



## CERTIFICATE OF APPROPRIATENESS APPLICATION FORM

Incomplete applications will not be processed for Commission review.

Please print legibly.

1. **HISTORIC NAME OF PROPERTY OR HISTORIC DISTRICT:** (if known)

Concordia Historic District

**ADDRESS OF PROPERTY:**

1023-1025 North 33rd St, Milwaukee, WI 53208

2. **NAME AND ADDRESS OF OWNER:**

Name(s): Forest County Potawatomi Community

Address: 313 North 13th Street

City: Milwaukee

State: WI

ZIP 53233

Email: jtesch@GreenFireLLC.net

Telephone number (area code & number) Daytime: (414) 290-9414

Evening:

3. **APPLICANT, AGENT OR CONTRACTOR:** (if different from owner)

Name(s): Greenfire Management Services, LLC

Attention: Joe Tesch

Address: 320 East Buffalo Street, Suite 607

City: Milwaukee

State: WI

ZIP Code: 53202

Email: jtesch@GreenFireLLC.net

Telephone number (area code & number) Daytime: (414) 290-9414

Evening:

4. **ATTACHMENTS**

**A. REQUIRED FOR ALL PROJECTS:**

X Photographs of affected areas & all sides of the building (annotated photos recommended)

Sketches and Elevation Drawings (1 full size and 2 reduced to 11" x 17" or 8 1/2" x 11")

X Material and Design Specifications (see next page)

**B. NEW CONSTRUCTION/DEMOLITION ALSO REQUIRES:**

Floor Plans (1 full size and 1 reduced to 11" x 17")

Site Plan showing location of project and adjoining structures and fences

Other (explain):

**PLEASE NOTE: YOUR APPLICATION CANNOT BE PROCESSED UNLESS BOTH PAGES OF THIS FORM ARE PROPERLY COMPLETED.**



5. DESCRIPTION OF PROJECT:

Describe all existing features that will be affected by proposed work. Please specify the condition of materials, design, and dimensions of each feature (additional pages may be attached)

The existing duplex structure is composed of red-tan brick water table, clapboard siding on the main level, and shingle siding on the upper levels. The bases of the front porch columns are composed of brown brick. The porch railing may be original, although metal top rails have been added to increase the overall rail height. The roof is composed of standard asphalt shingles and has a main gable running east-west with a shallow, gabled square bay on the south elevation. Most of the building components are in servicable condition with the exception of the windows, which are in need of repair/replacement to address non-working components and improve the building's thermal performance. The original windows on the east (front) and south bays are single hung 1-over-1 with a larger lower sash. Most of the remaining windows are double hung 1-over-1 windows; five are casements. Windows have a mix of wood and aluminum storms. Refer to the attached synopsis, annotated photographs, and product brochure.

Photo No. See Attached

Drawing No. See Attached

B. Describe all proposed work, materials, design, dimensions and construction technique to be employed (additional pages may be attached)

Design Intent: To sympathetically restore the windows on the front of the house, including the third level attic windows, and to replace in kind windows on the sides and back of the duplex with historically appropriate wood units. Windows on the sides and back of the duplex have limited visibility from the street due to close proximity of neighboring structures/fencing. For side and back double hung window units, wood replacement units will be installed that are sympathetic to the original wood windows. A similar scope was approved for several neighboring buildings (1019-1021 N 33rd St. and 1013-1015 N 33rd St.). Refer to the attached synopsis, annotated photographs, restoration estimate, and product brochure.

Photo No. See Attached

Drawing No. See Attached

6. SIGNATURE OF APPLICANT:

\_\_\_\_\_  
Signature

Print or type name                      Date

This form and all supporting documentation **MUST** arrive by 12:00 noon on the deadline date established to be considered at the next Historic Preservation Commission Meeting. Any information not provided to staff in advance of the meeting will not be considered by the Commission during their deliberation. Please call if you have any questions and staff will assist you.

Hand Deliver or Mail Form to:  
Historic Preservation Commission  
City Clerk's Office  
200 E. Wells St. Room B-4  
Milwaukee, WI

PHONE: (414) 286-5722

FAX: (414) 286-3004

[www.milwaukee.gov/hpc](http://www.milwaukee.gov/hpc)



**1023-1025 NORTH 33RD STREET: CONCORDIA HISTORIC DISTRICT**  
Certificate of Appropriateness Application Submission  
October 16, 2014

## **Project Overview: Synopsis of Key Items**

*Date of Construction: Early 1900s (exact date unknown)*

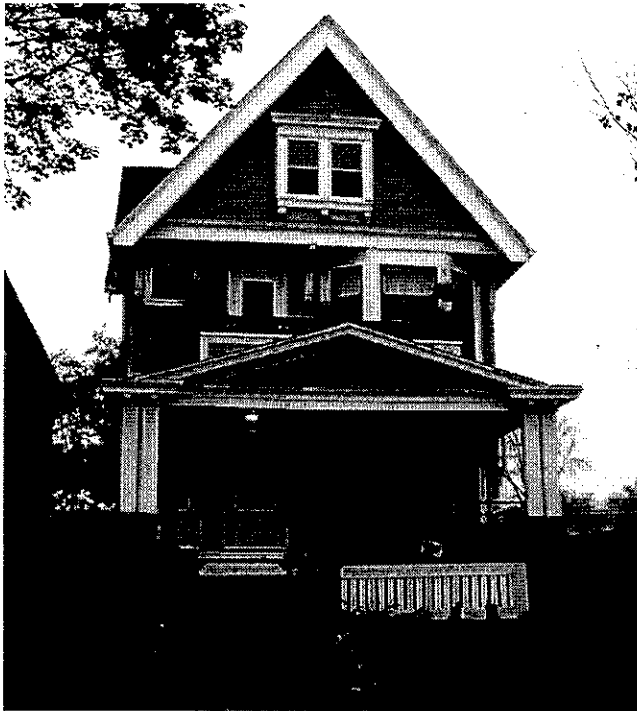


Photo from North 33rd Street showing the east elevation.

### **Window Restoration**

*See Photos and Window Brochure (Page 12).*

The windows on the front (east) facade of the duplex contribute to the historic character of the building and to the historic district as a whole. These windows are in need of restoration to enhance thermal performance and repair/restore non-working components. The single-hung windows on the two-story bay feature a taller lower sash. The other second floor window is a small casement with six true-divided-lites. The attic windows are original 6-over-1 true-divided-lite double hung windows.

Nearly all of the windows on the north, south, and west elevations are 1-over-1 double hung units with the following exceptions. The pair of double-hung windows on the east end of the first floor on the south elevation are 4-over-1 true divided lites. The single-hung windows at the first and second floor south-facing square bay have a taller lower sash similar to the front bay. Four windows on the east end of the north elevation are single lite casements. Similar to the front (east) windows, the side and back units have reduced thermal performance and non-working components. The wood on several of these components is deteriorated, making restoration costs prohibitive.



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A cost estimate of \$79,473 to restore all the windows on a very similar structure in the same block in comparable condition, 1019-21 North 33rd Street, was procured from Restoric, LLC, a Chicago-based company with extensive window expertise and competitive rates. The cost for restoring windows on the entire structure is prohibitive, especially since the duplex is intended to remain low rent for fixed-income individuals. It is crucial for the appearance of the building and the historic fabric of the neighborhood to restore the highly visible front (east elevation) windows. To make this restoration financially feasible, the owner plans to purchase sympathetic wood Marvin Wood Ultimate Insert Double Hung windows to replace windows on the back and sides of the house. Sashes and muntins can be sized/configured to match the original units. See page 12 for product information sheets. All of the windows on the sides have limited visibility from the street due to close proximity of the neighboring house to the south and trees/fenced off property to the north. Sympathetic wood replacement windows on side and rear elevations will not significantly alter the appearance of the building. A similar approach to that outlined below was previously approved for the 1013-15 North 33rd Street and 1019-21 North 33rd Street duplexes.

