HISTORIC AND DESIGN REVIEW COMMISSION March 06, 2019

HDRC CASE NO: 2019-096 808 E CARSON **ADDRESS:** NCB 1266 BLK 2 LOT 2 **LEGAL DESCRIPTION: ZONING:** RM-4, H **CITY COUNCIL DIST.:** 2 **DISTRICT:** Government Hill Historic District **APPLICANT:** Pegy Brimhall/Figurd 1807 Land & Cattle Co. LLC **OWNER:** Amendment of a previously approved design regarding window materials **TYPE OF WORK:** February 18, 2019 **APPLICATION RECEIVED: 60-DAY REVIEW:** April 19, 2019

REQUEST:

The applicant is requesting a Certificate of Appropriateness for approval to amend the previously approved design regarding window materials. The applicant has proposed to install aluminum windows in lieu of the previously approved aluminum clad wood windows.

APPLICABLE CITATIONS:

Historic Design Guidelines, Chapter 4, Guidelines for New Construction

3. Materials and Textures

A. NEW MATERIALS

i. *Complementary materials*—Use materials that complement the type, color, and texture of materials traditionally found in the district. Materials should not be so dissimilar as to distract from the historic interpretation of the district. For example, corrugated metal siding would not be appropriate for a new structure in a district comprised of homes with wood siding.

ii. Alternative use of traditional materials—Consider using traditional materials, such as wood siding, in a new way to provide visual interest in new construction while still ensuring compatibility.

iii. Roof materials—Select roof materials that are similar in terms of form, color, and texture to traditionally used in the district.

iv. Metal roofs—Construct new metal roofs in a similar fashion as historic metal roofs. Refer to the Guidelines for Alterations and Maintenance section for additional specifications regarding metal roofs.

v. Imitation or synthetic materials—Do not use vinyl siding, plastic, or corrugated metal sheeting. Contemporary materials not traditionally used in the district, such as brick or simulated stone veneer and Hardie Board or other fiberboard siding, may be appropriate for new construction in some locations as long as new materials are visually similar to the traditional material in dimension, finish, and texture. EIFS is not recommended as a substitute for actual stucco.

FINDINGS:

- a. The applicant is requesting a Certificate of Appropriateness for approval to amend the previously approved design regarding window materials. The applicant has proposed to install aluminum windows in lieu of the previously approved aluminum clad wood windows. The request for new construction at 808 E Carson received final approval from the Historic and Design Review Commission on November 7, 2018.
- b. WINDOWS The applicant has noted the installation of aluminum, one over one windows. Staff finds that a double-hung, one-over-one wood windows or aluminum-clad wood windows be used. Meeting rails must be no taller than 1.25" and stiles no wider than 2.25". White manufacturer's color is not allowed, and color selection must be presented to staff. There should be a minimum of two inches in depth between the front face of the window trim and the front face of the top window sash. This must be accomplished by recessing the window sufficiently within the opening or with the installation of additional window trim to add thickness. Window trim must feature traditional dimensions and architecturally appropriate sill detail. Window track components must be painted to match the window trim or concealed by a wood window screen set within the opening.
- c. WINDOW DETAIL The previously approved construction document set notes an installation depth of

