to the site in sufficient quantities to allow continuity of the work.
- C. All materials shall be handled and stored in strict accordance with the Manufacturer's requirements. All materials shall be stored in dry locations, protected from the weather and elevated off the ground.
- D. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Follow precautions outlined on containers or supplied by material Manufacturer/supplier.
- E. The Contractor shall provide all storage facilities. The buildings shall not be used as storage areas.
- F. The location of all storage facilities and staging shall be coordinated with the Owner.

1.08 JOB CONDITIONS

- A. The Contractor shall coordinate access to the work areas with the Owner.
- B. All new materials shall be applied only by personnel familiar with the application and handling of the specified materials and familiar with the Manufacturer's requirements.
- C. All materials shall be applied in accordance with the Manufacturer's requirements for temperature and weather conditions.
- D. All materials shall be installed over dry, sound, properly prepared surfaces.
- E. All applicable OSHA requirements for protective equipment for workers shall be strictly adhered to at all times during the work.
- F. All work, including materials, equipment and staging shall be secured from wind blow-off at all times.
- G. All applicable OSHA requirements for protective equipment for workers shall be strictly adhered to at all times during the work. Specific attention is made to the requirements for safety harnesses, safety lines, and hardhats.
- H. All applicable OSHA requirements for staging and scaffolding shall be strictly adhered to at all times during the work. Specific attention is made to the requirements for design and certification staging, cables, tie-offs and other load bearing components for all required design loads.
- I. All applicable OSHA requirements for material handling equipment shall be strictly adhered to at all times during the work.
- J. The Contractor shall coordinate all construction related activities with the Owner. The Contractor shall give the Owner and Owner's Representative a minimum 48 hours notice prior to the commencement of any demolition or construction activities.
- K. The Contractor is cautioned that the building will be occupied during construction. The Contractor shall take all reasonable measures to minimize disruption of the normal use of the building and inconvenience to the building occupants.

PART 2 - MATERIALS

2.01 MATERIALS

New windows shall be extruded vinyl framed replacement windows conforming to AAMA/NWWDA 101/I.S.2-97, "Voluntary Specification for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors".

New Double Hung windows shall have a minimum structural rating of H-R35.

New double hung windows shall be Vicon Classic Welded Sash Windows, as manufactured by Harvey Industries of Manchester, NH.

Window Materials and Components shall conform to the following:

- 1. Vinyl Extrusions - Vinyl extrusions shall be 100% virgin PVC. All frame members shall be designed with adequate sectional properties to provide sufficient structural capacity to resist the required wind and structural loads

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for the primary window rating.

Double hung window frame members shall have a minimum wall thickness of .070”.

2. Frames - Frame joints shall have a minimum width of 3 1/4”. Frames shall be fully welded, and be provided with integral 3/4” J-channel.
3. Sashes - Sash joints shall be fully welded. Each welded sash top rail shall have a routed in, spring loaded sash release latch. Sash lifts shall be integral to the sash extrusion. Sash meeting rails shall include an integral leg, which shall provide a positive meeting rail interlock in the assembled unit..

Double hung windows shall be provided with tilt-in sashes. Double hung window sashes shall be provided with in-glass grids.

4. Insulated Glass - Insulated glass shall be factory glazed with two pieces of 1/8” glass with a minimum overall 7/8” thickness. Insulated glass shall be Low-E glass. A butyl sealant shall be extruded around the entire perimeter of the spacer to achieve a seal.

Provide safety glazing materials or tempered glass in areas as required by all applicable State and Local building codes. Safety glazing materials shall conform to ANSI Z97.1 - 1975 or CPSC - 16 CFR 1201. Tempered glass shall meet FS DD-G-1403B.

5. Hardware - Sash balances shall be factory calibrated block and tackle. Balance chords shall be anchored to glass filled nylon terminal housings that lock in place once the sash is tilted in. The locking terminal and pivot bar shall be designed to positively interlock, to provide accurate alignment of the sash and frame during installation and operation.

Double hung window sashes shall be provided with cam type locks. Double locks shall be provided on opening widths of 30 1/4” or greater.

6. Insect Screens - Full insect screens shall be provided over all operable sashes. Insect screens shall be extruded aluminum alloy tension springs on one side. Screens shall have sufficient rigidity and be cross braced as required to lie flat against the window and prevent excessive bow in frame members or sag in screening. Insect screening shall be of 18 x 16 mesh charcoal finished aluminum.

7. Weatherstripping

Double hung window weatherstripping on head and jambs shall be two courses of solid fin weatherstripping. Weatherstripping on sills shall be one course of solid fin weatherstripping on the back leg of the frame, and one course of bulb type weatherstripping on the bottom sash rail.

8. Finish - Finish shall be the Manufacturer’s standard white.

2.02 RELATED MATERIALS

- A. Fasteners shall be of proper length and size to provide adequate securement for their intended use. All fasteners shall be compatible with surrounding materials to prevent galvanic corrosion.

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1. Fasteners used to secure new windows to wood surfaces shall be heat treated self-tapping screws conforming to AISI 1022 specifications with a bright zinc clear chromate plating. Fasteners shall be of sufficient length to penetrate the substrate a minimum of 1".
- B. New metal flashings shall be shop fabricated from .040" thick 3003-H 14 alloy aluminum conforming to ASTM B-209 and FS QQ-A-250/2 specifications. Finish shall match the new sliding glass door finish.
- C. Insulation shall be unfaced fiberglass insulation. Insulation shall be properly sized to fill the cavities surrounding the door frames.
- D. Self-adhering membrane flashing for door installation shall be a cross-laminated, high-density polyethylene sheet with a pressure-sensitive rubberized asphaltic adhesive. Membrane flashing shall be 9" Vycor Plus, as manufactured by W. R. Grace & Co. or Cambridge, MA.
- E. Sealant materials shall be a low modulus, one part, moisture curing polyurethane terpolymer sealant conforming to FS TT-S-00230C, Type II, Class A and ASTM C920-79, Type S, Grade NS Class 25 specifications. Sealant shall be Dymonic as manufactured by Tremco, of Cleveland, Ohio. Color shall match the surrounding materials to the satisfaction of the Owner.

All sealant accessories including primers, solvents, cleaners, backer rod, and bond breaker tapes shall be by or approved by the sealant Manufacturer.

2.03 PERFORMANCE REQUIREMENTS

The Contractor shall provide the Owner with Test Results from an accredited testing laboratory for all window types demonstrating the windows meet the following criteria:

- A. Double Hung Windows
 1. Uniform Load Structural Test - The window shall be subjected to a uniform load of 52.5 psf for a test period of 10 seconds in accordance with ASTM E330 without damage or distortion as defined in AAMA/NWWDA 101/I.S.2-97.
 2. "U" Value Test - The window shall be have a maximum thermal transmittance (U) of .38 when tested under a 15 mph perpendicular wind in accordance with AAMA 1503.1.
 4. Air Infiltration Test - The window shall be subjected to an air infiltration test in accordance with ASTM E283. Air infiltration shall not exceed .09 cfm per foot of sash crack at a test pressure of 1.57 psf.
 5. Water Resistance Test - The window shall be subjected to a water infiltration test in accordance with ASTM E331. There shall be no leakage as defined in the test method at a test pressure of 5.25 psf.

2.04 MANUFACTURER'S WARRANTY

- A. The Contractor shall provide the Owner with Manufacturer's Warranties for the following items:

1. Extruded vinyl members, screening and mechanical parts shall be warranted against manufacturing and/or workmanship defects for as long as the original Owner of the building resides in the building.
2. Insulated glass shall be warranted against visual obstruction due to moisture infiltration for a period of Ten (10) years.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. The Contractor shall field verify all dimensions and quantities. Notify the Owner's Representative of any discrepancies between the plans and actual conditions.
- B. The Contractor is cautioned that the Plans and Specifications have been prepared from a variety of sources. The existing conditions may vary from those shown on the drawings. The Contractor shall field verify all existing conditions. Notify the Owner's Representative of any discrepancies between the plans and actual conditions.
- C. The Owner reserves the right to inspect the work at all times. Failure to inspect the work by the Owner does not relieve the Contractor of his responsibility to perform the work in accordance with the specifications. Any deficiency in the work noted by the Owner will be reported to the Contractor. Corrective measures for such deficiencies shall be taken by the Contractor in a timely fashion, and before final acceptance of the work.

3.02 INSTALLATION OF NEW MATERIALS (See SK - 02 - SK - 07)

All materials shall be installed in a first class, workmanlike manner. All materials shall be installed in accordance with the Manufacturer's requirements.

- A. Remove and dispose of existing window(s) and all related flashings.
- B. Remove and store all vinyl siding and accessories, as necessary to facilitate the work.
- C. New metal sill flashings shall be installed in all openings and provided with a continuous pitch of 1/8" in 12".
- D. New membrane waterproofing flashings shall be installed over the new metal sill flashings below new window units. Provide a minimum 1" back dam and 1" end dams at jambs. Install self-adhering jamb flashings, extending into the rough opening, and out onto the wall sheathing. Membrane flashings, including backs, sides and corners, shall be made watertight to prevent water infiltration into the building interior or wall cavity.

Do not install head flashing at this time.

- E. Apply a continuous bead of sealant onto the self-adhering jamb flashings, and onto the wall sheathing at the head. Caulking bead shall be located so that the nailing fin is sealed to the exterior wall before fastening. Do not caulk the sill.
- F. New windows shall be installed level, plumb and square in properly prepared openings. Tolerances for plumbness and levelness shall be 1/8" in 8'. Window heads and sills shall be aligned parallel and square with jambs.

- G. New windows shall be installed without springing, forcing or distorting. Fasteners and accessories shall be installed at the specified rates to provide continuous support for the new units at sills, jambs and heads.
- H. Apply an additional installation of the noted self-adhering membrane over the jamb and head nailing fins. Apply an additional 9" strip of membrane over the jamb nailing fin first, then apply the membrane flashing over the nailing fin on the head in shingle fashion.
- I. All voids between the openings and new window frames shall be filled with the specified insulation materials to minimize the circulation of air around the new window units. Fiberglass insulation shall not be compressed to less than 50% of its original thickness.
- J. Interior and exterior trim shall be installed as required to cover all building lines and joints to provide a clean, finished appearance for the new window units.
- K. The Contractor shall inspect and adjust all new operable window components as required to provide proper weathertight closure of sashes, proper seal of weatherstripping and smooth operation. All operable components on the new window units shall be lubricated as recommended by the Manufacturer.
- L. The Contractor shall re-install all vinyl siding and accessories that were removed to facilitate the work.

