

Town of Brunswick, Maine

DEPARTMENT OF PLANNING AND DEVELOPMENT

DRAFT FINDINGS OF FACT REQUEST FOR CERTIFICATE OF APPROPRIATENESS FOR ADDITIONS AND ALTERATIONS VILLAGE REVIEW BOARD

PROJECT NAME: 108-110 Maine Street; Bank of America Windows

CASE NUMBER: VRB 25-013

LOCATION: Map U13, Lot 38; 108-110 Maine Street

APPLICANT: Christian Klein
Approach Architects
54 Newport Street
Arlington, MA 02476

OWNER: Fleet Bank of Maine
c/o Bank of America
PO Box 32547
Charlotte, NC 28232

REVIEW DATE: June 17, 2025

PROJECT SUMMARY

The applicant is requesting a Certificate of Appropriateness for Alterations to replace all of the (19) first story windows in the Bank of America building at 108-110 Maine Street with new Pella Reserve aluminum-clad wood windows. The style of the new windows will match the existing as closely as possible; they will feature low-E insulated glass and integrated grilles with 7/8" aluminum-clad muntin bars on the exterior. The existing window trim will remain and be repainted. The neo-classical building is a contributing structure in the VRO and was constructed in 1917.

REVIEW STANDARDS, SECTION 5.2.8.C, TOWN OF BRUNSWICK ZONING ORDINANCE

(1) General Standard

- a. **All Certificates of Appropriateness for new construction, additions, alterations, relocations or demolition shall be in accordance with applicable requirements of this Ordinance.**

There is no proposed change in size to the window openings and therefore the modifications to the property do not require a building permit.

- b. **In meeting the standards of this Ordinance, the applicant may obtain additional guidance from the *U.S. Secretary of Interior's Standards for Rehabilitating Historic Buildings* and the *Village Review Zone Design Guidelines*.**

The Village Review Overlay District Design Guidelines state that, for replacement windows, “the first and best option to maintain historic character is to look for a replacement in kind – a window that matches the size, material, muntin configuration, and detail of the existing window.”

(2) New Construction and Additions and Alterations to Existing Structures

- a. In approving applications for a Certificate of Appropriateness for new construction, additions or alterations to contributing resources, the reviewing entity shall make findings that the following standards have been satisfied:**

- i. Any additions or alterations shall be designed in a manner to minimize the overall effect on the historic integrity of the contributing resource.**

The applicant proposes to use Pella Reserve Series Traditional Clad Monumental Hung and Traditional Clad Picture windows. Eleven of the new monumental windows will match the existing 10 over 15-light double-hung windows; one of these windows will match an existing 6 over 9-light window. The seven fixed windows will be replaced with 20-light picture windows that also closely match the existing.

The Pella website boasts that the Reserve series products have been approved for use by the National Park Service for use on projects with historic tax credits on a case by case basis. As noted, the windows will remain the same size and in the same configuration as the existing windows.

- ii. Alterations shall remain visually compatible with the existing streetscape.**

The proposed revisions do not affect the existing streetscape.

- iii. Concealing of distinctive historic or architectural character-defining features is prohibited. If needed, the applicant may replace any significant features with in-kind replacement and/or accurate reproductions.**

No significant features are to be concealed. It is unclear if any of the existing windows are original to the building.

- iv. New construction or additions shall be visually compatible with existing mass, scale and materials of the surrounding contributing resources.**

Not applicable.

- v. When constructing additions, the applicant shall maintain the structural integrity of existing structures.**

Not applicable.

- b. In approving applications for a Certificate of Appropriateness for new construction of, or additions to commercial, multi-family and other non-residential structures, the Village Review Board shall make findings that the following additional standards**

have been satisfied.

- i. **Where practicable, new off-street parking shall be located to the rear of the principal building and shall be accessed from a secondary street. In cases where off-street parking currently exists in a front or side yard, the parking area shall be screened from the public right-of-way with landscaping or fencing.**

Not applicable.

- ii. **Site plans shall identify pedestrian ways and connections from parking areas to public rights-of-way.**

Not applicable.

- iii. **All dumpsters and mechanical equipment shall be located no less than 25 feet away from a public right-of-way, unless required by a public utility, and shall be screened from public view.**

Not applicable.

- iv. **Roof-top mounted heating, ventilation, air conditioning and energy producing equipment shall be screened from the view of any public right-of-way or incorporated into the structural design to the extent that either method does not impede functionality. Parapets, projecting cornices, awnings or decorative roof hangs are encouraged. Flat roofs without cornices are prohibited.**

Not applicable.

- v. **The use of cinder block, concrete and concrete block is prohibited on any portion of a structure that is visible from the building's exterior, with the exception of use in the building's foundation.**

Not applicable.

- vi. **The use of vinyl, aluminum or other non-wood siding is permitted as illustrated in the Village Review Board Design Guidelines. Asphalt and asbestos siding are prohibited.**

Not applicable.

- vii. **Buildings with advertising icon images built into their design ("trademark buildings") are prohibited.**

Not applicable.

- viii. **No building on Maine Street shall have a horizontal expanse of more than 40 feet without a pedestrian entry.**

Not applicable.

- ix. **No building on Maine Street shall have more than 15 feet horizontally of windowless wall.**

Not applicable.

- x. **All new buildings and additions on Maine Street shall be built to the front property line. This may be waived if at least 60 percent of the building's front facade is on the property line, and the area in front of the setback is developed as a pedestrian space.**

Not applicable.

- xi. **If adding more than 50 percent new floor area to a structure located on Maine Street, the addition shall be at least two (2) stories high and/or not less than 20 feet tall at the front property line.**

Not applicable.

- xii. **The first-floor facade of any portion of a building that is visible from Maine Street shall include a minimum of 50 percent glass. Upper floors shall have a higher percentage of solid wall, between 15 percent and 40 percent glass.**

Not applicable.

- c. **Proposed additions or alterations to noncontributing resources shall be designed to enhance or improve the structure's compatibility with nearby contributing resources as compared to the existing noncontributing resources.**

The building is a contributing structure and therefore this standard is not applicable.

(3) Signs

Signs shall comply with the requirements of Section 4.13 (Signs) with consideration given to the Village Review Zone Design Guidelines.

No new signage is proposed as part of this project; not applicable

(4) Demolition and Relocation

- a. **Demolition or partial demolition or relocation of a contributing or, if visible from a public right-of-way, a noncontributing resource, excluding incidental or noncontributing accessory buildings and structures located on the same property, shall be prohibited unless the application satisfies at least one of the following criteria.**

- i. **The structure poses an imminent threat to public health or safety. An application must be accompanied by a report from a qualified structural engineer for review by the Codes Enforcement Officer and photographs depicting the current condition of the building.**

There is no demolition proposed and therefore this standard is not applicable.

- ii. **The condition of the structure is such that it cannot be adapted for any other permitted use, whether by the current owner or by a purchaser, resulting in a reasonable economic return, regardless of whether that return represents the most profitable return possible, provided that the applicant can document he/she has not contributed significantly to the deterioration of the structure. An opinion shall be provided from an architect, licensed engineer, developer, real estate consultant or appraiser or from a professional experienced in historic rehabilitation, as to the economic feasibility for restoration, renovation, or rehabilitation of the contributing resource versus demolition or relocation of same.**

Not applicable.

- b. **Demo, partial demolition or relocation of a noncontributing resource visible from a public right-of-way, shall be approved by the Village Review Board if it is determined that the proposed replacement structure or reuse of the property is deemed more appropriate and compatible with the surrounding contributing resources than the resource proposed for demolition.**

Not applicable.

DRAFT MOTIONS
MAP U13 LOT 38 (108-110 MAINE STREET)
REQUEST FOR A CERTIFICATE OF APPROPRIATENESS FOR ALTERATIONS
VILLAGE REVIEW BOARD
REVIEW DATE: JUNE 17, 2025

Draft Motion 1: That the Certificate of Appropriateness application is deemed complete.

Motion: Second: Vote:

Draft Motion 2: That the Board approves the **Certificate of Appropriateness for Alterations** to replace all (19) of the windows on the first story of the property located at Map U13, Lot 38; 108-110 Maine Street, as outlined in the application and as satisfied by Subsection 5.2.8.C with the following condition:

1. That the Board's review and approval does hereby refer to these findings of fact, the plans and materials submitted by the applicant and the written and oral comments of the applicant, his representatives, reviewing officials, and members of the public as reflected in the public record. Any changes to the approved plan not called for in these conditions of approval or otherwise approved by the Director of Planning and Development as a minor modification, shall require further review and approval in accordance with the Brunswick Zoning Ordinance.

Motion: Second: Vote:

U13-38

HISTORIC PRESERVATION SURVEY

Cumberland

Brunswick

106/108/110 Maine

County

City/Town

Street Address and Number

historic: First National Bank

common: Maine National Bank

Name of Building/site:

Common and/or Historic

Approximate Date: 1917 Style: Neo-Classic

Type of Structure:

☐ Residential ☒ Commercial ☐ Industrial ☐ Other:

Condition: ☒ Good ☐ Fair ☐ Poor

Endangered: ☐ No ☐ Yes

Surveyor: J. Goff Organization: Pejscot Regional Survey

Rating:

Historic Significance to the Community:

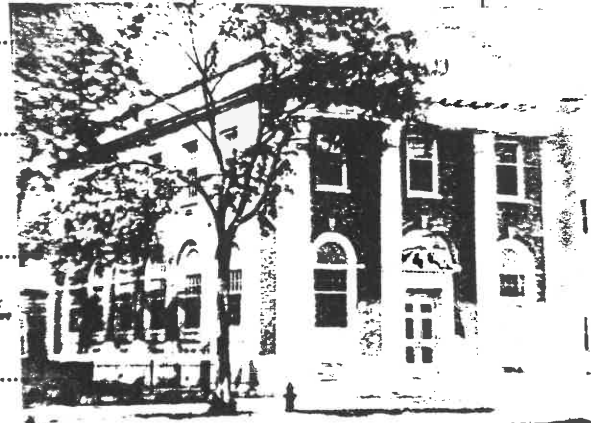
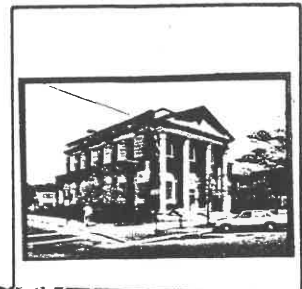
Earlier Buildings on site: 1874 Benjamin Greene res. here until 1905 move to 259 Me.

Pastime Theatre on corner property before First National Bank, also.

1794 Lemuel Swift ("Forsaith") estate stood on site of #106 until razed in 1967.

(For Additional Information - Use Reverse Side)

(Note: Front and side "Federal" fanlight windows removed before 1980 top photo.)



106-110 MAINE

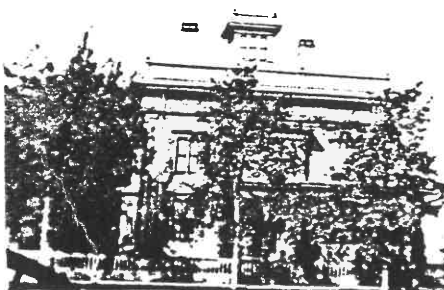
Maps: 1910 #106=Forsaith Est.

corner property-no #- =W.O. Gould

Deeds:

Newspaper: Brunswick Record 4/28/1955 "For a few years the Pastime theatre was located on the lot then the present building of the First National Bank was built during World War I."

Other: Shipman p. 10 "Swift-Forsaith house...built for Lemuel Swift in 1794...taken down in 1967"



1898 views of 1874 Benj. Greene residence (left), 1794 Swift-Forsaith house on property

Received: _____
By: _____

VRB Case #: _____

**VILLAGE REVIEW OVERLAY
CERTIFICATE OF APPROPRIATENESS
APPLICATION**

1. Project Applicant:

Name: Christian Klein / Approach Architects
Address: 54 Newport Street
Arlington, MA 02476
Phone Number: 617-962-3464
Email Address: cklein@approach3.com

2. Project Property Owner:

Name: Fleet Bank of Maine (CC#79444) c/o Bank of America
Address: P.O. Box 32547
Charlotte, NC 28232
Phone Number: 857-343-2774
Email Address: Carlos.Raduenz@cbre.com

3. Authorized Representative: (If different than applicant)

Name: Carlos Raduenz / CBRE - Turner & Townsend
Address: 100 Federal Street
Boston, MA 01810
Phone Number: 857-343-2774
Email Address: Carlos.Raduenz@cbre.com

4. Physical Location of Property Being Affected:

Address: 108-110 Maine Street, Brunswick, ME

5. Tax Assessor's Map # U13 Lot # 38 of subject property.

6. Underlying Zoning District GM6

7. Type of Activity (check all that apply):

- ☐ Additions and New Construction
- ☐ Structural Alteration
- ☐ Demolition/Moving of Structure
- ☐ Sign Permit

8. Describe the location and nature of the proposed change(s), including a brief description of the proposed construction, reconstruction, alteration, demolition, proposed re-use, or other change (use separate sheet if necessary):

Removal and replacement of existing first floor windows (19 total) with new aluminum clad wood windows to match existing windows as closely as possible. Existing exterior trim to be repainted.
New windows to be Pella Reserve Traditional Clad Monumental Hung Windows and Pella Reserve Traditional Clad Picture Windows
with aluminum clad sash exteriors, painted wood sash interiors, Low-E insulated glass with integrated grilles featuring 7/8" clad muntin bars
on the exterior and 7/8" painted wood muntin bars on the interior.

Applicant Name (printed): Christian Klein

Applicant Signature: _____

Property Owner Name (printed): Carlos Raduenz

Property Owner Signature: _____

**VILLAGE REVIEW OVERLAY
APPLICATION FOR CERTIFICATE OF COMPLIANCE
APPLICATION CHECK-LIST**

This checklist will be completed by the Department of Planning and Development. The Department requires that all application materials be submitted in BOTH hard copy and digital format. In addition, for Major Review applications, EIGHT (8) HARD COPIES are required after your application is considered complete by Department staff. Your project will not be placed on the Village Review Board's agenda until this determination is made. For assistance, please contact the Department of Planning and Development at (207)725-6660.

- ☒ Completed application form
- ☒ A copy of the building survey prepared by the Pejepscot Historical Society pertaining to the structure under review (*provided by Department Staff*).
- ☒ A drawing showing the design, texture, and location of any construction, alteration, demolition for which a certificate is required. The drawing shall include plans and exterior elevations drawn to scale, with sufficient detail to show their relations to exterior appearances and the architectural design of the building. Drawings need not be prepared by an architect or engineer, but shall be clear, complete, and specific.
- ☒ A site plan or photographs showing the relationship of the changes to the surroundings.
- ☐ If architectural features are to be removed or replaced (including but not limited to original windows, siding, roofing material and other design elements), provide photographic documentation or a written assessment from a preservation professional or contractor explaining the condition of the material and reason for removal/replacement.
- ☒ Photographs of the building(s) involved, its context, and detailed photos of immediate area.
- N/A ☐ List all proposed materials and products, and clearly identify their location on the drawings. Indicate texture of material, if applicable.
- ☒ Provide manufacturer's product information and, if possible, bring material samples to the meeting.
- N/A ☐ Provide information such as dimensions, photographs or source for salvaged or reused materials.
- N/A ☐ For demolition applications, provide detailed information addressing standards contained in Subsections 5.2.8.C (4) of the Brunswick Zoning Ordinance.

This application was certified as being complete on 6/3/25 (date) by Julie Brown of the Department of Planning and Development.

THIS APPLICATION WAS:

- ☐ **Granted**
- ☐ **Granted With Conditions**
- ☐ **Denied**
- ☒ **Forwarded to Village Review Board**
- ☐ **Building Permit Required**
- ☒ **Building Permit NOT Required**

Applicable Comments: _____

Signature of Department Staff Reviewing Application

COMPLIANCE WITH ZONING STANDARDS


Notice: *This form is to be completed by the Codes Enforcement Officer and filed with the application.*

This is to certify that the application for Certificate of Appropriateness submitted by

CHRISTIAN KLEIN, relating to property designated on Assessors Tax Map # U13 and

Lot # 38 has been reviewed by the Codes Enforcement Officer and has been found to be in compliance with all applicable zoning standards:

Comments: _____

Signed: 
Print: Taylor Budin
Code Enforcement Officer

Date: 6-12-25





Fixed Sash In Frame – General Information

 Supporting Documents W-FW-2

Product Selection Guide

 Sound Transmission Class and Outdoor-Indoor Transmission Class W-FW-3

 Size and Performance Data W-FW-3

 Features and Options W-FW-4

 Mitered Corner Sizes and Dimensions W-FW-5

Glazing Performance W-FW-6

Grille Types W-FW-12

Typical Grille Patterns

 Curved Shapes W-FW-13

 Arch Heads W-FW-14

Interior Glazed – Curved Shapes W-FW-15

Interior Glazed – Angled Shapes W-FW-16

Exterior Glazed Size and Glazing Options W-FW-17

 Impact-Resistant Glass W-FW-18

Design Data - Design Pressure Performance

 Clad Curved W-FW-19

 Advanced Clad Curved W-FW-20

Detailed Product Descriptions

 Interior Glazed W-FW-21

 Exterior Glazed W-FW-22

Unit Sections

 Curved Interior Glazed W-FW-23

 Curved Interior Glazed - Impact-Resistant W-FW-24

 Rectangular and Angled Interior Glazed W-FW-25

 Rectangular Interior Glazed - Impact-Resistant W-FW-26

 Rectangular Exterior Glazed W-FW-27

 Mitered Corner W-FW-28

Document Navigation Tips:

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The Pella logo on each page is a link back to this table of contents.

Bookmarks are also included in this PDF document and are available as an additional navigation option.

The information published in this document is believed to be accurate at the time of publication. However, because we are constantly working to improve our products, specifications are subject to change without notice. Consult your local Pella representative for up-to-date product information.



Supporting documents for this product:

Test Reports:

https://media.pella.com/professional/adm/CertificationReports/Test_Reports_FFDS.pdf?utm_source=pdfdoc

Rectangular CSI Specs (readable using Microsoft Word or other text editing application):

https://media.pella.com/professional/adm/Wood-CSI_Specs/08553.rtf?utm_source=pdfdoc

Curved Shapes CSI Specs (readable using Microsoft Word or other text editing application):

https://media.pella.com/professional/adm/Wood-CSI_Specs/08554.rtf?utm_source=pdfdoc

Impact-Resistant Rectangular CSI Specs (readable using Microsoft Word or other text editing application):

https://media.pella.com/professional/adm/Wood-CSI_Specs/08553-HIG.rtf?utm_source=pdfdoc

Impact-Resistant Curved Shapes CSI Specs (readable using Microsoft Word or other text editing application):

https://media.pella.com/professional/adm/Wood-CSI_Specs/08554-HIG.rtf?utm_source=pdfdoc

AIA Masterspec (readable using Microsoft Word or other text editing application):

https://media.pella.com/professional/adm/Wood-CSI_Specs/Masterspec/085200_fl.doc?utm_source=pdfdoc

Interior Glazed (Rectangular and Shapes) Detailed Product Description (readable using Microsoft Word or other text editing application):

https://media.pella.com/professional/adm/Clad-Wood/FFDS-INTGL.rtf?utm_source=pdfdoc

Exterior Glazed (Rectangular Only) Detailed Product Description (readable using Microsoft Word or other text editing application):

https://media.pella.com/professional/adm/Clad-Wood/FFDS-EXTGL.rtf?utm_source=pdfdoc

CAD cross sections (interior and exterior glazed, rectangular and curved shapes) (requires appropriate CAD software to read and use):

https://media.pella.com/professional/adm/Clad-Wood/PellaClad-FxdFrm-Details_D.dwg?utm_source=pdfdoc

Mitered Corner CAD cross sections (requires appropriate CAD software to read and use):

https://media.pella.com/professional/adm/Clad-Wood/PR-MiterCorner-Detail_D.dwg?utm_source=pdfdoc

Rectangular Revit - 3D & BIM (requires appropriate software to read and use):

https://media.pella.com/professional/adm/RevitFiles/Window-Fixed-Pella-Clad-Rectangular.zip?utm_source=pdfdoc

Curved Shapes Revit - 3D & BIM (requires appropriate software to read and use):

https://media.pella.com/professional/adm/RevitFiles/Window-Fixed-Pella-Clad-Shapes.zip?utm_source=pdfdoc

Rectangular Sketchup (requires appropriate software to read and use):

https://media.pella.com/professional/adm/Clad-Wood/PellaSKP_Fixed_DirectSet-Rectangular.zip?utm_source=pdfdoc

Curved Shapes Sketchup (requires appropriate software to read and use):

https://media.pella.com/professional/adm/Clad-Wood/PellaSKP_Fixed_DirectSet-shapes.zip?utm_source=pdfdoc

Combination Recommendations:

https://media.pella.com/professional/adm/Clad-Wood/D_Combinations.pdf?utm_source=pdfdoc

Installation Details:

https://media.pella.com/professional/adm/Clad-Wood/F_InstallationDetails.pdf?utm_source=pdfdoc

Impact-Resistant Casement, Complete Product Information:

https://media.pella.com/professional/adm/Clad-Wood/Pella-ImpactResistant_Casement.pdf?utm_source=pdfdoc

Casement Shapes, Complete Product Information:

https://media.pella.com/professional/adm/Clad-Wood/Pella-Reserve_CasementShapes.pdf?utm_source=pdfdoc

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The information published in this document is believed to be accurate at the time of publication. However, because we are constantly working to improve our products, specifications are subject to change without notice. Consult your local Pella representative for up-to-date product information.



Clad-Wood Fixed Frame Direct Set Windows

Size and Performance Data

	Shapes Other Curved	Rectangular / Angled Shapes
Sizes		
Custom shapes and sizes made to order	●	●
Interior Glazed Unit Performance^{1, 2}		
Meets or exceeds AAMA/WDMA ratings – Fin Installation	F-CW40 – F-AW50 Hallmark Certified	F-CW40 – F-AW50 Hallmark Certified
Meets or exceeds AAMA/WDMA ratings - Clip or Screw-through-frame Installation	F - CW60 – AW90 Hallmark Certified	F-CW60 – F-AW90 Hallmark Certified
Air Infiltration (cfm/ft ² of frame @ 6.24 psf wind pressure)	0.05	0.05
Water Resistance	9.2 - 15.05 psf	9.2 - 15.05 psf
Products with Impact-Resistant Glass	Up to F - CW90 Hallmark Certified	UP TO F-CW90 Hallmark Certified

Sound Transmission Class /Outdoor-Indoor Transmission Class

Product	Frame Size Tested ³	Glazing System				STC Rating	OITC Rating
		Overall Glazing Thickness	Exterior Glass Thickness	Center Glass Thickness	Interior Glass Thickness		
Rectangular and Angled Shaped Clad Window	47" x 59"	Fixed Double-Pane Glazing					
		13/16"	3mm	—	3mm	27	22
		13/16"	4mm	—	4mm	28	24
		13/16"	5mm	—	3mm	31	26
		1"	4mm	—	6mm	34	28
		1"	6mm	—	6mm	31	26
		1"	4mm	—	7mm PVB	34	29
		1-1/4"	6mm	—	12mm PVB	38	34
		Fixed Impact-Resistant Laminated Glazing					
		1"	11.7mm PVB	—	5mm	36	32
		1"	11.7mm SGP	—	5mm	35	31
		1-1/4"	13.6mm SGP	—	6mm	37	31
		Fixed Triple-Pane Glazing					
		1-1/4"	5mm	5mm	5mm	31	26

(—) = Not Available

(1) Maximum performance for single unit when glazed with the appropriate glass thickness. See Design Data pages in this section for specific product performance class and grade values.

(2) AAMA / WDMA AW performance class attainable with EnduraClad Plus finish. Contact Pella Representative for details.

(3) ASTM E 1425 defines standard sizes for acoustical testing. Ratings achieved at that size are representative of all sizes of the same configuration.

Not all sizes are Hallmark Certified.



Clad-Wood Fixed Frame Direct Set Windows

Features and Options

	Curved Shapes	Rectangular / Angled Shapes
Glazing		
Glazing Type		
Dual-Pane Insulating Glass	S	S
Triple-Pane Insulating Glass	O	O
Clad panel with hardboard core ¹	—	O
Insulated Glass Options / Low-E Types		
Advanced Low-E	S	S
SunDefense™ Low-E	O	O
SunDefense+ Low-E	O	O
AdvancedComfort Low-E	O	O
NaturalSun Low-E	O	O
NaturalSun+ Low-E	O	O
Clear (no Low-E coating)	O	O
Additional Glass Options		
Annealed Glass	S	S
Tempered Glass	O	O
Obscure Glass ²	O	O
Tinted Glass (Bronze, Gray and Green)	O	O
Spandrel Glass	O	O
Non-Impact Laminated Dual-Pane Insulating Glass	O	O
Impact-Resistant Laminated Dual-Pane Insulating Glass	O	O
Gas Fill/High Altitude		
Argon	S	S
High altitude	O	O
Exterior		
EnduraClad® aluminum-clad exterior	S	S
EnduraClad Plus aluminum-clad exterior	O	O
Cladding Colors		
Standard colors ²	S	S
Feature Colors, Custom colors ¹	O	O
Interior Finish		
Factory primed interior	O	O
Factory prefinished paint ¹	O	O
Factory prefinished stain ¹	O	O
Wood Types		
Pine	S	S
Mahogany	O	O
Douglas Fir	O	O
Grilles		
Integral Light Technology® Grilles		
Traditional	O	O ⁴
Sunburst	O	—
Custom	O	—
Simulated Divided Light Grilles		
Traditional, Prairie, Cross, Top Row	O ³	O
Sunburst, Starburst	O	—
Grilles-Between-the-Glass		
Traditional, Prairie, Cross, Top Row	O ³	O
Sunburst	O	—

S = Standard; O = Optional; (—) = Not Available

(1) Contact your local Pella sales representative for current availability, designs and/or color options.

(2) Pella Lifestyle Series is limited to color options within that product offering. Contact your local Pella sales representative for current color options

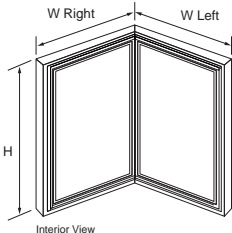
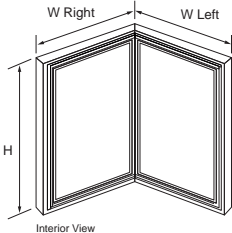
(3) In select shapes. Cross and Top Row not available in curved units.

(4) Only available in Contemporary rectangular and angle shape units with square grille profile.



Clad-Wood Fixed Frame Direct Set Windows

Mitered Corner Sizes and Dimensions

Mitered Corner		Minimum	Maximum	Restrictions
Fixed Frame Direct Set				
	W Left	12"	4' 0"	Max Frame area of each side cannot be > 54.5 sq ft. Max Glass Area of each side cannot be > 48 sq ft. See Fixed Frame Direct Set product section for features and options
	W Right	12"	4' 0"	
	Height	12"	6' 1"	
Fixed Sash in Frame (Casement)				
	W Left	12"	4' 0"	Max Frame area of each side cannot be > 54.5 sq ft. Max Glass Area of each side cannot be > 48 sq ft.
	W Right	12"	4' 0"	
	Height	12"	6' 1"	

See Casement sections for standard sizes and performance information, corner unit casements included here for comparison purposes.