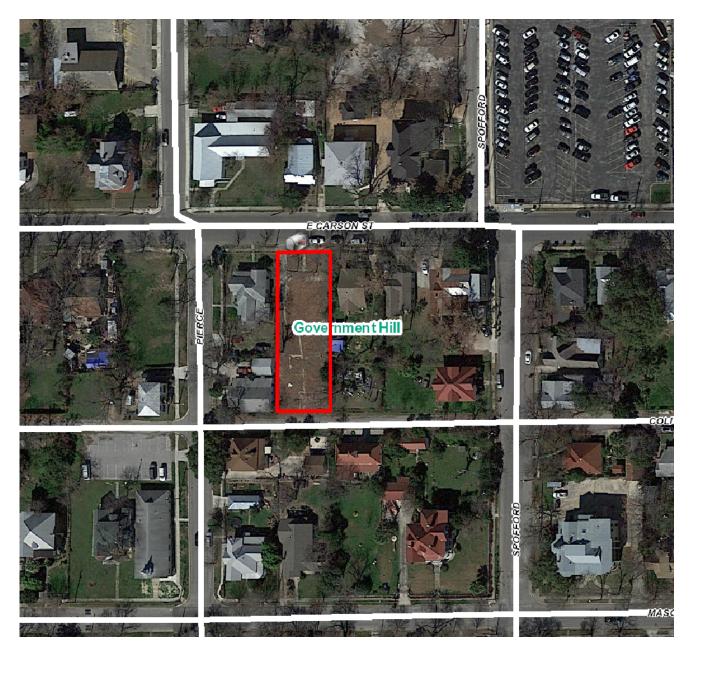
approximately three (3) inches.

RECOMMENDATION:

Staff recommends that the applicant install a wood or aluminum clad wood windows that meet the specifications outlined in finding b. If an aluminum window is approved by the Commission, the specifications noted in finding b in regards to meeting rail and stile dimensions, installation depth, trim and sill profiles and window colors should be added.

CASE MANAGER:

Edward Hall



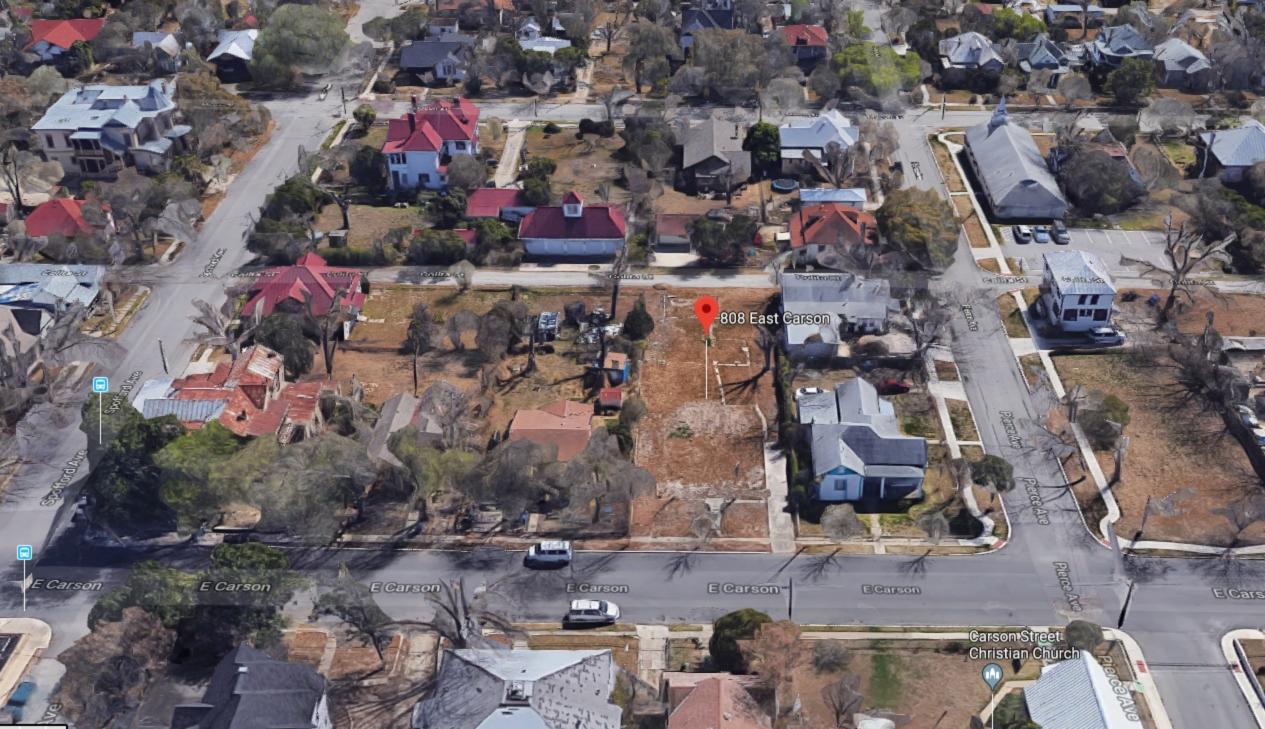


Flex Viewer

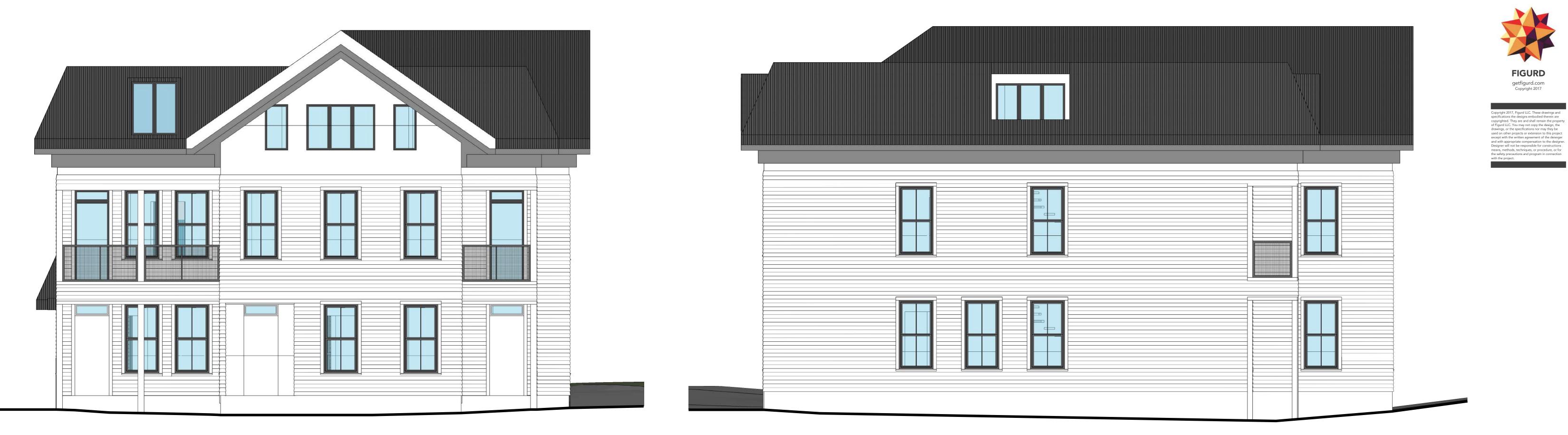
Powered by ArcGIS Server

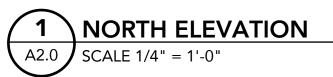
Printed:Dec 15, 2017

The City of San Antonio does not guarantee the accuracy, adequacy, completeness or usefulness of any information. The City does not warrant the completeness, timeliness, or positional, thematic, and attribute accuracy of the GIS data. The GIS data, cartographic products, and associated applications are not legal representations of the depicted data. Information shown on these maps is derived from public records that are constantly undergoing revision. Under no circumstances should GIS-derived products be used for final design purposes. The City provides this information on an "as is" basis without warranty of any kind, express or implied, including but not limited to warranties of merchantability or fitness for a particular purpose, and assumes no responsibility for anyone's use of the information.