3.03 PROTECTION

- A. All new windows and associated materials shall be protected from damage including breakage, scratches, dents, and deformation.
- B. The Contractor shall be responsible for maintaining the watertightness of the building at all times during the work. No more materials shall be removed than can be replaced and made watertight in the same day's work. No materials shall be removed during periods of inclement or threatening weather.
- C. The Contractor shall be responsible for replacement or refurbishment of any items damaged as a result of the work. This shall include damage due to construction activities, water infiltration or other conditions related to the work. The Owner will make corrective measures, including replacement or refurbishment of damaged items, and deduct the cost from the contract price.
- D. The Contractor shall repair and/or clean all interior finishes damaged or stained as a result of the work. This shall include but not be limited to all painted, gypsum sheathing and other interior finishes.
- E. The Contractor shall take care during staging and other operations that overloading of the structure does not occur.
- F. The Contractor shall provide barriers or other protective measures to segregate the work from surrounding areas.
- G. The Contractor shall take all reasonable measures to prevent blockage or disruption of exits from the building or other traffic areas adjacent to the work. Where work must be performed above or around exits or other traffic areas, the Contractor shall provide protective enclosures or barriers to prevent injury to passers-by. Specific attention is made to emergency exits.

- H. The Contractor shall have the option of, and responsibility for performing preconstruction surveys for the purpose of identifying pre-existing damage inside the building(s).

3.04 CONTRACTOR'S GUARANTEE

The Contractor shall provide the Owner a guarantee, in the specified form, guaranteeing the work to be free from material or workmanship defects.

3.05 FIELD TESTING

The Owner may employ an independent testing agency to provide field tests for air and water infiltration on the installed window units and flashings. Weepholes shall be left in an open position for all tests including air infiltration tests. New window assemblies shall meet the following criteria:

A. Double Hung Windows

1. Air Infiltration Test - The window shall be subjected to an air infiltration test in accordance with ASTM E783. Air infiltration shall not exceed .09 cfm per foot of sash crack at a test pressure of 1.57 psf.
2. Water Resistance Test - The window shall be subjected to a water infiltration test in accordance with ASTM E1105. There shall be no leakage as defined in the test method at a test pressure of 5.25 psf.

3.06 FINAL CLEAN-UP

- A. All interior and exterior window surfaces shall be cleaned upon completion of the work to the satisfaction of the Owner. All excess glazing materials, dirt and other stains shall be properly removed.
- B. All building and surrounding areas shall be cleaned of all trash, dirt and debris associated with the work to the satisfaction of the Owner at the end of each day's work.
- C. Any items stained, discolored or otherwise damaged as a result of the work shall be cleaned, restored or replaced to the satisfaction of the Owner.
- D. All landscaped areas shall be raked clean at the end of each day's work.
- E. All paved areas shall be swept clean at the end of each day's work.
- F. Any vehicular damage to landscaped or other areas around the building shall be repaired or restored to the satisfaction of the Owner.
- G. A final inspection of the work, including final clean-up, shall be required by the Owner and Owner's Representative.

END OF SECTION

SECTION 08530

VINYL SLIDING GLASS DOORS

PART 1 - GENERAL

1.01 SUMMARY

The Contractor shall supply all materials, equipment and labor required for completion of the work under this section. This work includes disposal of the existing sliding patio doors, and the installation of the new vinyl sliding glass doors and associated materials. All new materials shall be installed in a first class, workmanlike manner. The Contractor shall schedule and coordinate the work to minimize any inconvenience to the building occupants and any disruption of the normal use of the building.

1.02 RELATED WORK

The work under this section shall be directly related to the work under the following Sections:

- None

The work shall include all materials, equipment and labor required to properly complete the work under this and related sections. Specific details and conditions not noted in the specifications and drawings shall be completed in conformance with the material manufacturer's required details and proper construction practices.

1.03 REFERENCES

The following publications and references shall be included as part of this specification to the extent referenced:

- American Architectural Manufacturer's Association (AAMA);
- American National Standards Institute (ANSI);
- American Society for Testing and Materials (ASTM);
- American Wood Preserver's Association (AWPA);
- Federal Specification (FS);
- National Fenestration Rating Council (NFRC);
- National Wood Window & Door Association (NWWDA);
- Sheet Metal & Air Conditioning Contractors National Association (SMACNA).

1.04 SCOPE OF WORK

- A. Remove the surrounding vinyl siding and accessories, as necessary to facilitate the work.
- B. Removal and disposal of the existing patio door and all related flashings.
- C. Installation of a new pan flashing and self-adhering jamb and head flashings into the existing rough opening.
- D. Installation of new sliding glass door units and associated hardware.
- E. Insulation of exposed wall cavities around new sliding glass door units.

- F. Inspection and adjustment of new operable sliding glass door components.
- G. Cleaning of sliding glass door surfaces.
- H. Re-installation of all vinyl siding and accessories removed to facilitate the work.
- I. Provide final clean-up.

1.05 REQUIREMENTS OF REGULATORY AGENCIES

All work shall be in strict accordance with Local, State and Federal laws, as well as the following:

- AAMA/NWWDA 101/I.S.2-97, "Voluntary Specification for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors";
- Material Manufacturer's Requirements;
- SMACNA Specification for Thermal and Moisture Protection.

1.06 SUBMITTALS

The following items must be submitted to the Owner's Representative for approval prior to the commencement of the work:

- Sliding Glass Door Manufacturer's Standard Literature;
- Project schedule including start dates and durations of the various phases of the work.

1.07 PRODUCT DELIVERY, HANDLING AND STORAGE

- A. All materials shall be new and of the best quality. All materials shall be delivered to the site in the Manufacturer's unopened containers with Manufacturer's labels intact.
- B. Materials shall be delivered to the site in sufficient quantities to allow continuity of the work.
- C. All materials shall be handled and stored in strict accordance with the Manufacturer's requirements. All materials shall be stored in dry locations, protected from the weather and elevated off the ground.
- D. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Follow precautions outlined on containers or supplied by material Manufacturer/supplier.
- E. The Contractor shall provide all storage facilities. The buildings shall not be used as storage areas.
- F. The location of all storage facilities and staging shall be coordinated with the Owner.

1.08 JOB CONDITIONS

- A. The Contractor shall coordinate access to the work areas with the Owner.
- B. All new materials shall be applied only by personnel familiar with the application and handling of the specified materials and familiar with the Manufacturer's requirements.
- C. All materials shall be applied in accordance with the Manufacturer's requirements for

08530-2

temperature and weather conditions.

- D. All materials shall be installed over dry, sound, properly prepared surfaces.
- E. All applicable OSHA requirements for protective equipment for workers shall be strictly adhered to at all times during the work.
- F. All work, including materials, equipment and staging shall be secured from wind blow-off at all times.
- G. All applicable OSHA requirements for staging and material handling equipment shall be strictly adhered to at all times during the work.
- H. The Contractor shall be required to obtain all necessary permits. The cost of such permits shall be included in the bid price at no additional cost to the Owner.
- I. The Contractor shall coordinate all construction related activities with the Owner. The Contractor shall give the Owner and Owner's Representative a minimum 48 hours notice prior to the commencement of any demolition or construction activities.
- J. The Contractor is cautioned that the building will be occupied during construction. The Contractor shall take all reasonable measures to minimize disruption of the normal use of the building and inconvenience to the building occupants.

PART 2 - MATERIALS

2.01 MATERIALS

New sliding glass doors shall be Vinyl Patio Doors, as manufactured by Harvey Industries of Manchester, NH.

New sliding glass door shall conform to the following:

1. Vinyl Extrusions - Vinyl extrusions shall be 100% virgin PVC. All frame members shall be designed with adequate sectional properties to provide sufficient structural capacity to resist the required wind and structural loads for the primary door rating.

Sliding Glass Door frame members shall have a minimum wall thickness of .100". Frames shall be provided with integral ¾" J-channel.
2. Frames - Frame joints shall have a minimum width of 3 1/4". Frames shall be fully welded. Main frame corners shall be butt joined and mechanically fastened with a minimum of three stainless steel screws per corner anchored into integral extrusion screw bosses. Main frame corners shall be sealed with a closed cell foam pad.
3. Sashes - Sash joints shall be fully welded. Sashes shall be miter jointed with corners sealed with heavy duty glass filled nylon corner keys sealed with siliconized latex sealant. Sash members shall be reinforced with aluminum stiffeners to provide sufficient structural capacity to resist the required wind and structural loads for the primary door rating.
4. Insulated Glass - Insulated glass shall be factory glazed with two pieces of 1/8" glass with a minimum overall 7/8" thickness. Insulated glass shall be Low-E glass

Provide safety glazing materials or tempered glass in areas as required by all applicable State and Local building codes. Safety glazing materials shall conform to ANSI Z97.1 - 1975 or CPSC - 16 CFR 1201. Tempered glass shall meet FS DD-G-1403B.

5. Hardware - Hardware shall be of aluminum, stainless steel, or other compatible materials. All hardware shall be designed for and have adequate capacity for the size and rating of the doors.
6. Insect Screens - Insect screens shall be provided over all operable sashes. Insect screens shall be extruded aluminum alloy with mitered corners and crimped with corner gussets. Screens shall have sufficient rigidity and be cross braced as required to lie flat against the door and prevent excessive bow in frame members or sag in screening. Insect screening shall be of 18 x 16 aluminum screening with vinyl splines.
7. Weatherstripping

Sliding Glass Door weatherstripping on the main frame perimeter shall be woolpile with polypropylene fin. Weatherstripping on each sash shall be solid fin weatherstripping with positive interlock.
8. Finish - Finish shall be the Manufacturer's standard white.