Clad-Wood Fixed Frame Direct Set Windows

Glazing Performance - Total Units

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ¹				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.		Canada ²			
										Zone		ER	Zone		
										Rectangular And Curved Shapes					
			N	NC	SC	S	CA								
13/16"	Clear IG	PEL-N-18-04004-00001	3	3	Air	0.47	0.69	0.72	43						
	with grilles-between-the-glass	PEL-N-18-04005-00001				0.47	0.62	0.65	43						
	with integral grilles	PEL-N-18-04006-00001				0.47	0.62	0.65	43						
13/16"	Clear IG	PEL-N-18-04008-00001	4	4	Air	0.47	0.67	0.72	42						
	with grilles-between-the-glass	PEL-N-18-04009-00001				0.47	0.61	0.65	42						
	with integral grilles	PEL-N-18-04010-00001				0.47	0.61	0.65	42						
13/16"	Clear IG	PEL-N-18-04020-00001	5	5	Air	0.47	0.66	0.71	42						
	with grilles-between-the-glass	PEL-N-18-04021-00001				0.47	0.60	0.64	42						
	with integral grilles	PEL-N-18-04022-00001				0.47	0.60	0.64	42						
13/16"	Advanced Low-E IG	PEL-N-18-04208-00001	3	3	Argon	0.28	0.32	0.62	57						
	with grilles-between-the-glass	PEL-N-18-04209-00001				0.28	0.29	0.55	57						
	with integral grilles	PEL-N-18-04210-00001				0.29	0.29	0.55	57						
13/16"	Advanced Low-E IG	PEL-N-18-04216-00001	4	4	Argon	0.28	0.32	0.61	57						
	with grilles-between-the-glass	PEL-N-18-04217-00001				0.28	0.29	0.55	57						
	with integral grilles	PEL-N-18-04218-00001				0.28	0.29	0.55	57						
13/16"	Advanced Low-E IG	PEL-N-18-04240-00001	5	5	Argon	0.27	0.32	0.60	56						
	with grilles-between-the-glass	PEL-N-18-04241-00001				0.27	0.29	0.54	56						
	with integral grilles	PEL-N-18-04242-00001				0.28	0.29	0.54	56						
13/16"	SunDefense™ Low-E IG	PEL-N-18-04376-00001	3	3	Argon	0.28	0.24	0.57	57						
	with grilles-between-the-glass	PEL-N-18-04377-00001				0.28	0.22	0.51	57			SC	S		
	with integral grilles	PEL-N-18-04378-00001				0.28	0.22	0.51	57			SC	S		
13/16"	SunDefense™ Low-E IG	PEL-N-18-04384-00001	4	4	Argon	0.27	0.24	0.57	57						
	with grilles-between-the-glass	PEL-N-18-04385-00001				0.27	0.22	0.51	57			SC	S		
	with integral grilles	PEL-N-18-04386-00001				0.28	0.22	0.51	57			SC	S		
13/16"	SunDefense™ Low-E IG	PEL-N-18-04408-00001	5	5	Argon	0.27	0.24	0.56	56						
	with grilles-between-the-glass	PEL-N-18-04409-00001				0.27	0.22	0.50	56			SC	S		
	with integral grilles	PEL-N-18-04410-00001				0.28	0.22	0.50	56			SC	S		
13/16"	SunDefense+ Low-E IG	PEL-N-18-04424-00001	3	3	Argon	0.23	0.24	0.56	46		NC				
	with grilles-between-the-glass	PEL-N-18-04425-00001				0.23	0.21	0.50	46		NC	SC	S		
	with integral grilles	PEL-N-18-04426-00001				0.24	0.21	0.50	46		NC	SC	S		
13/16"	SunDefense+ Low-E IG	PEL-N-18-04432-00001	4	4	Argon	0.23	0.24	0.55	45		NC				
	with grilles-between-the-glass	PEL-N-18-04433-00001				0.23	0.22	0.50	45		NC	SC	S		
	with integral grilles	PEL-N-18-04434-00001				0.23	0.22	0.50	45		NC	SC	S		
13/16"	SunDefense+ Low-E IG	PEL-N-18-04456-00001	5	5	Argon	0.23	0.24	0.55	44		NC				
	with grilles-between-the-glass	PEL-N-18-04457-00001				0.23	0.22	0.49	44		NC	SC	S		
	with integral grilles	PEL-N-18-04458-00001				0.23	0.22	0.49	44		NC	SC	S		
13/16"	AdvancedComfort Low-E IG	PEL-N-18-04328-00001	3	3	Argon	0.23	0.32	0.60	45		NC				
	with grilles-between-the-glass	PEL-N-18-04329-00001				0.23	0.29	0.54	45		NC				
	with integral grilles	PEL-N-18-04330-00001				0.24	0.29	0.54	45		NC				
13/16"	AdvancedComfort Low-E IG	PEL-N-18-04336-00001	4	4	Argon	0.23	0.31	0.59	45		NC				
	with grilles-between-the-glass	PEL-N-18-04337-00001				0.23	0.29	0.53	45		NC				
	with integral grilles	PEL-N-18-04338-00001				0.24	0.29	0.53	45		NC				
13/16"	AdvancedComfort Low-E IG	PEL-N-18-04360-00001	5	5	Argon	0.23	0.31	0.59	44		NC				
	with grilles-between-the-glass	PEL-N-18-04361-00001				0.23	0.28	0.53	44		NC				
	with integral grilles	PEL-N-18-04362-00001				0.24	0.28	0.53	44		NC				

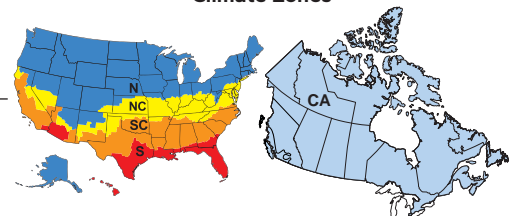
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Climate Zones





Clad-Wood Fixed Frame Direct Set Windows

Glazing Performance - Total Units

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂	
										Zone				ER	Zone
										Rectangular And Curved Shapes					
13/16"	NaturalSun Low-E IG	PEL-N-18-04112-00001	3	3	Argon	0.29	0.61	0.70	57					39	CA
	with grilles-between-the-glass	PEL-N-18-04113-00001				0.29	0.55	0.63	57					35	CA
	with integral grilles	PEL-N-18-04114-00001				0.30	0.55	0.63	57					34	CA
13/16"	NaturalSun Low-E IG	PEL-N-18-04120-00001	4	4	Argon	0.29	0.59	0.69	56					38	CA
	with grilles-between-the-glass	PEL-N-18-04121-00001				0.29	0.54	0.62	56					35	CA
	with integral grilles	PEL-N-18-04122-00001				0.30	0.54	0.62	56					34	CA
13/16"	NaturalSun Low-E IG	PEL-N-18-04144-00001	5	5	Argon	0.28	0.58	0.69	55					38	CA
	with grilles-between-the-glass	PEL-N-18-04145-00001				0.28	0.53	0.62	55					36	CA
	with integral grilles	PEL-N-18-04146-00001				0.30	0.53	0.62	55						
13/16"	NaturalSun+ Low-E IG	PEL-N-18-04160-00001	3	3	Argon	0.24	0.55	0.68	45	N				42	CA
	with grilles-between-the-glass	PEL-N-18-04161-00001				0.24	0.50	0.61	45	N				39	CA
	with integral grilles	PEL-N-18-04162-00001				0.25	0.50	0.61	45	N				38	CA
13/16"	NaturalSun+ Low-E IG	PEL-N-18-04168-00001	4	4	Argon	0.24	0.54	0.68	44	N				41	CA
	with grilles-between-the-glass	PEL-N-18-04169-00001				0.24	0.48	0.61	44	N				38	CA
	with integral grilles	PEL-N-18-04170-00001				0.24	0.48	0.61	44	N				38	CA
13/16"	NaturalSun+ Low-E IG	PEL-N-18-04192-00001	5	5	Argon	0.24	0.53	0.67	43	N				41	CA
	with grilles-between-the-glass	PEL-N-18-04193-00001				0.24	0.48	0.60	43	N				38	CA
	with integral grilles	PEL-N-18-04194-00001				0.24	0.48	0.60	43	N				38	CA
1"	Advanced Low-E IG	PEL-N-18-04248-00001	6	6	Argon	0.28	0.31	0.59	56						
	with grilles-between-the-glass	PEL-N-18-04249-00001				0.28	0.29	0.53	56						
	with integral grilles	PEL-N-18-04250-00001				0.28	0.29	0.53	56						
1"	SunDefense™ Low-E IG	PEL-N-18-04416-00001	6	6	Argon	0.27	0.24	0.55	56						
	with grilles-between-the-glass	PEL-N-18-04417-00001				0.27	0.22	0.50	56				SC	S	
	with integral grilles	PEL-N-18-04418-00001				0.28	0.22	0.50	56				SC	S	
1"	SunDefense+ Low-E IG	PEL-N-18-04464-00001	6	6	Argon	0.23	0.23	0.54	45			NC	SC	S	
	with grilles-between-the-glass	PEL-N-18-04465-00001				0.23	0.21	0.48	45			NC	SC	S	
	with integral grilles	PEL-N-18-04466-00001				0.23	0.21	0.48	45			NC	SC	S	
1"	AdvancedComfort Low-E IG	PEL-N-18-04368-00001	6	6	Argon	0.23	0.31	0.58	44			NC			
	with grilles-between-the-glass	PEL-N-18-04369-00001				0.23	0.28	0.52	44			NC			
	with integral grilles	PEL-N-18-04370-00001				0.24	0.28	0.52	44			NC			
1"	NaturalSun Low-E IG	PEL-N-18-04152-00001	6	6	Argon	0.29	0.57	0.68	55					37	CA
	with grilles-between-the-glass	PEL-N-18-04153-00001				0.29	0.51	0.61	55						
	with integral grilles	PEL-N-18-04154-00001				0.30	0.51	0.61	55						
1"	NaturalSun+ Low-E IG	PEL-N-18-04200-00001	6	6	Argon	0.24	0.51	0.66	43	N				39	CA
	with grilles-between-the-glass	PEL-N-18-04201-00001				0.24	0.46	0.59	43	N				37	CA
	with integral grilles	PEL-N-18-04202-00001				0.24	0.46	0.59	43	N				37	CA

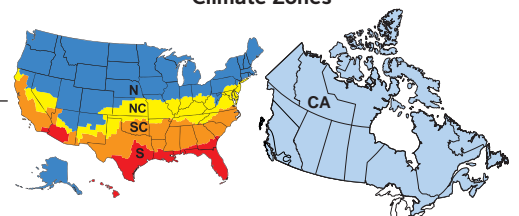
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Climate Zones





Clad-Wood Fixed Frame Direct Set Windows

Glazing Performance - Total Units

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂	
										Zone				ER	Zone
										N	NC	SC	S		
Rectangular And Curved Shapes With Tinted Glazing										N	NC	SC	S	CA	
13/16"	Bronze Advanced Low-E IG	PEL-N-18-04256-00001	5	3	Argon	0.27	0.29	0.40	58						
	with grilles-between-the-glass	PEL-N-18-04257-00001				0.27	0.26	0.36	58						
	with integral grilles	PEL-N-18-04258-00001				0.29	0.26	0.36	58						
13/16"	Gray Advanced Low-E IG	PEL-N-18-04280-00001	5	3	Argon	0.27	0.26	0.34	58						
	with grilles-between-the-glass	PEL-N-18-04281-00001				0.27	0.24	0.31	58						
	with integral grilles	PEL-N-18-04282-00001				0.29	0.24	0.31	58						
13/16"	Green Advanced Low-E IG	PEL-N-18-04304-00001	5	3	Argon	0.27	0.33	0.54	58						
	with grilles-between-the-glass	PEL-N-18-04305-00001				0.27	0.30	0.49	58						
	with integral grilles	PEL-N-18-04306-00001				0.29	0.30	0.49	58						
13/16"	Reflective Bronze IG	PEL-N-18-04028-00001	5	5	Air	0.47	0.30	0.18	42						
	with grilles-between-the-glass	PEL-N-18-04029-00001				0.47	0.27	0.16	42						
	with integral grilles	PEL-N-18-04030-00001				0.47	0.27	0.16	42						
1"	Bronze Advanced Low-E IG	PEL-N-18-04272-00001	6	6	Argon	0.28	0.27	0.35	56						
	with grilles-between-the-glass	PEL-N-18-04273-00001				0.28	0.24	0.32	56						
	with integral grilles	PEL-N-18-04274-00001				0.29	0.24	0.32	56						
1"	Gray Advanced Low-E IG	PEL-N-18-04296-00001	6	6	Argon	0.28	0.24	0.30	56						
	with grilles-between-the-glass	PEL-N-18-04297-00001				0.28	0.22	0.27	56			SC	S		
	with integral grilles	PEL-N-18-04298-00001				0.29	0.22	0.27	56				S		
1"	Green Advanced Low-E IG	PEL-N-18-04320-00001	6	6	Argon	0.28	0.31	0.52	56						
	with grilles-between-the-glass	PEL-N-18-04321-00001				0.28	0.28	0.46	56						
	with integral grilles	PEL-N-18-04322-00001				0.29	0.28	0.46	56						
1"	Reflective Bronze IG	PEL-N-18-04036-00001	6	6	Air	0.46	0.27	0.16	42						
	with grilles-between-the-glass	PEL-N-18-04037-00001				0.46	0.25	0.15	42						
	with integral grilles	PEL-N-18-04038-00001				0.47	0.25	0.15	42						
1"	Reflective Gray IG	PEL-N-18-04048-00001	6	6	Argon	0.44	0.24	0.13	44						
	with grilles-between-the-glass	PEL-N-18-04049-00001				0.44	0.22	0.12	44						
	with integral grilles	PEL-N-18-04050-00001				0.45	0.22	0.12	44						

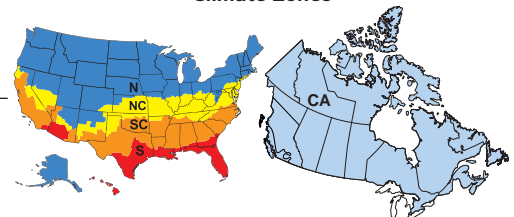
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Climate Zones





Clad-Wood Fixed Frame Direct Set Windows

Glazing Performance - Total Units

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ¹				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂	
										Zone				ER	Zone
										Rectangular And Curved Shapes - High Altitude Glazing					
13/16"	Advanced Low-E IG	PEL-N-18-04204-00001	3	3	Air	0.32	0.33	0.62	54						
	with grilles-between-the-glass	PEL-N-18-04205-00001				0.32	0.30	0.55	54						
	with integral grilles	PEL-N-18-04206-00001				0.33	0.30	0.55	54						
13/16"	Advanced Low-E IG	PEL-N-18-04212-00001	4	4	Air	0.32	0.32	0.61	53						
	with grilles-between-the-glass	PEL-N-18-04213-00001				0.32	0.29	0.55	53						
	with integral grilles	PEL-N-18-04214-00001				0.32	0.29	0.55	53						
13/16"	Advanced Low-E IG	PEL-N-18-04236-00001	5	5	Air	0.32	0.32	0.60	52						
	with grilles-between-the-glass	PEL-N-18-04237-00001				0.32	0.29	0.54	52						
	with integral grilles	PEL-N-18-04238-00001				0.32	0.29	0.54	52						
13/16"	SunDefense Low-E IG	PEL-N-18-04372-00001	3	3	Air	0.32	0.24	0.57	54						
	with grilles-between-the-glass	PEL-N-18-04373-00001				0.32	0.22	0.51	54				S		
	with integral grilles	PEL-N-18-04374-00001				0.32	0.22	0.51	54				S		
13/16"	SunDefense Low-E IG	PEL-N-18-04380-00001	4	4	Air	0.31	0.25	0.57	54						
	with grilles-between-the-glass	PEL-N-18-04381-00001				0.31	0.22	0.51	54				S		
	with integral grilles	PEL-N-18-04382-00001				0.32	0.22	0.51	54				S		
13/16"	SunDefense Low-E IG	PEL-N-18-04404-00001	5	5	Air	0.31	0.25	0.56	53						
	with grilles-between-the-glass	PEL-N-18-04405-00001				0.31	0.22	0.50	53				S		
	with integral grilles	PEL-N-18-04406-00001				0.32	0.22	0.50	53				S		
13/16"	SunDefense+ Low-E IG	PEL-N-18-04420-00001	3	3	Air	0.26	0.24	0.56	42						
	with grilles-between-the-glass	PEL-N-18-04421-00001				0.26	0.22	0.50	42			SC	S		
	with integral grilles	PEL-N-18-04422-00001				0.26	0.22	0.50	42			SC	S		
13/16"	SunDefense+ Low-E IG	PEL-N-18-04428-00001	4	4	Air	0.25	0.24	0.55	42		NC				
	with grilles-between-the-glass	PEL-N-18-04429-00001				0.25	0.22	0.50	42		NC	SC	S		
	with integral grilles	PEL-N-18-04430-00001				0.26	0.22	0.50	42			SC	S		
13/16"	SunDefense+ Low-E IG	PEL-N-18-04452-00001	5	5	Air	0.26	0.24	0.55	41						
	with grilles-between-the-glass	PEL-N-18-04453-00001				0.26	0.22	0.49	41			SC	S		
	with integral grilles	PEL-N-18-04454-00001				0.26	0.22	0.49	41			SC	S		
13/16"	AdvancedComfort Low-E IG	PEL-N-18-04324-00001	3	3	Air	0.26	0.32	0.60	42						
	with grilles-between-the-glass	PEL-N-18-04325-00001				0.26	0.29	0.54	42						
	with integral grilles	PEL-N-18-04326-00001				0.27	0.29	0.54	42						
13/16"	AdvancedComfort Low-E IG	PEL-N-18-04332-00001	4	4	Air	0.26	0.32	0.59	42						
	with grilles-between-the-glass	PEL-N-18-04333-00001				0.26	0.29	0.53	42						
	with integral grilles	PEL-N-18-04334-00001				0.26	0.29	0.53	42						
13/16"	AdvancedComfort Low-E IG	PEL-N-18-04356-00001	5	5	Air	0.26	0.31	0.59	40						
	with grilles-between-the-glass	PEL-N-18-04357-00001				0.26	0.28	0.53	40						
	with integral grilles	PEL-N-18-04358-00001				0.27	0.28	0.53	40						

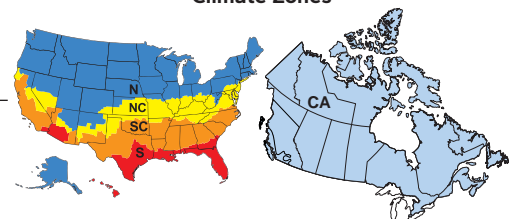
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Climate Zones





Clad-Wood Fixed Frame Direct Set Windows

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ¹				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown						
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ²		
										Zone				ER	Zone	
										Rectangular And Curved Shapes - High Altitude Glazing						
13/16"	NaturalSun Low-E IG	PEL-N-18-04108-00001	3	3	Air	0.33	0.60	0.70	53						34	CA
	with grilles-between-the-glass	PEL-N-18-04109-00001				0.33	0.55	0.63	53							
	with integral grilles	PEL-N-18-04110-00001				0.34	0.55	0.63	53							
13/16"	NaturalSun Low-E IG	PEL-N-18-04116-00001	4	4	Air	0.32	0.59	0.69	53						34	CA
	with grilles-between-the-glass	PEL-N-18-04117-00001				0.32	0.54	0.62	53							
	with integral grilles	PEL-N-18-04118-00001				0.33	0.54	0.62	53							
13/16"	NaturalSun Low-E IG	PEL-N-18-04140-00001	5	5	Air	0.33	0.58	0.69	52							
	with grilles-between-the-glass	PEL-N-18-04141-00001				0.33	0.53	0.62	52							
	with integral grilles	PEL-N-18-04142-00001				0.34	0.53	0.62	52							
13/16"	NaturalSun+ Low-E IG	PEL-N-18-04156-00001	3	3	Air	0.27	0.55	0.68	41						38	CA
	with grilles-between-the-glass	PEL-N-18-04157-00001				0.27	0.50	0.61	41						35	CA
	with integral grilles	PEL-N-18-04158-00001				0.27	0.50	0.61	41						35	CA
13/16"	NaturalSun+ Low-E IG	PEL-N-18-04164-00001	4	4	Air	0.26	0.53	0.68	41	N					38	CA
	with grilles-between-the-glass	PEL-N-18-04165-00001				0.26	0.48	0.61	41	N					35	CA
	with integral grilles	PEL-N-18-04166-00001				0.27	0.48	0.61	41						34	CA
13/16"	NaturalSun+ Low-E IG	PEL-N-18-04188-00001	5	5	Air	0.27	0.52	0.67	40						36	CA
	with grilles-between-the-glass	PEL-N-18-04189-00001				0.27	0.47	0.60	40							
	with integral grilles	PEL-N-18-04190-00001				0.27	0.47	0.60	40							
1"	Clear IG	PEL-N-18-04024-00001	6	6	Air	0.46	0.64	0.70	42							
	with grilles-between-the-glass	PEL-N-18-04025-00001				0.46	0.58	0.63	42							
	with integral grilles	PEL-N-18-04026-00001				0.47	0.58	0.63	42							
1"	Advanced Low-E IG	PEL-N-18-04244-00001	6	6	Air	0.32	0.32	0.59	53							
	with grilles-between-the-glass	PEL-N-18-04245-00001				0.32	0.29	0.53	53							
	with integral grilles	PEL-N-18-04246-00001				0.32	0.29	0.53	53							
1"	SunDefense™ Low-E IG	PEL-N-18-04412-00001	6	6	Air	0.31	0.24	0.55	53							
	with grilles-between-the-glass	PEL-N-18-04413-00001				0.31	0.22	0.50	53					S		
	with integral grilles	PEL-N-18-04414-00001				0.32	0.22	0.50	53					S		
1"	SunDefense+ Low-E IG	PEL-N-18-04460-00001	6	6	Air	0.25	0.24	0.54	41		NC					
	with grilles-between-the-glass	PEL-N-18-04461-00001				0.25	0.22	0.48	41		NC	SC	S			
	with integral grilles	PEL-N-18-04462-00001				0.26	0.22	0.48	41			SC	S			
1"	AdvancedComfort Low-E IG	PEL-N-18-04364-00001	6	6	Air	0.26	0.31	0.58	41							
	with grilles-between-the-glass	PEL-N-18-04365-00001				0.26	0.28	0.52	41							
	with integral grilles	PEL-N-18-04366-00001				0.26	0.28	0.52	41							
1"	NaturalSun Low-E IG	PEL-N-18-04148-00001	6	6	Air	0.33	0.57	0.68	52							
	with grilles-between-the-glass	PEL-N-18-04149-00001				0.33	0.51	0.61	52							
	with integral grilles	PEL-N-18-04150-00001				0.33	0.51	0.61	52							
1"	NaturalSun+ Low-E IG	PEL-N-18-04196-00001	6	6	Air	0.26	0.51	0.66	41	N					37	CA
	with grilles-between-the-glass	PEL-N-18-04197-00001				0.26	0.46	0.59	41	N					34	CA
	with integral grilles	PEL-N-18-04198-00001				0.27	0.46	0.59	41							

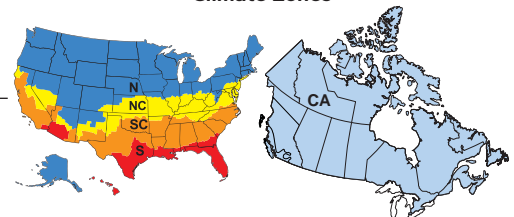
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Climate Zones





Clad-Wood Fixed Frame Direct Set Windows

Glazing Performance - Total Units

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)			Gap Fill	Performance Values ¹				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Mid.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ²	
											Zone				ER	Zone
Interior Glazed With Triple-Pane Glazing											N	NC	SC	S	CA	
1-1/8"	Decorative Glass (3)	PEL-N-18-04620-00001	3	3	3	Air	0.34	0.62	0.66	55						
1-1/8"	Advanced Low-E IG	PEL-N-18-04661-00001	3	3	3	Argon	0.18	0.29	0.54	69	N	NC			34	CA
	with grilles-between-the-glass	PEL-N-18-04662-00001					0.18	0.27	0.49	69	N	NC			33	CA
	with integral grilles	PEL-N-18-04663-00001					0.18	0.27	0.49	69	N	NC			33	CA
1-1/4"	Advanced Low-E IG	PEL-N-18-04673-00001	4	4	4	Argon	0.18	0.29	0.53	68	N	NC			34	CA
	with grilles-between-the-glass	PEL-N-18-04674-00001					0.18	0.26	0.48	68	N	NC			32	CA
	with integral grilles	PEL-N-18-04675-00001					0.18	0.26	0.48	68	N	NC			32	CA
1-3/8"	Advanced Low-E IG	PEL-N-18-04685-00001	5	5	5	Argon	0.18	0.29	0.53	68	N	NC			34	CA
	with grilles-between-the-glass	PEL-N-18-04686-00001					0.18	0.26	0.47	68	N	NC			32	CA
	with integral grilles	PEL-N-18-04687-00001					0.18	0.26	0.47	68	N	NC			32	CA
1-1/8"	SunDefense™ Low-E IG	PEL-N-18-04697-00001	3	3	3	Argon	0.18	0.22	0.50	69	N	NC	SC	S	30	CA
	with grilles-between-the-glass	PEL-N-18-04698-00001					0.18	0.20	0.45	69	N	NC	SC	S	29	CA
	with integral grilles	PEL-N-18-04699-00001					0.18	0.20	0.45	69	N	NC	SC	S	29	CA
1-1/4"	SunDefense™ Low-E IG	PEL-N-18-04709-00001	4	4	4	Argon	0.18	0.22	0.50	68	N	NC	SC	S	30	CA
	with grilles-between-the-glass	PEL-N-18-04710-00001					0.18	0.20	0.45	68	N	NC	SC	S	29	CA
	with integral grilles	PEL-N-18-04711-00001					0.18	0.20	0.45	68	N	NC	SC	S	29	CA
1-3/8"	SunDefense™ Low-E IG	PEL-N-18-04721-00001	5	5	5	Argon	0.18	0.22	0.49	68	N	NC	SC	S	30	CA
	with grilles-between-the-glass	PEL-N-18-04722-00001					0.18	0.20	0.44	68	N	NC	SC	S	29	CA
	with integral grilles	PEL-N-18-04723-00001					0.18	0.20	0.44	68	N	NC	SC	S	29	CA
1-1/8"	NaturalSun Low-E IG	PEL-N-18-04625-00001	3	3	3	Argon	0.18	0.49	0.61	68	N				46	CA
	with grilles-between-the-glass	PEL-N-18-04626-00001					0.19	0.45	0.55	68	N				42	CA
	with integral grilles	PEL-N-18-04627-00001					0.19	0.45	0.55	68	N				42	CA
1-1/4"	NaturalSun Low-E IG	PEL-N-18-04637-00001	4	4	4	Argon	0.18	0.48	0.61	68	N				45	CA
	with grilles-between-the-glass	PEL-N-18-04638-00001					0.19	0.43	0.55	68	N				41	CA
	with integral grilles	PEL-N-18-04639-00001					0.19	0.43	0.55	68	N				41	CA
1-3/8"	NaturalSun Low-E IG	PEL-N-18-04649-00001	5	5	5	Argon	0.18	0.47	0.60	67	N				45	CA
	with grilles-between-the-glass	PEL-N-18-04650-00001					0.18	0.43	0.54	67	N				42	CA
	with integral grilles	PEL-N-18-04651-00001					0.19	0.43	0.54	67	N				41	CA

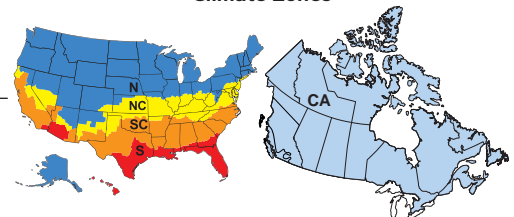
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Climate Zones





Clad-Wood Fixed Frame Direct Set Windows

Glazing Performance - Total Units

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)			Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown							
			Ext.	Mid.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂			
											Zone				ER	Zone		
Interior Glazed Triple-Pane High Altitude Glazing											N	NC	SC	S		CA		
1-1/8"	Advanced Low-E IG	PEL-N-18-04657-00001	3	3	3	Air	0.22	0.30	0.54	65	N	NC						
	with grilles-between-the-glass	PEL-N-18-04658-00001					0.22	0.27	0.49	65	N	NC						
	with integral grilles	PEL-N-18-04659-00001					0.22	0.27	0.49	65	N	NC						
1-1/4"	Advanced Low-E IG	PEL-N-18-04669-00001	4	4	4	Air	0.21	0.29	0.53	65	N	NC			30	CA		
	with grilles-between-the-glass	PEL-N-18-04670-00001					0.22	0.26	0.48	65	N	NC						
	with integral grilles	PEL-N-18-04671-00001					0.22	0.26	0.48	65	N	NC						
1-3/8"	Advanced Low-E IG	PEL-N-18-04681-00001	5	5	5	Air	0.21	0.29	0.53	65	N	NC			30	CA		
	with grilles-between-the-glass	PEL-N-18-04682-00001					0.22	0.26	0.47	65	N	NC						
	with integral grilles	PEL-N-18-04683-00001					0.22	0.26	0.47	65	N	NC						
1-1/8"	SunDefense Low-E IG	PEL-N-18-04693-00001	3	3	3	Air	0.21	0.22	0.50	65	N	NC	SC	S	26	CA		
	with grilles-between-the-glass	PEL-N-18-04694-00001					0.22	0.20	0.45	65	N	NC	SC	S				
	with integral grilles	PEL-N-18-04695-00001					0.22	0.20	0.45	65	N	NC	SC	S				
1-1/4"	SunDefense Low-E IG	PEL-N-18-04705-00001	4	4	4	Air	0.21	0.22	0.50	65	N	NC	SC	S	26	CA		
	with grilles-between-the-glass	PEL-N-18-04706-00001					0.22	0.20	0.45	65	N	NC	SC	S				
	with integral grilles	PEL-N-18-04707-00001					0.22	0.20	0.45	65	N	NC	SC	S				
1-3/8"	SunDefense Low-E IG	PEL-N-18-04717-00001	5	5	5	Air	0.21	0.22	0.49	65	N	NC	SC	S	26	CA		
	with grilles-between-the-glass	PEL-N-18-04718-00001					0.22	0.20	0.44	65	N	NC	SC	S				
	with integral grilles	PEL-N-18-04719-00001					0.22	0.20	0.44	65	N	NC	SC	S				
1-1/8"	NaturalSun Low-E IG	PEL-N-18-04621-00001	3	3	3	Air	0.22	0.49	0.61	65	N				41	CA		
	with grilles-between-the-glass	PEL-N-18-04622-00001					0.22	0.45	0.55	65	N				38	CA		
	with integral grilles	PEL-N-18-04623-00001					0.22	0.45	0.55	65	N				38	CA		
1-1/4"	NaturalSun Low-E IG	PEL-N-18-04633-00001	4	4	4	Air	0.22	0.48	0.61	65	N				40	CA		
	with grilles-between-the-glass	PEL-N-18-04634-00001					0.22	0.43	0.55	65	N				37	CA		
	with integral grilles	PEL-N-18-04635-00001					0.22	0.43	0.55	65	N				37	CA		
1-3/8"	NaturalSun Low-E IG	PEL-N-18-04645-00001	5	5	5	Air	0.22	0.47	0.60	64	N				40	CA		
	with grilles-between-the-glass	PEL-N-18-04646-00001					0.22	0.43	0.54	64	N				37	CA		
	with integral grilles	PEL-N-18-04647-00001					0.22	0.43	0.54	64	N				37	CA		

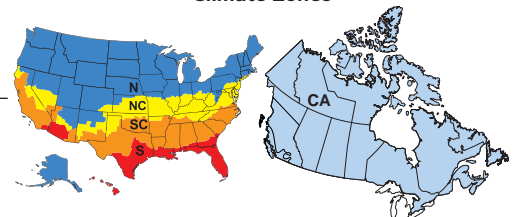
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Climate Zones





Clad-Wood Fixed Frame Direct Set Windows

Glazing Performance - Total Unit

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT %	CR	U. S.				Canada ₂	
										Zone				ER	Zone
										Interior Glazed Laminated Impact-Resistant Glass					
1"	PVB clear laminated IG	PEL-N-18-04060-00001	12	5	air	0.46	0.56	0.68	43						
	with grilles-between-the-glass	PEL-N-18-04061-00001				0.47	0.51	0.61	43						
	with integral grilles	PEL-N-18-04062-00001				0.47	0.51	0.61	43						
1"	PVB Advanced Low-E IG	PEL-N-18-04596-00001	12	5	argon	0.27	0.31	0.57	56						
	with grilles-between-the-glass	PEL-N-18-04597-00001				0.29	0.28	0.51	56						
	with integral grilles	PEL-N-18-04598-00001				0.28	0.28	0.51	56						
1"	PVB SunDefense™ Low-E IG	PEL-N-18-04608-00001	12	5	argon	0.27	0.24	0.53	57						
	with grilles-between-the-glass	PEL-N-18-04609-00001				0.28	0.22	0.48	57			SC	S		
	with integral grilles	PEL-N-18-04610-00001				0.28	0.22	0.48	57			SC	S		
1"	SGP clear laminated IG	PEL-N-18-04064-00001	12	5	air	0.46	0.57	0.69	43						
	with grilles-between-the-glass	PEL-N-18-04065-00001				0.47	0.51	0.62	43						
	with integral grilles	PEL-N-18-04066-00001				0.47	0.51	0.62	43						
1"	SGP Advanced Low-E IG	PEL-N-18-04600-00001	12	5	argon	0.27	0.31	0.58	57						
	with grilles-between-the-glass	PEL-N-18-04601-00001				0.28	0.28	0.52	57						
	with integral grilles	PEL-N-18-04602-00001				0.28	0.28	0.52	57						
1"	SGP SunDefense™ Low-E IG	PEL-N-18-04612-00001	12	5	argon	0.27	0.25	0.54	57						
	with grilles-between-the-glass	PEL-N-18-04613-00001				0.28	0.22	0.49	57			SC	S		
	with integral grilles	PEL-N-18-04614-00001				0.28	0.22	0.49	57			SC	S		
1-1/4"	SGP clear laminated IG	PEL-N-18-04068-00001	14	6	air	0.44	0.54	0.67	45						
	with grilles-between-the-glass	PEL-N-18-04069-00001				0.44	0.49	0.60	45						
	with integral grilles	PEL-N-18-04070-00001				0.44	0.49	0.60	45						
1-1/4"	SGP Advanced Low-E IG	PEL-N-18-04604-00001	14	6	argon	0.26	0.30	0.57	58						
	with grilles-between-the-glass	PEL-N-18-04605-00001				0.26	0.27	0.51	58						
	with integral grilles	PEL-N-18-04606-00001				0.27	0.27	0.51	58						
1-1/4"	SGP SunDefense Low-E IG	PEL-N-18-04616-00001	14	6	argon	0.26	0.24	0.53	58						
	with grilles-between-the-glass	PEL-N-18-04617-00001				0.26	0.22	0.47	58			SC	S		
	with integral grilles	PEL-N-18-04618-00001				0.26	0.22	0.47	58			SC	S		
Interior Glazed Laminated Impact-Resistant Glass With Tinted Glazing															
1"	Bronze PVB laminated IG	PEL-N-18-04072-00001	12	5	air	0.46	0.38	0.28	43						
1"	Gray PVB laminated IG	PEL-N-18-04084-00001	12	5	air	0.46	0.43	0.35	43						
1"	Green PVB laminated IG	PEL-N-18-04096-00001	12	5	air	0.46	0.51	0.56	43						
1"	Bronze SGP laminated IG	PEL-N-18-04076-00001	12	5	air	0.46	0.39	0.28	43						
1"	Gray SGP laminated IG	PEL-N-18-04088-00001	12	5	air	0.46	0.43	0.35	43						
1"	Green SGP laminated IG	PEL-N-18-04100-00001	12	5	air	0.46	0.51	0.56	43						
1-1/4"	Bronze SGP laminated IG	PEL-N-18-04080-00001	14	6	air	0.44	0.37	0.27	45						
1-1/4"	Gray SGP laminated IG	PEL-N-18-04092-00001	14	6	air	0.44	0.41	0.34	45						
1-1/4"	Green SGP laminated IG	PEL-N-18-04104-00001	14	6	air	0.44	0.49	0.54	45						

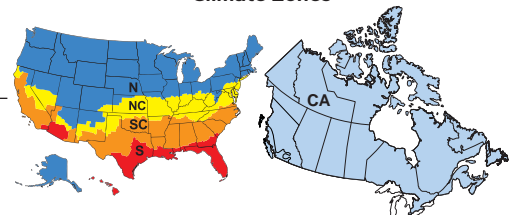
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Climate Zones



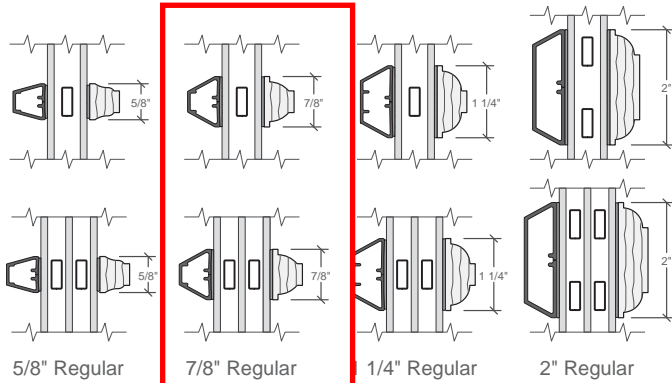


Clad-Wood Fixed Frame Direct Set Windows

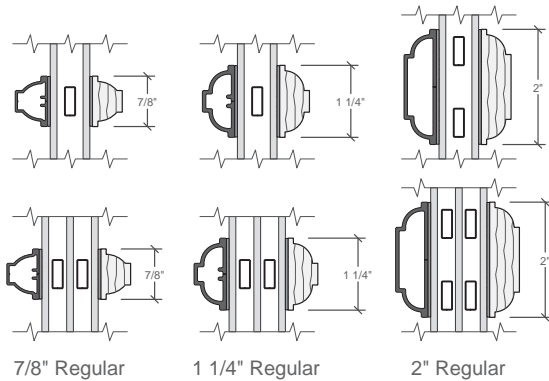
Grille Profiles

Traditional Style Collection - Integral Light Technology®

Putty Glaze and Ogee Grilles
Clad Exterior - Wood Interior

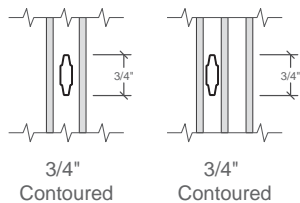


Ogee Grilles
Clad Exterior - Wood Interior



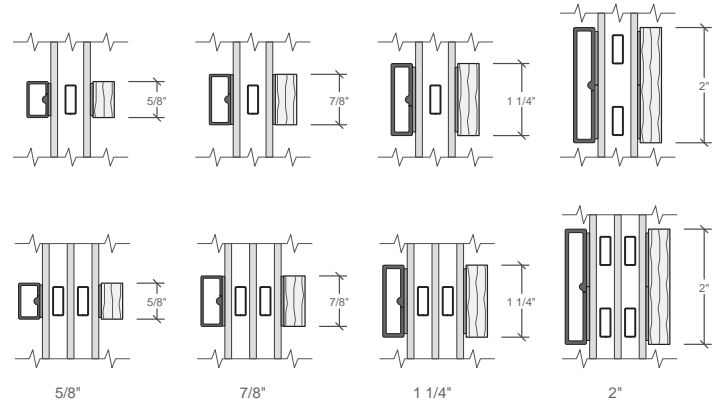
(Ogee ILT Grilles are available for Rectangle and Radius Shapes,
Putty Glaze ILT grilles are available for rectangle only.)