**Design Intent:**

*East/Front Elevation*

- Remove all front window units and protect window openings.
- Restore wood windows to original working condition, adding weatherstripping and thermal glazing.
- Reinstall windows.
- Reinstall or replace existing aluminum storm/screen units with equivalent aluminum units. Original wood storms no longer exist and will not be replicated.

*South/Side Elevation*

- Replace all south elevation window sashes and sash pockets with Marvin wood replacement windows, matching current window configurations (in kind replacement of 1-over-1 vs. 4-over-1, larger bottom sash on south-facing bay windows, etc.)
- Repair frames (jambs, casing, etc.) as necessary.
- Original wood storms no longer exist and will not be replicated.

*North/Side Elevation*

- Replace all north elevation window sashes and sash pockets with Marvin wood replacement windows.
- Repair frames (jambs, casing, etc.) as necessary.
- Original wood storms no longer exist and will not be replicated.

*West/Back Elevation*

- Replace all west elevation window sashes and sash pockets with Marvin wood replacement windows.
- Repair frames (jambs, casing, etc.) as necessary.
- Original wood storms no longer exist and will not be replicated.

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**Photographs**



**Figure 1:** East elevation and part of south elevation from North 33rd Street. East elevation windows will be restored. Maroon aluminum exterior storm/screen units are not original and will either be reused or replaced in kind.

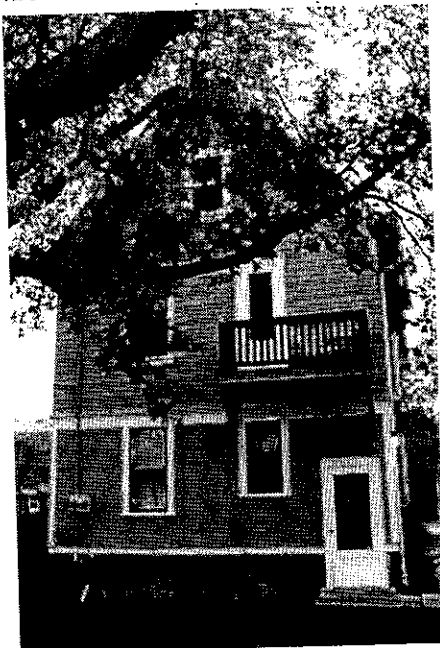


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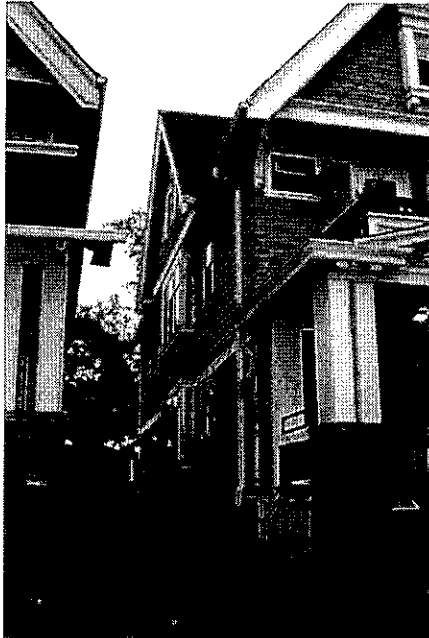
**Figure 2:** North elevation. The lot is fenced off with an 8' wood fence, and trees along the fence on the neighboring lot obscure views. Windows to be replaced at this location:



**Figure 3:** West elevation. Second floor door is not original. All windows are 1-over-1 double hung units. Windows to be replaced at this location.



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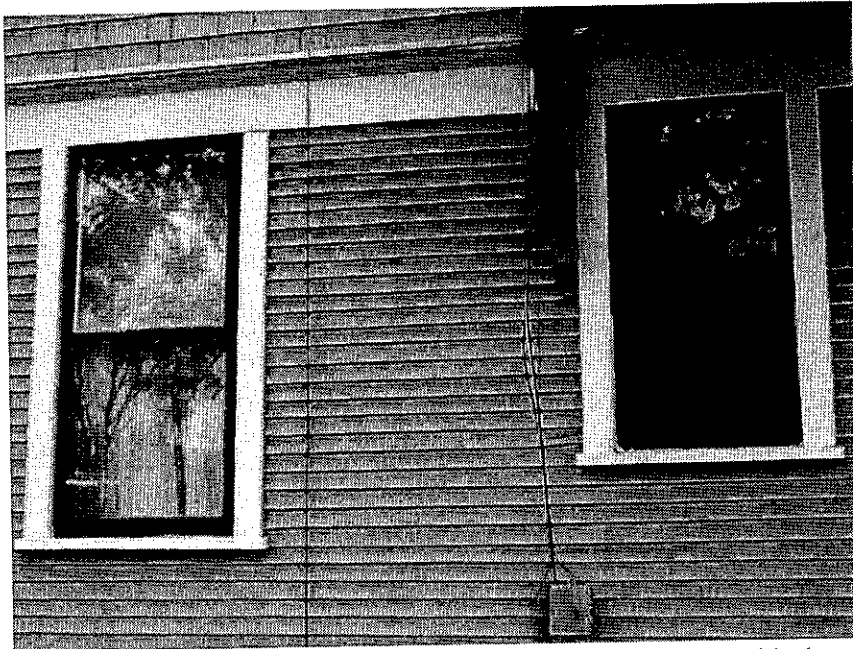