2.02 RELATED MATERIALS

- A. Fasteners shall be of proper length and size to provide adequate securement for their intended use. All fasteners shall be compatible with surrounding materials to prevent galvanic corrosion.
 1. Fasteners used to secure doors to wood surfaces shall be heat treated self-tapping screws conforming to AISI 1022 specifications with a bright zinc clear chromate plating. Fasteners shall be of sufficient length to penetrate the substrate a minimum of 1".
- B. New metal flashings shall be shop fabricated from .040" thick 3003-H 14 alloy aluminum conforming to ASTM B-209 and FS QQ-A-250/2 specifications. Finish shall match the new sliding glass door finish.
- C. Insulation shall be unfaced fiberglass insulation. Insulation shall be properly sized to fill the cavities surrounding the door frames.
- D. Self-adhering membrane flashing for door installation shall be a cross-laminated, high-density polyethylene sheet with a pressure-sensitive rubberized asphaltic adhesive. Membrane flashing shall be 9" Vycor Plus, as manufactured by W. R. Grace & Co. or Cambridge, MA.
- E. Sealant materials shall be a low modulus, one part, moisture curing polyurethane terpolymer sealant conforming to FS TT-S-00230C, Type II, Class A and ASTM C920-79, Type S, Grade NS Class 25 specifications. Sealant shall be Dymonic as manufactured by Tremco, of Cleveland, Ohio. Color shall match the surrounding materials to the satisfaction of the Owner.

All sealant accessories including primers, solvents, cleaners, backer rod, and bond breaker tapes shall be by or approved by the sealant manufacturer.

2.03 PERFORMANCE REQUIREMENTS

The Contractor shall provide the Owner with Test Results from an accredited testing laboratory for all door types demonstrating the doors meet the following criteria:

A. Sliding Doors

1. Uniform Load Structural Test - The door shall be subjected to a uniform load of 45.5 psf for a test period of 10 seconds in accordance with ASTM E330 without damage or distortion as defined in AAMA/NWWDA 101/I.S.2-97.
2. Condensation Resistance Test - The door shall be have a minimum Condensation Resistance Factor of 52 when tested in accordance with AAMA 1504.
3. "U" Value Test - The door shall be have a maximum thermal transmittance (U) of .41 when tested under a 15 mph perpendicular wind in accordance with AAMA 1503.1.
4. Air Infiltration Test - The door shall be subjected to an air infiltration test in accordance with ASTM E283. Air infiltration shall not exceed .09 cfm per foot of sash crack at a test pressure of 1.57 psf.
5. Water Resistance Test - The door shall be subjected to a water infiltration test in accordance with ASTM E331. There shall be no leakage as defined in the test method at a test pressure of 4.5 psf.

2.04 MANUFACTURER'S WARRANTY

- A. The Contractor shall provide the Owner with Manufacturer's Warranties for the following items:
1. Extruded vinyl members, screening and mechanical parts shall be warranted against manufacturing and/or workmanship defects for as long as the original Owner of the building resides in the building.
 2. Insulated glass shall be warranted against visual obstruction due to moisture infiltration for a period of Ten (10) years.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. The Contractor shall field verify all dimensions and quantities. Notify the Owner's Representative of any discrepancies between the plans and actual conditions.
- B. The Contractor is cautioned that the Plans and Specifications have been prepared from a variety of sources. The existing conditions may vary from those shown on the drawings. The Contractor shall field verify all existing conditions. Notify the Owner's Representative of any discrepancies between the plans and actual conditions.
- C. The Owner reserves the right to inspect the work at all times. Failure to inspect the work by the Owner does not relieve the Contractor of his responsibility to

perform the work in accordance with the specifications. Any deficiency in the work noted by the Owner will be reported to the Contractor. Corrective measures for such deficiencies shall be taken by the Contractor in a timely fashion, and before final acceptance of the work.

3.02 INSTALLATION OF NEW MATERIALS

All materials shall be installed in a first class, workmanlike manner. All materials shall be installed in accordance with the Manufacturer's requirements.

- A. Remove and dispose of existing door and all related flashings.
- B. Remove and store all vinyl siding and accessories, as necessary to facilitate the work.
- C. New metal sill flashings shall be installed in all openings and provided with a continuous pitch of 1/8" in 12" (See SK - 01 for Pan Details).
- D. New membrane waterproofing flashings shall be installed over the new metal sill flashings below sliding glass door units. Provide a minimum 1" back dam and 1" end dams at jambs. Install self-adhering jamb flashings, extending into the rough opening, and out onto the wall sheathing. Membrane flashings, including backs, sides and corners, shall be made watertight to prevent water infiltration into the building interior or wall cavity.

Do not install head flashing at this time.

- E. Apply a continuous bead of sealant onto the self-adhering jamb flashings, and onto the wall sheathing at the head. Caulking bead shall be located so that the nailing fin is sealed to the exterior wall before fastening. Do not caulk the sill.
- F. New sliding glass door frames shall be installed level, plumb and square in properly prepared openings. Tolerances for plumbness and levelness shall be 1/8" in 8'. Sliding glass door heads and sills shall be aligned parallel and square with jambs.
- G. New sliding glass door frames shall be installed without springing, forcing or distorting. Fasteners and accessories shall be installed at the specified rates to provide continuous support for the new units at sills, jambs and heads.

Once the frame is installed in the opening, Contractor shall caulk all of the mounting holes and install the 3/8" cap plugs. Contractor shall fill the sill holes with caulking before installing the #8 x 2" screws.

- H. Apply an additional installation of the noted self-adhering membrane over the jamb and head nailing fins. Apply an additional 9" strip of membrane over the jamb nailing fin first, then apply the membrane flashing over the nailing fin on the head in shingle fashion.
- I. All voids between the openings and new sliding glass door frames shall be filled with the specified insulation materials to minimize the circulation of air around the new window units. Fiberglass insulation shall not be compressed to less than 50% of its original thickness.
- J. Interior and exterior trim shall be installed as required to cover all building lines and joints to provide a clean, finished appearance for the new door units.
- K. The Contractor shall inspect and adjust all new operable sliding glass door components as required to provide proper weathertight closure of sashes, proper seal of weatherstripping

and smooth operation. All operable components on the new sliding glass door units shall be lubricated as recommended by the Manufacturer.

- I The Contractor shall re-install all vinyl siding and accessories that were removed to facilitate the work.

3.03 PROTECTION

- A. All new sliding glass door and associated materials shall be protected from damage including breakage, scratches, dents, and deformation.
- B. The Contractor shall be responsible for maintaining the watertightness of the building at all times during the work. No more materials shall be removed than can be replaced and made watertight in the same day's work. No materials shall be removed during periods of inclement or threatening weather.
- C. The Contractor shall be responsible for replacement or refurbishment of any items damaged as a result of the work. This shall include damage due to construction activities, water infiltration or other conditions related to the work. The Owner will make corrective measures, including replacement or refurbishment of damaged items, and deduct the cost from the contract price.
- D. The Contractor shall repair and/or clean all interior finishes damaged or stained as a result of the work. This shall include but not be limited to all painted, gypsum sheathing and other interior finishes.
- E. The Contractor shall take care during staging and other operations that overloading of the structure does not occur.
- F. The Contractor shall provide barriers or other protective measures to segregate the work from surrounding areas.
- G. The Contractor shall take all reasonable measures to prevent blockage or disruption of exits from the building or other traffic areas adjacent to the work. Where work must be performed above or around exits or other traffic areas, the Contractor shall provide protective enclosures or barriers to prevent injury to passers-by. Specific attention is made to emergency exits.
- H. The Contractor shall have the option of, and responsibility for performing preconstruction surveys for the purpose of identifying pre-existing damage inside the building(s).

3.04 CONTRACTOR'S GUARANTEE

The Contractor shall provide the Owner a guarantee, in the specified form, guaranteeing the work to be free from material or workmanship defects.

3.05 FIELD TESTING

The Owner may employ an independent testing agency to provide field tests for air and water infiltration on the installed sliding glass door units and flashings. Weepholes shall be left in an open position for all tests including air infiltration tests. New door assemblies shall meet the following criteria:

A Sliding Doors

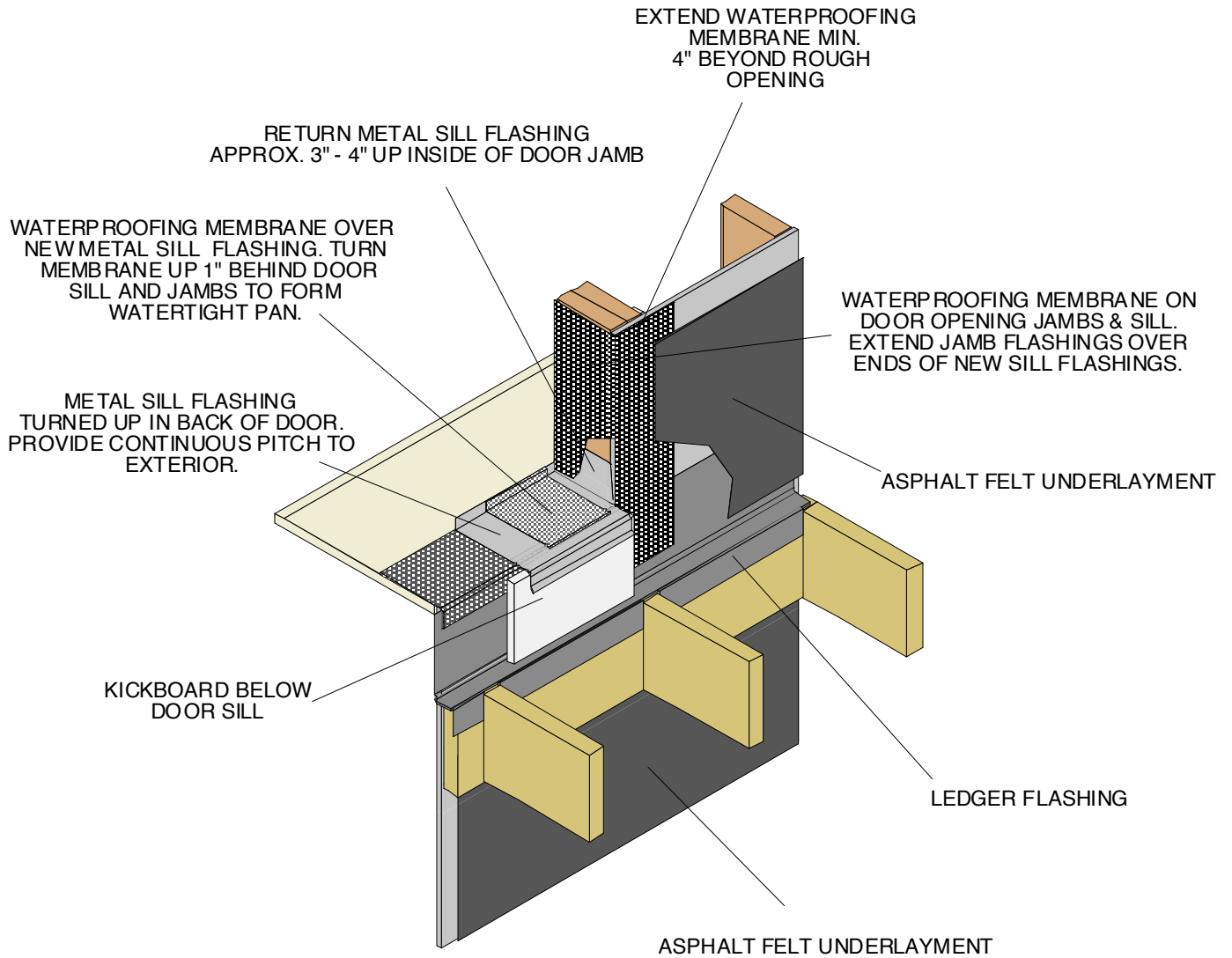
1. Air Infiltration Test - The door shall be subjected to an air infiltration test in accordance with ASTM E783. Air infiltration shall not exceed .135 cfm per foot of sash crack at a test pressure of 1.57 psf.
2. Water Resistance Test - The door shall be subjected to a water infiltration test in accordance with ASTM E1105. There shall be no leakage as defined in the test method at a test pressure of 4.5 psf.

3.06 FINAL CLEAN-UP

- A. All interior and exterior sliding glass door surfaces shall be cleaned upon completion of the work to the satisfaction of the Owner. All excess glazing materials, dirt and other stains shall be properly removed.
- B. All building and surrounding areas shall be cleaned of all trash, dirt and debris associated with the work to the satisfaction of the Owner at the end of each day's work.
- C. Any items stained, discolored or otherwise damaged as a result of the work shall be cleaned, restored or replaced to the satisfaction of the Owner.
- D. All landscaped areas shall be raked clean at the end of each day's work.
- E. All paved areas shall be swept clean at the end of each day's work.
- F. Any vehicular damage to landscaped or other areas around the building shall be repaired or restored to the satisfaction of the Owner.
- G. A final inspection of the work, including final clean-up, shall be required by the Owner and Owner's Representative.

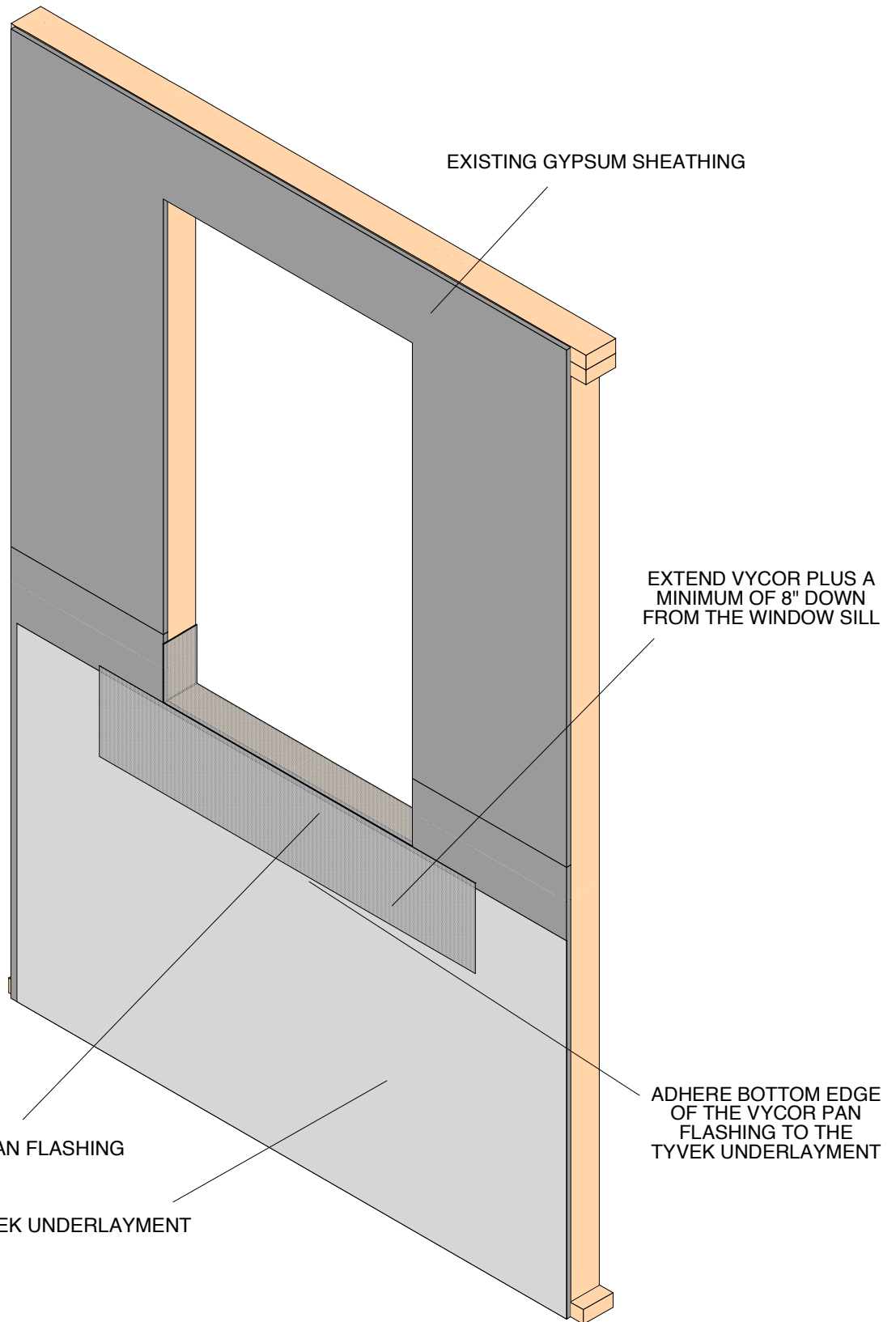
END OF SECTION

GENERAL NOTE - DOOR, DECKING AND SIDING NOT SHOWN FOR CLARITY PURPOSES. THIS PAN FLASHING DETAIL SHALL BE UTILIZED AT BOTH SLIDING GLASS PANEL DOORS AND ENTRY DOORS THAT ACCESS EXTERIOR WOOD DECKS.



ENTRY DOOR FLASHING
(NOT TO SCALE)

NOBLIN & ASSOCIATES, L.C. CONSULTING ENGINEERS BRIDGEWATER, MASSACHUSETTS	WINDOW AND DOOR REPLACEMENT DEERFIELD FOREST CONDOMINIUM NATICK, MASSACHUSETTS	EXTERIOR DOOR FLASHING DETAIL	SK-01
	DRAWN: PEM	SCALE: NTS	
	CHKD: REMN	DATE: 12-07	