Grilles-Between-the-Glass



Contemporary Style Collection - Integral Light Technology®

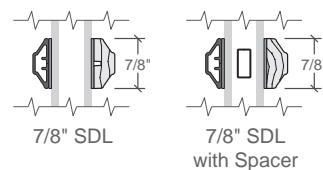
Square Grilles
Clad Exterior - Wood Interior



(Square ILT Grilles are available for Contemporary Style Rectangular and
Angle Shapes only)

Simulated-Divided-Light-Grilles

Simulated Divided Light



(1) Available in Pine, Mahogany, or Douglas Fir to match complete unit.

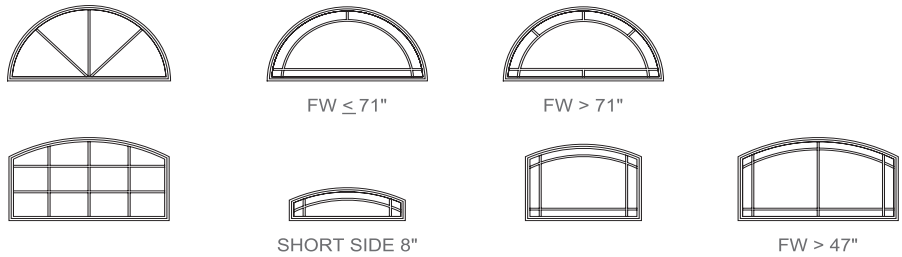


Clad-Wood Fixed Frame Direct Set Windows

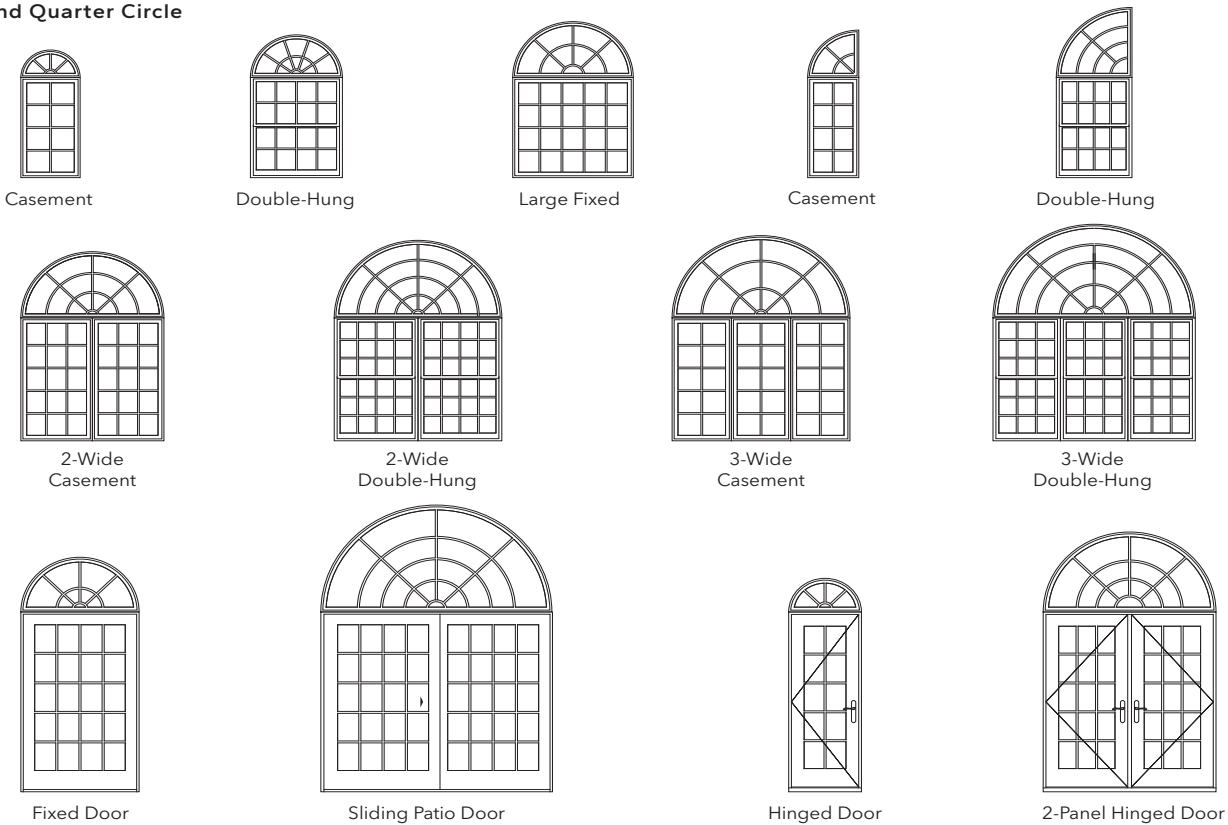
Grille Patterns - Curved Shapes

Below are examples of typical combination assemblies showing grille alignment of half circles and quarter circles over casements, hung, hinged and sliding doors. For specific information contact your local Pella sales representative.

Typical Grille Patterns



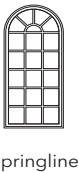
Half and Quarter Circle



Elliptical



Springline



Full Circle



Ovals



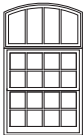
Not all pattern scenarios are shown above. Actual pattern may differ depending on size, shape and grille spacing. See Pella sales representative for actual patterns.



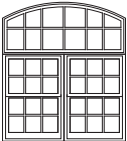
Grille Patterns - Arch Head Curved Shapes

Below are examples of typical combination assemblies showing grille alignment of arch heads over casements, hung, and hinged doors. For specific information contact your local Pella sales representative.

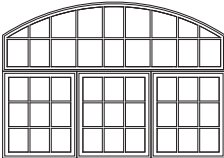
Full Arch Heads



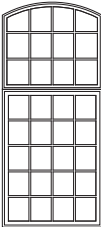
Double-Hung



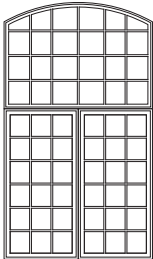
2-Wide
Double-Hung



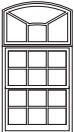
3-Wide
Double-Hung



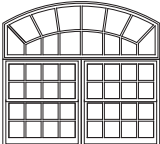
Large Fixed



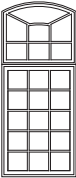
2-Wide
Large Fixed



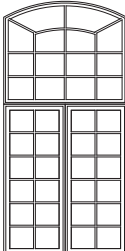
Double-Hung



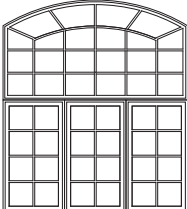
2-Wide
Double-Hung



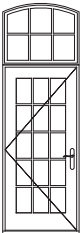
Fixed



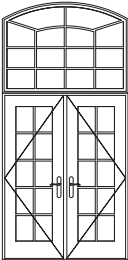
2-Wide Fixed



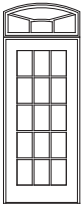
3-Wide Fixed



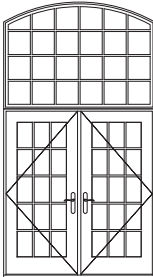
Single Panel
Hinged Door



2-Panel
Hinged Door



Fixed Panel



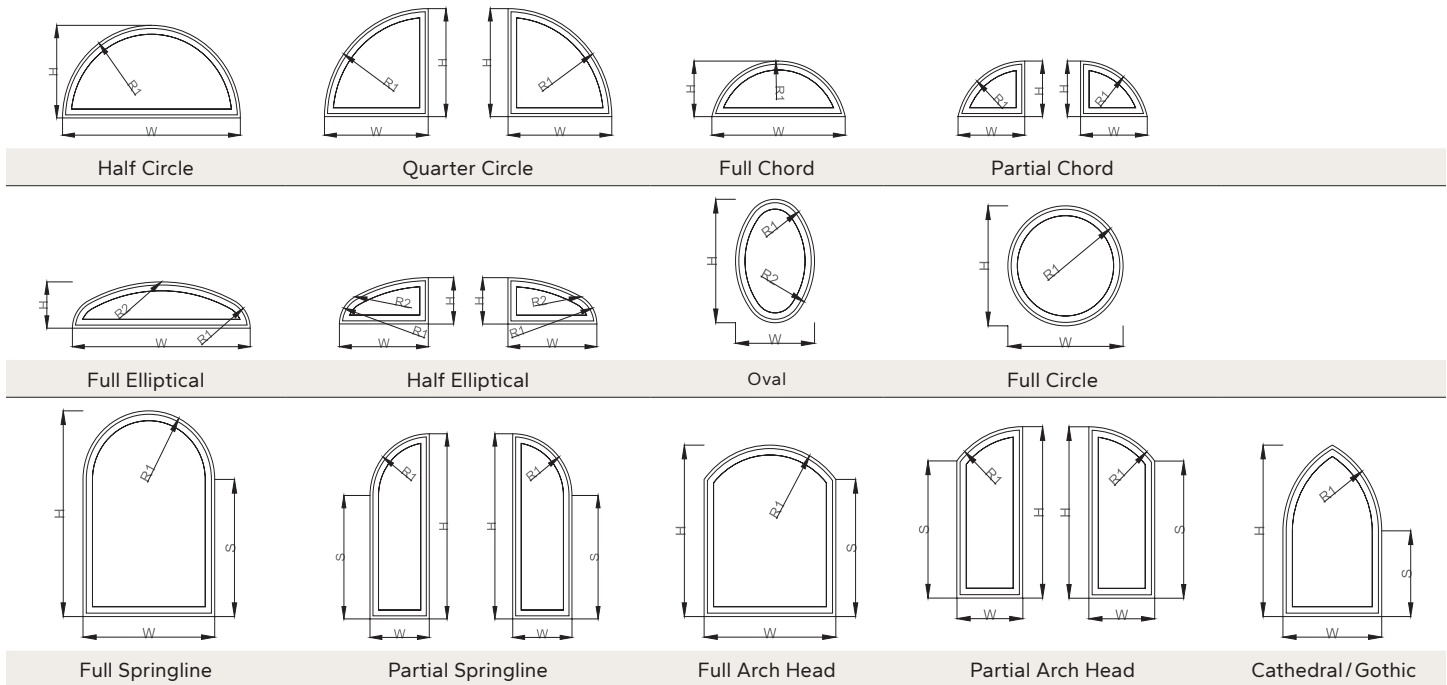
2-Panel
Hinged Door

Not all pattern scenarios are shown above. Actual pattern may differ depending on size, shape and grille spacing. See Pella sales representative for actual patterns.



Clad-Wood Fixed Frame Direct Set Windows

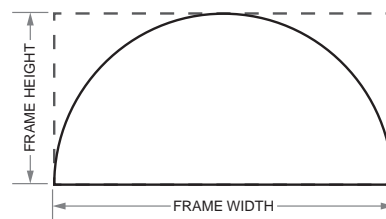
Interior Glazed Curved Shape Sizes and Dimensions



Description	Frame Radius		Width		Height				Min. Unit Frame Angle	Max. Unit Frame Angle	Max. Sq. Ft.
	Min.	Max.	Min.	Max.	Min.	Max.	Min. S	Other			
Half Circle	12"	60"	24"	120"	24"	120"	—	—	—	—	48
Quarter Circle	12"	85"	12"	85"	12"	85"	—	—	—	—	48
Full Springline	12"	54"	24"	108"	$R + 4.25"$	120"	4.25"	—	—	—	48
Partial Springline	12"	96"	12"	85"	$FW + 4.25"$	120"	4.25"	—	40°	90°	48
Full Chord	12"	500"	24"	120"	10.5"	$(W \div 2) - 1"$	—	$> 0.24 W$	40°	$< 90°$	48
Partial Chord ₂	12"	500"	9"	120"	10.5"	85.125"	—	$> 0.48 W$	40°	$< 90°$	48
Full Elliptical ₁	R1 = 12" R2 = 12"	R1 = 150" R2 = 500"	32.5"	120"	$R1 + 1.25"$	$< (W \div 2)$	—	—	—	—	48
Partial Elliptical ₁	R1 = 12" R2 = 12"	R1 = 150" R2 = 500"	14"	120"	$R1 + 1.25"$	60"	—	—	40°	90°	48
Full Arch Head	12"	500"	9"	120"	9"	120"	4.25"	—	90°	160°	48
Partial Arch Head	12"	500"	9"	120"	9"	120"	4.25"	—	40°	160°	48
Gothic Springline	12"	500"	9"	108"	14	120"	4.25"	—	40°	—	48
Full Circle ₃	12"	36"	24"	72"	—	—	—	—	—	—	—
Oval ₃	Standard sizes only. 24" W x 36" H, 30" W x 48" H or 36" W x 60" H										

Miscellaneous Formulas

Glass Dimension	Formula
Visible Glass	Width = Frame – 3-1/4" Height = Frame – 3-1/4"
Actual Glass	Width = Frame – 2" Height = Frame – 2"



For all shapes, calculate the area as if it were a rectangle.

(—) = Not applicable

(1) Minor radius must begin at the baseline of the frame.

(2) Project shape to full chord, using full chord width (W), calculate minimum height restrictions using full chord parameters.

(3) Tempered glass is required for any units where glass dimensions exceed 48"

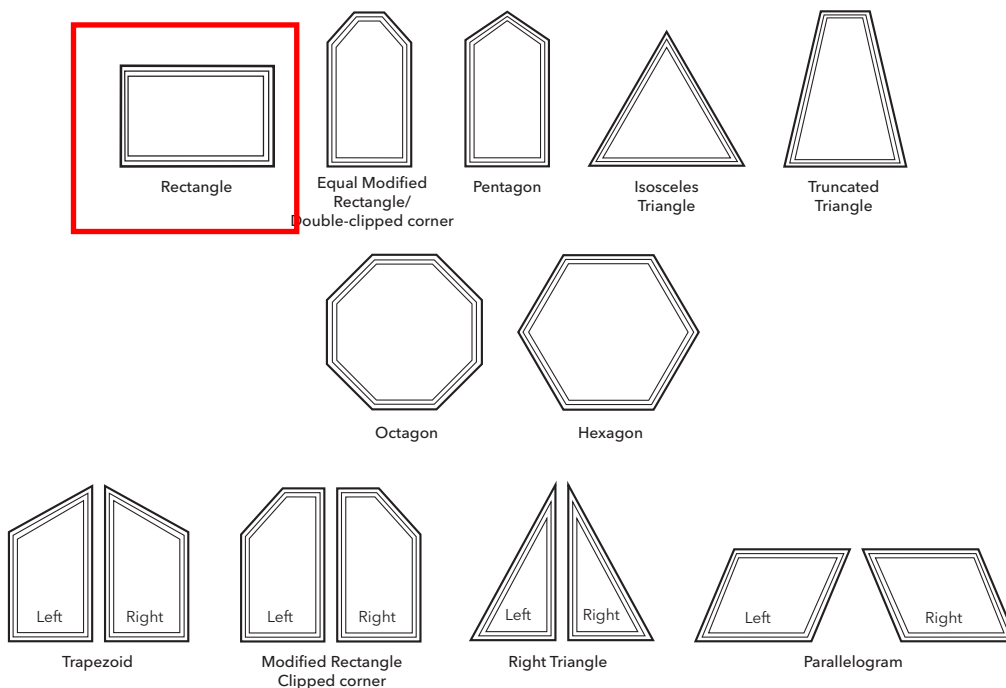
To convert areas to square meters (m²), multiply square feet by 0.0929.



Clad-Wood Fixed Frame Direct Set Windows

Interior Glazed Angled Shape Sizes and Dimensions

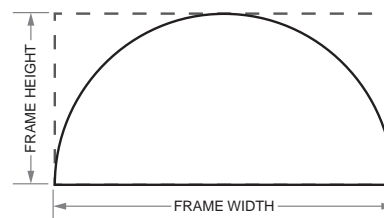
Pella angled and rectangular fixed frame direct set windows are available in custom shapes shown below. These windows may be installed in any orientation. For specifications, size limitations, and details on these units, contact your local Pella sales representative.



Glazing Type	Frame Dimension		Panel Dimension	
	Minimum Size	Maximum Size ¹	Minimum Size	Maximum Size
Glass	8" x 8" (203 x 203)	12' 0" ₂ or 76 ft ² (3 658) or (7.06 m ²)	—	—
Clad Panel (Available In Rectangular Units Only)	8" x 8" (203 x 203)	4' 2" x 8' 2" (1 270 x 2 489)	6" x 6" (152 x 152)	48" x 96" (1 219 x 2 438)

Miscellaneous Formulas for Rectangular Units

Glass Dimension	Formula
Visible Glass	Visible Glass Width = Frame Width – 3-1/4" Visible Glass Height = Frame Height – 3-1/4"
Actual Glass	Actual Glass Width = Frame Width – 2" Actual Glass Height = Frame Height – 2"



For all shapes, calculate the area as if it were a rectangle.

(–) = Not applicable

- Keep frame dimension to the nearest 1/8".
- See Performance Grade chart for size limitations.
- Glass width to height ratio maximums: annealed glass 1 to 5, tempered glass 1 to 10.

(1) For all shapes, calculate the area of the unit as if it were rectangular.

(2) Maximum dimension in one direction with frame area as specified (subject to glass availability).

Corner angles for all shapes are minimum 20° and maximum 160°.

144° slope for triangles and parallelograms.

Not all sizes are Hallmark Certified.



Clad-Wood Fixed Frame Direct Set Windows

Exterior Glazed Rectangular Shape Sizes and Dimensions

Consult with your local Pella sales representative for current availability, limitations may apply.

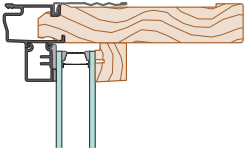
Exterior glazed windows are available as rectangles only.

Glazing Type	Frame Dimension		Panel Dimension	
	Minimum Size	Maximum Size ¹	Minimum Size	Maximum Size
Glass	8" x 8" (203 x 203)	8' 0" ₁ or 38.0 ft ² (2 438) (3.53 m ²)	—	—
Clad Panel	8" x 8" (203 x 203)	4' 2-3/8" x 8' 2-3/8" (1 280 x 2 499)	5-5/8" x 5-5/8" (143 x 143)	48" x 96" (1 219 x 2 438)

Miscellaneous Formulas

Glass Dimension	Formula
Visible Glass	Visible Glass Width = Frame Width – 3-1/4"
	Visible Glass Height = Frame Height – 3-1/4"
Actual Glass	Actual Glass Width = Frame Width – 2"
	Actual Glass Height = Frame Height – 2"

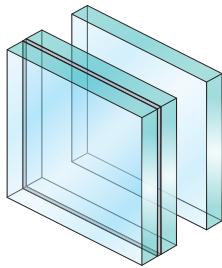
Designed for applications where exterior reglazing is necessary due to inaccessibility from the interior. Is not intended for initial field glazing.

Glazing Options	Standard	Special	Custom ²
	Clear or Advanced Low-E Insulated Glass with Argon or Natural Sun	Bronze, Gray, Green, Obscure Advanced Comfort, Sun Defense	Spandrel

(–) = Not applicable
 (1) In one direction with frame area as specified (subject to glass availability).
 (2) Consult your Pella representative for parameters and availability of custom glazings.



Double-Pane Laminated Insulating Glass



	SGP IG	PVB IG
Maximum Performance Grade ₁		
Max sizes: 55x55, 39x79, 79x39	—	60
Max sizes: 35x73, 73x35	90	—
Larger Sizes	60	—
Certification ₁		
Hallmark	411-H-670	411-H-670
FPAS ₂	FL20349	FL20349
TDI ₂	WIN-478	WIN-478

The use of fixed frame direct set windows is limited by product performance rating, design pressure load chart, installation method and glass thickness or type. Always consult local building code and Florida FPAS for performance and installation requirements.

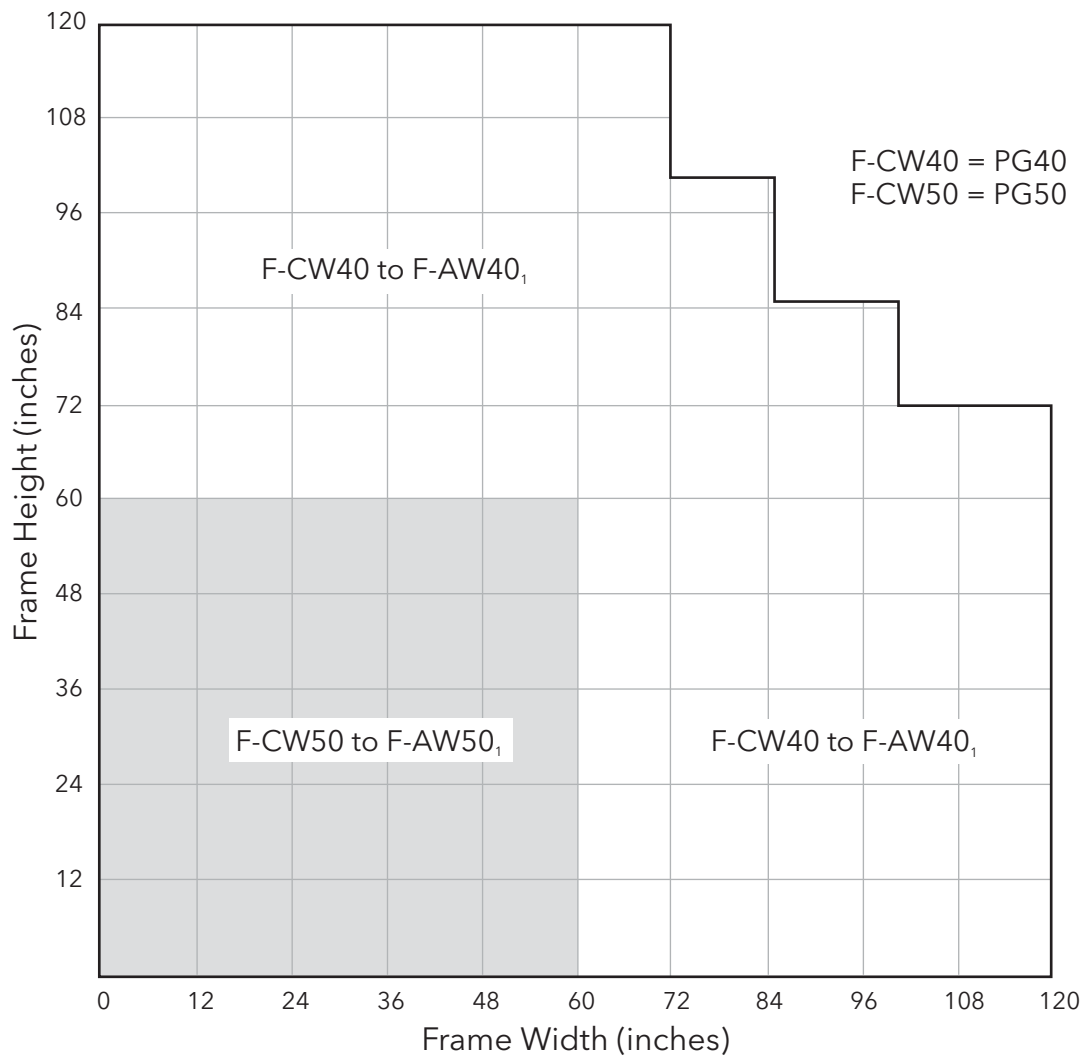
(—) Not Applicable
(1) Maximum design pressure limited by unit testing or ASTM E 1300-04(H) and ASTM E 1300-04(D)
All interior glazed units with Impact glazing are certified for wind zone 4, large missile rating D.
(2) Some size exclusions apply.



Clad-Wood Fixed Frame Direct Set Windows

Interior Glazed Standard Fin-Installed Performance

- The use of fixed frame direct set windows is limited by product performance rating, design pressure load chart, installation method, mullion strength and glass thickness or type. See mullion limitation and glass charts in the Combinations section at PellaADM.com.
- Fixed Frames are available up to a maximum frame area of 76 ft² (7.06 m²). Angled and Curved frames are measured as a rectangle.
- **IMPORTANT:** Glass must meet requirements of the glass charts and comply with the load chart. This chart below shows the maximum performance class and grade of the frame only when glazed with the appropriate glass thickness.



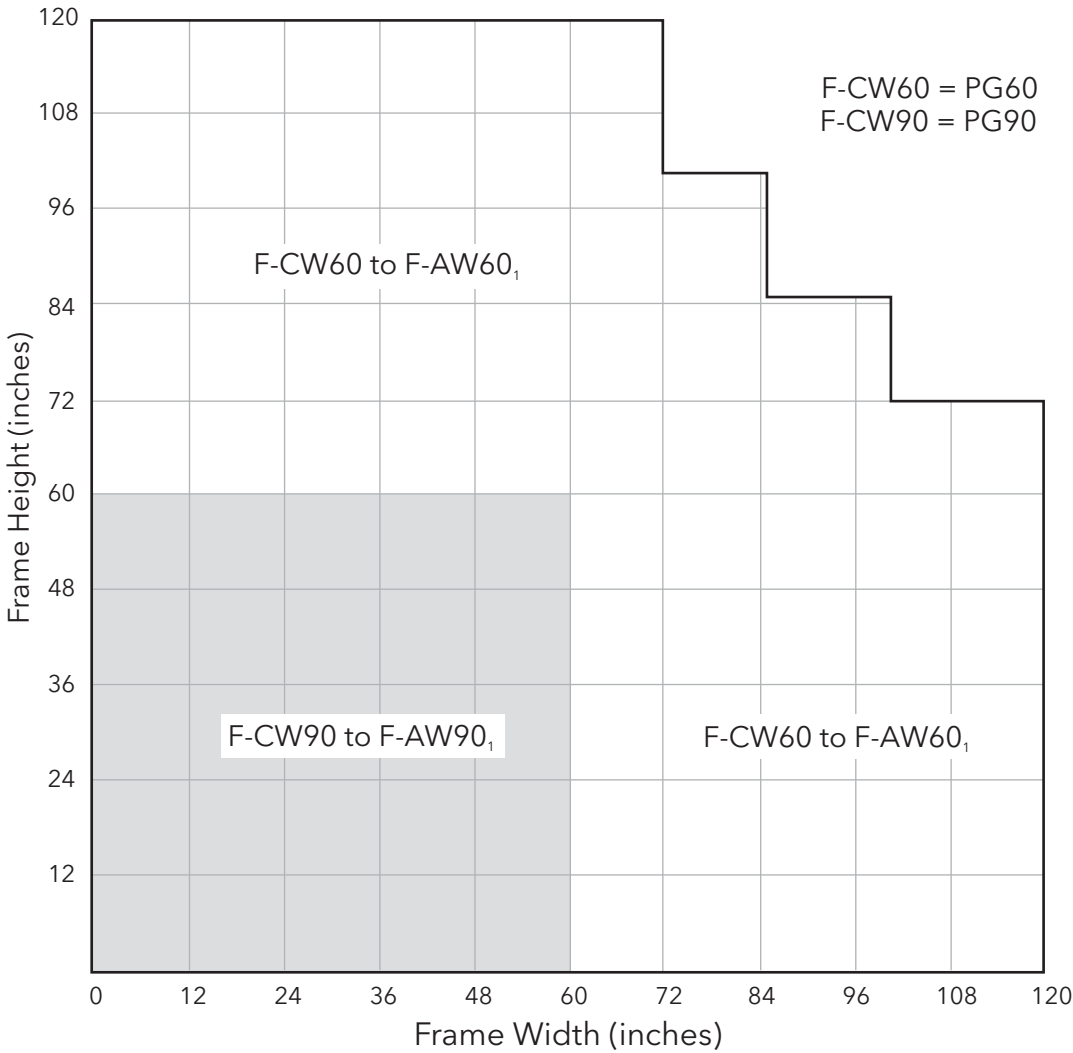
(1) AAMA / WDMA F-AW rating can be obtained with the EnduraClad Plus protective finish with 70% fluoropolymer resin in a multi-step finish system.