PREVIOUSLY APPROVED DESIGN















Issue Dates: <u>10/12/2018</u> HDRC Final Approval

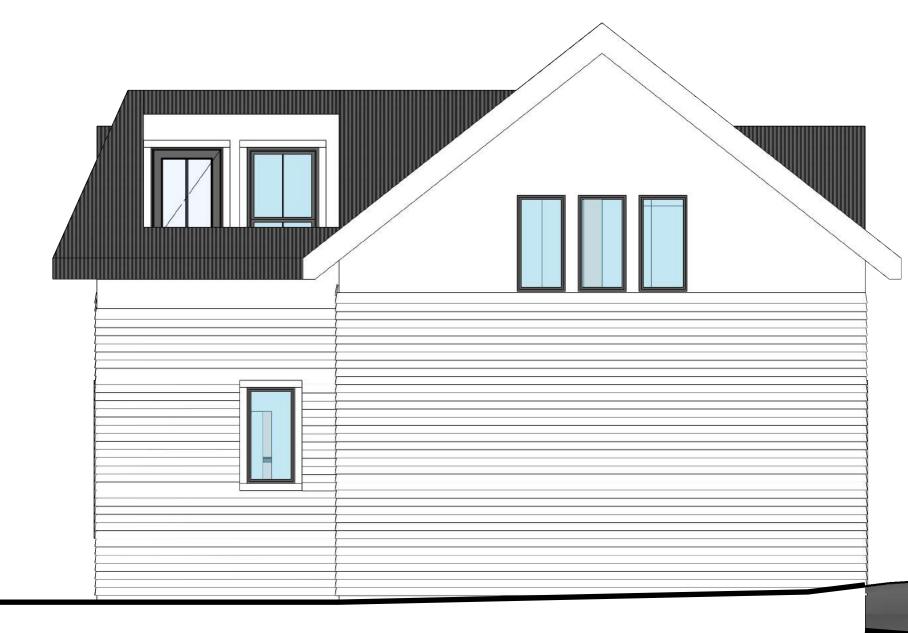
Revisions No. Date Remark

Project Number: 201801

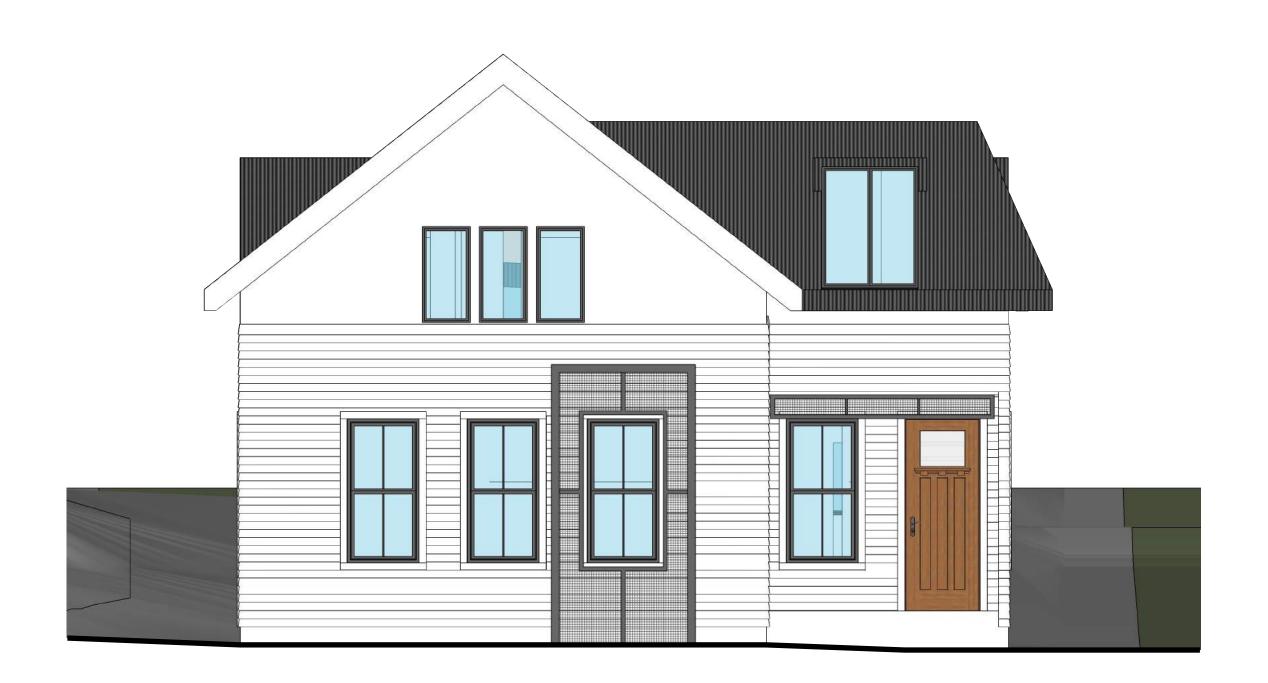
Sheet Contents: Triplex Elevations

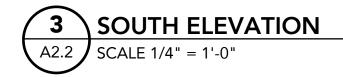


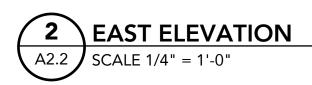
PREVIOUSLY APPROVED DESIGN





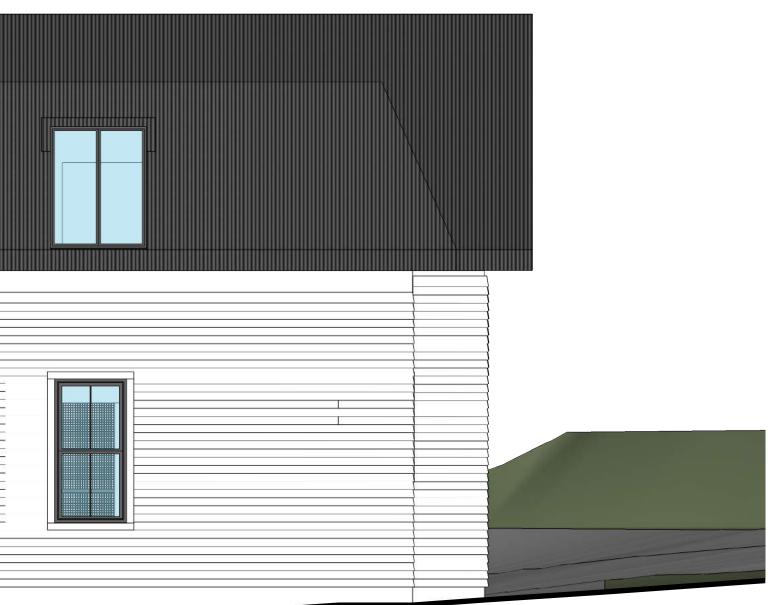














FIGURD getfigurd.com Copyright 2017

Copyright 2017, Figurd LLC. These drawings and specifications the designs embodied therein are copyrighted. They are and shall remain the property of Figurd LLC. You may not copy the design, the drawings, or the specifications nor may they be used on other projects or extension to this project

of other projects of extension to this project of with the written agreement of the deisner vith appropriate compensation to the design er will not be responsible for constructions , methods, techniques, or procedure, or for