NOBLIN & ASSOCIATES, L.C.
CONSULTING ENGINEERS
BRIDGEWATER, MASSACHUSETTS

WINDOW AND DOOR REPLACEMENT
DEERFIELD FOREST CONDOMINIUM
NATICK, MASSACHUSETTS

STEP 1-
MEMBRANE PAN
INSTALLATION

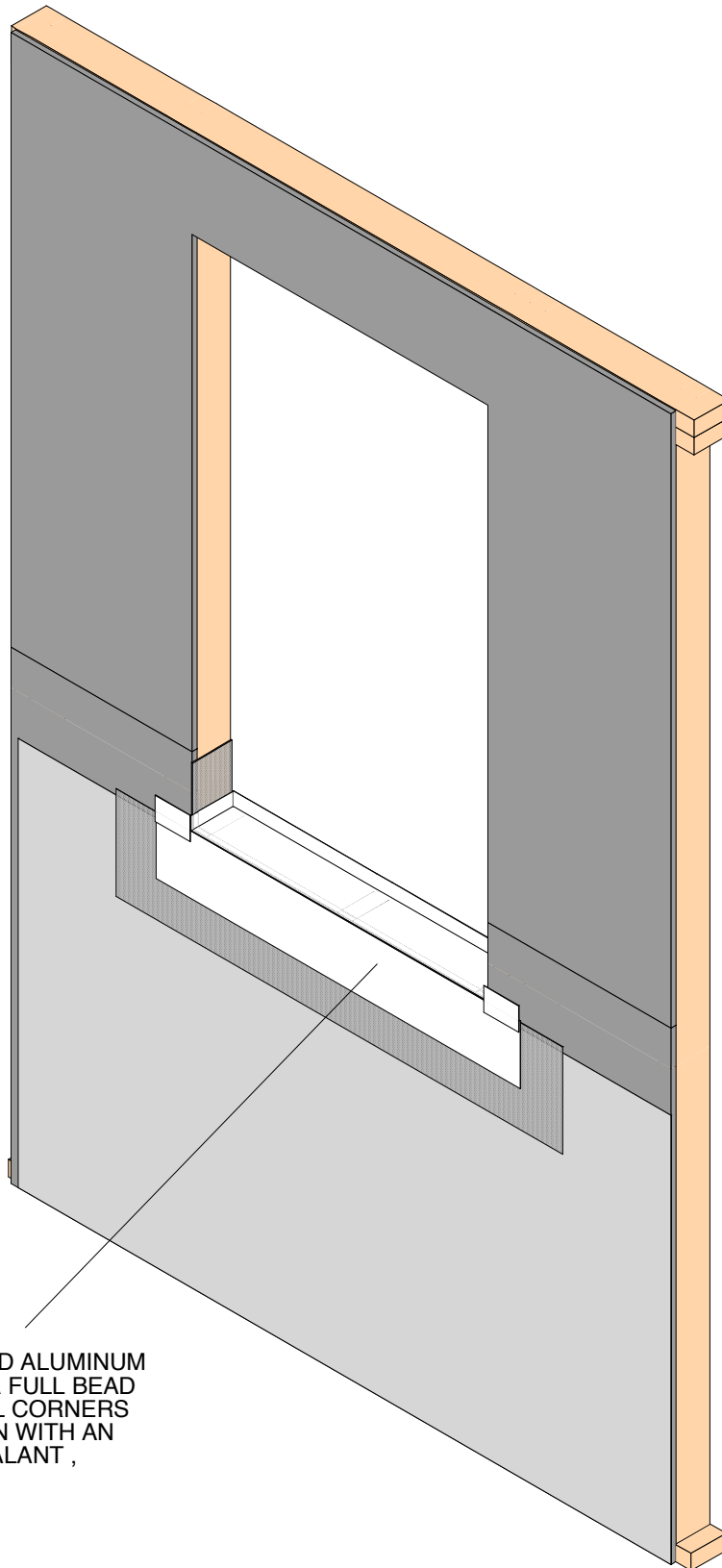
SK-02

DRAWN: PEM

SCALE: NTS

CHKD: REMN

DATE: 12-07



INSTALL PREFABRICATED ALUMINUM
 PAN FLASHING, SET IN A FULL BEAD
 OF SEALANT. SEAL ALL CORNERS
 AND ENDS OF THE PAN WITH AN
 APPROPRIATE SEALANT ,

NOBLIN & ASSOCIATES, L.C.
CONSULTING ENGINEERS
BRIDGEWATER, MASSACHUSETTS

WINDOW AND DOOR REPLACEMENT
DEERFIELD FOREST CONDOMINIUM
NATICK, MASSACHUSETTS

DRAWN: PEM

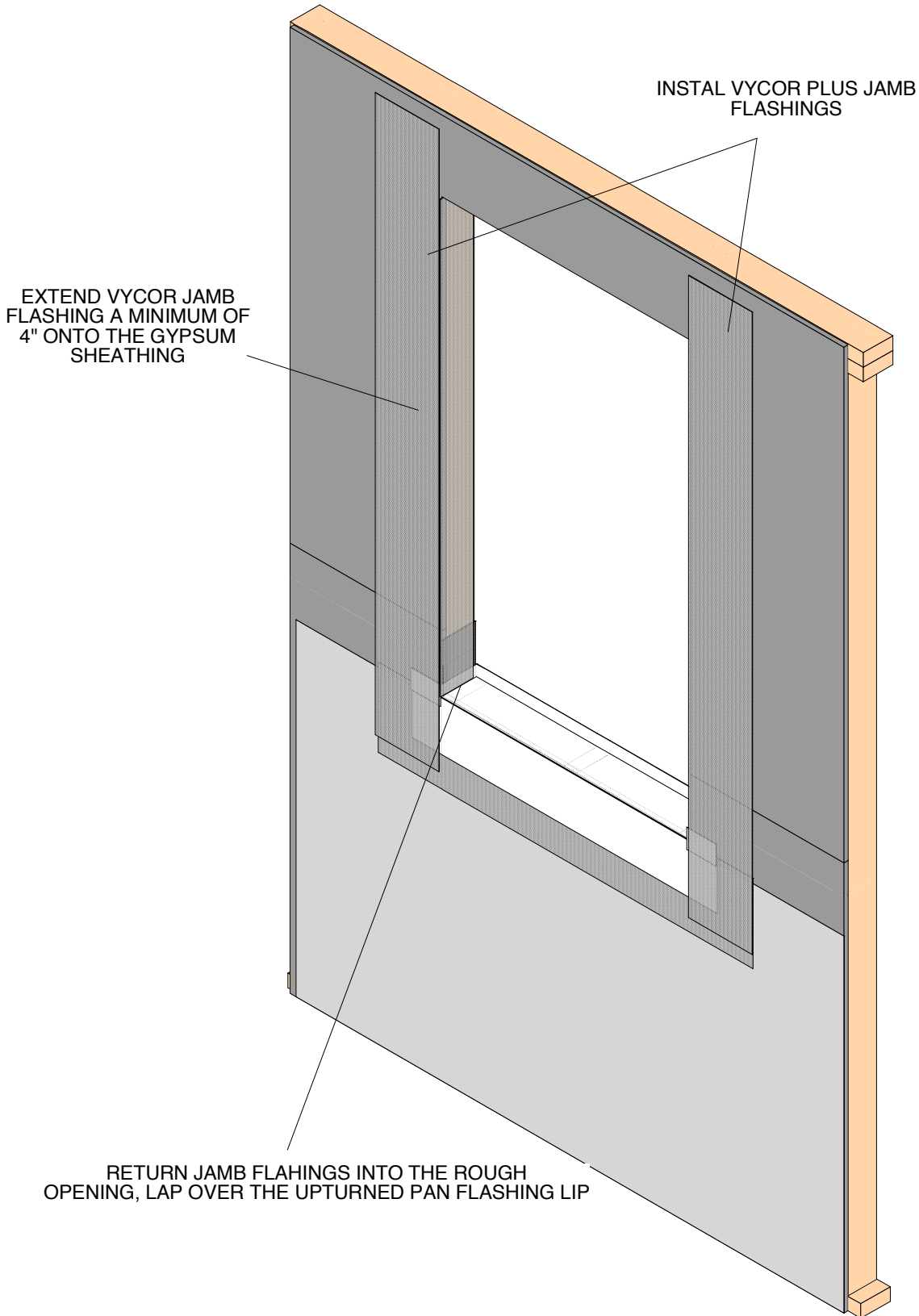
CHKD: REMN

STEP 2-
PAN FLASHING
INSTALLATION

SCALE: NTS

DATE: 12-07

SK-03



EXTEND VYCOR JAMB FLASHING A MINIMUM OF 4" ONTO THE GYPSUM SHEATHING

INSTALL VYCOR PLUS JAMB FLASHINGS

RETURN JAMB FLASHINGS INTO THE ROUGH OPENING, LAP OVER THE UPTURNED PAN FLASHING LIP

NOBLIN & ASSOCIATES, L.C.
 CONSULTING ENGINEERS
 BRIDGEWATER, MASSACHUSETTS

WINDOW AND DOOR REPLACEMENT
 DEERFIELD FOREST CONDOMINIUM
 NATICK, MASSACHUSETTS

STEP 3-
MEMBRANE JAMB
FLASHING

SK-04

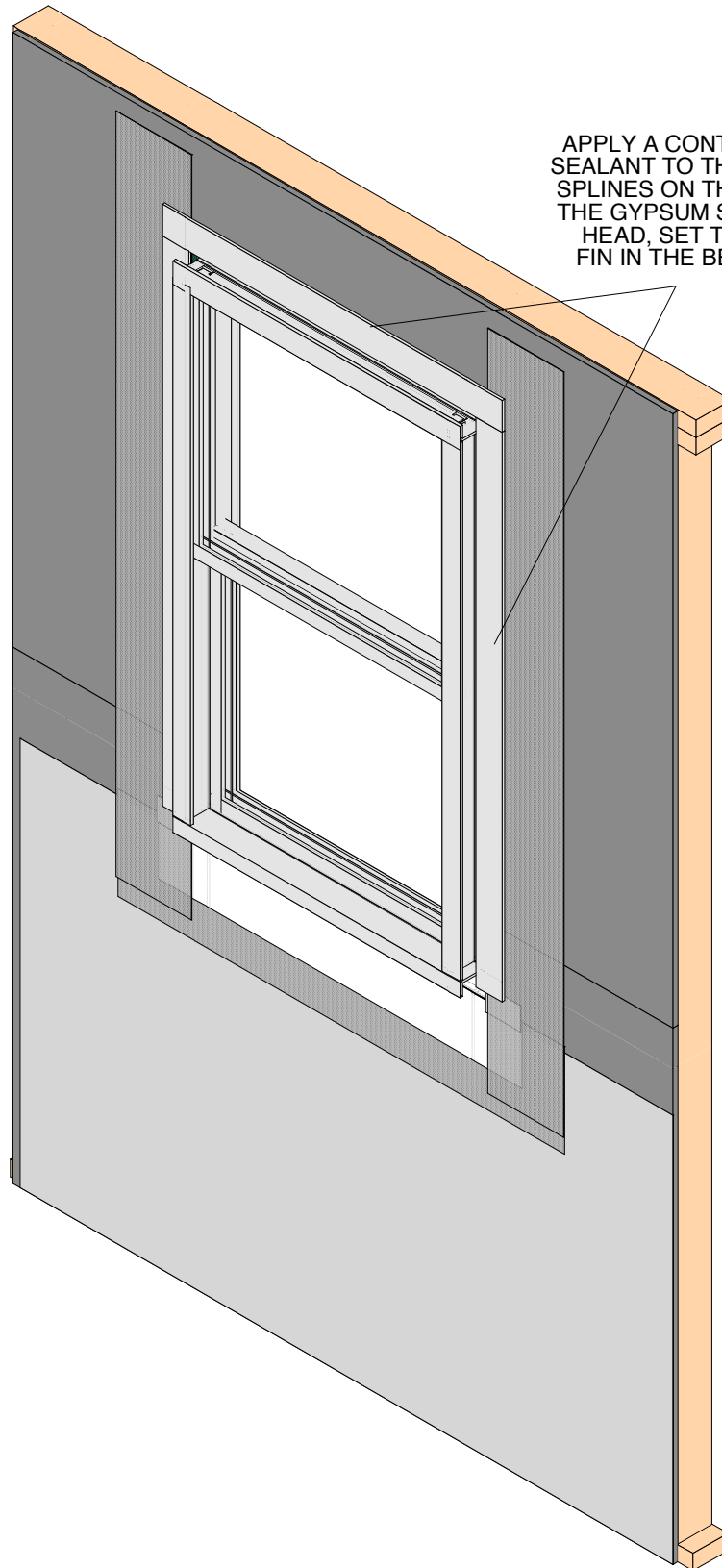
DRAWN: PEM

SCALE: NTS

CHKD: REMN

DATE: 12-07

INSTALL NEW WINDOW UNIT



APPLY A CONTINUOUS BEAD OF SEALANT TO THE SELF-ADHERING SPLINES ON THE JAMBS, AND ON THE GYPSUM SHEATHING AT THE HEAD, SET THE NEW NAILING FIN IN THE BEAD OF SEALANT.