Clad-Wood Fixed Frame Direct Set Windows

Interior Glazed Standard Clip or Screw-Through Frame Install Advanced Performance

- The use of fixed frame direct set windows is limited by product performance rating, design pressure load chart, installation method, mullion strength and glass thickness or type. See mullion limitation and glass charts in the Combinations section at PellaADM.com.
- Fixed Frames are available up to a maximum frame area of 76 ft² (7.06 m²). Angled and Curved frames are measured as a rectangle.
- **IMPORTANT:** Glass must meet requirements of the glass charts and comply with the load chart. This chart below shows the maximum performance class and grade of the frame only when glazed with the appropriate glass thickness.



(1) AAMA / WDMA F-AW rating can be obtained with the EnduraClad Plus protective finish with 70% fluoropolymer resin in a multi-step finish.
AW rating is not applicable to impact product.



Interior Glazed Detailed Product Description

Frame

- Select softwood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are [clear pine] [mahogany] [douglas fir].
- Exterior surfaces are clad with extruded aluminum.
- Components are assembled with screws, staples, and concealed corner locks.
- Curved glass stops are segmented.
- Curved head assembly shall be mitered at end where joined to non- curved frame members, screwed and sealed.
- Curved head assembly consists of solid wood core blocks bonded to stabilized wood fiber with water-resistant glue. Two sheets are laminated with veneers at interior.
- Overall frame depth is 5" (127mm) for a wall depth of 3-11/16" (94mm).
- Optional factory-applied jamb extensions available.
- Optional factory-applied EnduraClad® exterior trim.
- Optional factory-installed Pella Steady Set Installation System (rectangle only).

Glazing System ¹

- Quality float glass complying with ASTM C 1036.
- Custom and high altitude glazing available.
- Urethane-glazed [13/16"] [1"] dual-seal insulating glass [[annealed] [tempered]] [[clear] [Advanced] [SunDefense™] [SunDefense+] [AdvancedComfort] [NaturalSun] [NaturalSun+] Low-E [with argon]] [[bronze] [gray] [green] [obscure] Advanced Low-E with argon].
– or –
- Urethane-glazed [1-1/8"] [1-1/4"] [1-3/8"] triple-seal insulating glass [[annealed] [tempered]] [[Advanced] [SunDefense™] [NaturalSun] Low-E [with Argon]].
– or –
- Impact-Resistant
 - Urethane-glazed 1" dual-seal impact-resistant insulating glass¹ [1" [SGP] [PVB]] [1-1/4" SGP]. [[tempered] [annealed]] Laminated exterior light is [[Advanced Low-E with Argon] [SunDefense Low-E] [clear] [bronze] [gray] [green]]. Clear tempered interior light.

Exterior

- Extruded aluminum clad exteriors shall be finished with EnduraClad® protective finish, in a multi-step, baked-on finish.
 - Color is [standard] [feature] [custom]₂
– or –
- Extruded aluminum clad exteriors shall be finished with EnduraClad Plus protective finish with 70% fluoropolymer resin in a multi-step, baked-on finish.
 - Color is [standard] [feature] [custom]₂

Interior

- [Unfinished, ready for site finishing] [factory primed with one coat acrylic latex] [factory prefinished [paint] [stain]₂].

Optional Products

Grilles ⁵

- Integral Light Technology® grilles – Traditional Style Collection
 - Interior grilles are are [5/8" putty profile] [7/8" [ogee] [putty] profile] [1-1/4" [ogee] [putty] profile] [2" [ogee] [putty] profile (traditional pattern only)] that are solid [pine] [mahogany] [douglas fir]. Interior surfaces are [unfinished, ready for site finishing] [factory primed] [pine: factory prefinished [paint]₂ [stain]₂ to match interior finish]. Curved grilles may have visible finger joints.
 - Exterior grilles are [5/8" putty profile] [7/8" [ogee] [putty] profile] [1-1/4" [ogee] [putty] profile] [2" [ogee] [putty] profile (traditional pattern only)] that are extruded aluminum, color matched to exterior cladding.
 - Insulating glass contains non-glare spacer between the panes of glass.
 - Grilles are adhered to both sides of the insulating glass with VHB acrylic adhesive tape and aligned with the non-glare spacer.
 - Grille pattern is [Traditional] [Prairie] [Top Row] [Cross] [Sunburst] [Starburst].
– or –
- Integral Light Technology® grilles – Contemporary Style Collection (rectangular and angled shapes only)
 - Interior grilles are [5/8"] [7/8"] [1-1/4"] [2"] square profile that are solid [pine] [mahogany] [douglas fir]. Interior surfaces are [unfinished, ready for site finishing] [factory primed] [pine: factory prefinished [paint]₂ [stain]₂ to match interior finish].
 - Exterior grilles are [5/8"] [7/8"] [1-1/4"] [2"] square profile that are extruded aluminum, color matched to exterior cladding.
 - Insulating glass contains non-glare spacer between the panes of glass.
 - Grilles are adhered to both sides of the insulating glass with VHB acrylic adhesive tape and aligned with the non-glare spacer.
 - Grille pattern is [Traditional] [Prairie] [Top Row] [Cross] [Starburst].
– or –
- Simulated-Divided-Light grilles [with optional spacer]
 - Interior grilles are 7/8" regular profile that are solid pine. Curved grilles may have visible finger joints. Interior surfaces are [unfinished, ready for site finishing] [factory prefinished [paint] [stain]₂ to match interior finish].
 - Exterior grilles are 7/8" regular profile extruded aluminum, color matched to exterior cladding.
 - Grilles permanently bonded to the interior and exterior of glass with VHB acrylic adhesive tape and are aligned with the optional spacer between the panes of insulating glass.
 - Grille Pattern is [Traditional] [Prairie] [Top Row] [Cross] [Sunburst] [Starburst]
 - Available only on units glazed with Low-E insulated glass with Argon.
– or –
- Grilles-Between-the-Glass ³
 - Insulating glass contains 3/4" contoured aluminum grilles permanently installed between two panes of glass.
 - Interior color is [White] [Black] [Tan₄] [Brown₄] [Putty₄] [Ivory] [Brickstone] [Harvest] [Cordovan].
 - Exterior color₆ is [standard] [feature]₂.
 - Grille pattern is [Traditional] [Prairie] [Cross] [Top Row] [Sunburst].

(1) Insulating glass with Argon is Low-E coated (except high altitude). All other insulating glass (including high altitude Low-E) is Air-filled.

(2) Contact your local Pella sales representative for current color options.

(3) Available in clear or Low-E insulating glass with Argon, and obscure insulated glass.

(4) Tan, Brown and Putty GBG colors are available in single-tone only (Brown/Brown, Tan/Tan or Putty/Putty), other interior/exterior color restrictions may apply.

(5) Certain grille types and patterns may have restrictions depending on unit size and shape, contact your local Pella sales representative for details.

(6) Appearance of exterior grille color will vary depending on Low-E coating on glass.



Clad-Wood Fixed Frame Direct Set Windows

Exterior Glazed Detailed Product Description

Consult with your local Pella sales representative for current availability, limitations may apply.

Frame

- Select softwood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are [clear pine] [mahogany] [douglas fir].
- Exterior surfaces are clad with aluminum.
- Components are assembled with screws, staples, and concealed corner locks.
- Overall frame depth is 5" (127mm) for a wall depth of 3-11/16" (94mm).
- Optional factory-applied jamb extensions available.

Glazing System¹

- Quality float glass complying with ASTM C 1036.
- Custom and high altitude glazing available.
- Urethane-glazed clear single-light with removable aluminum stops.
 - or –
- Urethane-glazed dual-seal insulating glass [[annealed] [tempered]] [[[clear] [Advanced] [SunDefense™] [AdvancedComfort] [NaturalSun] Low-E [with Argon]] [[bronze] [gray] [green] Advanced Low-E with Argon] with removable aluminum stops.

Exterior

- Aluminum clad exteriors shall be finished with EnduraClad® protective finish, in a multi-step, baked-on finish.
 - Color is [standard] [feature] [custom]₂.
 - or –
- Aluminum clad exteriors shall be finished with EnduraClad Plus protective finish with 70% fluoropolymer resin in a multi-step, baked-on finish.
 - Color is [standard] [feature] [custom]₂.

Interior

- [Unfinished, ready for site finishing] [factory primed with one coat acrylic latex] [factory prefinished [paint] [stain]₂].

Optional Products

Grilles

- Grilles-Between-the-Glass
 - Insulating glass contains 3/4" contoured aluminum grilles permanently installed between two panes of glass.
 - Patterns are [Traditional] [Prairie] [Cross] [Top Row] [Custom – Equally Divided].
 - Interior color is [White] [Black] [Tan₃] [Brown₃] [Putty₃] [Ivory] [Brickstone] [Harvest] [Cordovan].
 - Exterior color₄ is [standard₂].

(1) Insulating glass with Argon is Low-E coated (except high altitude). All other insulating glass (including high altitude Low-E) is Air-filled.

(2) Contact your local Pella sales representative for current designs and color options.

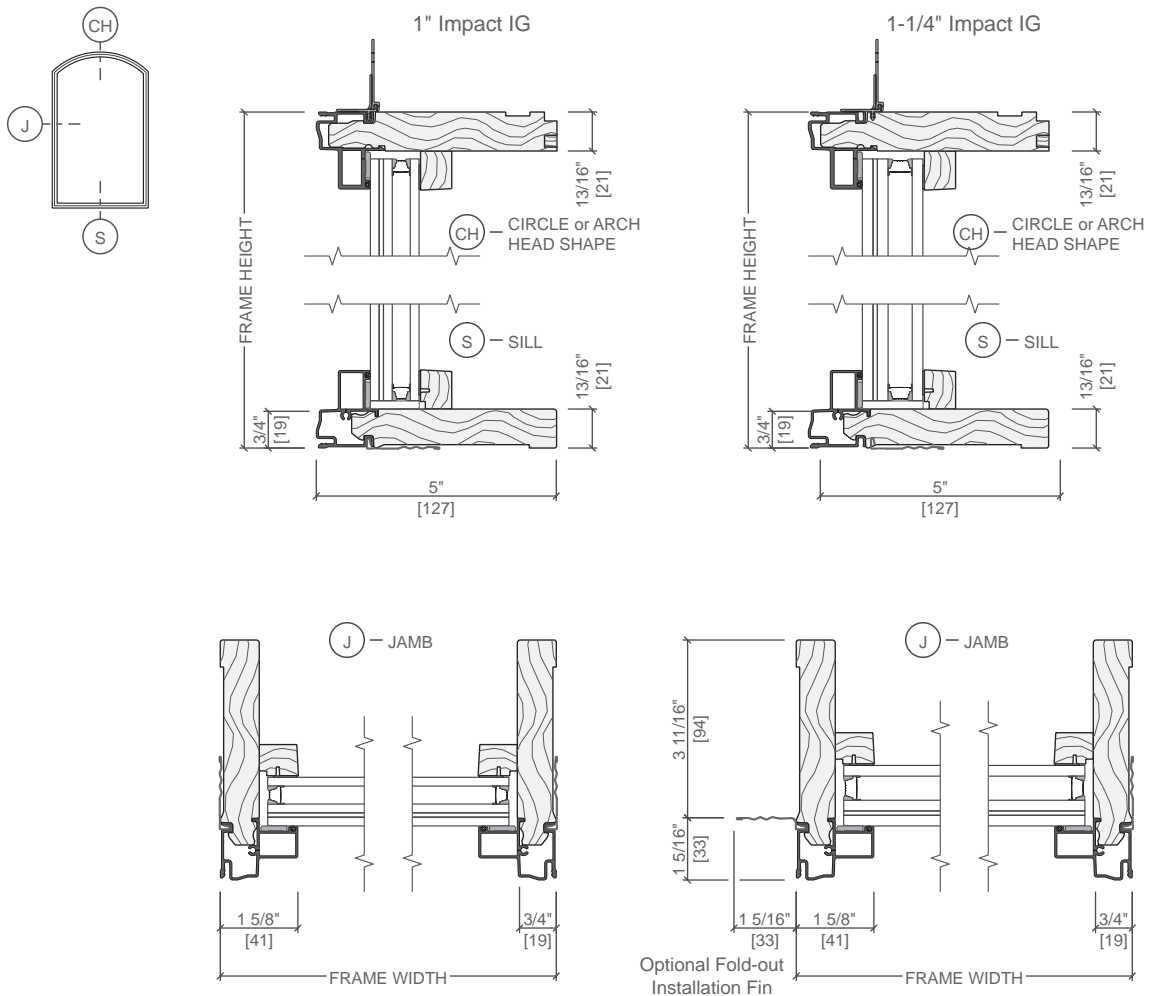
(3) Tan, Brown and Putty GBG colors are available in single-tone only (Brown/Brown, Tan/Tan or Putty/Putty) (Putty mono), other interior/exterior color restrictions may apply.

(4) Appearance of exterior grille color will vary depending on Low-E coating on glass.



Clad-Wood Fixed Frame Direct Set Windows

Unit Sections - Interior Glazed Curved Shapes w/Impact-Resistant Glass



Scale 3" = 1' 0"

All dimensions are approximate.

Rev. 08/30/21

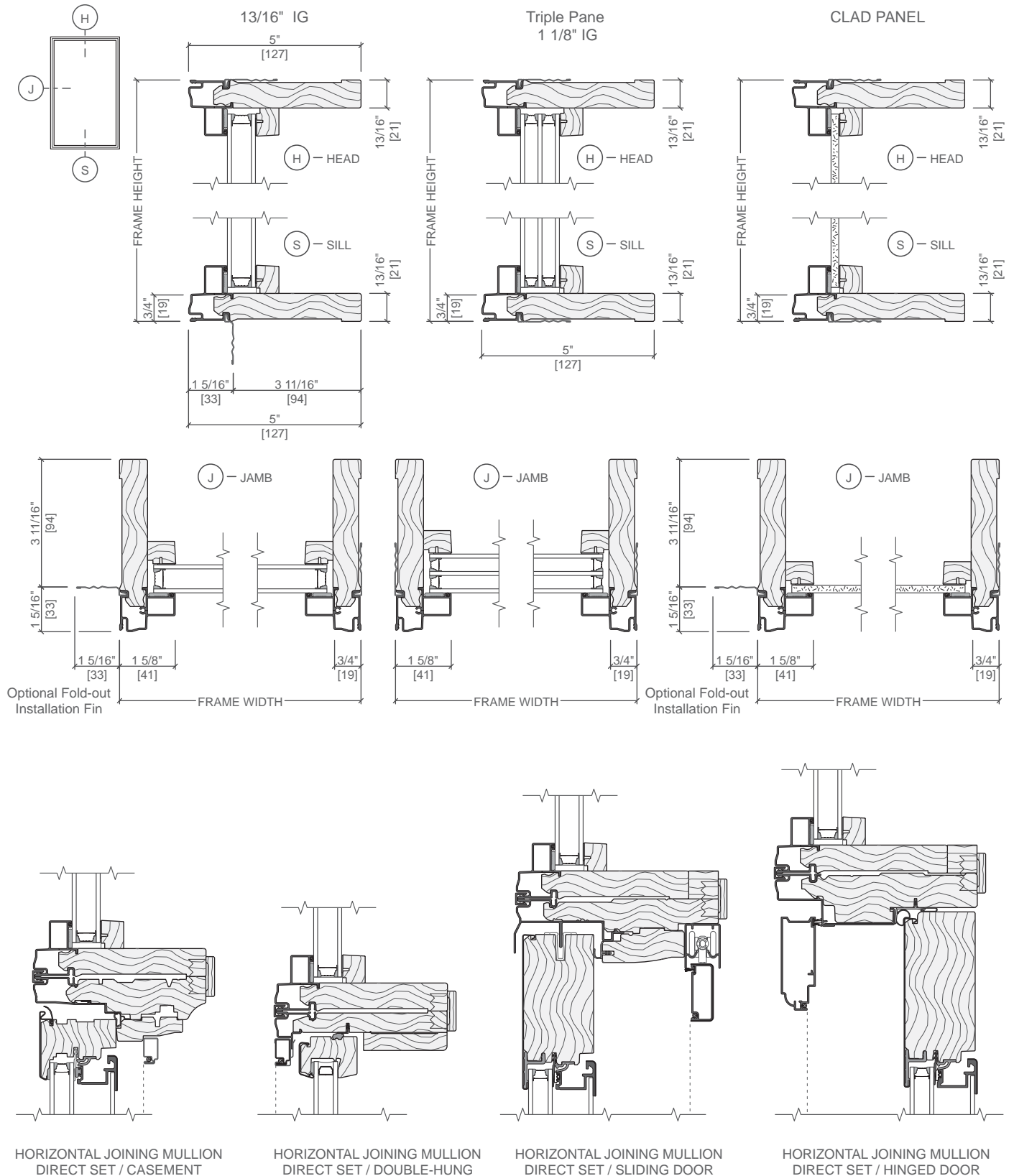
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W-FW-26



Clad-Wood Fixed Frame Direct Set Windows

Unit Sections - Interior Glazed Rectangular and Angled Shapes



Scale 3" = 1' 0"

All dimensions are approximate.

See www.PellaADM.com for mullion limitations and reinforcing requirements.

Rev. 08/30/21

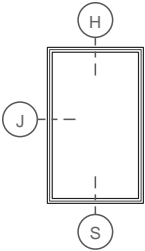
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W-FW-27

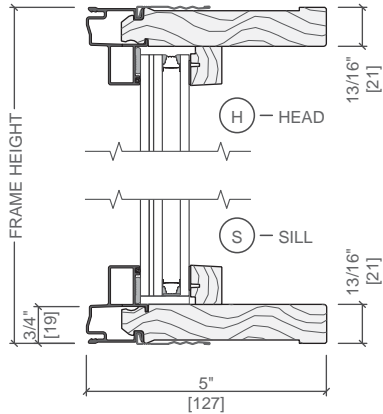


Clad-Wood Fixed Frame Direct Set Windows

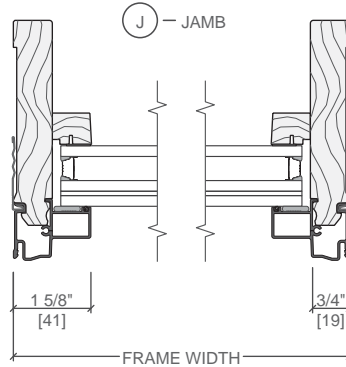
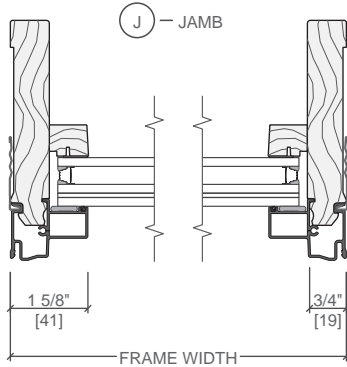
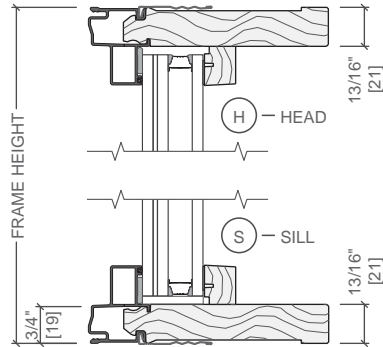
Unit Sections - Interior Glazed Rectangular and Angled Shapes w/Impact-Resistant Glass



1" Impact IG



1-1/4" Impact IG



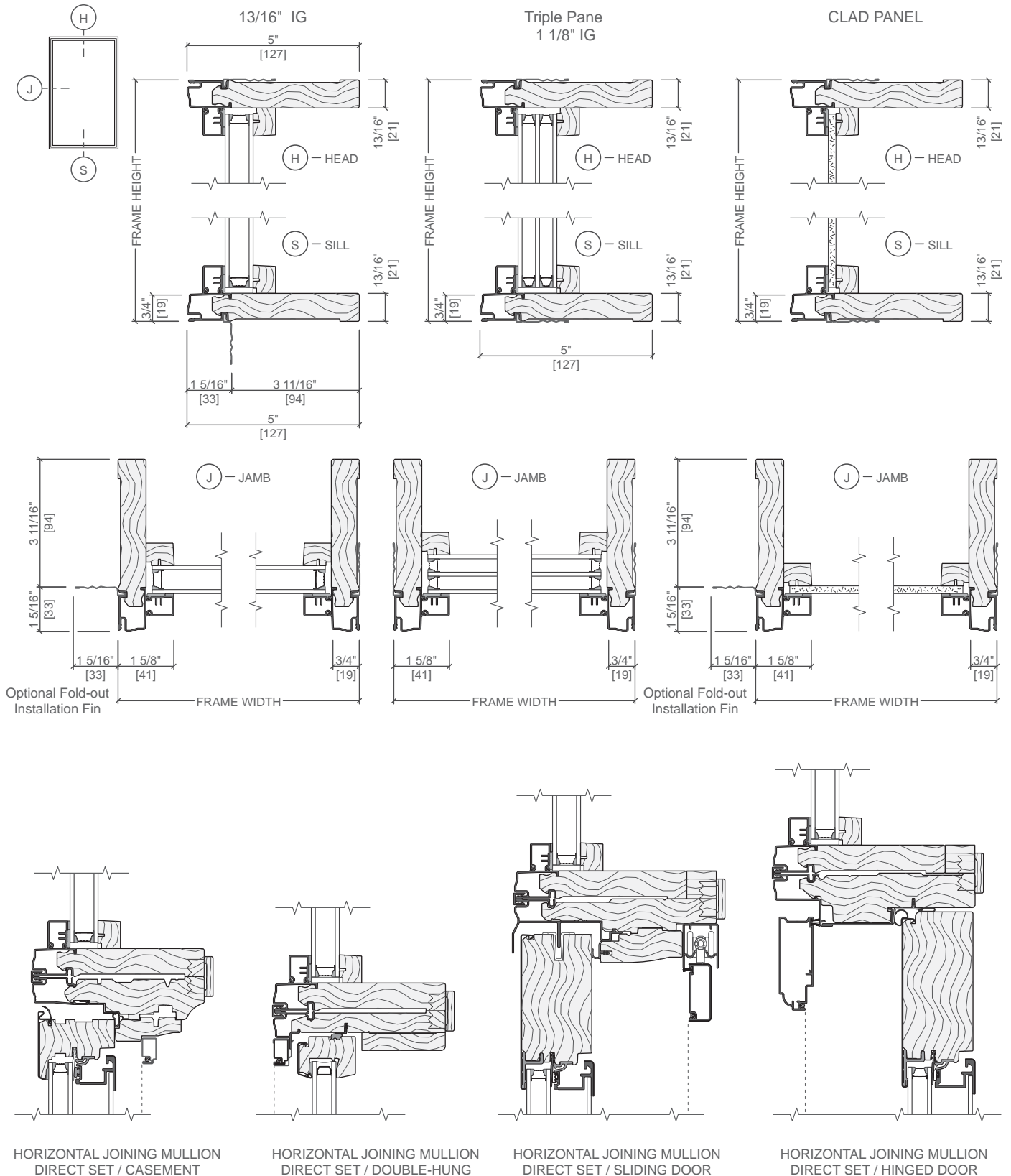
Scale 3" = 1' 0"
All dimensions are approximate.



Clad-Wood Fixed Frame Direct Set Windows

Unit Sections - Exterior Glazed Rectangular

Consult with your local Pella sales representative for current availability, limitations may apply.



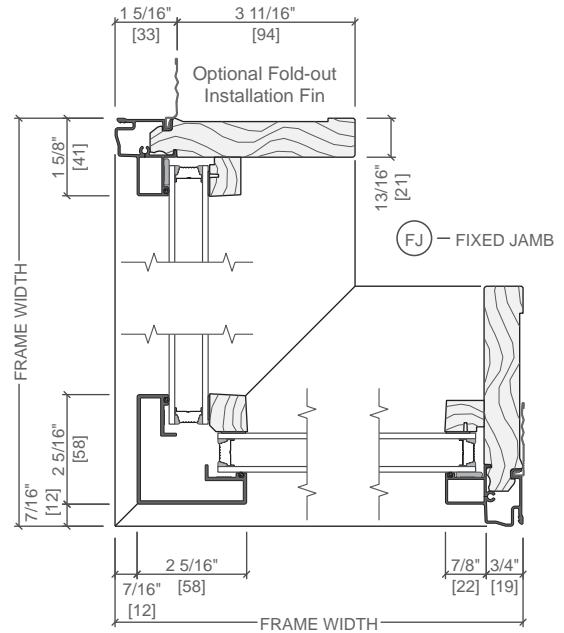
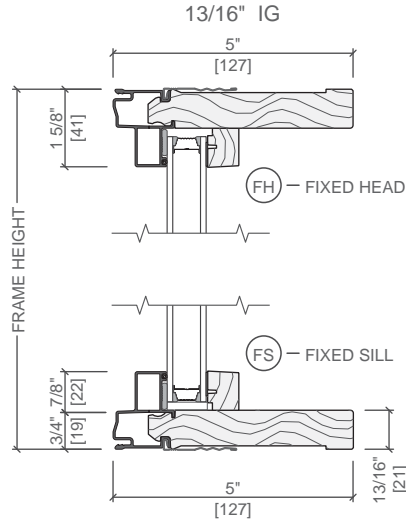
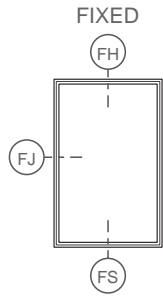
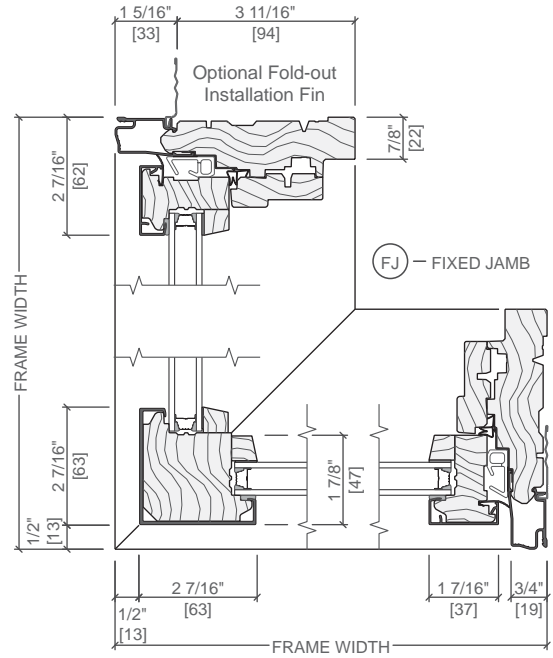
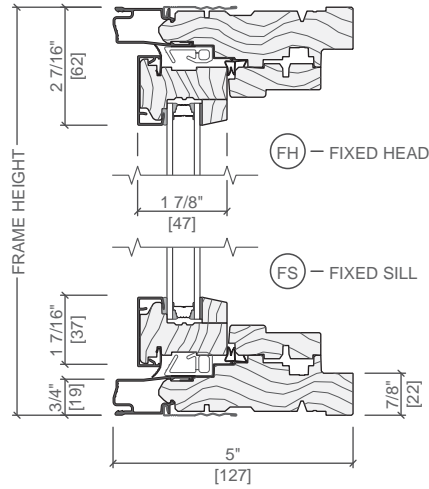
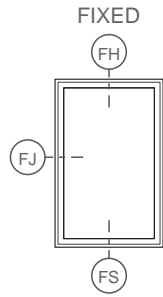
Scale 3" = 1' 0"

All dimensions are approximate.



Clad-Wood Fixed Frame Direct Set Windows

Unit Sections - Mitered Corner



Reserve Contemporary fixed casement mitered corner shown for comparison purposes. See Casement section or contact your local Pella sales representative for product details

Scale 3" = 1' 0"

All dimensions are approximate.



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Supporting documents for this product:

Test Reports:

https://media.pella.com/professional/adm/CertificationReports/Test_Reports_AS-Clad.pdf

CSI Specs (readable using Microsoft Word or other text editing application):

https://media.pella.com/professional/adm/Wood-CSI_Specs/08556.rtf

AIA Masterspec (readable using Microsoft Word or other text editing application):

https://media.pella.com/professional/adm/Wood-CSI_Specs/Masterspec/085200_fl.doc

Detailed Product Description (readable using Microsoft Word or other text editing application):

Clad: <https://media.pella.com/professional/adm/Clad-Wood/PR-MonumntlHung-C.rtf>

Wood: <https://media.pella.com/professional/adm/Clad-Wood/PR-MonumntlHung-W.rtf>

CAD cross sections (requires appropriate CAD software to read and use):

https://media.pella.com/professional/adm/Clad-Wood/AS-RES-M6DH-Detail_D.dwg

3D & BIM (requires appropriate software to read and use):

https://media.pella.com/professional/adm/RevitFiles/PR-Revit/Window-Monumental_Hung-Pella-Reserve-Traditional.zip

Combination Recommendations:

https://media.pella.com/professional/adm/Clad-Wood/D_Combinations.pdf

Installation Details:

https://media.pella.com/professional/adm/Clad-Wood/F_InstallationDetails.pdf

Impact-Resistant Double-Hung, Complete Product Information:

https://media.pella.com/professional/adm/Clad-Wood/Pella-ImpactResistant_DoubleHung.pdf

The information published in this document is believed to be accurate at the time of publication. However, because we are constantly working to improve our products, specifications are subject to change without notice. Consult your local Pella representative for up-to-date product information.

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Pella® Reserve™ Traditional Monumental-Hung Window

Size and Performance Data

	Clad	Wood
Sizes		
Special sizes only— Built-to-order in 1/8" increments (Includes transoms, egress sizes, arch heads, contemporary sash split, cottage sash split, variable sash split)	•	•
Performance ₁		
Meets or Exceeds AAMA/WDMA Ratings	H-LC25 - CW50 Hallmark Certified	H-LC25 - CW50 Hallmark Certified
Air Infiltration (cfm/ft ² of frame @ 1.57 psf wind pressure)	0.11	0.11
Water Resistance	3.76 - 7.52 psf	3.76 - 7.52 psf
Design Pressure	25 - 50 psf	25 - 50 psf
Structural Test Pressure	37.5 - 75 psf	37.5 - 75 psf
Other Performance Criteria		
Forced Entry Resistance Level (Minimum Security Grade) ₂	Grade 10	Grade 10
Operating Force (lb) Maintain Motion (of Hallmark tested size and glazing) ₃		
CW	45	45
LC	40	40

Sound Transmission Class / Outdoor-Indoor Transmission Class							
Product	Frame Size Tested ₄	Glazing System				STC Rating	OITC Rating
		Overall Glazing Thickness	Exterior Glass Thickness	Interior Glass Thickness	Third Pane Thickness		
Clad Monumental Single- and Double-Hung	WITHOUT GRILLES						
	48" x 60"	13/16"	3mm	3mm	—	29	24
	48" x 60"	1-1/16"	2.5mm	3mm	2.5mm	29	24
	47" x 59"	13/16"	5mm	3mm	—	32	27
	48" x 60"	13/16"	3mm	7.6mm PVB	—	33	29
	48" x 60"	13/16"	3mm	6mm laminated	—	33	28
Wood Monumental Single- and Double-Hung	WITHOUT GRILLES						
	48" x 60"	13/16"	3mm	3mm	—	32	28

(—) = Not Available

(1) Maximum performance for single unit when glazed with the appropriate glass thickness. See Design Data pages in this section for specific product performance class and grade values.

(2) The higher the level, the greater the product's ability to resist forced entry.

(3) Glazing configurations with sash weights over 121 lbs will result in operation forces over these values. Therefore, these units do not meet the operational force requirements for CW rated (45 lbs) or LC rated (40 lbs) hung windows.

(4) Published performance data for air infiltration is determined by testing a minimum of four (4) products of NFRC model size. Testing is conducted in accordance with ASTM E283. Air infiltration ratings for products will differ by size. The performance data does not apply to combination assemblies unless noted. Actual product performance may vary for a number of reasons including installation and product care.