**Figure 4:** South elevation. Note the projecting gabled square bay. Windows to be replaced at this location.

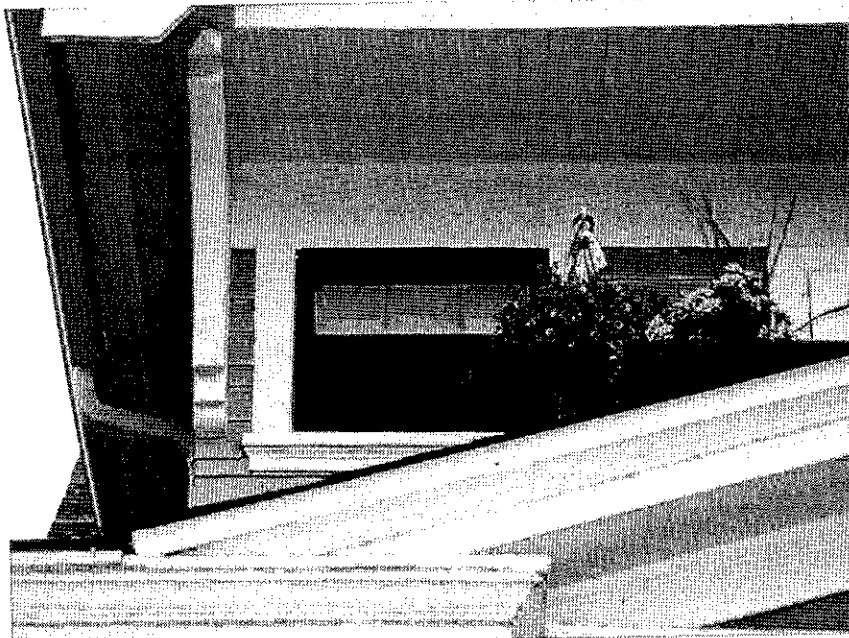


**Figure 5:** Front (east) bay windows. Windows to be restored at this location.

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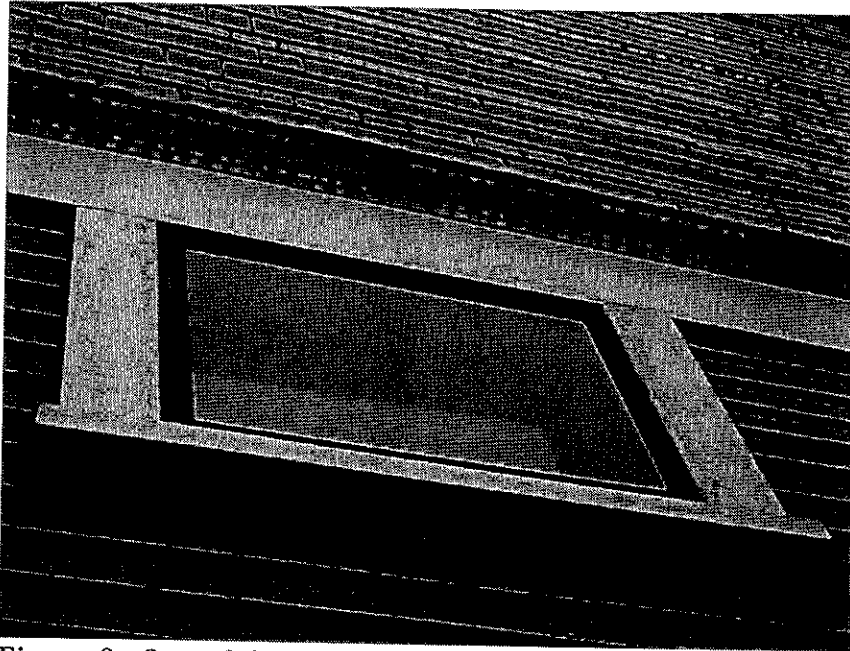


**Figure 6:** Typical original 1-over-1 true-divided-light double hung windows. Windows to be sympathetically replaced on the north, south, and west elevations.

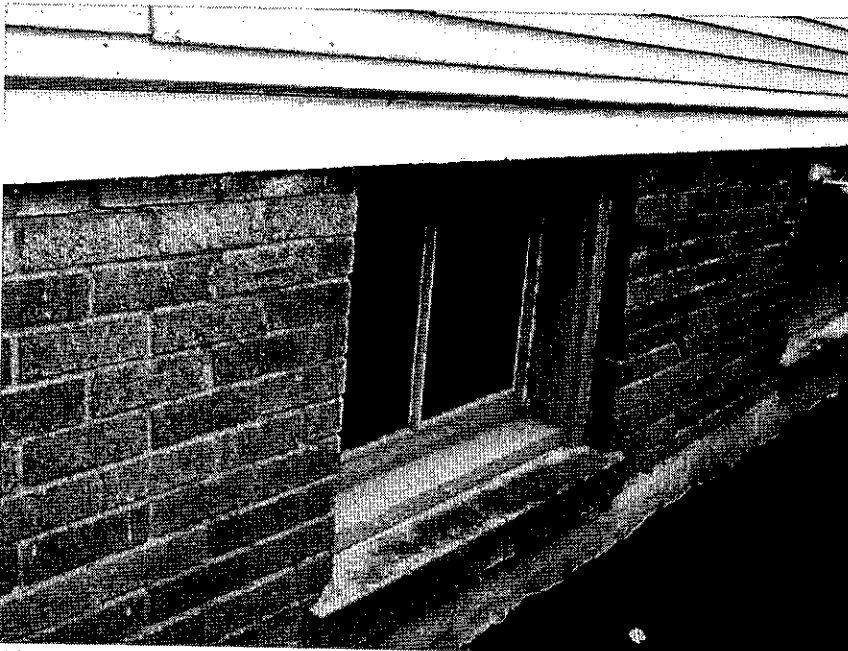


**Figure 7:** 6-lite casement on east elevation. Window to be restored at this location.

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**Figure 8:** One of four single-lite casement windows on the north elevation. These windows will be replaced in kind.

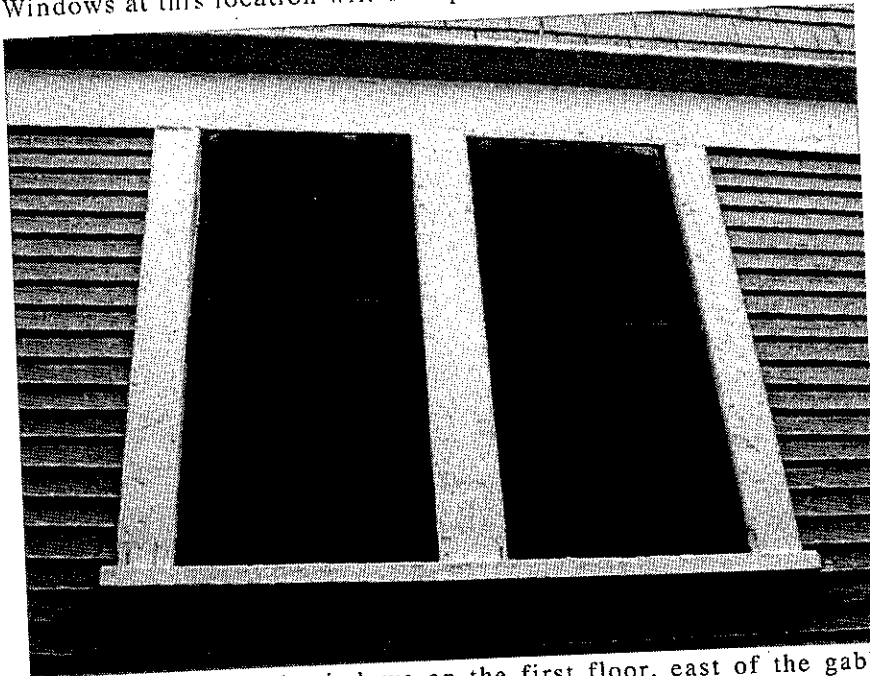


**Figure 9:** Typical wood basement window on north, south and west elevations. A few have been modified to accommodate utilities.

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**Figure 10:** Single hung windows in the south gabled bay (first and second floors). Windows at this location will be replaced in kind.



**Figure 11:** 4-over-1 windows on the first floor, east of the gabled bay on the south elevation. Windows at this location will be replaced in kind.



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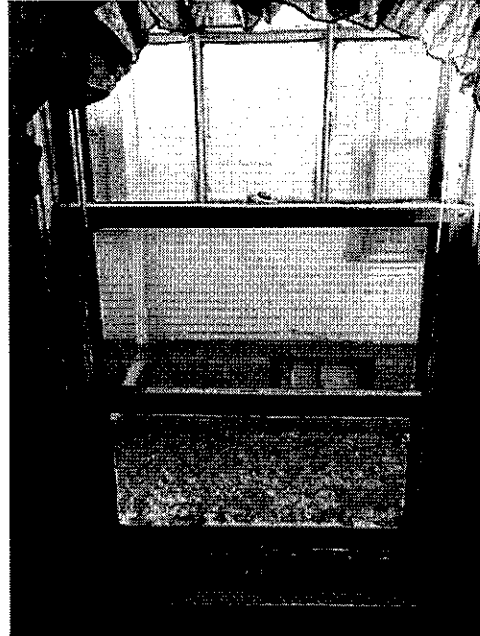


**Figure 12:** 1-over-1 attic windows in the south gabled bay. Attic windows on the south and west elevation will be replaced in kind.

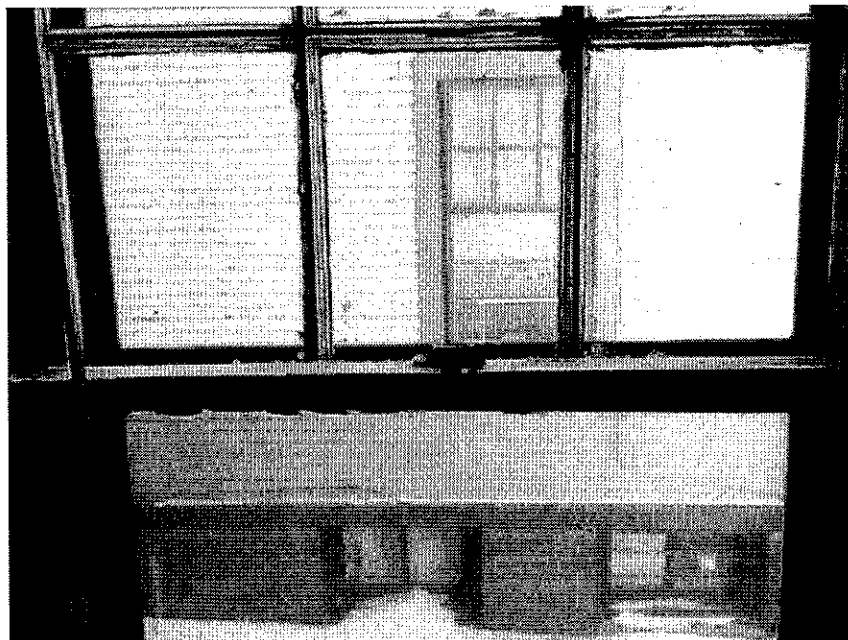


**Figure 13:** Marvin Wood Ultimate Insert Double Hung Windows to be used on the north, south, and west elevation (this window installed at 1003-05 North 33rd Street).