NOBLIN & ASSOCIATES, L.C.
CONSULTING ENGINEERS
BRIDGEWATER, MASSACHUSETTS

WINDOW AND DOOR REPLACEMENT
DEERFIELD FOREST CONDOMINIUM
NATICK, MASSACHUSETTS

DRAWN: PEM

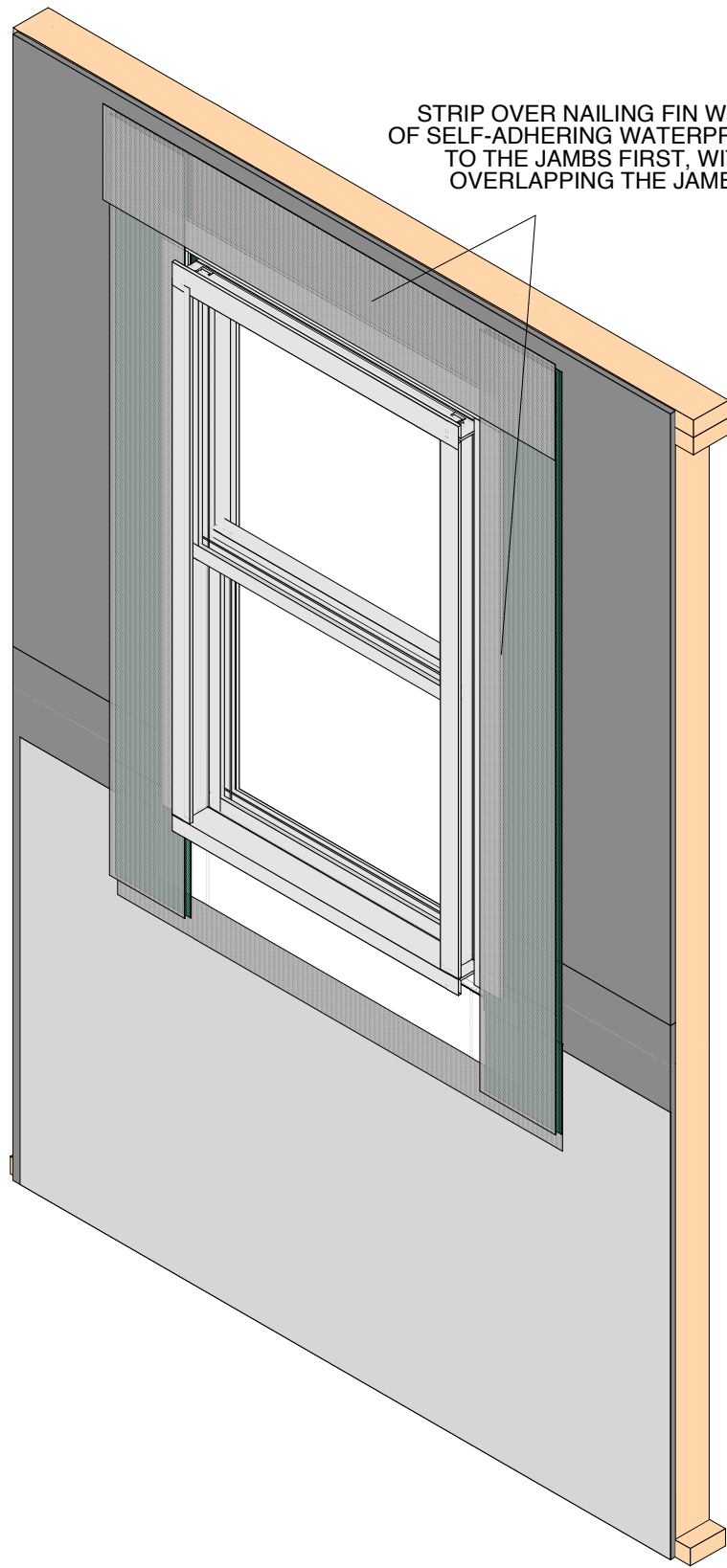
CHKD: REMN

STEP 4-
INSTALL
WINDOW

SCALE: NTS

DATE: 12-07

SK-05



STRIP OVER NAILING FIN WITH AN ADDITIONAL LAYER OF SELF-ADHERING WATERPROOFING MEMBRANE. APPLY TO THE JAMBS FIRST, WITH THE HEAD FLASHING OVERLAPPING THE JAMBS IN SHINGLE FASHION

NOBLIN & ASSOCIATES, L.C.
CONSULTING ENGINEERS
BRIDGEWATER, MASSACHUSETTS

WINDOW AND DOOR REPLACEMENT
DEERFIELD FOREST CONDOMINIUM
NATICK, MASSACHUSETTS

DRAWN: PEM

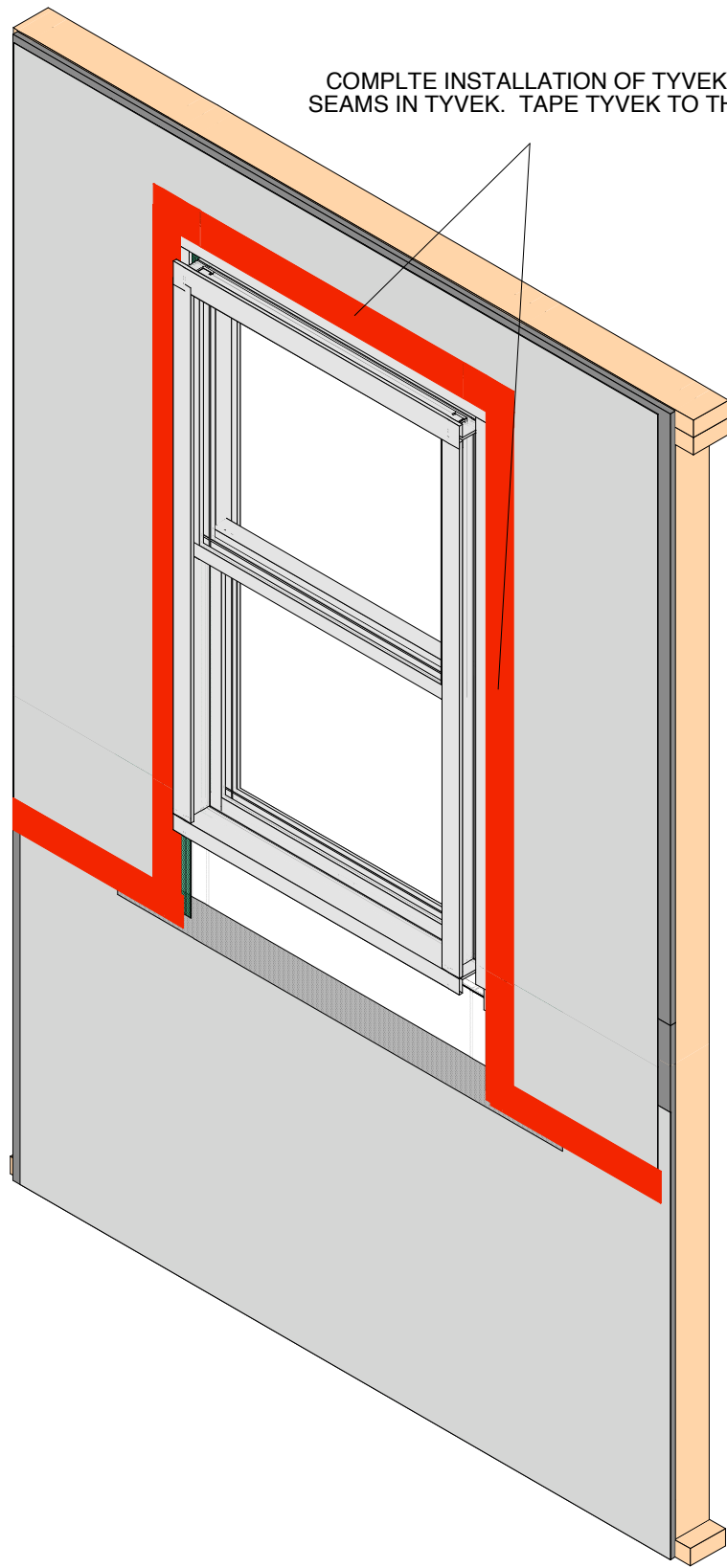
CHKD: REMN

STEP 5-
INSTALL
HEAD/JAMB
FLASHING

SCALE: NTS

DATE: 12-07

SK-06



COMPLTE INSTALLATION OF TYVEK UNDERLAYMENT, TAPE ALL SEAMS IN TYVEK. TAPE TYVEK TO THE WINDOW NAILING FLANGE.