Pella® Reserve™ Traditional Monumental-Hung Window

Features and Options

Standard	Options / Upgrades
Glazing	
Glazing Type	
Dual-Pane Insulating Glass	Triple-pane Insulating Glass
Insulated Glass Options/Low-E Types	
Advanced Low-E	SunDefense™ Low-E
	SunDefense+ Low-E
	AdvancedComfort Low-E
	NaturalSun Low-E
	NaturalSun+ Low-E
	Clear (no Low-E coating)
Additional Glass Options	
Annealed Glass	Tempered Glass
	Obscure Glass ¹
	Tinted Glass (Bronze, Gray and Green)
	Noise reduction glass (STC 3mm/5mm or 4mm/6mm combination)
	Noise reduction laminated glass (non-impact)
	Reflective Bronze, Reflective Grey
	Spandrel
Gas Fill/High Altitude	
Argon	High altitude
Wood types	
Pine	Mahogany (clad and wood), Douglas Fir (clad only)
Exterior¹	
EnduraClad® protective finish	EnduraClad Plus protective finish
	Factory Primed Pine wood exterior
	Unfinished Mahogany wood exterior
Cladding Colors¹	
Standard colors	Feature Colors, Custom Colors
Interior	
Unfinished Wood	Factory primed ¹ , Factory prefinished paint ¹ , Factory prefinished stain ¹
Hardware	
Hardware Finish	
Champagne, White, Brown or Matte Black	Satin Brass, Satin Nickel, Oil-Rubbed Bronze, Distressed Bronze, Distressed Nickel
Sash Locks	
Cam-action lock	Simulated lock, Air conditioner lock, Historical spoon-style lock (surface mounted), Head, sill, or stool mounted locks
Tilt-Wash Cleaning	
Tilt to interior on both sashes	—
Other Hardware	
—	Sash lifts
Grilles	
Integral Light Technology® Grilles	
—	Traditional, Prairie, Top Row, Cross, New England, Victorian, Diamond, Custom
Grilles-Between-the-Glass	
—	Traditional, Prairie, Top Row ¹ , Cross or Custom-Equally Divided
Screens²	
—	Full-Height or Half-Height InView™ screens, available with extruded aluminum screen frame

(1) Contact your local Pella sales representative for current color options.

(2) Size/Weight restrictions apply, see Design Data pages for details.



Pella® Reserve™ Traditional Monumental-Hung Window

Glazing Performance - Total Unit

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ¹				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT	CR	U. S.				Canada ²	
										Zone				ER	Zone
										Clad Exterior, Dual-Pane Glazing					
N	NC	SC	S	CA											
13/16"	Clear IG with 3mm glass	PEL-N-235-02441-00001	3	3	Air	0.44	0.54	0.56	44						
	with grilles-between-the-glass	PEL-N-235-02442-00001				0.44	0.48	0.50	44						
	with integral grilles	PEL-N-235-02443-00001				0.44	0.48	0.50	44						
13/16"	Advanced Low-E IG	PEL-N-235-02469-00001	3	3	Argon	0.28	0.25	0.48	59						
	with grilles-between-the-glass	PEL-N-235-02470-00001				0.28	0.23	0.42	59			SC	S		
	with integral grilles	PEL-N-235-02471-00001				0.29	0.23	0.42	59				S		
13/16"	SunDefense™ Low-E IG	PEL-N-235-02565-00001	3	3	Argon	0.28	0.19	0.44	60			SC	S		
	with grilles-between-the-glass	PEL-N-235-02566-00001				0.28	0.17	0.39	60			SC	S		
	with integral grilles	PEL-N-235-02567-00001				0.29	0.17	0.39	60				S		
13/16"	SunDefense+ Low-E IG	PEL-N-235-04437-00001	3	3	Argon	0.24	0.19	0.43	49		NC	SC	S		
	with grilles-between-the-glass	PEL-N-235-04438-00001				0.24	0.17	0.38	49		NC	SC	S		
	with integral grilles	PEL-N-235-04439-00001				0.25	0.17	0.38	49		NC	SC	S		
13/16"	AdvancedComfort Low-E IG	PEL-N-235-02517-00001	3	3	Argon	0.25	0.25	0.47	48		NC				
	with grilles-between-the-glass	PEL-N-235-02518-00001				0.25	0.22	0.41	48		NC	SC	S		
	with integral grilles	PEL-N-235-02519-00001				0.25	0.22	0.41	48		NC	SC	S		
13/16"	NaturalSun Low-E IG	PEL-N-235-02613-00001	3	3	Argon	0.29	0.47	0.54	59						
	with grilles-between-the-glass	PEL-N-235-02614-00001				0.29	0.42	0.48	59						
	with integral grilles	PEL-N-235-02615-00001				0.30	0.42	0.48	59						
13/16"	NaturalSun+ Low-E IG	PEL-N-235-04389-00001	3	3	Argon	0.25	0.43	0.53	47	N					
	with grilles-between-the-glass	PEL-N-235-04390-00001				0.25	0.38	0.47	47		NC				
	with integral grilles	PEL-N-235-04391-00001				0.26	0.38	0.47	47						
Tinted Glazing															
13/16"	Bronze Advanced Low-E IG	PEL-N-235-02661-00001	5	3	Argon	0.28	0.23	0.31	59			SC	S		
	with grilles-between-the-glass	PEL-N-235-02662-00001				0.28	0.20	0.27	59			SC	S		
	with integral grilles	PEL-N-235-02663-00001				0.29	0.20	0.27	59				S		
13/16"	Gray Advanced Low-E IG	PEL-N-235-02677-00001	5	3	Argon	0.28	0.21	0.27	59			SC	S		
	with grilles-between-the-glass	PEL-N-235-02678-00001				0.28	0.19	0.24	59			SC	S		
	with integral grilles	PEL-N-235-02679-00001				0.29	0.19	0.24	59				S		
13/16"	Green Advanced Low-E IG	PEL-N-235-02693-00001	5	3	Argon	0.28	0.26	0.42	59						
	with grilles-between-the-glass	PEL-N-235-02694-00001				0.28	0.23	0.37	59			SC	S		
	with integral grilles	PEL-N-235-02695-00001				0.29	0.23	0.37	59				S		
High Altitude Glazing															
13/16"	Advanced Low-E IG	PEL-N-235-02465-00001	3	3	Air	0.31	0.26	0.48	56						
	with grilles-between-the-glass	PEL-N-235-02466-00001				0.31	0.23	0.42	56				S		
	with integral grilles	PEL-N-235-02467-00001				0.32	0.23	0.42	56				S		
13/16"	SunDefense™ Low-E IG	PEL-N-235-02561-00001	3	3	Air	0.31	0.19	0.44	56				S		
	with grilles-between-the-glass	PEL-N-235-02562-00001				0.31	0.17	0.39	56				S		
	with integral grilles	PEL-N-235-02563-00001				0.32	0.17	0.39	56				S		
13/16"	SunDefense+ Low-E IG	PEL-N-235-04433-00001	3	3	Air	0.27	0.19	0.43	45			SC	S		
	with grilles-between-the-glass	PEL-N-235-04434-00001				0.27	0.17	0.38	45			SC	S		
	with integral grilles	PEL-N-235-04435-00001				0.27	0.17	0.38	45			SC	S		
13/16"	AdvancedComfort Low-E IG	PEL-N-235-02513-00001	3	3	Air	0.27	0.25	0.47	44						
	with grilles-between-the-glass	PEL-N-235-02514-00001				0.27	0.23	0.41	44			SC	S		
	with integral grilles	PEL-N-235-02515-00001				0.28	0.23	0.41	44			SC	S		
13/16"	NaturalSun Low-E IG	PEL-N-235-02609-00001	3	3	Air	0.32	0.47	0.54	55						
	with grilles-between-the-glass	PEL-N-235-02610-00001				0.32	0.42	0.48	55						
	with integral grilles	PEL-N-235-02611-00001				0.33	0.42	0.48	55						
13/16"	NaturalSun+ Low-E IG	PEL-N-235-04385-00001	3	3	Air	0.27	0.43	0.53	38						
	with grilles-between-the-glass	PEL-N-235-04386-00001				0.27	0.38	0.47	38						
	with integral grilles	PEL-N-235-04387-00001				0.28	0.38	0.47	38						

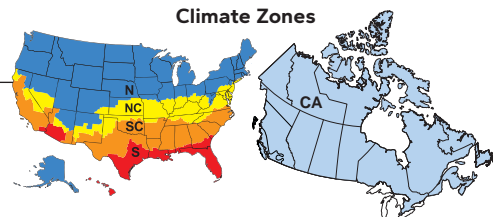
R-Value = 1/U-Factor, SHGC = Solar Heat Gain Coefficient
VLT % = Visible Light Transmission, CR = Condensation Resistance
ER = Canadian Energy Rating

(1) Glazing performance values are calculated for Pine using NFRC 100, NFRC 200 and NFRC 500. Thermal performance of other wood species may vary. ENERGY STAR® values are updated to 2023 (Version 7) criteria.

(2) The values shown are based on Canada's updated ENERGY STAR® 2020 initiative.

Non Rectangular Unit thermal values will vary slightly.

Visit www.energystar.gov for Energy Star guidelines.





Pella® Reserve™ Traditional Monumental-Hung Window

Glazing Performance - Total Unit

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)			Gap Fill	Performance Values ¹				Shaded Areas Meet ENERGY STAR [®] Performance Criteria in Zones Shown					
			Ext.	Mid.	Int.		U-Factor	SHGC	VLT	CR	U. S.				Canada ²	
											Zone				ER	Zone
Clad Exterior, Triple-Pane Glazing											N	NC	SC	S	CA	
1-1/16"	Advanced Low-E IG	PEL-N-235-02925-00001	2.5	3	2.5	Argon	0.21	0.23	0.43	72	N	NC	SC	S	27	CA
	with grilles-between-the-glass	PEL-N-235-02926-00001					0.21	0.21	0.38	72	N	NC	SC	S	25	CA
	with integral grilles	PEL-N-235-02927-00001					0.21	0.21	0.38	72	N	NC	SC	S	25	CA
1-1/16"	SunDefense™ Low-E IG	PEL-N-235-02961-00001	2.5	3	2.5	Argon	0.20	0.17	0.39	72	N	NC	SC	S	24	CA
	with grilles-between-the-glass	PEL-N-235-02962-00001					0.21	0.16	0.35	72		NC	SC	S		
	with integral grilles	PEL-N-235-02963-00001					0.21	0.16	0.35	72		NC	SC	S		
1-1/16"	NaturalSun Low-E IG	PEL-N-235-02889-00001	2.5	3	2.5	Argon	0.21	0.39	0.48	71	N	NC			36	CA
	with grilles-between-the-glass	PEL-N-235-02890-00001					0.21	0.35	0.43	71	N	NC			34	CA
	with integral grilles	PEL-N-235-02891-00001					0.21	0.35	0.43	71	N	NC			34	CA
High Altitude Glazing																
1-1/16"	Advanced Low-E IG	PEL-N-235-02921-00001	2.5	3	2.5	Air	0.23	0.23	0.43	68		NC	SC	S		
	with grilles-between-the-glass	PEL-N-235-02922-00001					0.24	0.21	0.38	68		NC	SC	S		
	with integral grilles	PEL-N-235-02923-00001					0.24	0.21	0.38	68		NC	SC	S		
1-1/16"	SunDefense Low-E IG	PEL-N-235-02957-00001	2.5	3	2.5	Air	0.23	0.18	0.39	68		NC	SC	S		
	with grilles-between-the-glass	PEL-N-235-02958-00001					0.24	0.16	0.35	68		NC	SC	S		
	with integral grilles	PEL-N-235-02959-00001					0.23	0.16	0.35	68		NC	SC	S		
1-1/16"	NaturalSun Low-E IG	PEL-N-235-02885-00001	2.5	3	2.5	Air	0.24	0.39	0.48	68	N	NC				
	with grilles-between-the-glass	PEL-N-235-02886-00001					0.24	0.35	0.43	68	N	NC				
	with integral grilles	PEL-N-235-02887-00001					0.24	0.35	0.43	68	N	NC				

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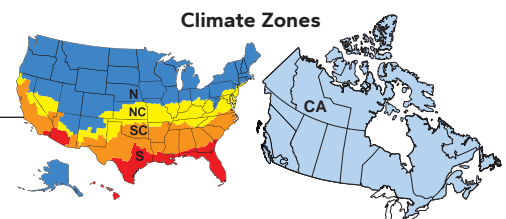
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Pella® Reserve™ Traditional Monumental-Hung Window

Glazing Performance - Total Unit

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)		Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Int.		U-Factor	SHGC	VLT	CR	U. S.				Canada ₂	
										Zone				ER	Zone
										N	NC	SC	S		CA
Wood Exterior, Dual-Pane Glazing															
13/16"	Clear IG with 3mm glass	PEL-N-236-02433-00001	3	3	Air	0.43	0.54	0.57	44						
	with grilles-between-the-glass	PEL-N-236-02434-00001				0.43	0.48	0.50	44						
	with integral grilles	PEL-N-236-02435-00001				0.43	0.48	0.50	44						
13/16"	Advanced Low-E IG	PEL-N-236-02461-00001	3	3	Argon	0.28	0.26	0.48	59						
	with grilles-between-the-glass	PEL-N-236-02462-00001				0.28	0.23	0.43	59			SC	S		
	with integral grilles	PEL-N-236-02463-00001				0.28	0.23	0.43	59			SC	S		
13/16"	SunDefense™ Low-E IG	PEL-N-236-02557-00001	3	3	Argon	0.27	0.19	0.45	59			SC	S		
	with grilles-between-the-glass	PEL-N-236-02558-00001				0.27	0.17	0.40	59			SC	S		
	with integral grilles	PEL-N-236-02559-00001				0.28	0.17	0.40	59			SC	S		
13/16"	SunDefense+ Low-E IG	PEL-N-236-04429-00001	3	3	Argon	0.24	0.19	0.44	49		NC	SC	S		
	with grilles-between-the-glass	PEL-N-236-04430-00001				0.24	0.17	0.39	49		NC	SC	S		
	with integral grilles	PEL-N-236-04431-00001				0.24	0.17	0.39	49		NC	SC	S		
13/16"	AdvancedComfort Low-E IG	PEL-N-236-02509-00001	3	3	Argon	0.24	0.25	0.47	48		NC				
	with grilles-between-the-glass	PEL-N-236-02510-00001				0.24	0.23	0.42	48		NC	SC	S		
	with integral grilles	PEL-N-236-02511-00001				0.25	0.23	0.42	48		NC	SC	S		
13/16"	NaturalSun Low-E IG	PEL-N-236-02605-00001	3	3	Argon	0.28	0.48	0.55	58						
	with grilles-between-the-glass	PEL-N-236-02606-00001				0.28	0.43	0.48	58						
	with integral grilles	PEL-N-236-02607-00001				0.29	0.43	0.48	58						
13/16"	NaturalSun+ Low-E IG	PEL-N-236-04381-00001	3	3	Argon	0.25	0.43	0.53	47	N					
	with grilles-between-the-glass	PEL-N-236-04382-00001				0.25	0.39	0.47	47		NC				
	with integral grilles	PEL-N-236-04383-00001				0.25	0.39	0.47	47		NC				
Tinted Glazing															
13/16"	Bronze Advanced Low-E IG	PEL-N-236-02653-00001	5	3	Argon	0.27	0.23	0.31	59			SC	S		
	with grilles-between-the-glass	PEL-N-236-02654-00001				0.27	0.21	0.28	59			SC	S		
	with integral grilles	PEL-N-236-02655-00001				0.28	0.21	0.28	59			SC	S		
13/16"	Gray Advanced Low-E IG	PEL-N-236-02669-00001	5	3	Argon	0.27	0.21	0.27	59			SC	S		
	with grilles-between-the-glass	PEL-N-236-02670-00001				0.27	0.19	0.24	59			SC	S		
	with integral grilles	PEL-N-236-02671-00001				0.28	0.19	0.24	59			SC	S		
13/16"	Green Advanced Low-E IG	PEL-N-236-02685-00001	5	3	Argon	0.27	0.26	0.42	59						
	with grilles-between-the-glass	PEL-N-236-02686-00001				0.27	0.23	0.38	59			SC	S		
	with integral grilles	PEL-N-236-02687-00001				0.28	0.23	0.38	59			SC	S		
High Altitude Glazing															
13/16"	Advanced Low-E IG	PEL-N-236-02457-00001	3	3	Air	0.31	0.26	0.48	55						
	with grilles-between-the-glass	PEL-N-236-02458-00001				0.31	0.23	0.43	55				S		
	with integral grilles	PEL-N-236-02459-00001				0.31	0.23	0.43	55				S		
13/16"	SunDefense™ Low-E IG	PEL-N-236-02553-00001	3	3	Air	0.30	0.19	0.45	56				S		
	with grilles-between-the-glass	PEL-N-236-02554-00001				0.30	0.17	0.40	56				S		
	with integral grilles	PEL-N-236-02555-00001				0.31	0.17	0.40	56				S		
13/16"	SunDefense+ Low-E IG	PEL-N-236-04425-00001	3	3	Air	0.26	0.19	0.44	45			SC	S		
	with grilles-between-the-glass	PEL-N-236-04426-00001				0.26	0.17	0.39	45			SC	S		
	with integral grilles	PEL-N-236-04427-00001				0.27	0.17	0.39	45			SC	S		
13/16"	AdvancedComfort Low-E IG	PEL-N-236-02505-00001	3	3	Air	0.26	0.25	0.47	44						
	with grilles-between-the-glass	PEL-N-236-02506-00001				0.26	0.23	0.42	44			SC	S		
	with integral grilles	PEL-N-236-02507-00001				0.27	0.23	0.42	44			SC	S		
13/16"	NaturalSun Low-E IG	PEL-N-236-02601-00001	3	3	Air	0.31	0.48	0.55	55						
	with grilles-between-the-glass	PEL-N-236-02602-00001				0.31	0.42	0.48	55						
	with integral grilles	PEL-N-236-02603-00001				0.32	0.42	0.48	55						
13/16"	NaturalSun+ Low-E IG	PEL-N-236-04377-00001	3	3	Air	0.27	0.43	0.53	44						
	with grilles-between-the-glass	PEL-N-236-04378-00001				0.27	0.39	0.47	44						
	with integral grilles	PEL-N-236-04379-00001				0.27	0.39	0.47	44						

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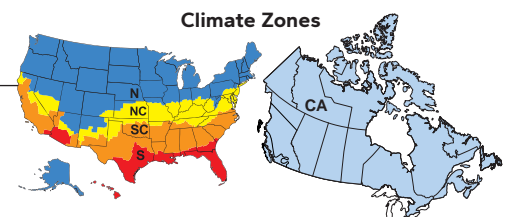
(2) The values shown are based on Canada's updated ENERGY STAR® 2020 initiative.

Non Rectangular Unit thermal values will vary slightly.

Visit www.energystar.gov for Energy Star guidelines.

Rev. 02/02/2024

Pella 2024 Architectural Design Manual | Division 08 – Openings | Windows and Doors | www.Pella.com



W-MH-6



Pella® Reserve™ Traditional Monumental-Hung Window

Glazing Performance - Total Unit

Glazing Thickness	Type of Glazing	NFRC Certified Product #	Glass (mm)			Gap Fill	Performance Values ₁				Shaded Areas Meet ENERGY STAR® Performance Criteria in Zones Shown					
			Ext.	Mid.	Int.		U-Factor	SHGC	VLT	CR	U. S.				Canada ₂	
											Zone				ER	Zone
											Wood Exterior, Triple-Pane Glazing					
1-1/16"	Advanced Low-E IG	PEL-N-236-02917-00001	2.5	3	2.5	Argon	0.20	0.24	0.43	71	N	NC			28	CA
	with grilles-between-the-glass	PEL-N-236-02918-00001					0.20	0.21	0.38	71	N	NC	SC	S	27	CA
	with integral grilles	PEL-N-236-02919-00001					0.20	0.21	0.38	71	N	NC	SC	S	27	CA
1-1/16"	SunDefense™ Low-E IG	PEL-N-236-02953-00001	2.5	3	2.5	Argon	0.20	0.17	0.40	72	N	NC	SC	S	24	CA
	with grilles-between-the-glass	PEL-N-236-02954-00001					0.20	0.16	0.35	71		NC	SC	S	24	CA
	with integral grilles	PEL-N-236-02955-00001					0.20	0.16	0.35	71		NC	SC	S	24	CA
1-1/16"	NaturalSun Low-E IG	PEL-N-236-02881-00001	2.5	3	2.5	Argon	0.20	0.40	0.49	71	N	NC			38	CA
	with grilles-between-the-glass	PEL-N-236-02882-00001					0.20	0.35	0.43	71	N	NC			35	CA
	with integral grilles	PEL-N-236-02883-00001					0.20	0.35	0.43	71	N	NC			35	CA
High Altitude Glazing																
1-1/16"	Advanced Low-E IG	PEL-N-236-02913-00001	2.5	3	2.5	Air	0.23	0.24	0.43	68		NC				
	with grilles-between-the-glass	PEL-N-236-02914-00001					0.23	0.21	0.38	68		NC	SC	S		
	with integral grilles	PEL-N-236-02915-00001					0.23	0.21	0.38	68		NC	SC	S		
1-1/16"	SunDefense Low-E IG	PEL-N-236-02949-00001	2.5	3	2.5	Air	0.22	0.18	0.40	68	N	NC	SC	S		
	with grilles-between-the-glass	PEL-N-236-02950-00001					0.23	0.16	0.35	68		NC	SC	S		
	with integral grilles	PEL-N-236-02951-00001					0.23	0.16	0.35	68		NC	SC	S		
1-1/16"	NaturalSun Low-E IG	PEL-N-236-02877-00001	2.5	3	2.5	Air	0.23	0.40	0.49	67	N	NC			34	CA
	with grilles-between-the-glass	PEL-N-236-02878-00001					0.23	0.35	0.43	67	N	NC				
	with integral grilles	PEL-N-236-02879-00001					0.23	0.35	0.43	67	N	NC				

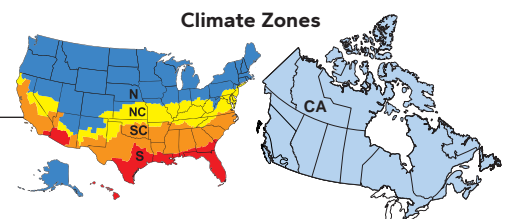
R-Value = 1/U-Factor
SHGC = Solar Heat Gain Coefficient
VLT % = Visible Light Transmission
CR = Condensation Resistance
ER = Canadian Energy Rating

(1) Glazing performance values are calculated for Pine using NFRC 100, NFRC 200 and NFRC 500. Thermal performance of other wood species may vary. ENERGY STAR® values are updated to 2023 (Version 7) criteria.

(2) The values shown are based on Canada's updated ENERGY STAR® 2020 initiative.

Non Rectangular Unit thermal values will vary slightly.

Visit www.energystar.gov for Energy Star guidelines.



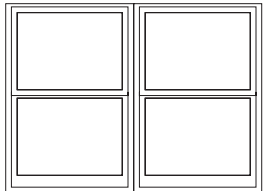


Combination Assemblies

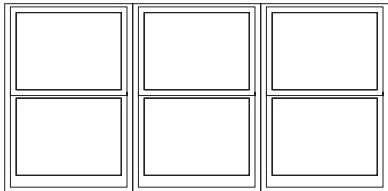
Combinations are a great way to create visual interest in any project. A combination is an assembly formed by two or more separate windows or doors whose frames are mulled together by a combination or reinforcing mullion.

Pella window combinations are available in an endless variety of arrangements. See the Combinations Recommendations document for typical mullions, requirements and limitations.

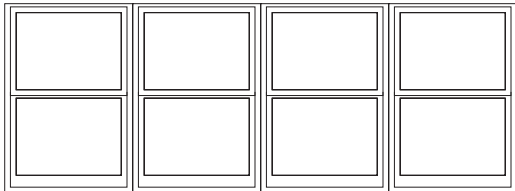
Contact your local Pella sales representative for more information.



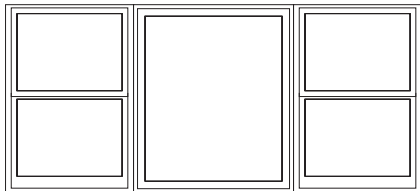
Two-Wide



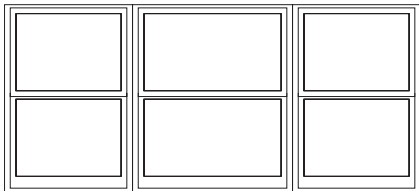
Three-Wide Equal



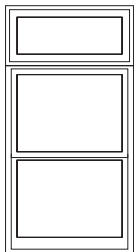
Four-Wide Equal



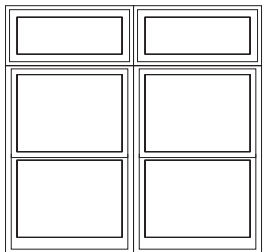
Center Fixed with Flankers



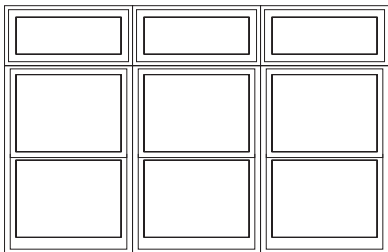
Three-Wide Unequal



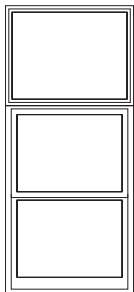
Transom over
Single



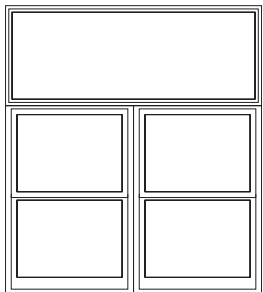
Two-Wide Transoms over
Two-Wide



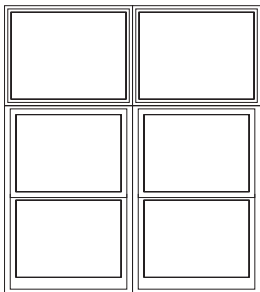
Three-Wide Transoms over
Three-Wide



Clad Frame over
Single



Single Clad Frame over
Two-Wide



Two Wide Clad Frame over
Two-Wide

When Sash is Shipped Separate factory assembled combinations are not available.

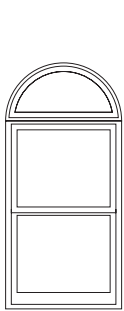


Combination Assemblies

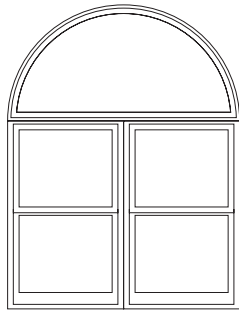
Combinations are a great way to create visual interest in any project. A combination is an assembly formed by two or more separate windows or doors whose frames are mullioned together by a combination or reinforcing mullion.

Pella window combinations are available in an endless variety of arrangements. See the Combinations Recommendations document for typical mullions, requirements and limitations.

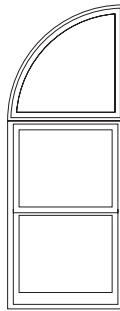
Contact your local Pella sales representative for more information.



Half Circle over
Single



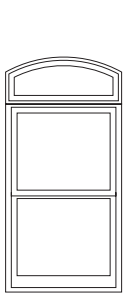
Half Circle over
Two-Wide



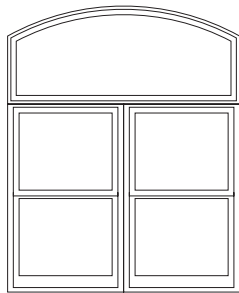
Left Quarter Circle
over Single



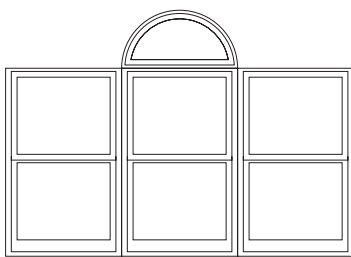
Right Quarter Circle
over Single



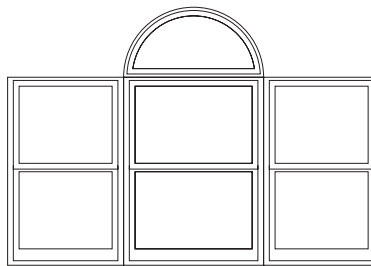
Arch Head over
Single



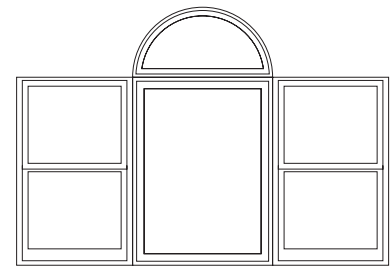
Arch Head over
Two-Wide



Half Circle centered on
Three-Wide Equal



Half Circle over
Three-Wide Unequal



Half Circle over
Center Fixed with Flankers

When Sash is Shipped Separate factory assembled combinations are not available.

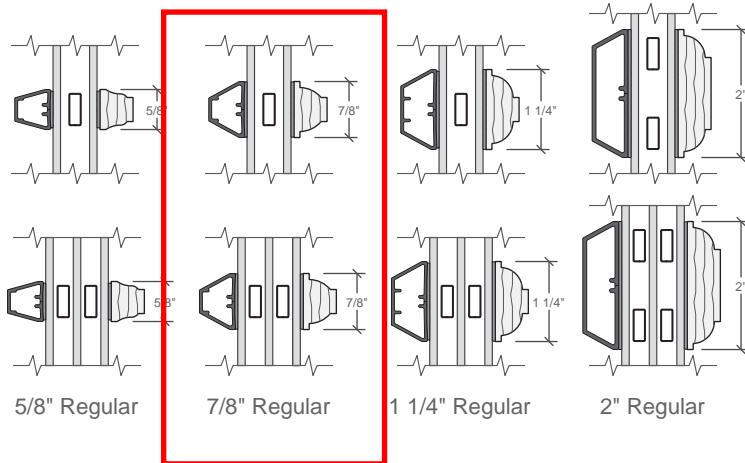


Pella® Reserve™ Traditional Monumental-Hung Window

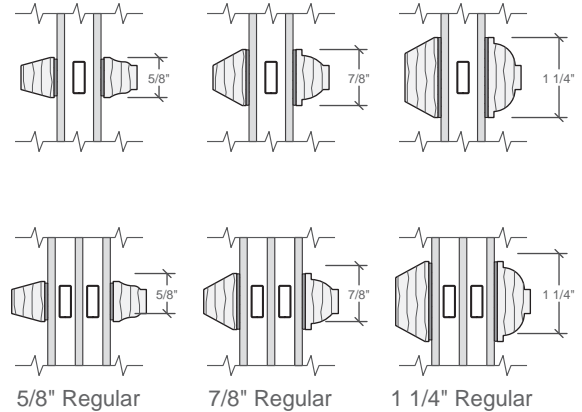
Grille Profiles

Traditional Style Collection - Integral Light Technology®

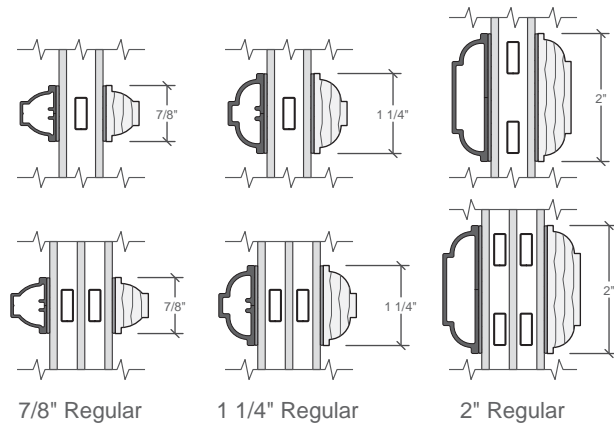
Putty Glaze and Ogee Grilles Clad Exterior - Wood Interior



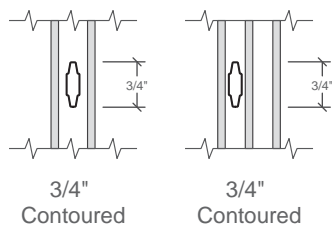
Putty Glaze and Ogee Grilles Wood Exterior - Wood Interior



Ogee Grilles Clad Exterior - Wood Interior



Grilles-Between-the-Glass



Interior wood ILT grilles available in Pine, Mahogany or Douglas Fir to match complete unit.