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**Figures 14 and 15: Interior views of typical double hung windows - painted.**



**Figure 16: Interior view of window. Sash cords and weights have been removed.**



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**Figure 17:** Interior view of stained double hung window.

## Wood Ultimate Insert Double Hung

|  |    |
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| Unit Features.....   | 1  |
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## Wood Ultimate Insert Double Hung



### Unit Features

Wood Ultimate Insert Double Hung: WINDH

Wood Ultimate Transom Windows: WINDHT

Wood Ultimate Picture Windows: WINDHP

#### Frame:

- Depth is 4 9/16" (116)
- 1 1/16" (17) thick at head and side jambs, 1" (25) at sill which has an 8° bevel.
- Optional flat sill that is 1 7/16" (37).

#### Sash:

- Sash thickness for operable units and transom: 1 5/8" (41). Sash thickness for a picture unit is 1 5/8 (41) or 2" (51).
- Operating sash are removable for cleaning, service and finishing.
- Incorporates traditional wide bottom rail in bottom sash - 3 9/16" (90).
- Single Hung conversion kits available. Cottage and Oriel sash configuration available.

#### Hardware:

- Sash lock and keeper: Open style crescent cam lock with sash release lever, surface mounted. Color: Satin Taupe. Optional colors: Bronze, White, Brass, Antique Brass, Satin Chrome, Satin Nickel and Oil Rubbed Bronze.
- Balance system: block and tackle coil spring.
- The jamb track is a vinyl extrusion. Color: Beige. Optional color: White.

#### Weather Strip:

- Jamb weather strip is a foam type weather strip which seals against both the bottom sash and top sash stiles.
- Top sash has a weather strip on the check rail that seals to the bottom sash check rail when the sash lock is engaged.
- The top rail seals against a weather strip on the head jamb parting stop.
- The bottom sash has a weather strip on the bottom of the lower rail which seals against the sill.

#### Insect Screens:

- Aluminum screen: Full screen standard, half screen optional. Colors available: Pebble Gray, Bahama Brown, Evergreen, Bronze, Stone White, Ebony, Cobalt Blue, Wineberry, Coconut Cream, Hampton Sage, Cashmere, Arctic White, Cumulus Gray, Desert Beige, Sherwood Green, Sierra White, Cadet Gray, Cascade Blue, or French Vanilla.
- Screen mesh: Standard is Charcoal Fiberglass. Optional: Charcoal High Transparency Fiberglass Mesh, Charcoal Aluminum Wire, Black Aluminum Wire, Bright Aluminum Wire, or Bright Bronze Aluminum Wire.
- Screens have an aluminum crossbar on glass heights of 20" (508) and taller.
- Optional Double Hung Magnum Screen, extruded aluminum.
- Optional wood screen.

#### Glass:

- Glazing seal: Silicone glazed.
- Standard glass is insulating LoE<sup>®</sup>272<sup>®</sup> with Argon or Air.
- Insulating glass will be altitude adjusted with capillary tubes for higher elevations. Argon gas is not available for elevations that require capillary tubes.

#### Optional Glass

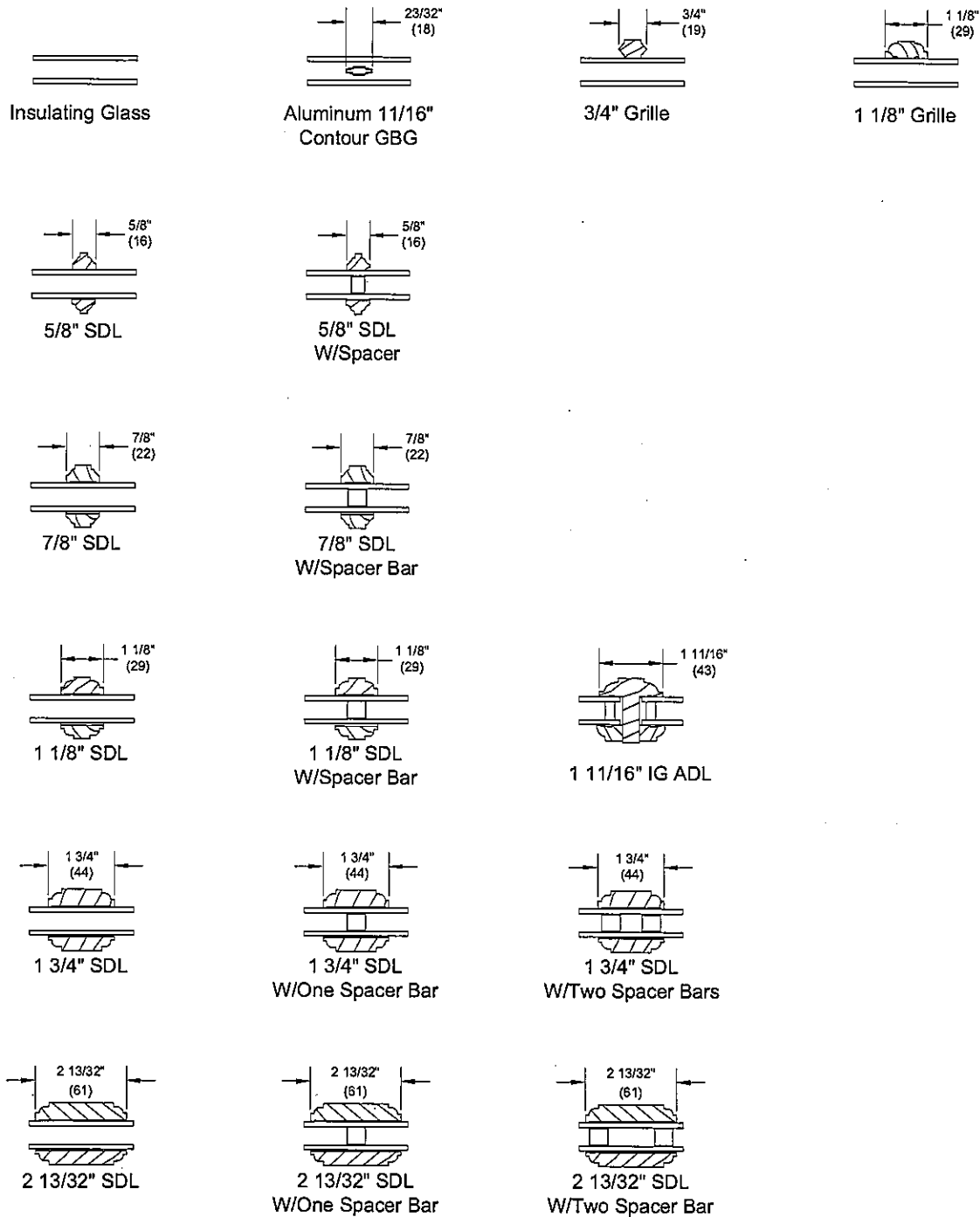
- LoE<sup>®</sup>180<sup>™</sup> with Argon or Air, LoE<sup>®</sup> 366<sup>®</sup> with Argon or Air, clear, tints, tempered, obscure and others.
- LoE<sup>®</sup> 366<sup>®</sup> with Argon or Air, LoE<sup>®</sup>180<sup>™</sup> with Argon or Air, Laminated, Tempered, Obscure, Bronze tint, Gray tint, Reflective Bronze or clear.
- 1" Tripane LoE<sup>®</sup>-180<sup>™</sup> outer piece and LoE<sup>®</sup>-180<sup>™</sup> inner piece with Argon
- 1" Tripane LoE<sup>®</sup>-180<sup>™</sup> outer piece and LoE<sup>®</sup>-180<sup>™</sup> inner piece with Krypton/Argon
- 1" Tripane LoE<sup>®</sup>272<sup>®</sup> outer piece and LoE<sup>®</sup>272<sup>®</sup> inner piece with Argon
- 1" Tripane LoE<sup>®</sup>272<sup>®</sup> outer piece and LoE<sup>®</sup>272<sup>®</sup> inner piece with Krypton/Argon
- 1" Tripane LoE<sup>®</sup> 366<sup>®</sup> outer piece and LoE<sup>®</sup>-180<sup>™</sup> inner piece with Argon
- 1" Tripane LoE<sup>®</sup> 366<sup>®</sup> outer piece and LoE<sup>®</sup>-180<sup>™</sup> inner piece with Krypton/Argon