NOBLIN & ASSOCIATES, L.C.
CONSULTING ENGINEERS
BRIDGEWATER, MASSACHUSETTS

WINDOW AND DOOR REPLACEMENT
DEERFIELD FOREST CONDOMINIUM
NATICK, MASSACHUSETTS

DRAWN: PEM

CHKD: REMN

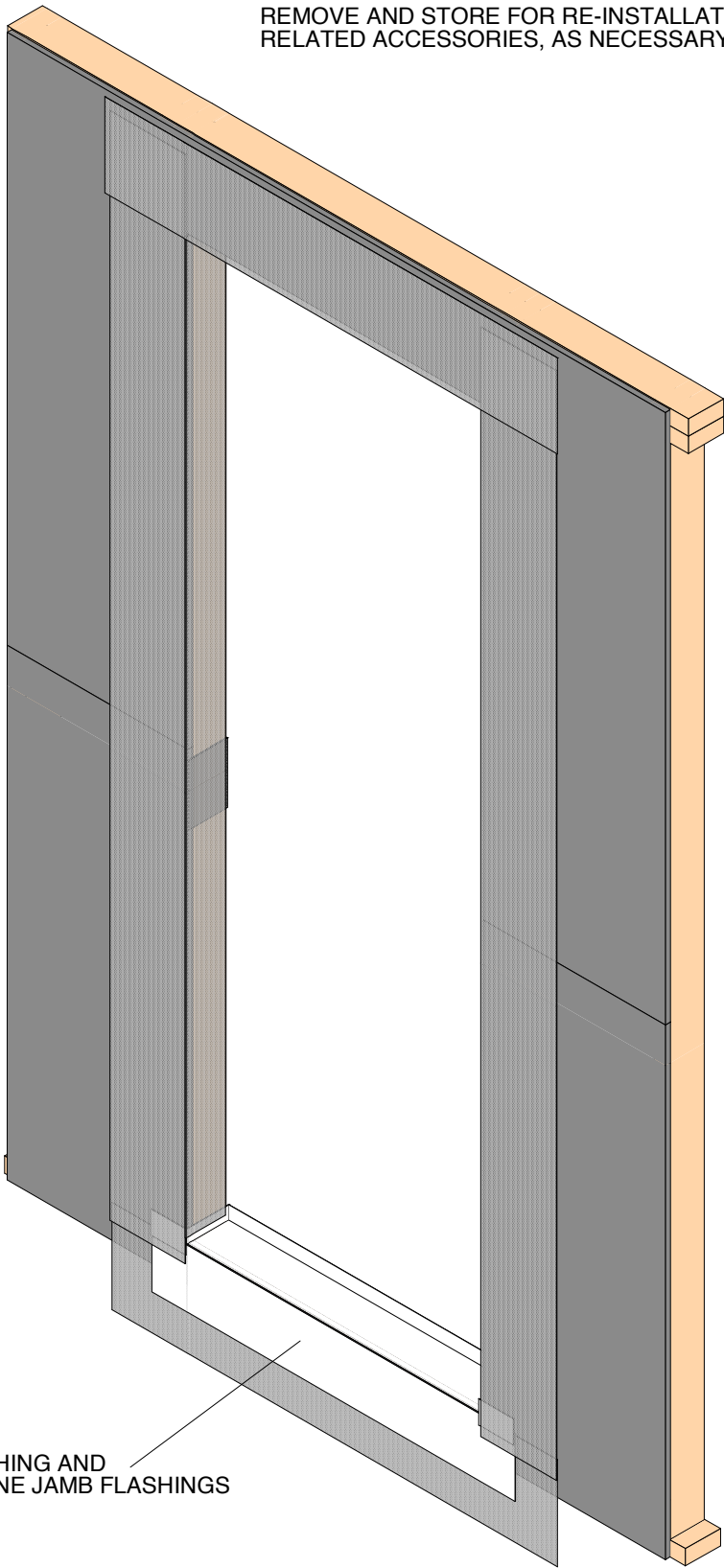
STEP 6-
COMPLETE
UNDRLAYMENT

SCALE: NTS

DATE: 12-07

SK-07

REMOVE AND STORE FOR RE-INSTALLATION, ALL VINYL SIDING AND RELATED ACCESSORIES, AS NECESSARY TO FACILITATE THE WORK



INSTALL METAL PAN FLASHING AND SELF-ADHERING MEMBRANE JAMB FLASHINGS

NOBLIN & ASSOCIATES, L.C.
CONSULTING ENGINEERS
BRIDGEWATER, MASSACHUSETTS

WINDOW AND DOOR REPLACEMENT
DEERFIELD FOREST CONDOMINIUM
NATICK, MASSACHUSETTS

DRAWN: PEM

CHKD: REMN

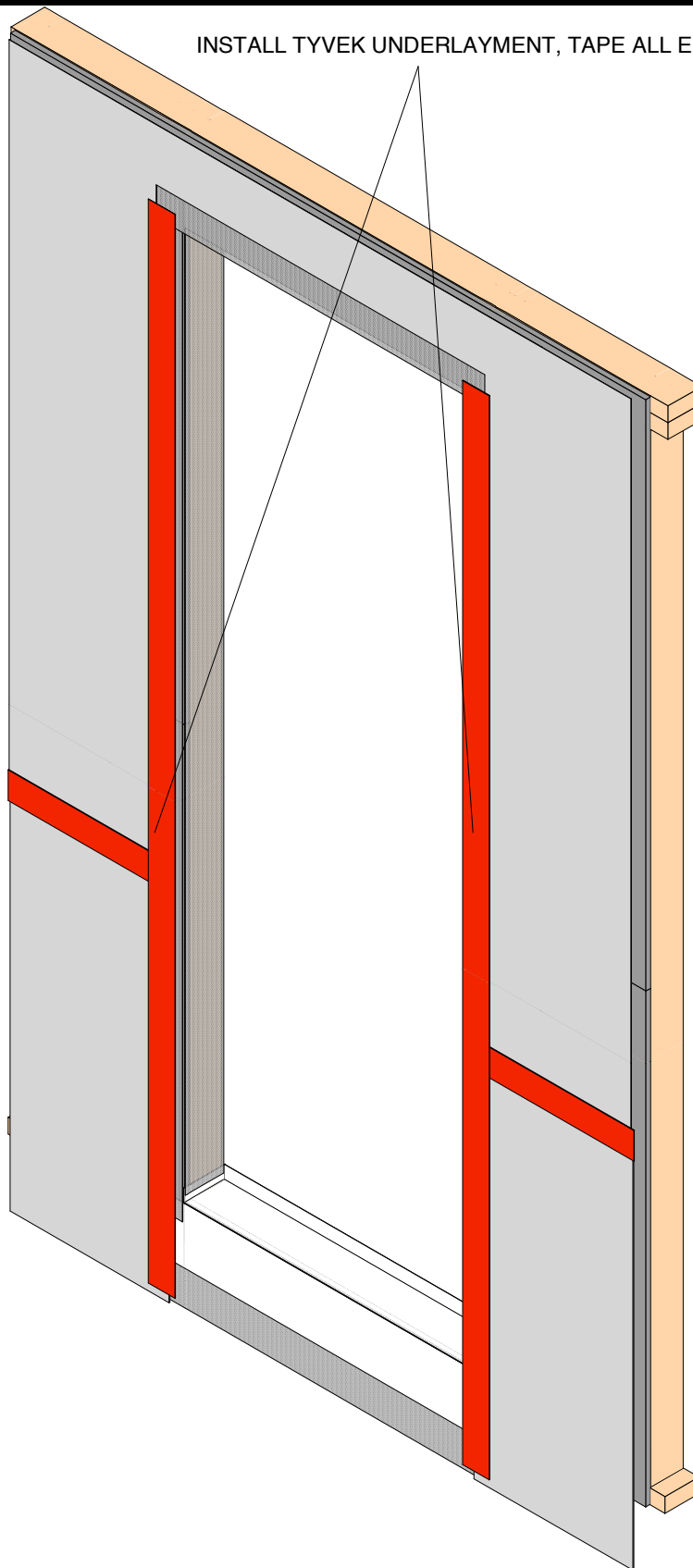
ENTRY DOOR
INSTALLATION

SCALE: NTS

DATE: 12-07

SK-08

INSTALL TYVEK UNDERLAYMENT, TAPE ALL EDGES EXCEPT AT THE HEAD



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CONSULTING ENGINEERS
BRIDGEWATER, MASSACHUSETTS

WINDOW AND DOOR REPLACEMENT
DEERFIELD FOREST CONDOMINIUM
NATICK, MASSACHUSETTS

DRAWN: PEM

CHKD: REMN

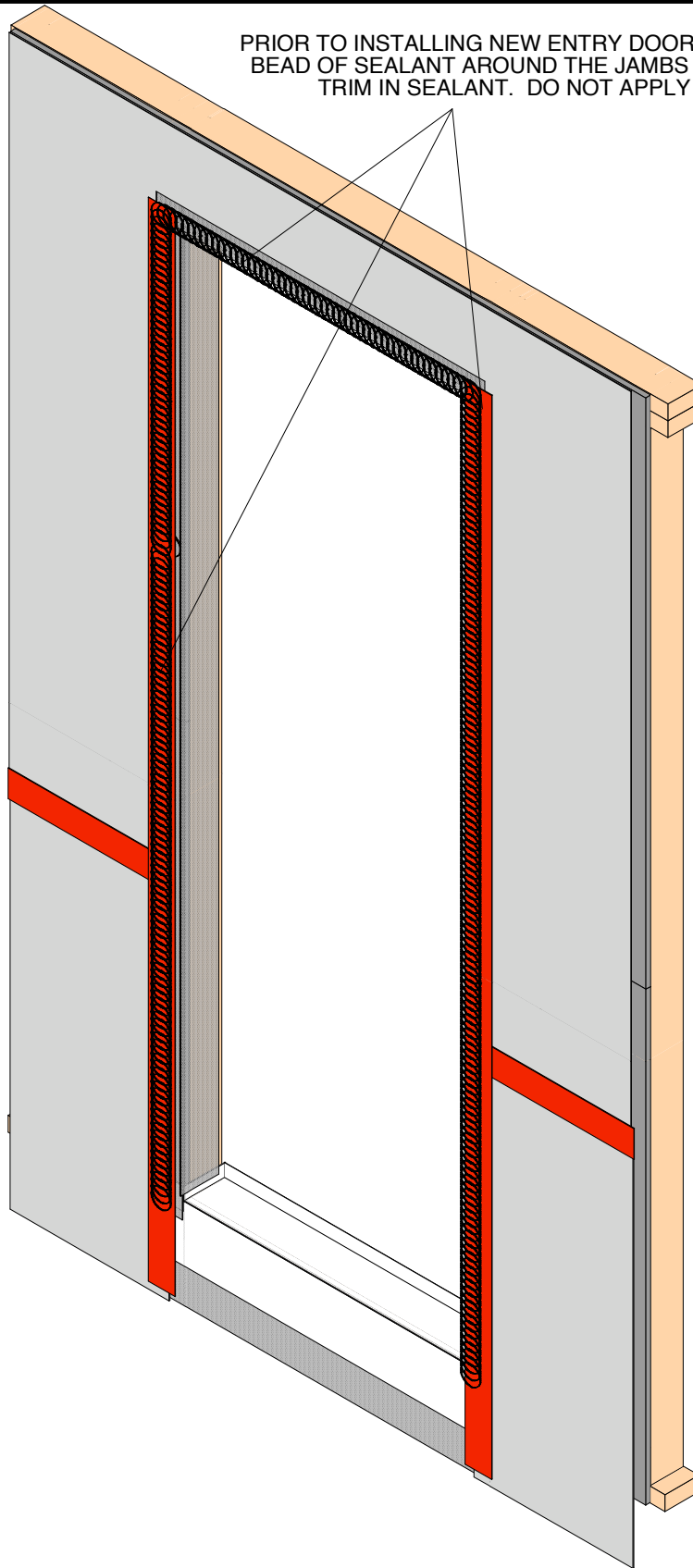
ENTRY DOOR
INSTALLATION

SCALE: NTS

DATE: 12-07

SK-09

PRIOR TO INSTALLING NEW ENTRY DOOR UNIT, APPLY A CONTINUOUS BEAD OF SEALANT AROUND THE JAMBS AND HEAD. SET NEW DOOR TRIM IN SEALANT. DO NOT APPLY SEALANT AT THE SILL.