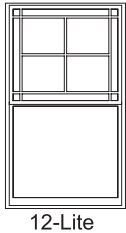
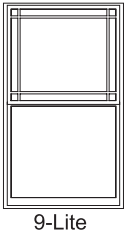
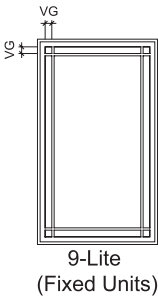
Exterior wood ILT grilles available in Pine or Mahogany to match complete unit.



Grille Patterns

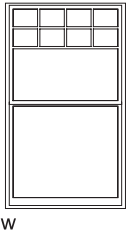
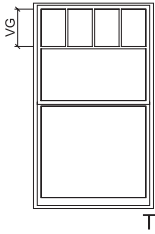
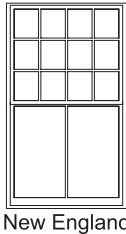
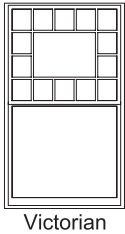
Integral Light Technology® Grilles

Prairie Lite Patterns



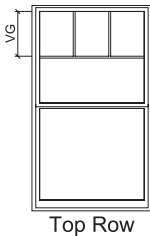
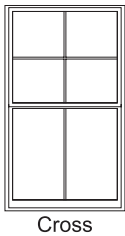
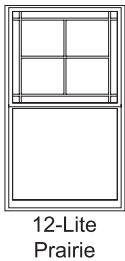
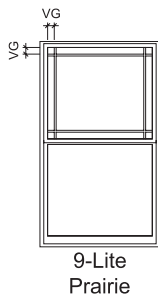
Standard corner lite dimension for Prairie patterns = 2-1/2" VG.
Available in transoms ≥ 1'3" height and width.
Available in all standard and special sizes.

Other Available Patterns



VG = Visible Glass
Lite dimensions noted can vary.
For size and pattern availability contact your local Pella sales representative.

Grilles-Between-the-Glass



Prairie
- Standard corner lite dimension for Prairie patterns = 2-1/2" VG.
- Available in transoms ≥ 1'3" height and width.

Cross
- Minimum DH frame height 35".
- Horizontal bar will be at 1/2" of the VG height of the top sash.

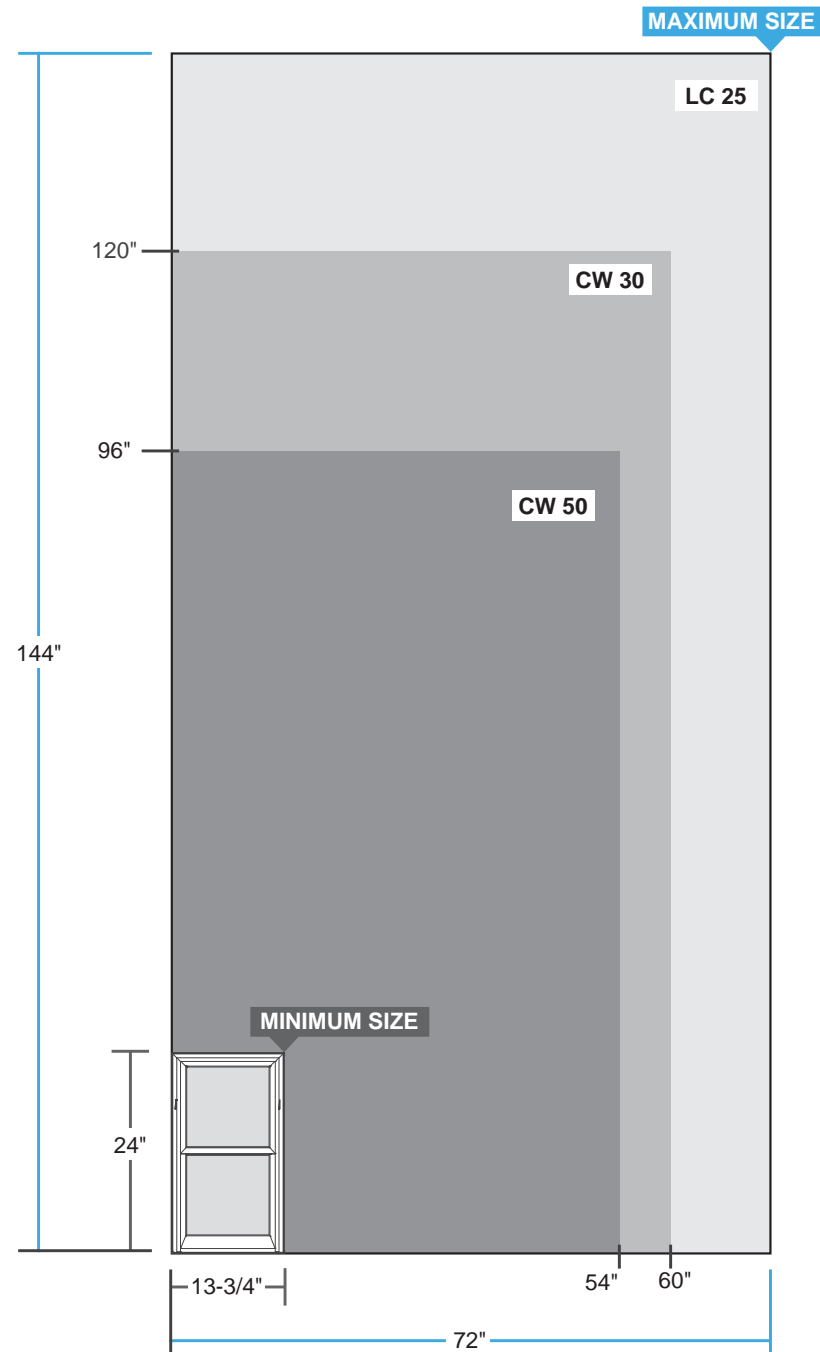
Top Row
- Minimum DH frame height 35".
- Horizontal bar will be at 1/2" of the VG height of the top sash.

For traditional patterns, see size tables.



Pella® Reserve™ Traditional Monumental-Hung Window

Design Data and Performance Class



Maximum performance when glazed with the appropriate glass thickness.



Pella® Reserve™ Traditional Monumental-Hung Window

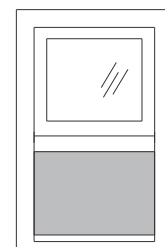
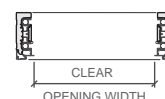
Sizes and Dimensions

Miscellaneous Formulas

Frame	Minimum	Maximum
Rectangular	13-3/4" W x 24" H (349 x 610 mm)	72" W x 144" H (1 829 x 3 658 mm)
Non-rectangular	13-3/4" W x 24" H (349 x 610 mm)	60" W x 120" H (1 524 x 3 048 mm)

Vent - Equal Sash Only

Visible Glass (inches)	Width = Frame - 7.594
	Height = (Frame - 10.572) ÷ 2
Actual Glass (inches)	Width = Frame - 6.245
	Height = (Frame - 7.874) ÷ 2
Clear Opening* (inches)	COW = Frame - 4.928
	Standard Balances: COH = AGH - 1.313
	Upgraded Balances: COH = AGH - 8.688
	If Frame Height is >120", then Clear Opening Height is limited to 24"
Vent area (ft²)	(COW x COH) ÷ 144



Shaded portion shows vent area.

* Addition of Sash Lug will reduce Clear Opening width and height by 1.25"

- Units > 120" will have limited sash travel.
- Sash is shipped out of unit when Frame Height > 106" or Individual Sash Weight > 92 lbs or Frame Width > 60".
- Units will be single hung only when frame height > 120".
- Maximum sash weight is 200 lbs.
- Standard balance not available when sash weight > 70 lbs or if Frame Height > 96".
- When sash weight > 92 lbs sash will not have tilt in cleaning feature.
- Full Screen not available when Frame Height > 120".
- Units with sash weights over 121 lbs will result in operation forces that do not meet the operational force requirements for CW rated (45 lbs) or LC rated (40 lbs) hung windows.

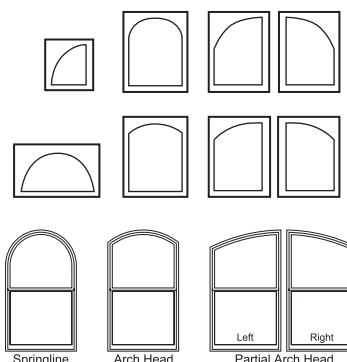
Custom Options

Pella Reserve single-hung windows are available in custom shapes shown below, and additional shapes per drawing. For specifications, size limitations, and details on these units, contact your local Pella sales representative.

Glass Shapes

The following additional options are available:

- Special Wood Types.
- Custom Grille Types and Patterns.
- Custom Glazing.
- Custom Width and height rectangular units.
- Custom Width sash stiles and rails.
- Curved Top Glass in rectangular sash.
- Shape vent and fixed windows.
- Specialty Windows - See the Specialty Windows section.





Detailed Product Description - Aluminum-Clad Exterior

Frame

- Select softwood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are [clear pine, curved members may have visible finger joints] [mahogany] [douglas fir].
- Exterior surfaces are clad with aluminum.
- Components are assembled with screws, staples and concealed corner locks.
- Vinyl Jamb liner includes wood/clad inserts.
- Overall frame depth is 5-7/8" (149mm) for a wall depth of 4-9/16" (116mm).
- Optional factory applied jamb extensions available from 4-9/16" (116mm) and 7-3/16" (183 mm) wall depths.
- Optional factory installed fold-out installation fins with flexible fin corners.
- Optional factory-applied EnduraClad® exterior trim.

Sash

- Select softwood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are [clear pine, curved members may have visible finger joints] [mahogany (not available if sash weight > 200 lbs.)] [douglas fir].
- Exterior surfaces are clad with extruded aluminum and sealed.
- Corners mortised and tenoned, glued and secured with metal fasteners.
- Sash thickness is 2-1/4" (57mm).
- Exterior sash profile is [ogee] [putty glaze], interior profile is ogee.
- Double-hung upper sash (if sash weight ≤ 92 lbs.) has surface-mounted wash locks for tilt-in cleaning.
- Double-hung and single-hung lower sash (if sash weight ≤ 92 lbs.) has concealed wash locks in lower check rail for tilt-in cleaning.

Weatherstripping

- Santoprene-wrapped foam at head and sill.
- Full length glass filled polypropylene interlocker with integrated slip-coated thermoplastic elastomer leaf.
- Secondary nylon bristle rainstrip on lower sash at sill.
- Vinyl-wrapped foam with secondary nylon bristle rainstrip inserted into jamb liner to seal against sides of sash.

Glazing System

- Quality float glass complying with ASTM C 1036.
- Custom and high altitude glazing available.
- Silicone-glazed dual-pane 13/16" dual-seal insulating glass [[annealed] [tempered]], [[clear] [[Advanced] [SunDefense™] [SunDefense+] [NaturalSun] [NaturalSun+] [AdvancedComfort] Low-E [with argon]]] [[bronze] [gray] [green] Advanced Low-E [with Argon]] [Obscure] [Reflective Bronze] [Reflective Gray].
– or –
- Silicone-glazed dual-pane 13/16" dual-seal tempered spandrel glass [Lava Bronze Amber] [Black] [Ford Blue] [Symmetry Bronze] [Symmetry Gray] [Symmetry Green].
– or –
- Silicone-glazed dual-pane 13/16" dual-seal [[annealed] [tempered]] non-impact laminated glass [[clear] [[Advanced] [SunDefense] Low-E [with Argon]]] [[bronze] [gray] [green] Advanced Low-E [with argon]].
– or –
- Silicone-glazed triple-pane 1-1/16" dual-seal insulating glass (not available if sash weight > 200 lbs.) [[annealed] [tempered]] [[Advanced Low-E] [SunDefense™ Low-E] [NaturalSun Low-E] [with argon]] [Obscure [standard] [fern]].

Exterior

- Aluminum-clad exteriors shall be coated with EnduraClad® protective finish, in a multi-step, baked-on finish.
 - Color is [standard] [feature] [custom]¹.
- Aluminum-clad exteriors shall be coated with EnduraClad Plus protective finish with 70% fluoropolymer resin in a multi-step, baked-on finish.
 - Color is [standard] [feature] [custom]¹.

Interior

- [Unfinished, ready for site finishing] [factory primed with one coat acrylic latex] [pine: factory prefinished [paint] [stain]¹].

Hardware

- Galvanized block-and-tackle balances are attached to self-locking balance shoes connected to the sashes using zinc die cast terminals concealed within the frame.
– or –
- Class 5 hybrid balance attached to [locking] [non-locking] balance shoes connected to the sashes using zinc die cast terminals and concealed within the frame.
– or –
- Galvanized block-and-tackle balances combined with a Class 5 hybrid balance attached to non-locking balance shoes connected to the sashes using zinc die cast terminals and concealed within the frame.
- All balances comply with AAMA 902 specification
- Lock hardware is [standard lock (cam-action)] [spoon-style lock] [air-conditioner lock] [simulated lock (Single-piece lock ties upper and lower sash together. When removed, lower sash becomes operable)]. Two sash locks on units with frame width 37" and greater.
- Hardware Finish is [baked enamel [Champagne] [White] [Brown] [Matte Black]] [Satin Brass] [Satin Nickel] [Oil-Rubbed Bronze] [Distressed Bronze] [Distressed Nickel].

Optional Products

Sash

- Exterior sash lugs
 - Factory applied, color to match exterior cladding.

Grilles

- Integral Light Technology® grilles
 - Interior grilles are [5/8"] [7/8"] [1-1/4"] [2"] ogee profile that are solid [pine] [mahogany] [douglas fir]. Interior surfaces are [unfinished, ready for site finishing] [factory primed] [pine: factory prefinished [paint] [stain]¹].
 - Exterior grilles are [5/8" putty profile] [7/8" [putty glaze] [ogee] profile] [1-1/4" [putty glaze] [ogee] profile] [2" ogee profile] that are extruded aluminum.
 - Patterns are [Traditional] [Prairie] [Top Row] [New England] [Victorian].
 - Insulating glass contains non-glare spacer between the panes of glass.
 - Grilles are adhered to both sides of the insulating glass with VHB acrylic adhesive tape and aligned with the non-glare spacer.
– or –

Grilles-Between-the-Glass²

- Insulating glass contains 3/4" contoured aluminum grilles permanently installed between two panes of glass (exterior air-space on triple-pane insulating glass)
- Patterns are [Traditional] [Prairie] [Cross] [Top Row]
- Interior color is [White] [Tan³] [Brown³] [Putty³] [Black] [Ivory] [Harvest] [Cordovan] [Brickstone].
- Exterior color⁴ is [standard¹].

Screens

- InView™ Screens
 - [Full-screen (not available on units > 120" tall)] [half-screen] black Vinyl-coated 18/18 mesh fiberglass screen cloth complying with the performance requirements of SMA 1201, set in a [extruded (optional on clad exterior units < 84" height, standard on wood exterior units or clad exterior units > 84") [standard] aluminum frame fitted to outside of window, supplied complete with all necessary hardware.
 - Full screen spreader bar placed on units > 37" width or > 65" height.
 - Screen frame finish is [standard screen: baked enamel] [premium extruded: baked enamel], color to match window cladding.

Hardware

- Optional sash lift furnished for field installation. Finish matches lock hardware. Two lifts on units having frame width 37" or greater.
- Optional factory applied limited opening device for venting units; nominal 3-3/4" opening. Limiting device concealed from view.
- Optional factory applied window opening control device for venting units. Sash mounted device allows window to open less than 4" with normal operation, with a release mechanism that allows the sash to open completely. Finish matches lock hardware. Complies with ASTM F2090-10.
- Optional [head, sill, stool locks].

Sensors

- Optional factory installed integrated security sensors available in vent units.

(1) Contact your local Pella sales representative for current designs and color options.

(2) Available in clear or Low-E Insulating Glass only.

(3) Tan, Brown and Putty Interior GBG colors are available in single-tone (Brown/Brown, Tan/Tan or Putty/Putty). Other interior colors are also available with Tan or Brown exterior.

(4) Appearance of exterior grille color will vary depending on Low-E coating on glass.



Detailed Product Description - Wood Exterior

Frame

- Select wood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are [clear pine] [mahogany] curved members may have visible finger joints.
- Exterior surfaces are [pine] [mahogany].
- Vinyl Jamb liner includes wood inserts.
- Overall frame depth is 5-5/8" (143mm) for a wall depth of 5-7/16" (138mm).
- Optional factory applied jamb extensions available from 5-7/16" (138mm) and 7-3/16" (183mm) wall depths.
- Optional factory installed fold-out installation fins with flexible fin corners.
- Optional factory-applied pine [1-7/8"] [3-1/2"] brickmould and [1-1/8"] [1-7/8"] subsill.

Sash

- Select wood, immersion treated with Pella's EnduraGuard® wood protection formula in accordance with WDMA I.S.-4. The EnduraGuard formula includes three active ingredients for protection against the effects of moisture, decay, stains from mold and mildew. Plus, an additional ingredient adds protection against termite damage.
- Interior exposed surfaces are [clear pine, curved members may have visible finger joints] [mahogany (not available if sash weight > 200 lbs.)].
- Exterior surfaces are [pine] [mahogany].
- Corners mortised and tenoned, glued and secured with metal fasteners.
- Sash thickness is 2-1/4" (57mm).
- Exterior sash profile is putty glaze, interior sash profile ogee.
- Double-hung upper sash (if sash weight ≤ 92 lbs.) has surface-mounted wash locks for tilt-in cleaning.
- Double-hung and single-hung lower sash (if sash weight ≤ 92 lbs.) has concealed wash locks in lower check rail for tilt-in cleaning.

Weatherstripping

- Santoprene-wrapped foam at head and sill.
- Full length glass filled polypropylene interlocker with integrated slip-coated thermoplastic elastomer leaf.
- Secondary nylon bristle rain strip on lower sash at sill.
- Vinyl-wrapped foam with secondary nylon bristle rain strip inserted into jamb liner to seal against sides of sash.

Glazing System

- Quality float glass complying with ASTM C 1036.
- Custom and high altitude glazing available.
- Silicone-glazed dual-pane 13/16" dual-seal insulating glass [[annealed] [tempered]], [[clear] [[Advanced] [SunDefense™] [SunDefense+] [NaturalSun] [NaturalSun+] [AdvancedComfort] Low-E [with argon]] [[bronze] [gray] [green] Advanced Low-E [with Argon]] [obscure] [Reflective Bronze] [Reflective Gray].
– or –
- Silicone-glazed dual-pane 13/16" dual-seal tempered spandrel glass [Lava Bronze Amber] [Black] [Ford Blue] [Symmetry Bronze] [Symmetry Gray] [Symmetry Green].
– or –
- Silicone-glazed dual-pane 13/16" dual-seal [[annealed] [tempered]] non-impact laminated glass [[clear] [[Advanced] [SunDefense] Low-E [with Argon]] [[bronze] [gray] [green] Advanced Low-E [with argon]].
– or –
- Silicone-glazed triple-pane 1-1/16" dual-seal insulating glass (not available if sash weight > 200 lbs.) [[annealed] [tempered]] [[Advanced Low-E] [SunDefense™ Low-E] [NaturalSun Low-E] [with argon]] [Obscure] [standard] [fern]].

Exterior

- [Pine: factory primed with one coat acrylic latex] [Mahogany: [factory primed with one coat acrylic latex] [Unfinished, ready for site finishing]].

Interior

- [Unfinished, ready for site finishing] [factory primed with one coat acrylic latex] [pine: factory prefinished [paint] [stain]].

Hardware

- Galvanized block-and-tackle balances are attached to self-locking balance shoes connected to the sashes using zinc die cast terminals concealed within the frame.
– or –
- Class 5 hybrid balance attached to [locking] [non-locking] balance shoes connected to the sashes using zinc die cast terminals and concealed within the frame.
– or –
- Galvanized block-and-tackle balances combined with a Class 5 hybrid balance attached to non-locking balance shoes connected to the sashes using zinc die cast terminals and concealed within the frame.
- All balances comply with AAMA 902 specification
- Sash lock is [standard (cam-action)] [historic spoon-style] [air-conditioner lock] [simulated lock (Single-piece lock ties upper and lower sash together. When removed, lower sash becomes operable)]. Two sash locks on units with frame width 37" and greater.
- Hardware finish is [baked enamel [Champagne] [White] [Brown] [Matte Black]] [Satin Brass] [Satin Nickel] [Oil-rubbed Bronze] [Distressed Bronze] [Distressed Nickel].

Optional Products

Grilles

- Integral Light Technology® grilles
 - Interior grilles are [5/8"] [7/8"] [1-1/4"] [2"] ogee profile that are solid [pine] [mahogany]. Interior surfaces are [unfinished, ready for site finishing] [factory primed] [pine: factory prefinished [paint] [stain]].
 - Exterior grilles are solid [5/8"] [7/8"] [1-1/4"] [2"] putty glaze profile that are [pine] [mahogany]. Exterior surfaces are water repellent, preservative-treated in accordance with WDMA I.S.-4, and are [unfinished, ready for site finishing] [factory primed].
 - Patterns are [Traditional] [Prairie] [Top Row] [Cross] [New England] [Victorian].
 - Insulating glass contains non-glare spacer between the panes of glass.
 - Grilles are adhered to both sides of the insulating glass with VHB acrylic adhesive tape and aligned with the non-glare spacer.
– or –
- Grilles-Between-the-Glass₂
 - Insulating glass contains 3/4" contoured aluminum grilles permanently installed between two panes of glass (exterior air-space on triple-pane insulating glass).
 - Patterns are [Traditional] [Prairie] [Cross] [Top Row]
 - Interior color is [White] [Tan₃] [Brown₃] [Putty₃] [Black] [Ivory] [Harvest] [Cordovan] [Brickstone].
 - Exterior color₄ is [standard₁].

Screens

- InView™ Screens
 - [Full-screen (not available on units > 120" tall)] [half-screen] black Vinyl-coated 18/18 mesh fiberglass screen cloth complying with the performance requirements of SMA 1201, set in aluminum frame fitted to outside of window, supplied complete with all necessary hardware.
 - Full screen spreader bar placed on units > 37" width or > 65" height.
 - Screen frame finish is [standard screen: baked enamel] [premium extruded: baked enamel], color to match window cladding.

Hardware

- Optional sash lift furnished for field installation. Finish matches lock hardware. Two lifts on units having frame width 37" or greater.
- Optional factory applied limited opening device available for venting units; nominal 3-3/4" opening. Limiting device concealed from view.
- Optional factory applied window opening control device for venting units. Sash mounted device allows window to open less than 4" with normal operation, with a release mechanism that allows the sash to open completely. Finish matches lock hardware. Complies with ASTM F2090-10.
- Optional [head, sill, stool locks].

Sensors

- Optional factory installed integrated security sensors available in vent units.

(1) Contact your local Pella sales representative for current color options.

(2) Available in clear or Low-E Insulating Glass only.

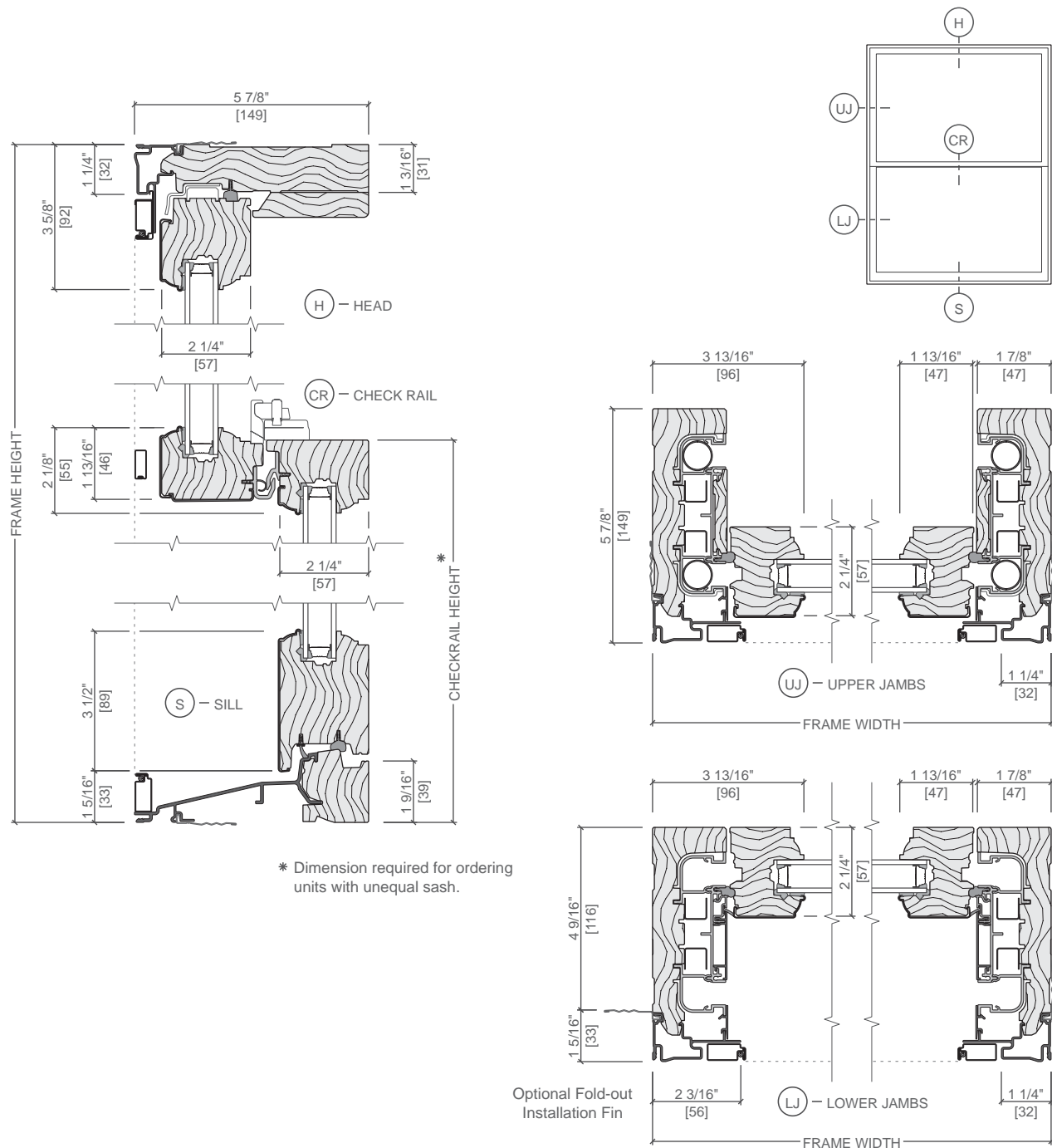
(3) Tan, Brown and Putty Interior GBG colors are available in single-tone (Brown/Brown, Tan/Tan or Putty/Putty). Other interior colors are also available with Tan or Brown exterior.

(4) Appearance of exterior grille color will vary depending on Low-E coating on glass.



Pella® Reserve™ Traditional Monumental-Hung Window

Unit Sections - Aluminum-Clad Exterior, Dual-Pane Double-Hung



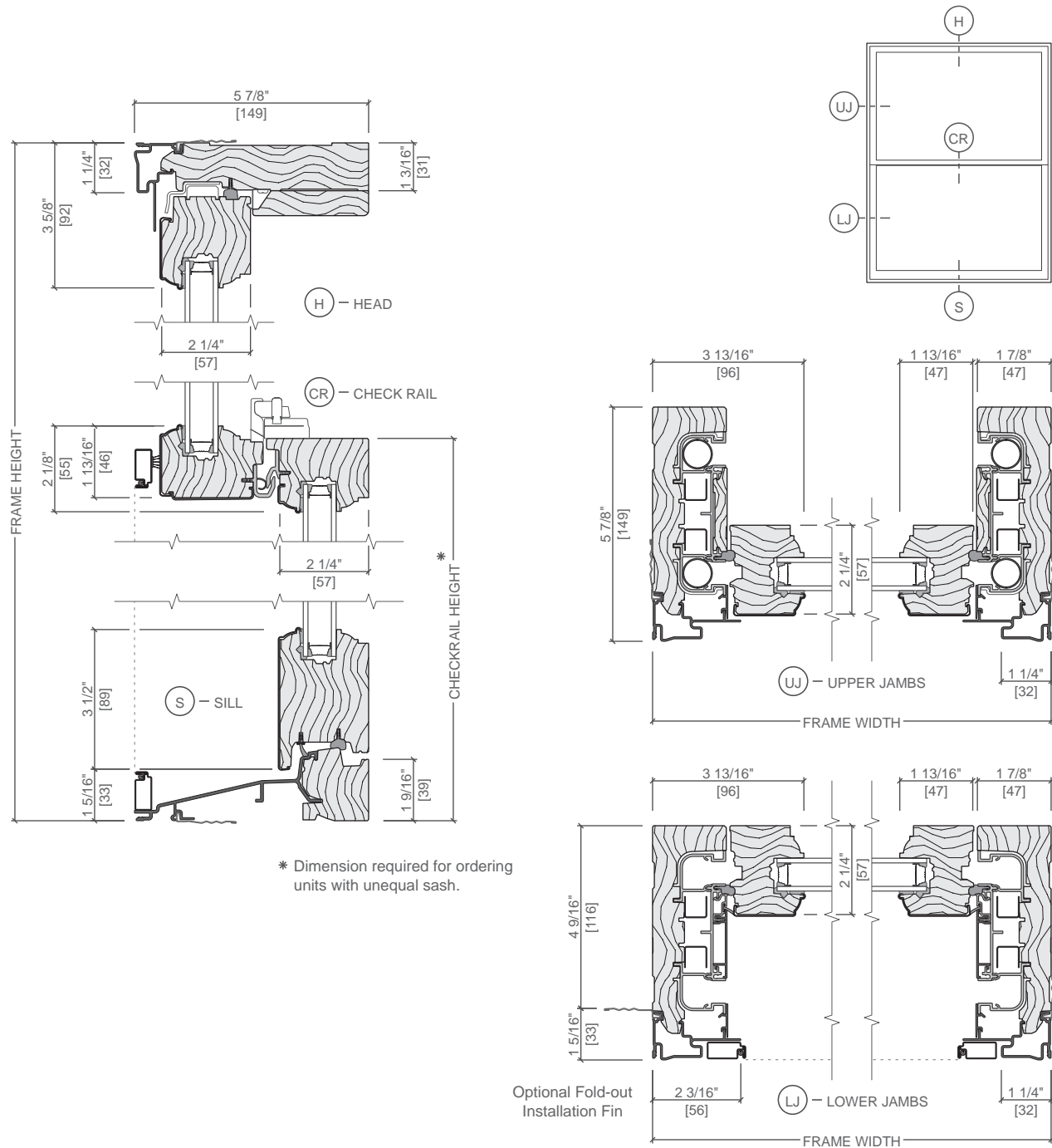
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All dimensions are approximate.