### Unit Features

#### Accessories:

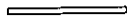
- Installation Accessories
  - Factory installed vinyl sill fin (8 degree sill option only)
  - Two (2) 5/16" - #10 x 2 1/2" jamb jack screws
  - Four (4) #7 x 2" Phillips pan-head installation screws
  - Two (2) jamb liner check rail pads
  - Two (2) wood flat head plugs (interior).
- Sash Lifts
  - High pressure zinc die-cast.
  - Color: Satin Taupe. Optional colors: Bronze, White, Brass, Antique Brass, Satin Chrome, Satin Nickel and Oil Rubbed Bronze.

Standard Insulating Glass Divided Lite Option



# Wood Ultimate Insert Double Hung

## Standard Single Glaze Divided Lite Option



Single Glaze



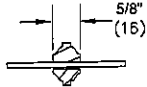
Single Glaze  
W/ Energy Panel



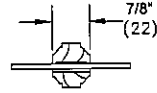
3/4" Grille



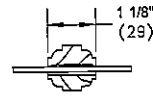
1 1/8" Grille



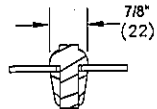
5/8" SDL



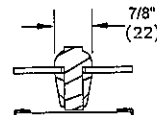
7/8" SDL



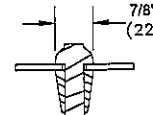
1 1/8" SDL



7/8" SG-ADL



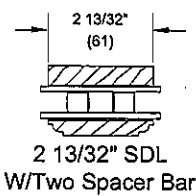
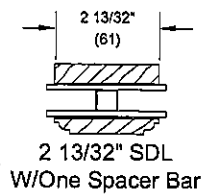
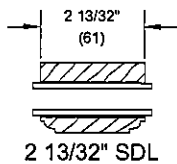
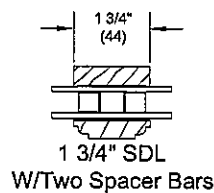
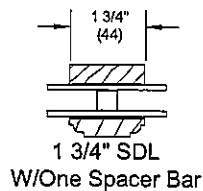
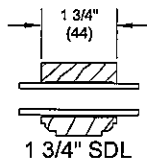
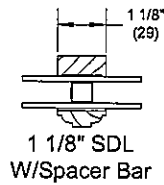
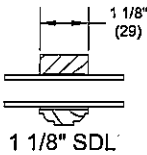
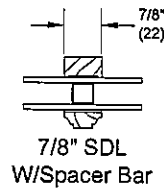
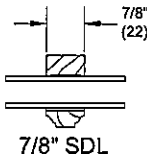
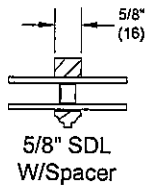
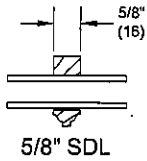
7/8" SG-ADL  
W/ Energy Panel



7/8" SG-ADL  
Full Depth Munt

# Wood Ultimate Insert Double Hung

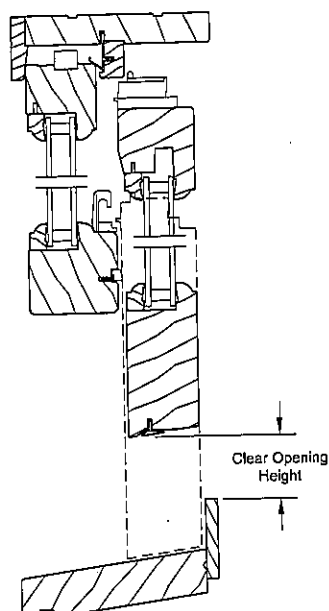
## Optional Interior Square Simulated Divided Lite



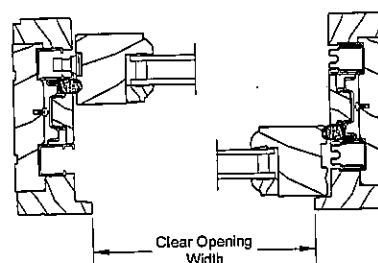
## Wood Ultimate Insert Double Hung

### Egress and Vent Openings

| Minimum Egress Requirements |        |                                 |        |  |        |
|-----------------------------|--------|---------------------------------|--------|--|--------|
| Inside Opening Width        |        | Inside Opening Height Flat Sill |        | Inside Opening Height 8 Degree Sill Option |        |
| in                          | mm     | in                              | mm     | in   | mm     |
| 29 3/4                      | (756)  | 77 1/4                          | (1962) | 76 13/16                                   | (1951) |
| 31 3/4                      | (806)  | 73 1/4                          | (1861) | 72 13/16                                   | (1850) |
| 33 3/4                      | (857)  | 69 1/4                          | (1759) | 68 13/16                                   | (1748) |
| 35 3/4                      | (908)  | 65 1/4                          | (1657) | 64 13/16                                   | (1647) |
| 37 3/4                      | (959)  | 61 1/4                          | (1556) | 60 13/16                                   | (1545) |
| 41 3/4                      | (1060) | 61 1/4                          | (1556) | 60 13/16                                   | (1545) |
| 45 3/4                      | (1162) | 61 1/4                          | (1556) | 60 13/16                                   | (1545) |



Head Jamb and Sill



Jambs

Minimum and Maximum Guidelines, Oversize Limits, Certified Sizes and Ratings

| Minimum and Maximum IO Opening Guidelines |           |                       |       |                                |       |                       |       |                                |       |              |        |               |        |             |            |
|---|-----------|-----------------------|-------|--------------------------------|-------|-----------------------|-------|--------------------------------|-------|--------------|--------|---------------|--------|-------------|------------|
| Unit Type                                 | Sill Type | Min IO Width at Least |       | Min IO Height Must be at Least |       | Min IO Width at Least |       | Min IO Height Must be at Least |       | Max IO Width |        | Max IO Height |        | Max IO Area |            |
|   |           | in                    | mm    | in                             | mm    | in                    | mm    | in                             | mm    | in           | mm     | in            | mm     | Sq. Feet    | Sq. Meters |
| WINDH                                     | Flat      | 13 3/4                | (349) | 32 1/32                        | (814) | 17 3/4                | (451) | 24 1/32                        | (610) | 44           | (1118) | 77 19/32      | (1971) | 23 23/32    | 2.203      |
|   | 8°        | 13 3/4                | (349) | 31 19/32                       | (802) | 17 3/4                | (451) | 23 5/8                         | (600) |              |        |               |        |             |            |
| WINDHP                                    | Flat      | 13 3/4                | (349) | 18 23/32                       | (475) | 17 3/4                | (451) | 14 23/32                       | (374) | 68           | (1727) | 77 19/32      | (1971) | 36 21/32    | 3.405      |
|   | 8°        | 13 3/4                | (349) | 18 9/32                        | (464) | 17 3/4                | (451) | 14 9/32                        | (363) |              |        |               |        |             |            |
| WINDHT                                    | Flat      | 13 3/4                | (349) | 17 1/2                         | (445) | 17 3/4                | (451) | 13 1/2                         | (343) | 44           | (1118) | 23 1/16       | (586)  | 7 1/32      | 0.654      |
|   | 8°        | 13 3/4                | (349) | 17 1/16                        | (433) | 17 3/4                | (451) | 13 1/16                        | (332) |              |        |               |        |             |            |