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DRAWN: PEM

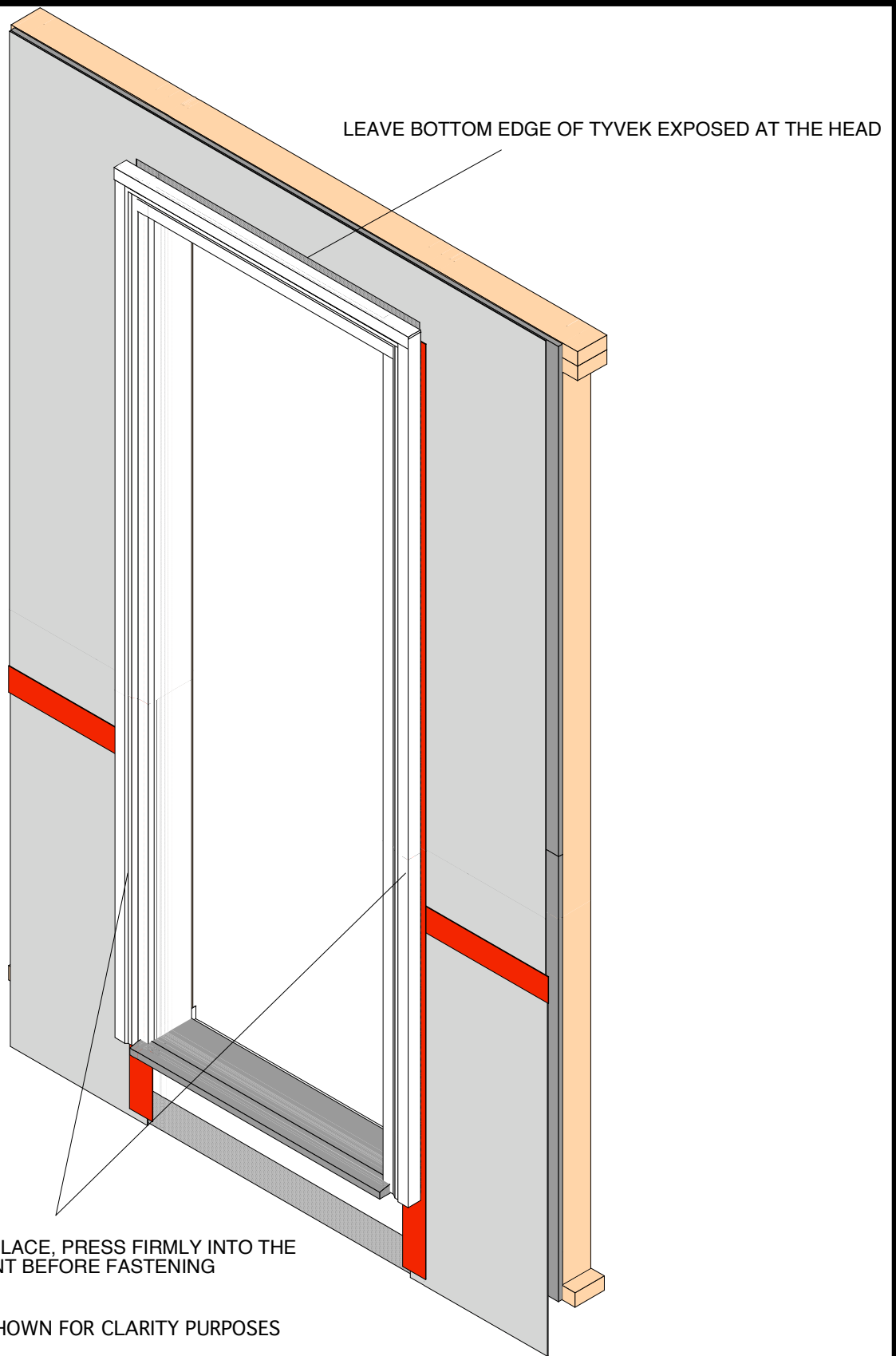
CHKD: REMN

ENTRY DOOR
INSTALLATION

SCALE: NTS

DATE: 12-07

SK-10



LEAVE BOTTOM EDGE OF TYVEK EXPOSED AT THE HEAD

SET NEW DOOR UNIT IN PLACE, PRESS FIRMLY INTO THE BEAD OF SEALANT BEFORE FASTENING

NOTE - DOOR SLAB NOT SHOWN FOR CLARITY PURPOSES

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DEERFIELD FOREST CONDOMINIUM
NATICK, MASSACHUSETTS

DRAWN: PEM

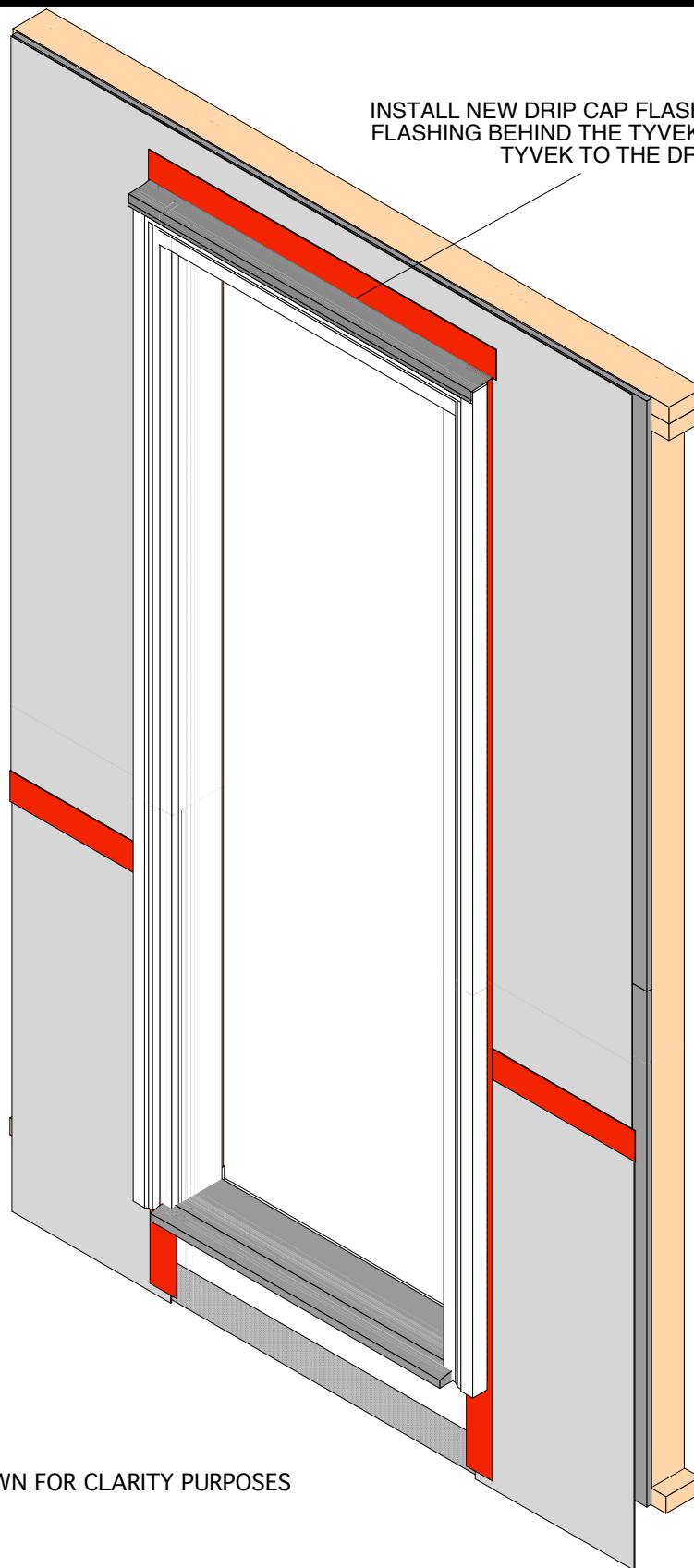
CHKD: REMN

ENTRY DOOR
INSTALLATION

SCALE: NTS

DATE: 12-07

SK-11



INSTALL NEW DRIP CAP FLASHING WITH BACK LEG OF THE FLASHING BEHIND THE TYVEK UNDERLAYMENT. TAPE THE TYVEK TO THE DRIP CAP FLASHING

NOTE - DOOR SLAB NOT SHOWN FOR CLARITY PURPOSES

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WINDOW AND DOOR REPLACEMENT
DEERFIELD FOREST CONDOMINIUM
NATICK, MASSACHUSETTS

DRAWN: PEM

CHKD: REMN

ENTRY DOOR
INSTALLATION

SCALE: NTS

DATE: 12-07

SK-12