Pella® Reserve™ Traditional Monumental-Hung Window

Unit Sections - Aluminum-Clad Exterior, Dual-Pane Single-Hung



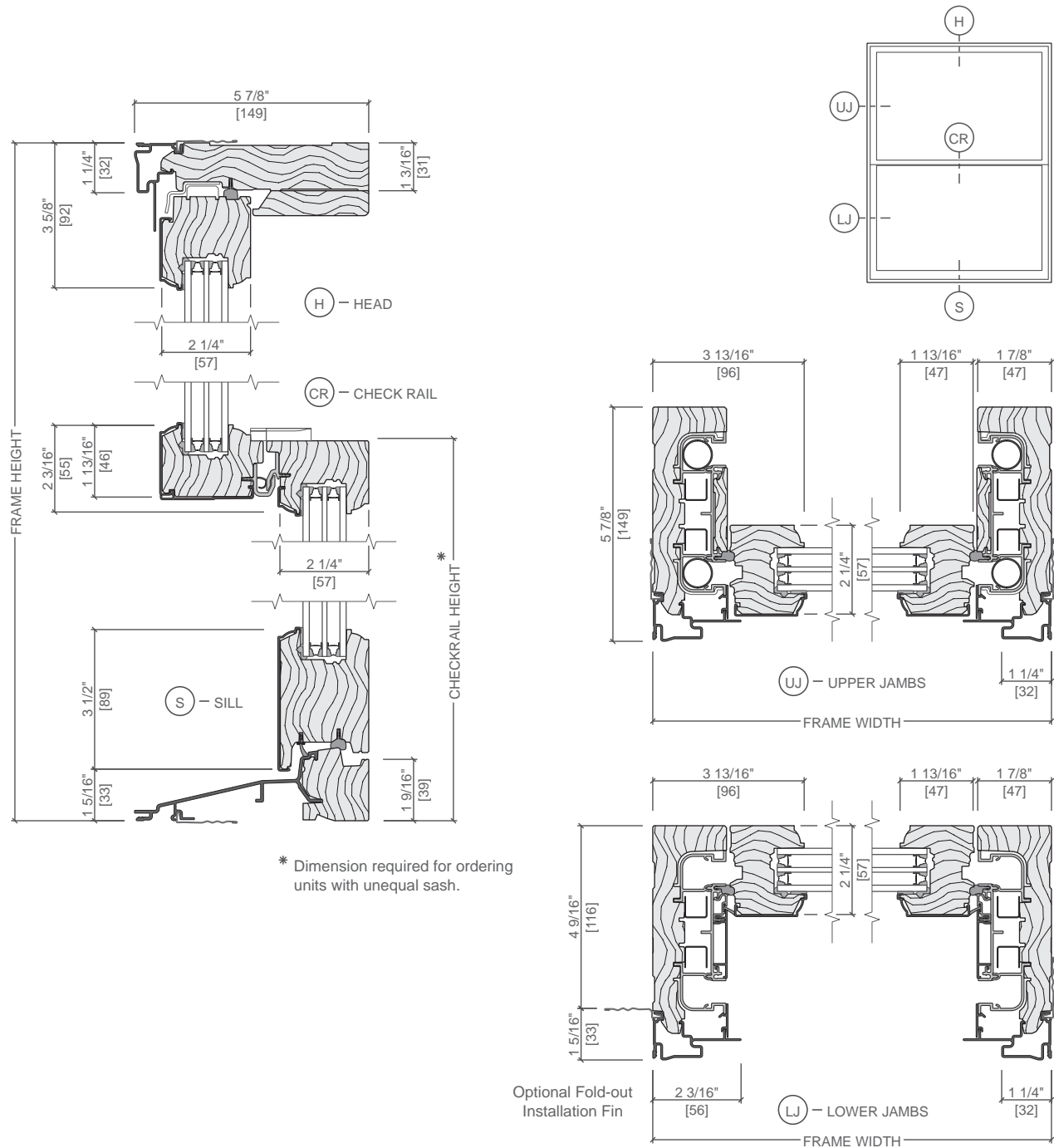
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All dimensions are approximate.



Pella® Reserve™ Traditional Monumental-Hung Window

Unit Sections - Aluminum-Clad Exterior, Triple-Pane Simulated-Hung



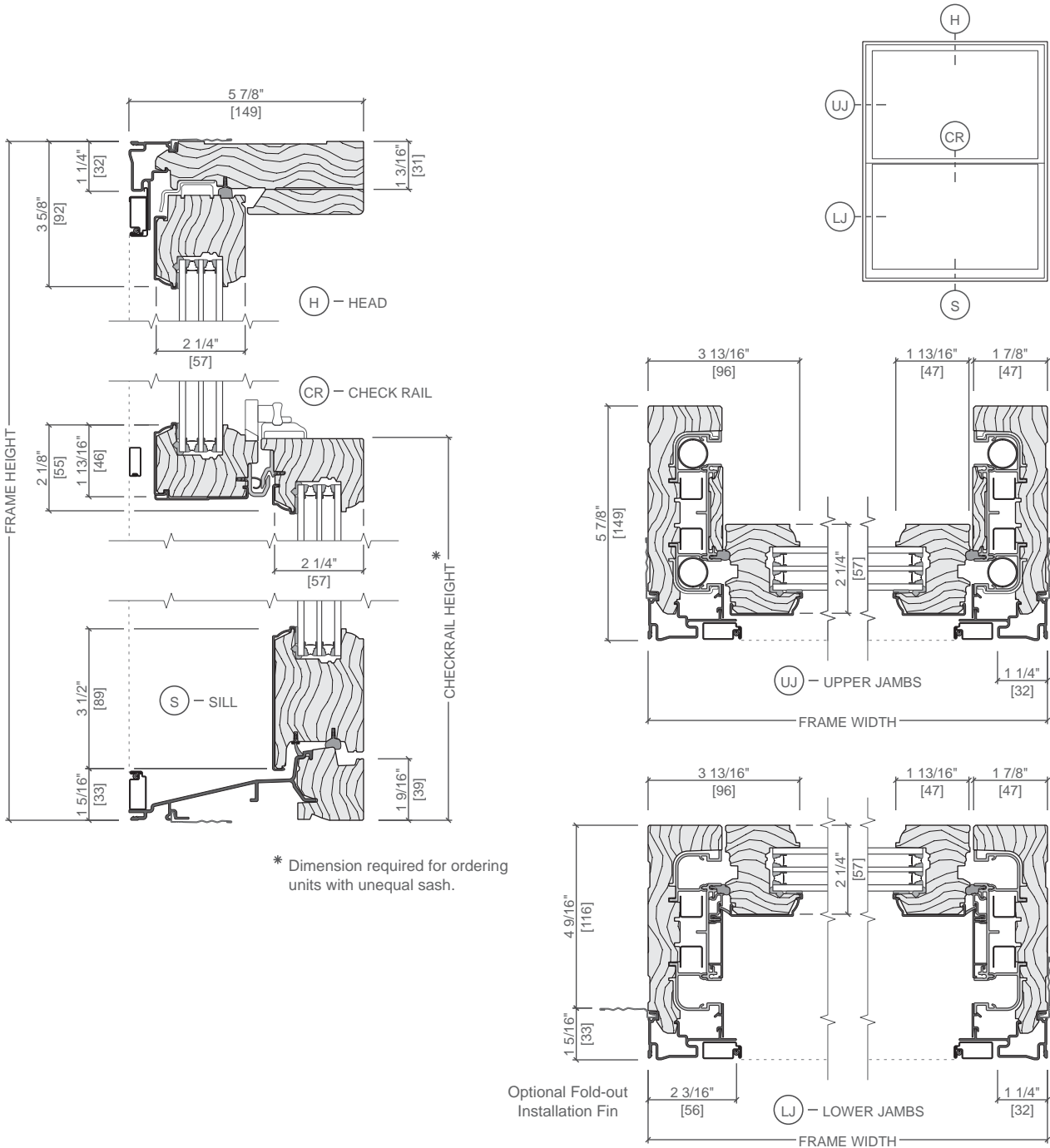
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All dimensions are approximate.



Pella® Reserve™ Traditional Monumental-Hung Window

Unit Sections - Aluminum-Clad Exterior, Triple-Pane Double-Hung

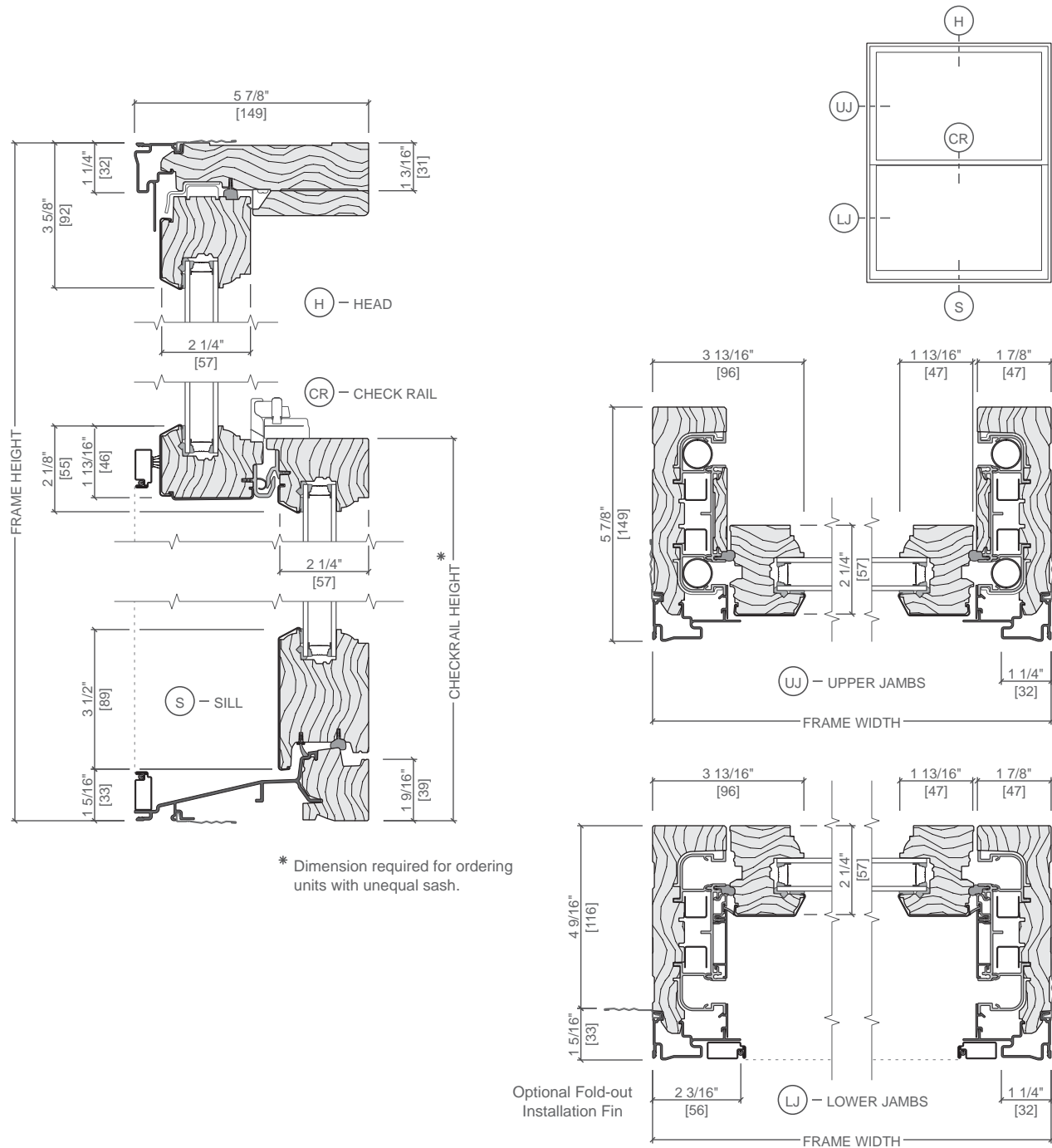


Scale 3" = 1' 0"
All dimensions are approximate.



Pella® Reserve™ Traditional Monumental-Hung Window

Unit Sections - Aluminum-Clad Exterior, Dual-Pane Putty Glaze Profile



Scale 3" = 1' 0"

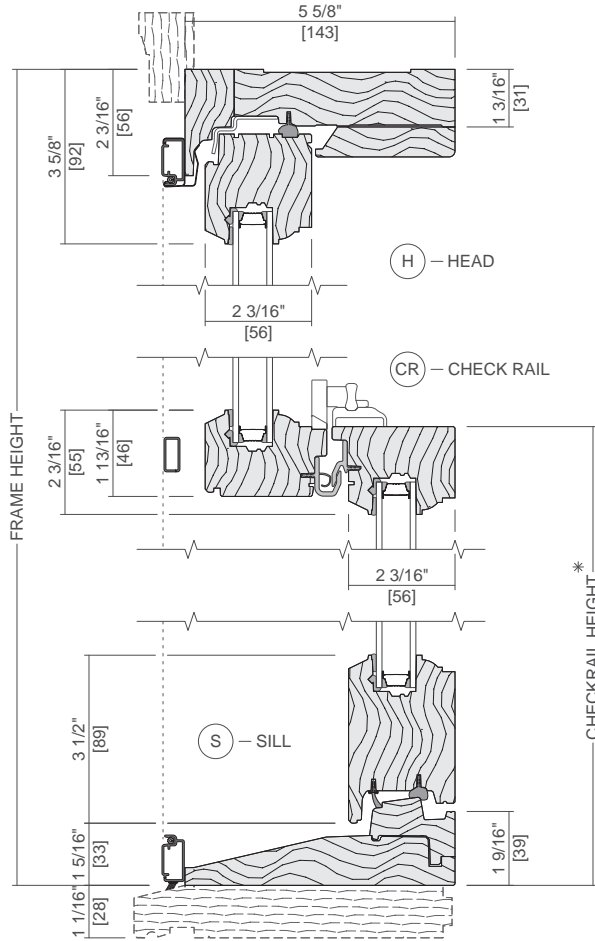
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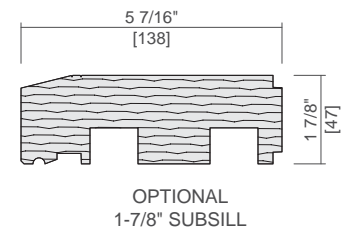
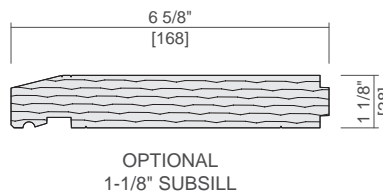
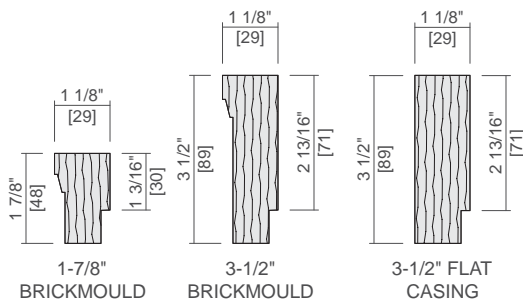
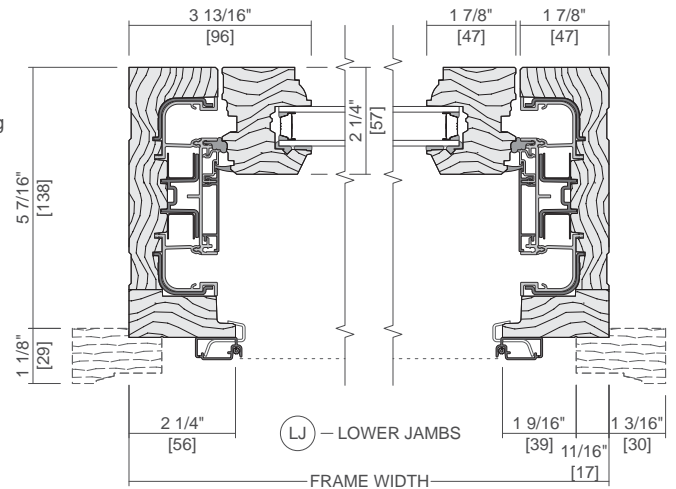
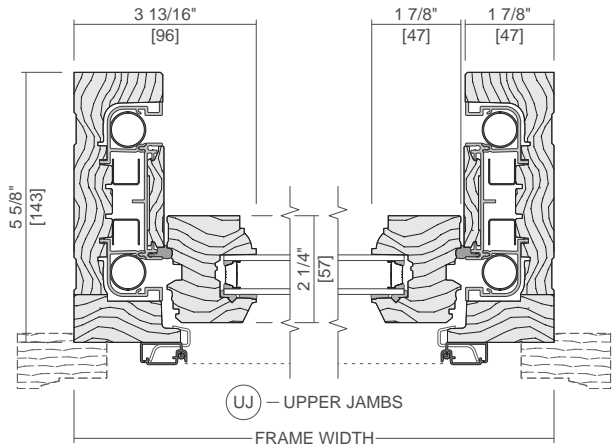
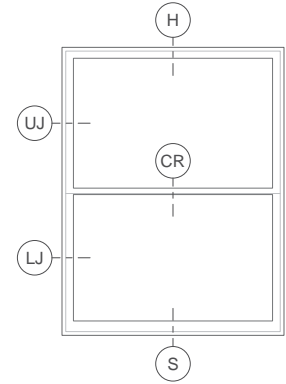
Pella® Reserve™ Traditional Monumental-Hung Window

Unit Sections - Wood Exterior, Dual-Pane Double-Hung

Optional
1-7/8" Brickmould #3443
1-1/8" Subsill #3544
Shown



* Dimension required for ordering units with unequal sash.



Scale 3" = 1' 0"

All dimensions are approximate.

Rev. 12/10/2024

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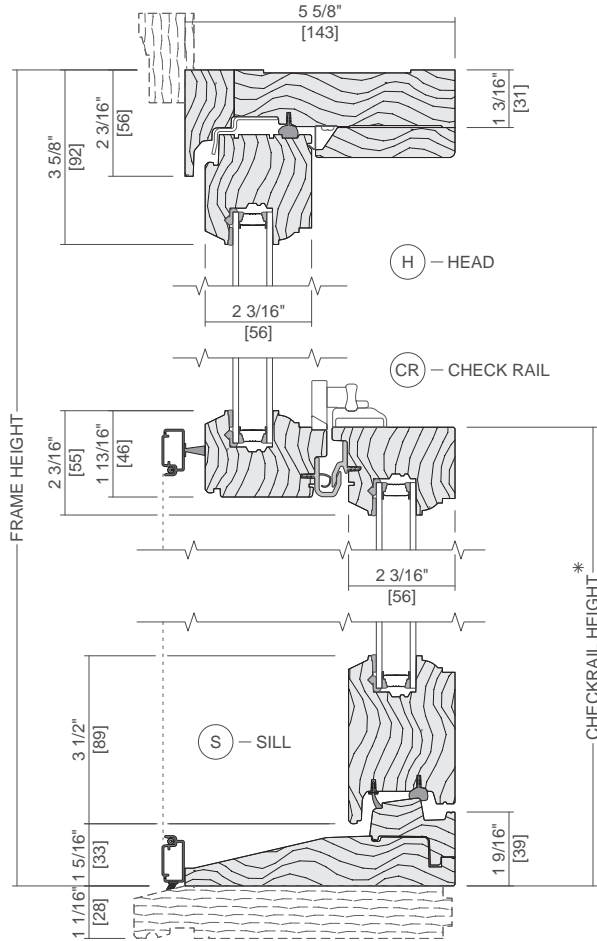
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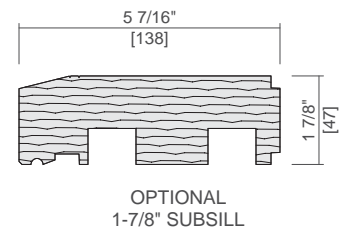
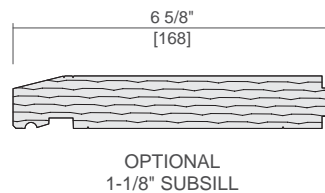
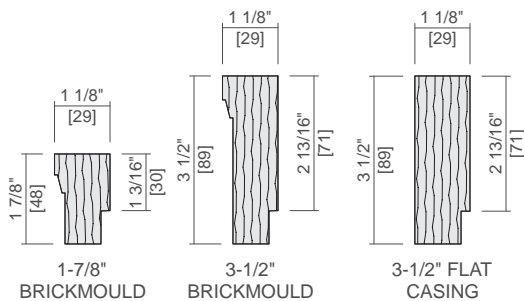
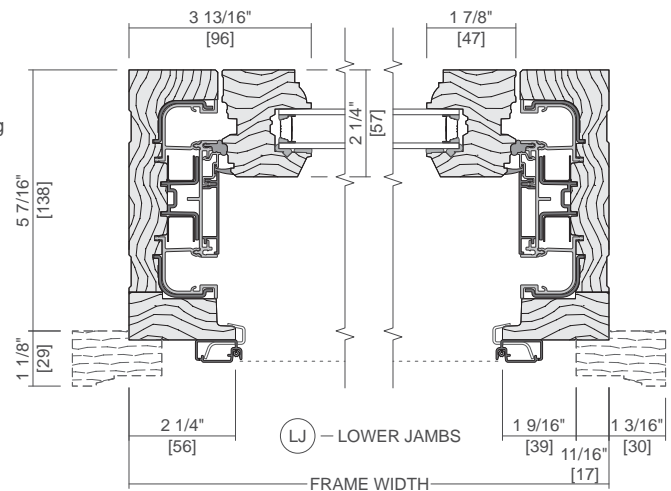
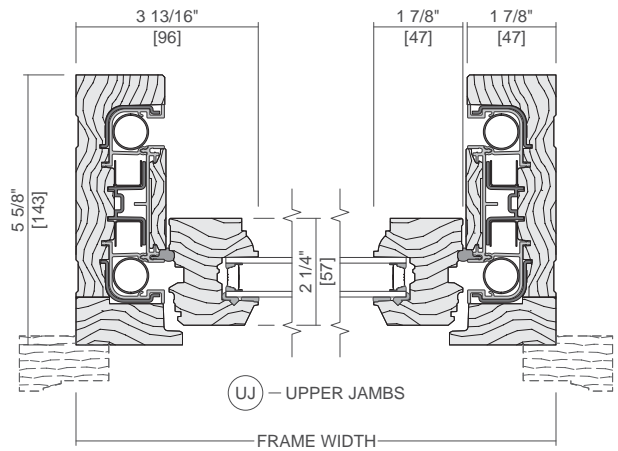
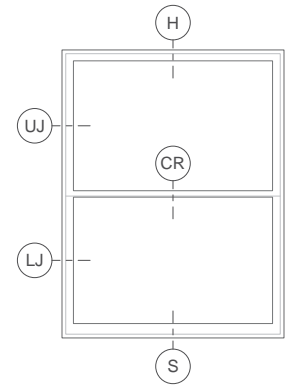
Pella® Reserve™ Traditional Monumental-Hung Window

Unit Sections - Wood Exterior, Dual-Pane Single-Hung

Optional
1-7/8" Brickmould #3443
1-1/8" Subsill #3544
Shown



* Dimension required for ordering units with unequal sash.



Scale 3" = 1' 0"

All dimensions are approximate.

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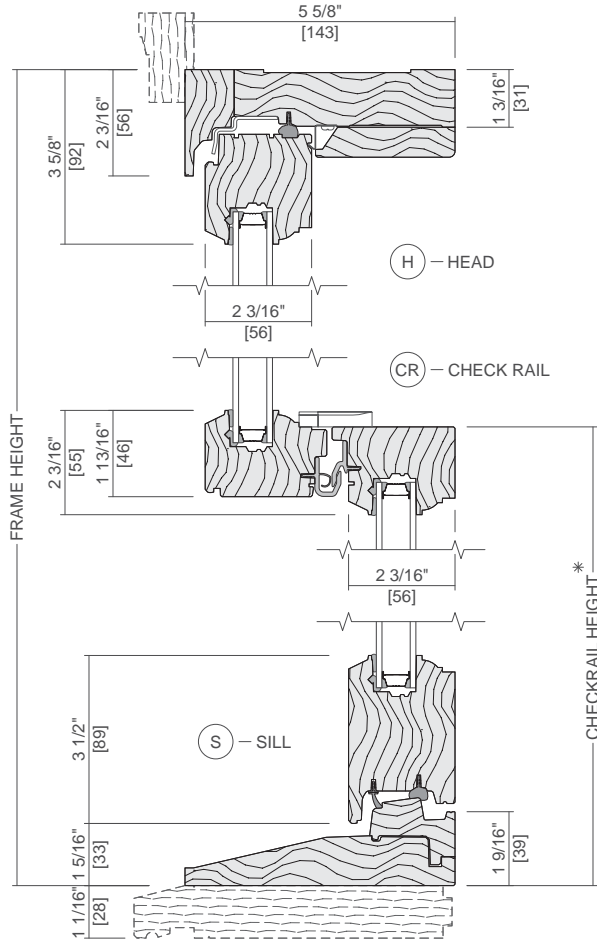
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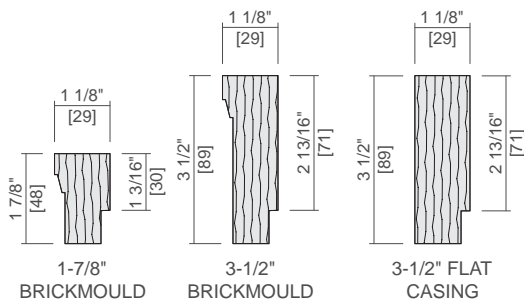
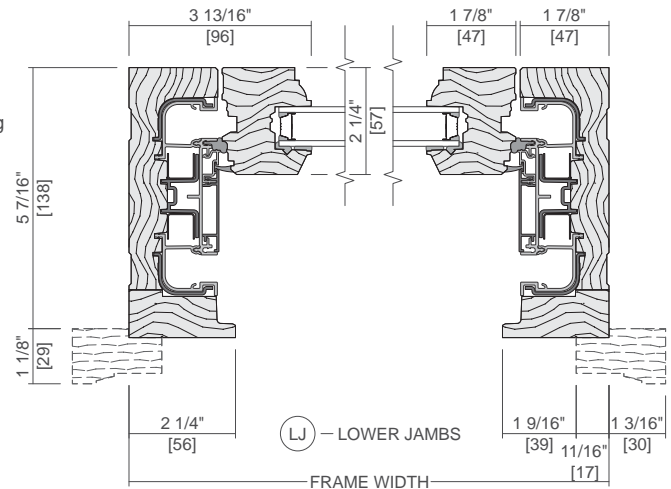
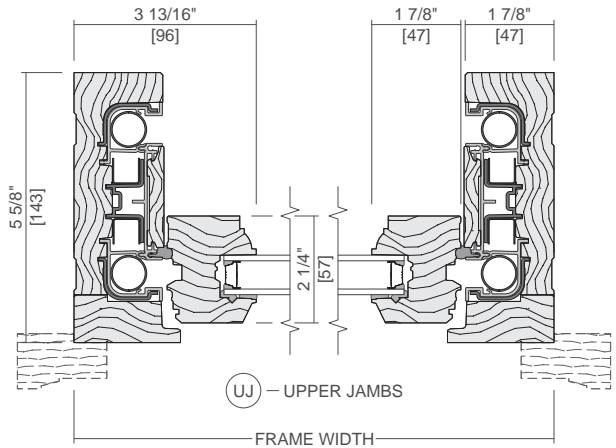
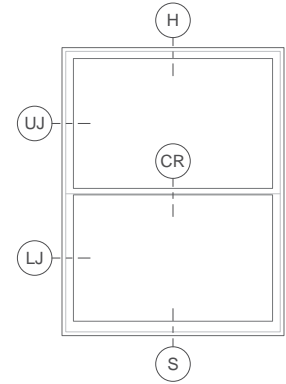
Pella® Reserve™ Traditional Monumental-Hung Window

Unit Sections - Wood Exterior, Dual-Pane Simulated-Hung

Optional
1-7/8" Brickmould #3443
1-1/8" Subsill #3544
Shown



* Dimension required for ordering units with unequal sash.



Scale 3" = 1' 0"

All dimensions are approximate.

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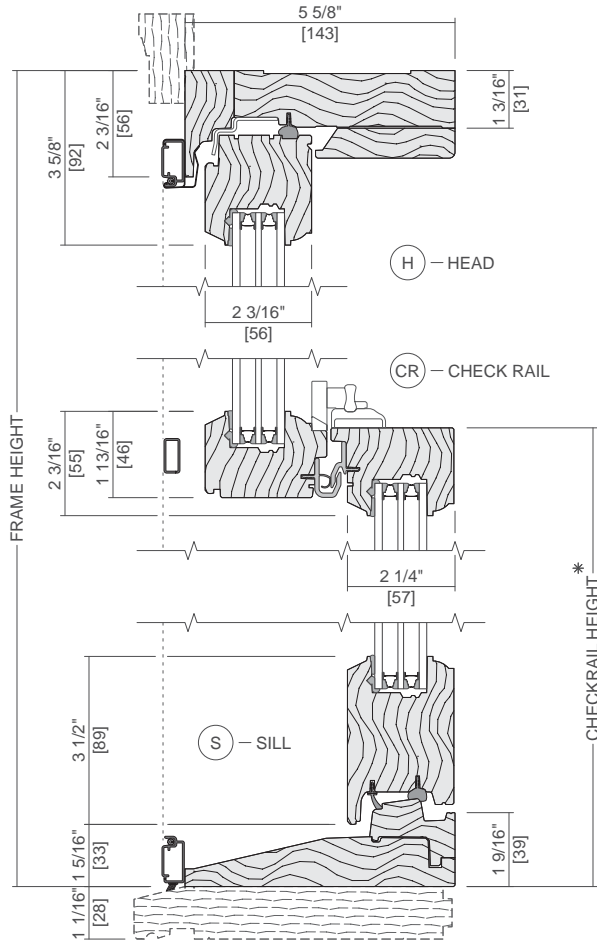
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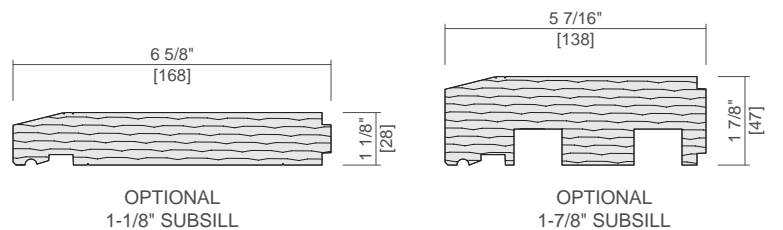
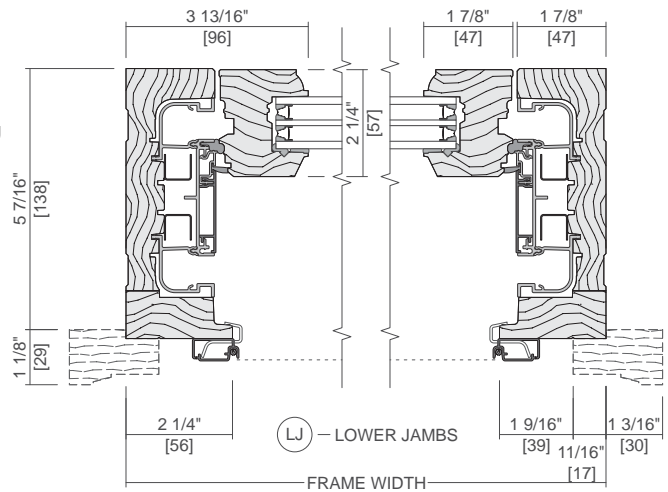
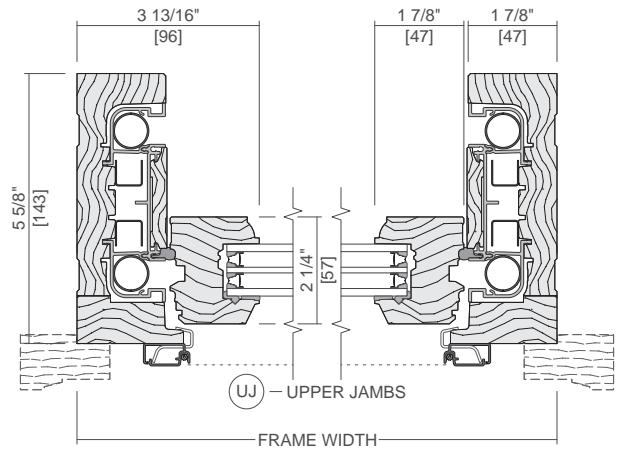
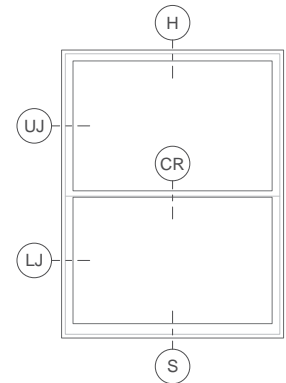
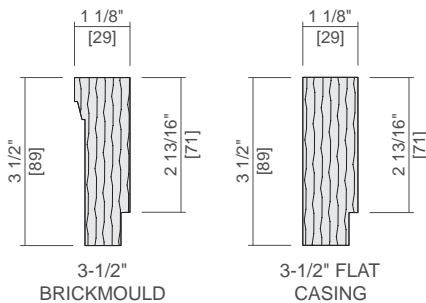
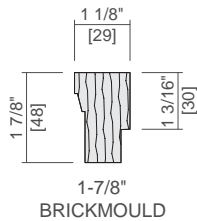
Pella® Reserve™ Traditional Monumental-Hung Window

Unit Sections - Wood Exterior, Triple-Pane Double-Hung

Optional
1-7/8" Brickmould #3443
1-1/8" Subsill #3544
Shown



* Dimension required for ordering units with unequal sash.