NOTE: Some restrictions may apply, contact your Marvin representative with questions.

| Oversize Limits |                  |        |                   |        |                 |            |
|-----------------|------------------|--------|-------------------|--------|-----------------|------------|
| Unit Type       | Maximum IO Width |        | Maximum IO Height |        | Maximum IO Area |            |
|                 | in               | mm     | in                | mm     | Sq. Feet        | Sq. Meters |
| WINDH           | 48               | (1219) | 85 19/32          | (2174) | 23 23/32        | (2)        |
| WINDHP          | 68               | (1727) | 85 19/32          | (2174) | 40 7/16         | (4)        |
| WINDHT          | 48               | (1219) | 23 1/16           | (586)  | 7 11/16         | (1)        |

NOTE: Oversized width and height max for WINDH is available in either width or height but not both.  
Oversized units are not certified.

| Certified Sizes and Ratings |                   |        |                  |        |
|-----------------------------|-------------------|--------|------------------|--------|
| Unit Type                   | Frame Size Height |        | Frame Size Width |        |
|                             | in                | mm     | in               | mm     |
| WINDH                       | 77 3/8            | (1965) | 45               | (1143) |
| LC-PG30                     |                   |        |                  |        |

| Certified Sizes and Ratings |                   |       |                  |        |
|-----------------------------|-------------------|-------|------------------|--------|
| Unit Type                   | Frame Size Height |       | Frame Size Width |        |
|                             | in                | mm    | in               | mm     |
| WINDHT                      | 27 5/8            | (702) | 75 5/8           | (1921) |
| LC-PG40                     |                   |       |                  |        |

| Certified Sizes and Ratings |                   |        |                  |        |
|-----------------------------|-------------------|--------|------------------|--------|
| Unit Type                   | Frame Size Height |        | Frame Size Width |        |
|                             | in                | mm     | in               | mm     |
| WINDHP                      | 77 5/8            | (1972) | 68               | (1727) |
| CW-PG40                     |                   |        |                  |        |

# Wood Ultimate Insert Double Hung

## Measurement Conversions: Operators

| Wood Ultimate Insert Double Hung Operating Unit |                |              |       |              |           |       |
|---|----------------|--------------|-------|--------------|-----------|-------|
| Unit Measurements                               |                | Width        |       | Height       |           |       |
| From  | To             |              |       |              |           |       |
| Daylight Opening                                |                | in           | mm    |              | in        | mm    |
| Daylight Opening                                | Bottom Sash OM | + 3 17/32    | (90)  |              | + 5 11/16 | (144) |
| Daylight Opening                                | Top Sash OM    | + 3 17/32    | (90)  |              | + 3 7/8   | (98)  |
| Daylight Opening                                | Glass OM       | + 1 1/16     | (27)  |              | + 1 1/16  | (27)  |
| Daylight Opening                                | Screen OM      | + 4 13/32    | (112) | (DLO x 2)    | + 9 9/32  | (236) |
| Daylight Opening                                | Grille         | order by DLO |       | order by DLO |           |       |

| Wood Ultimate Insert Double Hung Operating Unit |                     |          |       |                  |       |     |           |      |
|---|---------------------|----------|-------|------------------|-------|-----|-----------|------|
| Unit Measurements                               |                     | Width    |       | Height           |       |     |           |      |
| From  | To                  |          |       | Flat Bottom Sill |       |     |           |      |
| Inside Opening                                  |                     | in       | mm    | in               | mm    |     | in        | mm   |
| Inside Opening                                  | Bottom Sash OM      | -3 9/32  | (83)  | -10 9/32         | (261) | + 2 | + 5 11/16 | (98) |
| Inside Opening                                  | Top Sash OM         | -3 9/32  | (83)  | -10 9/32         | (261) | + 2 | + 3 7/8   |      |
| Inside Opening                                  | Daylight Opening    | -6 13/16 | (173) | -10 9/32         | (261) | + 2 |           |      |
| Inside Opening                                  | Glass OM            | -5 3/4   | (146) | -8 5/32          | (207) | + 2 |           |      |
| Inside Opening                                  | Screen OM           | -1 27/32 | (47)  | -1               | (25)  |     |           |      |
| Inside Opening                                  | Frame OM @ Interior | -3/8     | (10)  | -1/4             | (06)  |     |           |      |
| Inside Opening                                  | Frame OM @ Exterior | -3/8     | (10)  | -1/4             | (06)  |     |           |      |

| Height<br>8 Degree Bottom Sill |       |     |           |       |
|--------------------------------|-------|-----|-----------|-------|
| in                             | mm    |     | in        | mm    |
| -9 27/32                       | (250) | + 2 | + 5 11/16 | (144) |
| -9 27/32                       | (250) | + 2 | + 3 7/8   | (98)  |
| -9 13/16                       | (240) | + 2 |           |       |
| -7 23/32                       | (196) | + 2 |           |       |
| -9/16                          | (14)  |     |           |       |
| -1/4                           | (06)  |     |           |       |
| + 3/16                         | (05)  |     |           |       |



## Wood Ultimate Insert Double Hung

### Measurement Conversions: Transom and Picture

| Wood Ultimate Insert Double Hung Transoms |          |              |      |                                  |       |
|---|----------|--------------|------|----------------------------------|-------|
| Unit Measurements                         |          | Width        |      | Height<br>(not affected by sill) |       |
| From                                      | To       |              |      |                                  |       |
| Daylight Opening                          |          | in           | mm   | in                               | mm    |
| Daylight Opening                          | Sash OM  | + 3 17/32    | (90) | + 4 11/32                        | (110) |
| Daylight Opening                          | Glass OM | + 1 1/16     | (27) | + 1 1/16                         | (27)  |
| Daylight Opening                          | Grille   | order by DLO |      | Order by DLO                     |       |

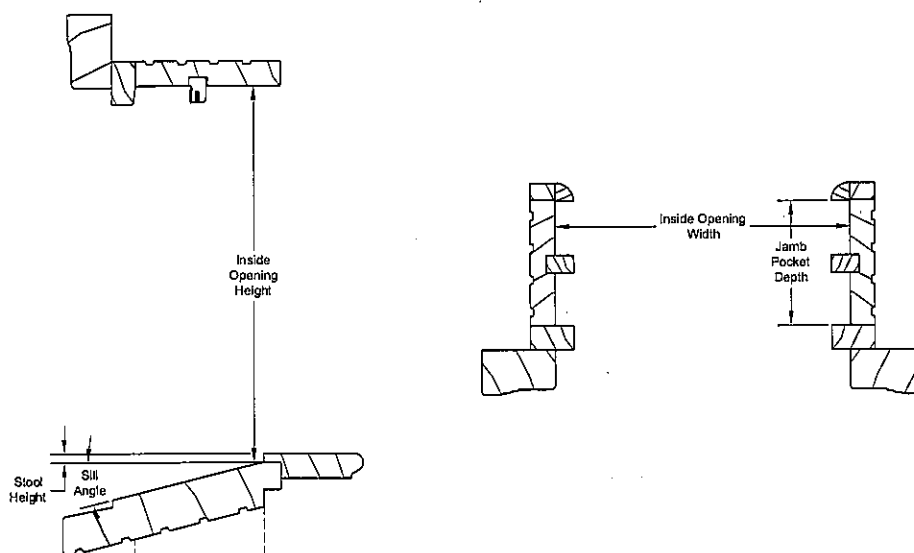
| Unit Measurements |                     | Width     |       | Height           |        |                      |       |
|-------------------|---------------------|-----------|-------|------------------|--------|----------------------|-------|
| From              | To                  |           |       | Flat Sill Bottom |        | 8 Degree Sill Bottom |       |
| Inside Opening    |                     | in        | mm    | in               | mm     | in                   | mm    |
| Inside Opening    | Sash OM             | - 3 9/32  | (83)  | - 2 11/32        | -(60)  | - 1 29/32            | (48)  |
| Inside Opening    | Daylight Opening    | - 6 13/16 | (173) | - 6 11/16        | -(170) | - 6 1/4              | (159) |
| Inside Opening    | Glass OM            | - 5 3/4   | (146) | - 5 5/8          | -(143) | - 5 3/16             | (132) |
| Inside Opening    | Frame OM @ Interior | - 3/8     | (10)  | - 1/4            | -(06)  | - 1/4                | (06)  |
| Inside Opening    | Frame OM @ Exterior | - 3/8     | (10)  | - 1/4            | -(06)  | + 3/16               | (05)  |

| Wood Ultimate Insert Double Hung Picture |          |              |       |                                       |       |
|--|----------|--------------|-------|---------------------------------------|-------|
| Unit Measurements                        |          | Width        |       | Height<br>(not affected by sill type) |       |
| From                                     | To       |              |       |                                       |       |
| Daylight Opening                         |          | in           | mm    | in                                    | mm    |
| Daylight Opening                         | Sash OM  | + 4 7/8      | (124) | + 5 21/32                             | (144) |
| Daylight Opening                         | Glass OM | + 1 3/16     | (30)  | + 1 3/16                              | (30)  |
| Daylight Opening                         | Grille   | order by DLO |       | order by DLO                          |       |

| Unit Measurements |                   | Width     |       | Height           |       |                      |       |
|-------------------|-------------------|-----------|-------|------------------|-------|----------------------|-------|
| From              | To                |           |       | Flat Sill Bottom |       | 8 Degree Sill Bottom |       |
| Inside Opening    |                   | in        | mm    | in               | mm    | in                   | mm    |
| Inside Opening    | OM of BMC         | - 1 15/16 | (49)  | - 2 1/4          | (57)  | - 1 13/16            | (46)  |
| Inside Opening    | OM of Flat Casing | - 6 13/16 | (173) | - 7 29/32        | (201) | - 7 15/32            | (190) |
| Inside Opening    | Daylight Opening  | - 5 5/8   | (143) | - 6 23/32        | (171) | - 6 9/32             | (160) |
| Inside Opening    | OM of Frame       | - 3/8     | (10)  | - 1/4            | (06)  | - 1/4                | (06)  |
| Inside Opening    | Daylight Opening  | - 3/8     | (10)  | - 1/4            | (06)  | + 3/16               | (05)  |

Measurement Conversions: Field Measurement

| Conversion from Field Measurement to Frame OM           |   |   |
|---|---|---|
| Width   |   |   |
| Condition   | Formula   |   |
| If blind stop width is 1/2 inch or less                 | WINDH frame OM width = Inside opening width - 0.375 |   |
| Height  |   |   |
| Condition   | Type of Sill  | Formula   |
| If old sill angle is less than 8 degrees                | Flat bottom Sill                                    | WINDH frame OM height = inside opening height - 0.250 |
| If old sill angle is equal to or greater than 8 degrees | 8 degree bottom sill                                | WINDH frame OM height = Inside opening height + 0.180 |

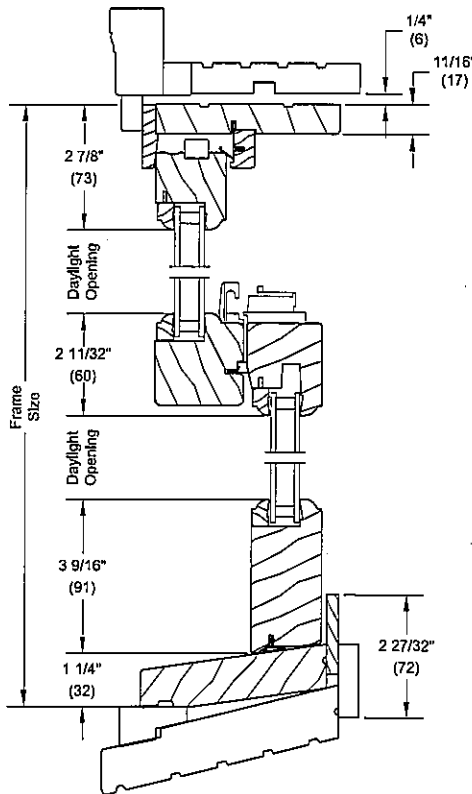


NOTE: For additional measuring instructions see Marvin Insert Window Measuring Instructions.

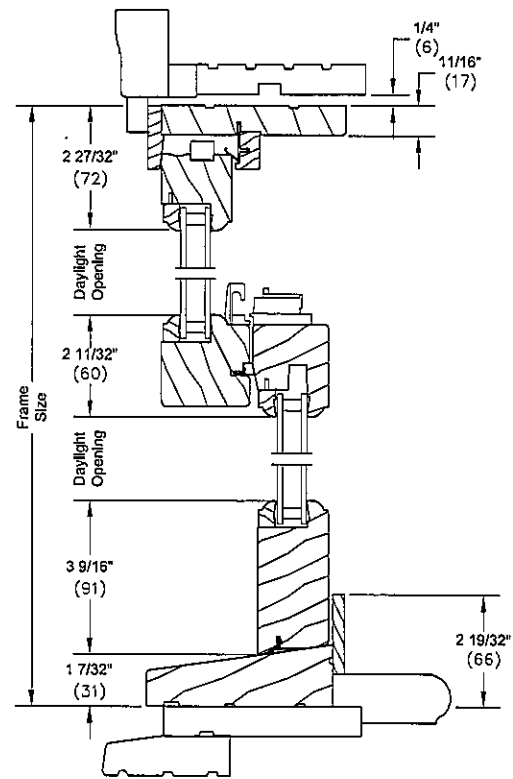
# Wood Ultimate Insert Double Hung

## Section Details: Operator

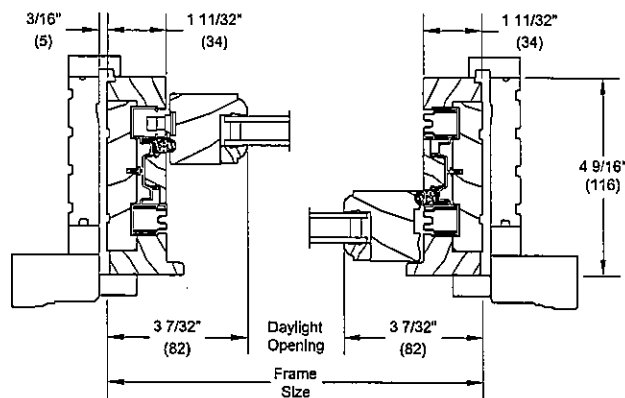
Scale: 3" = 1' 0"