Scale 3" = 1' 0"

All dimensions are approximate.

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W-MH-24

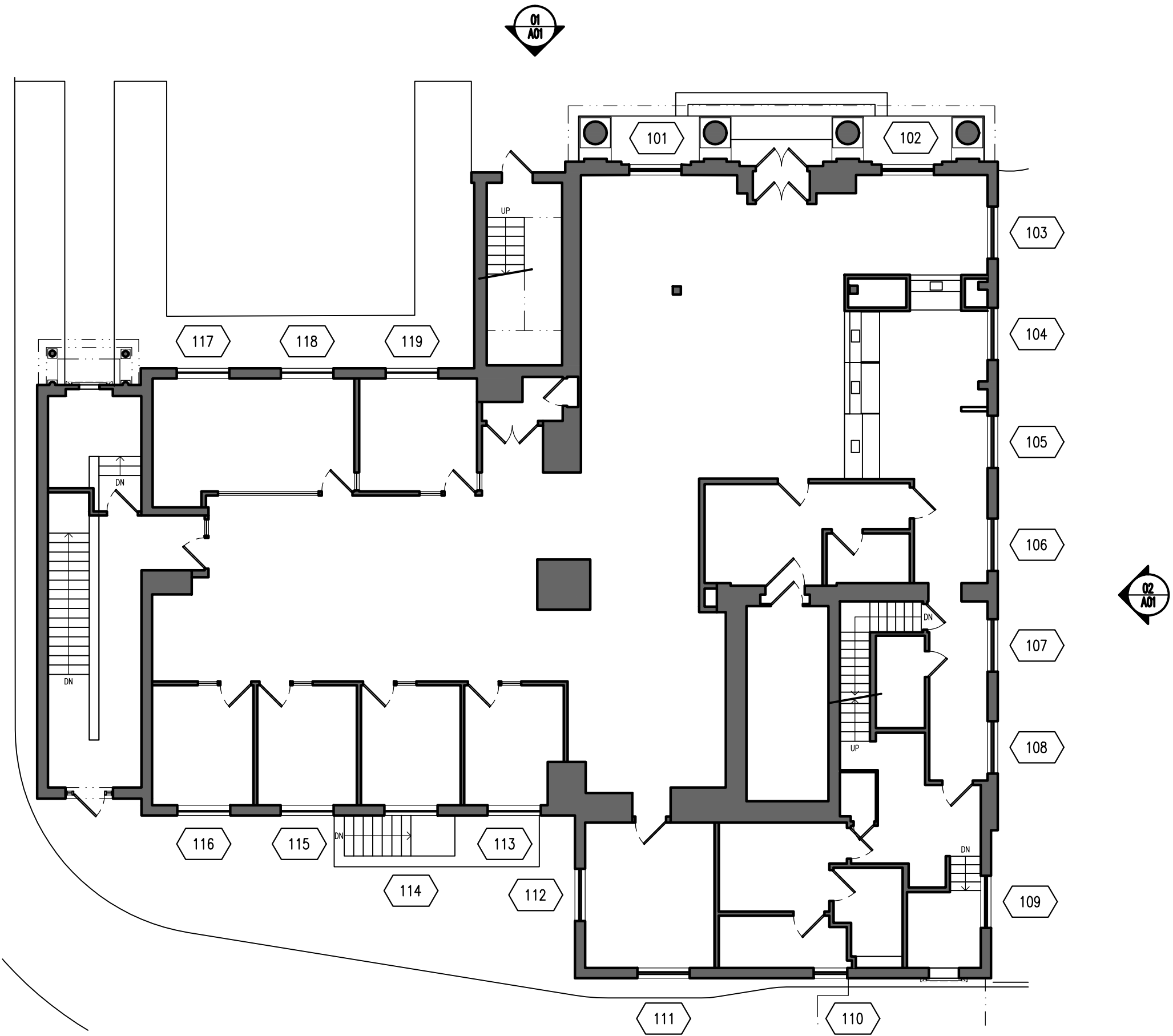
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△	Date & Issue Description	By	Check
--	05/27/25	CMK	--
--	SCOPE REVIEW		
--	06/02/25	CMK	BOP
--	RELEASED FOR HEARING		

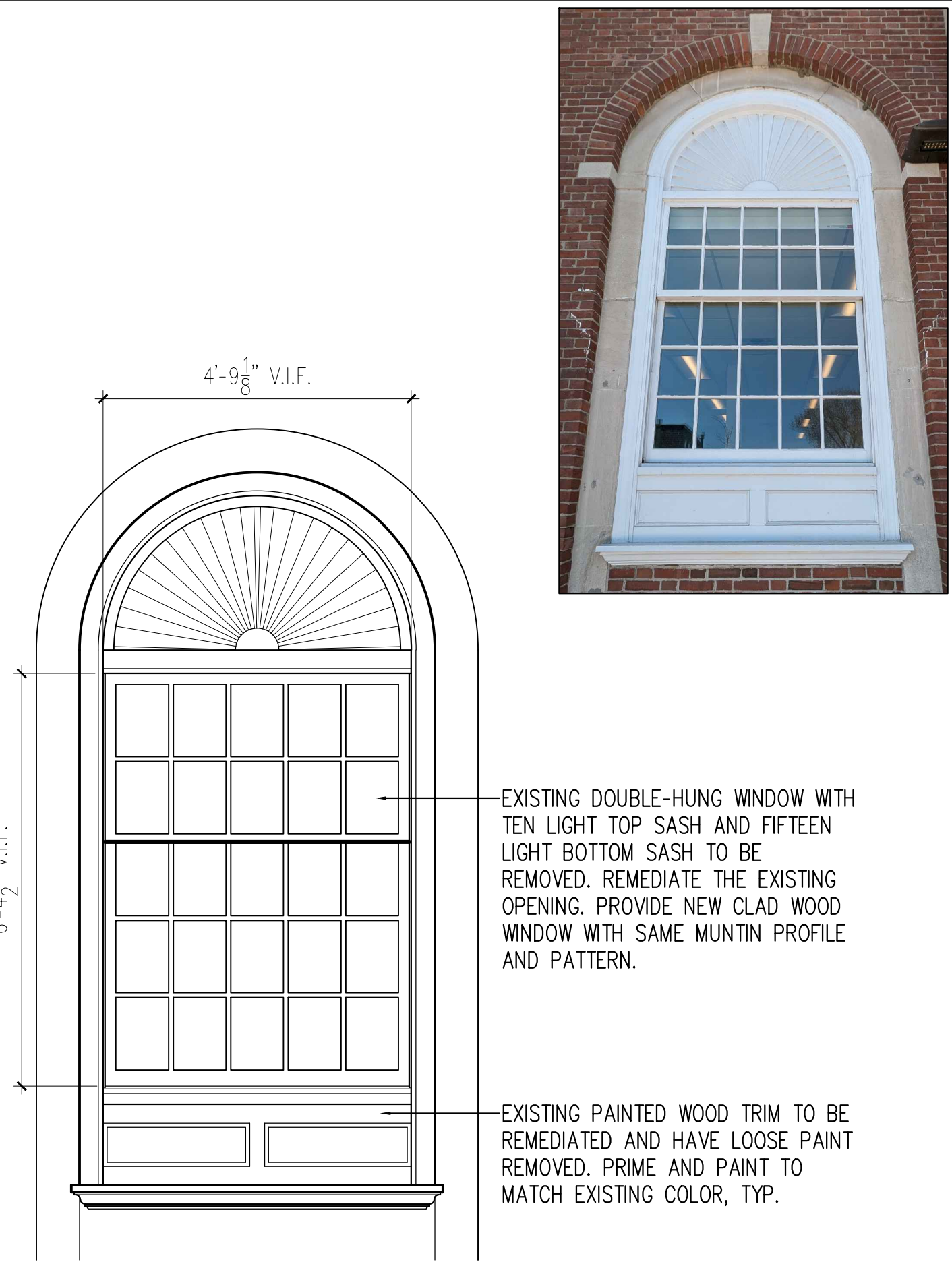
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2505
Architect
CMK
Seal/Signature

Project Name
BANK OF AMERICA
BRUNSWICK WINDOW REPLACEMENT
CAD File Name
/2505/Drawings/Brunswick-Windows
Description
KEY PLAN
WINDOW DETAILS

Scale
AS SHOWN



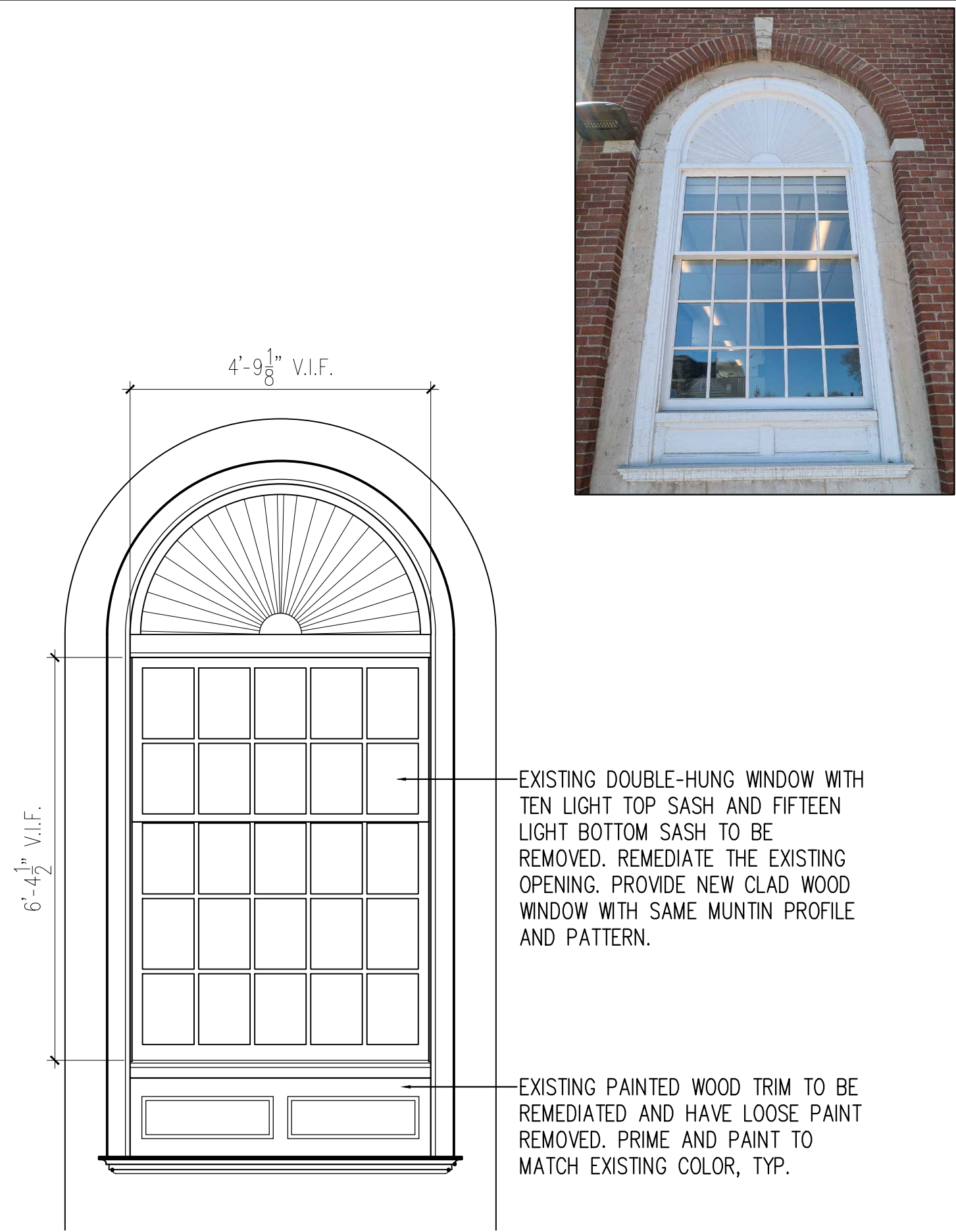
KEY PLAN
3/32" = 1'-0"



EXISTING DOUBLE-HUNG WINDOW WITH TEN LIGHT TOP SASH AND FIFTEEN LIGHT BOTTOM SASH TO BE REMOVED. REMEDIATE THE EXISTING OPENING. PROVIDE NEW CLAD WOOD WINDOW WITH SAME MUNTIN PROFILE AND PATTERN.

EXISTING PAINTED WOOD TRIM TO BE REMEDIATED AND HAVE LOOSE PAINT REMOVED. PRIME AND PAINT TO MATCH EXISTING COLOR, TYP.

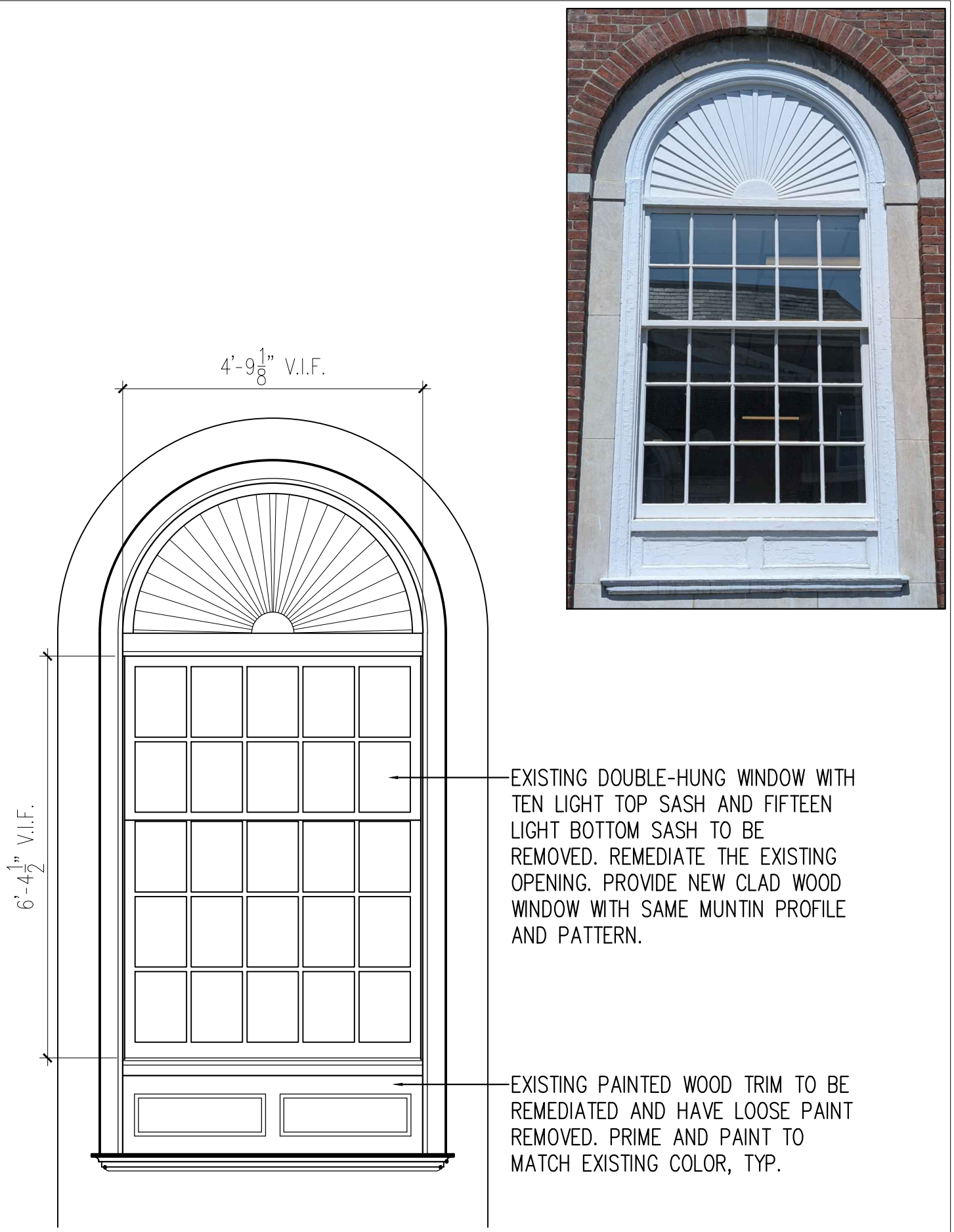
WINDOW 101
1/2" = 1'-0"



EXISTING DOUBLE-HUNG WINDOW WITH TEN LIGHT TOP SASH AND FIFTEEN LIGHT BOTTOM SASH TO BE REMOVED. REMEDIATE THE EXISTING OPENING. PROVIDE NEW CLAD WOOD WINDOW WITH SAME MUNTIN PROFILE AND PATTERN.

EXISTING PAINTED WOOD TRIM TO BE REMEDIATED AND HAVE LOOSE PAINT REMOVED. PRIME AND PAINT TO MATCH EXISTING COLOR, TYP.

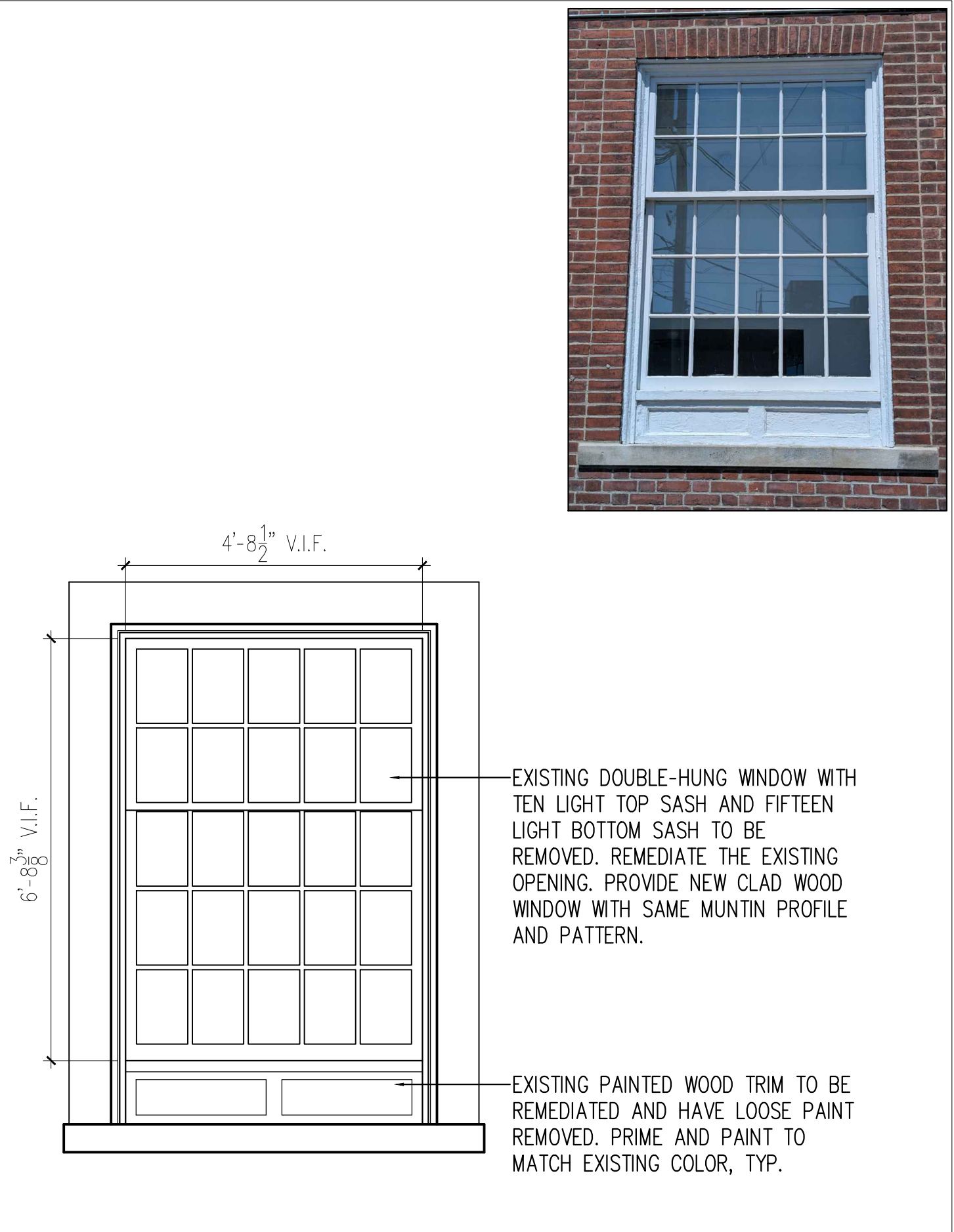
WINDOW 102
1/2" = 1'-0"



EXISTING DOUBLE-HUNG WINDOW WITH TEN LIGHT TOP SASH AND FIFTEEN LIGHT BOTTOM SASH TO BE REMOVED. REMEDIATE THE EXISTING OPENING. PROVIDE NEW CLAD WOOD WINDOW WITH SAME MUNTIN PROFILE AND PATTERN.

EXISTING PAINTED WOOD TRIM TO BE REMEDIATED AND HAVE LOOSE PAINT REMOVED. PRIME AND PAINT TO MATCH EXISTING COLOR, TYP.

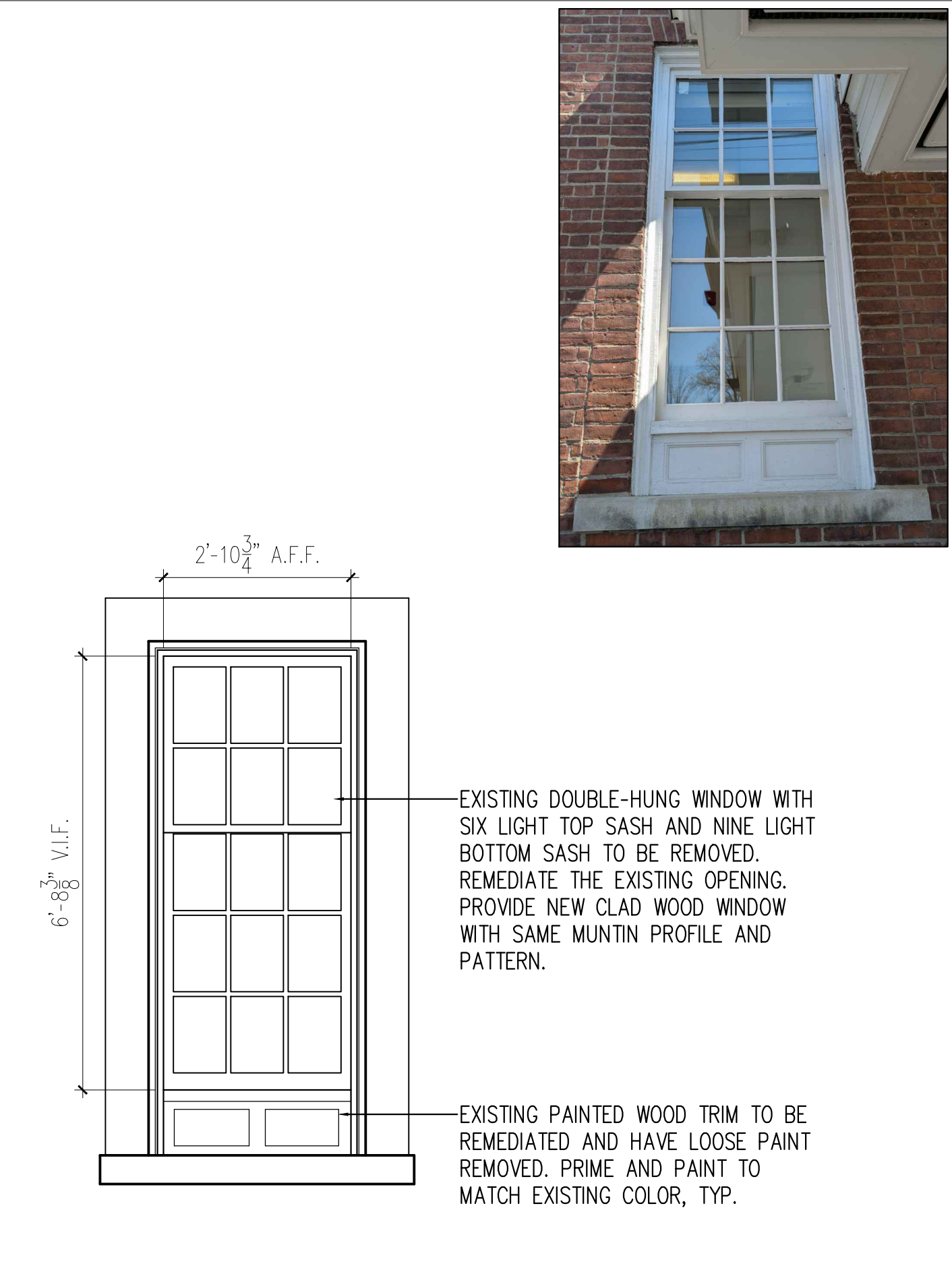
WINDOWS 103-108
1/2" = 1'-0"



EXISTING DOUBLE-HUNG WINDOW WITH TEN LIGHT TOP SASH AND FIFTEEN LIGHT BOTTOM SASH TO BE REMOVED. REMEDIATE THE EXISTING OPENING. PROVIDE NEW CLAD WOOD WINDOW WITH SAME MUNTIN PROFILE AND PATTERN.

EXISTING PAINTED WOOD TRIM TO BE REMEDIATED AND HAVE LOOSE PAINT REMOVED. PRIME AND PAINT TO MATCH EXISTING COLOR, TYP.

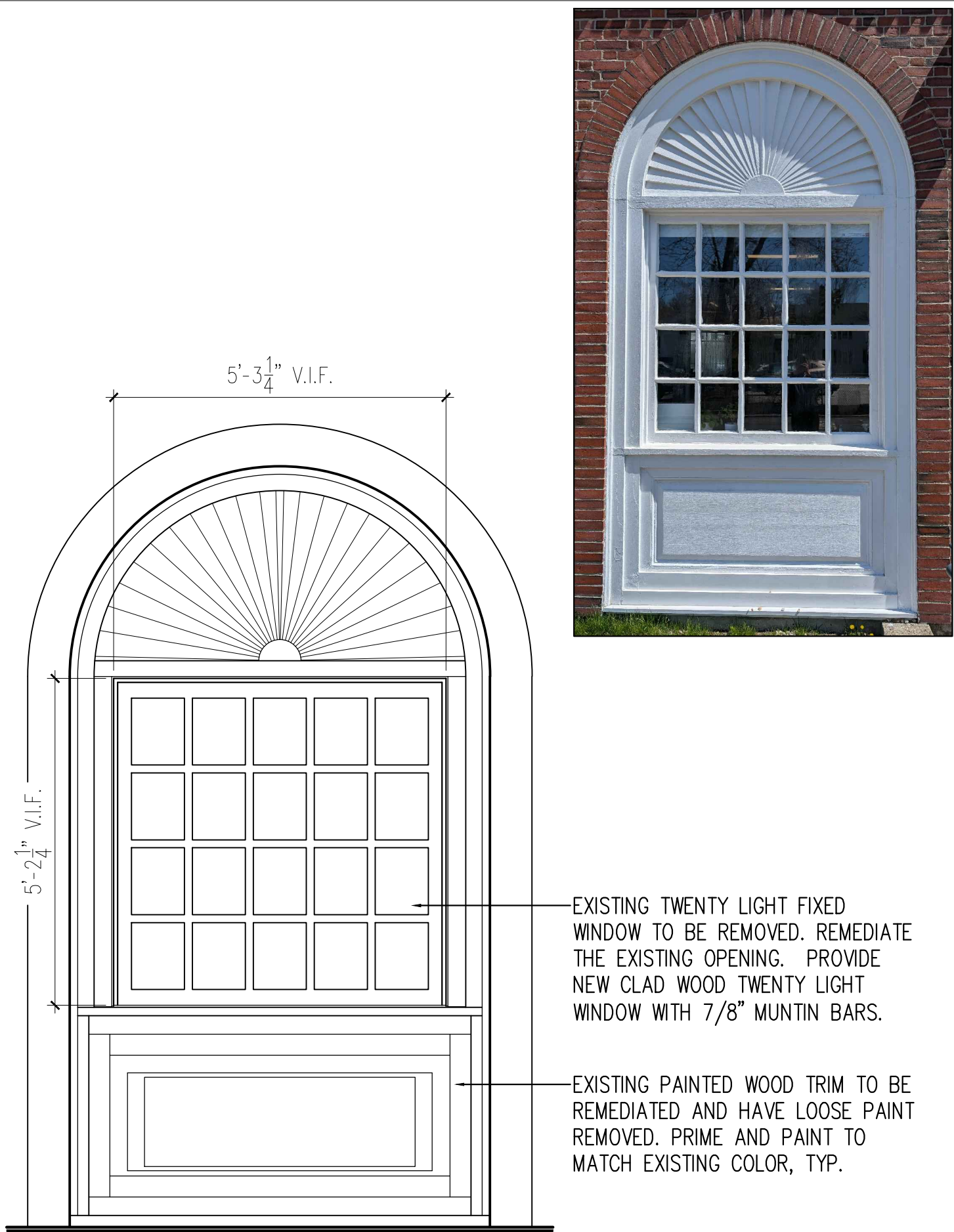
WINDOWS 109, 111, & 112
1/2" = 1'-0"



EXISTING DOUBLE-HUNG WINDOW WITH SIX LIGHT TOP SASH AND NINE LIGHT BOTTOM SASH TO BE REMOVED. REMEDIATE THE EXISTING OPENING. PROVIDE NEW CLAD WOOD WINDOW WITH SAME MUNTIN PROFILE AND PATTERN.

EXISTING PAINTED WOOD TRIM TO BE REMEDIATED AND HAVE LOOSE PAINT REMOVED. PRIME AND PAINT TO MATCH EXISTING COLOR, TYP.

WINDOW 110
1/2" = 1'-0"



EXISTING TWENTY LIGHT FIXED WINDOW TO BE REMOVED. REMEDIATE THE EXISTING OPENING. PROVIDE NEW CLAD WOOD TWENTY LIGHT WINDOW WITH 7/8" MUNTIN BARS.

EXISTING PAINTED WOOD TRIM TO BE REMEDIATED AND HAVE LOOSE PAINT REMOVED. PRIME AND PAINT TO MATCH EXISTING COLOR, TYP.

WINDOWS 113-119
1/2" = 1'-0"