Head Jamb, Checkrail, with Beveled Sill  
installed in existing frame



Head Jamb, Checkrail, with Flat Sill Option  
installed in existing frame

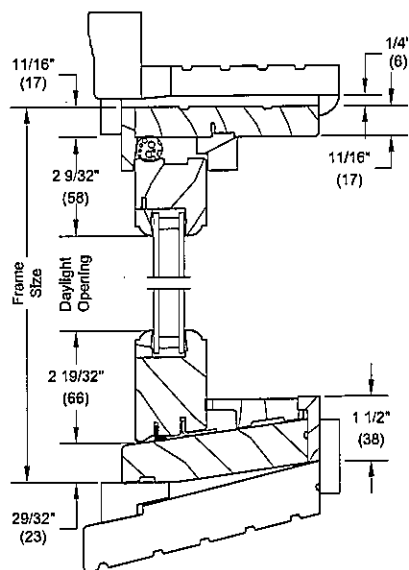


Jambs installed in existing frame

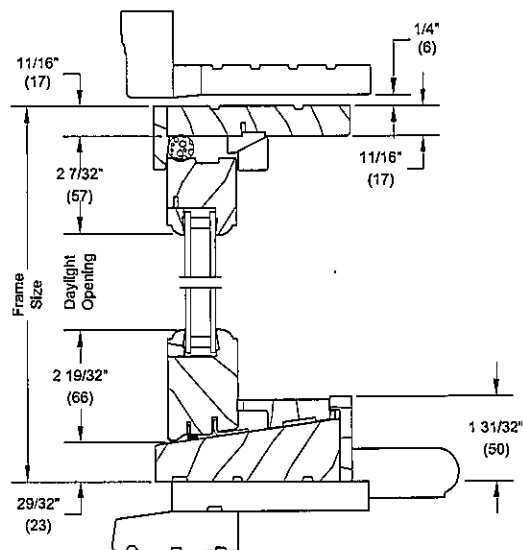
# Wood Ultimate Insert Double Hung

## Section Details: Transom

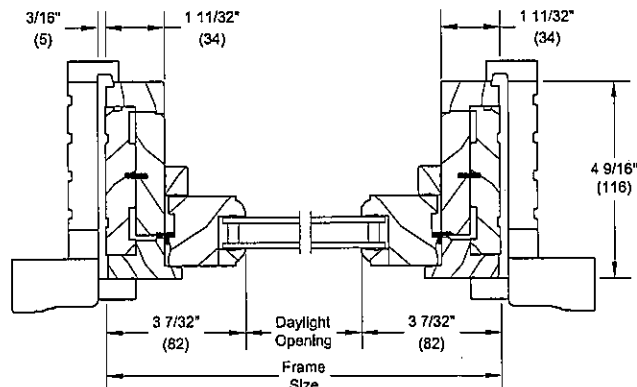
Scale: 3" = 1' 0"



Transom Head Jamb with Beveled Sill  
installed in existing frame



Transom Head Jamb with Flat Sill Option  
installed in existing frame

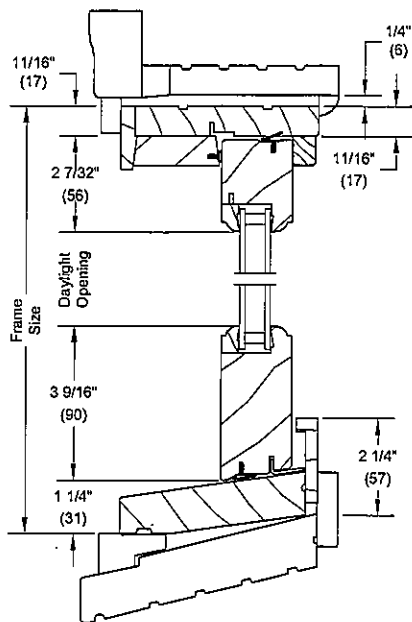


Transom Jambs installed in existing frame

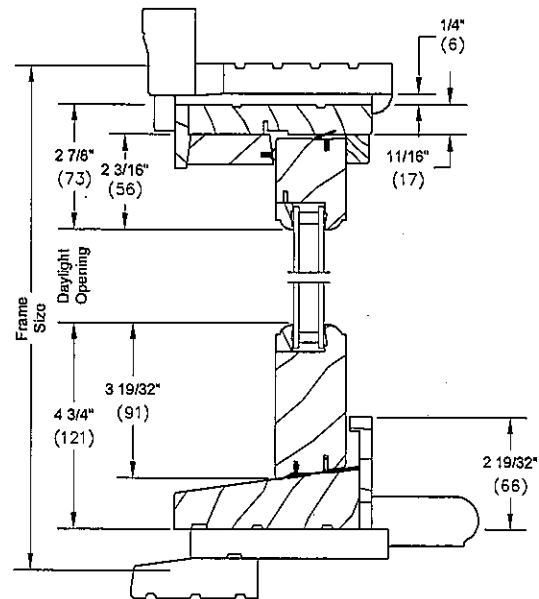
# Wood Ultimate Insert Double Hung

## Section Details: Picture

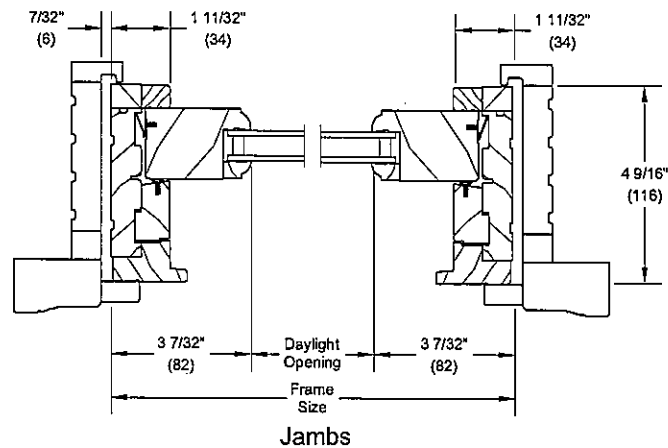
Scale: 3" = 1' 0"



Picture Head Jamb with Beveled Sill  
installed in existing frame



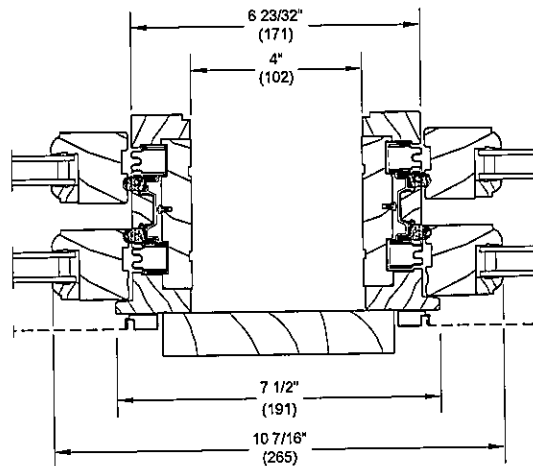
Picture Head Jamb with Flat Sill Option  
installed in existing frame



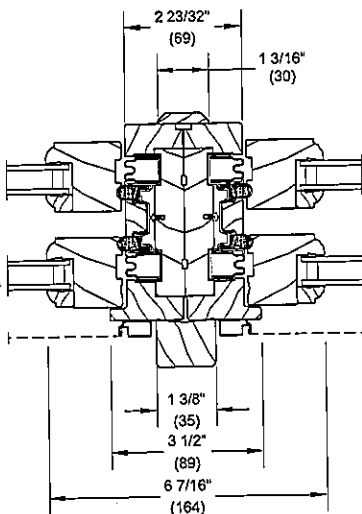
# Wood Ultimate Insert Double Hung

## Section Details: Mullions

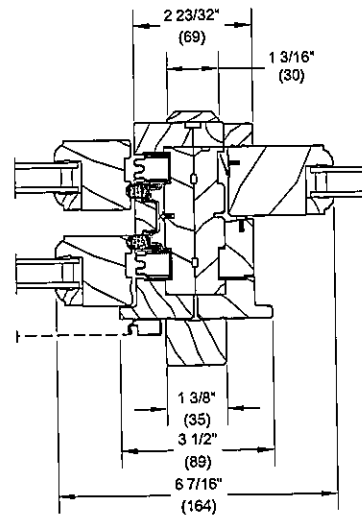
Scale: 3" = 1' 0"



Vertical Mullion - with 4" Space Mull  
Operator/Operator



Vertical Mullion  
Operator/Operator/Direct Mull



Vertical Mullion  
Operator/Picture/Direct Mull