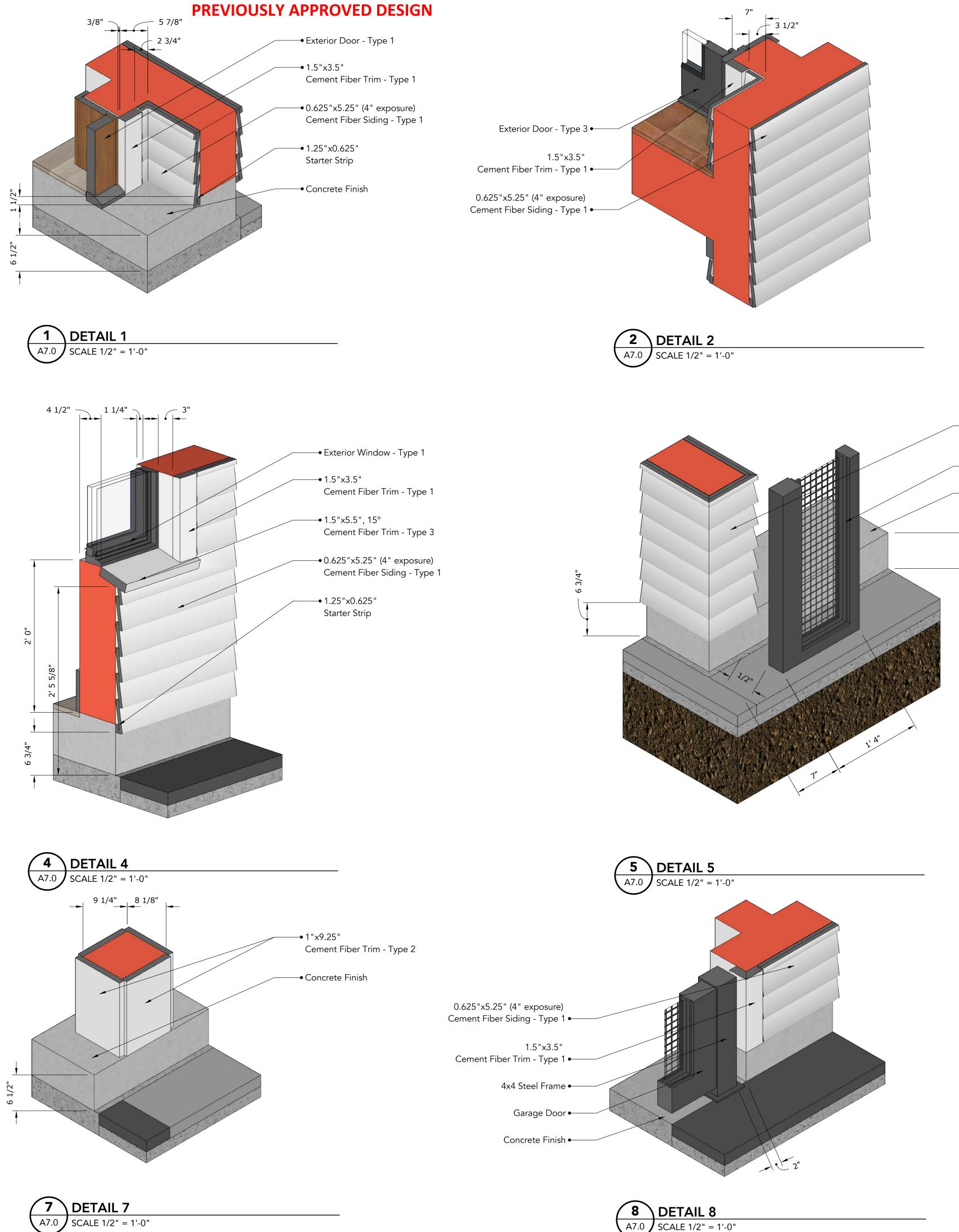
Issue Dates: <u>10/12/2018</u> HDRC Final Approval

Revisions No. Date Remark

Project Number: 201801

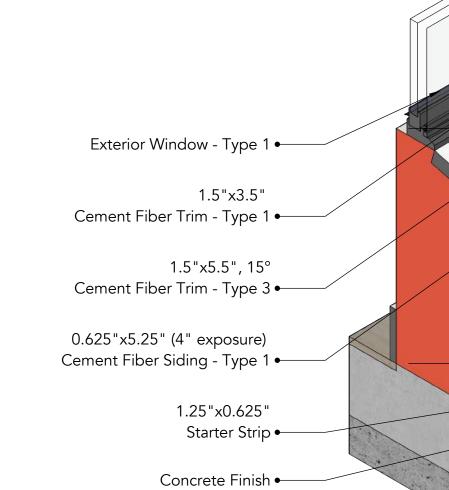
Sheet Contents: Carriage House Elevations





- → 0.625 "x5.25" (4" exposure) Cement Fiber Siding - Type 1
- -• Perforated Metal Screen

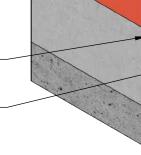
--• Concrete Finish

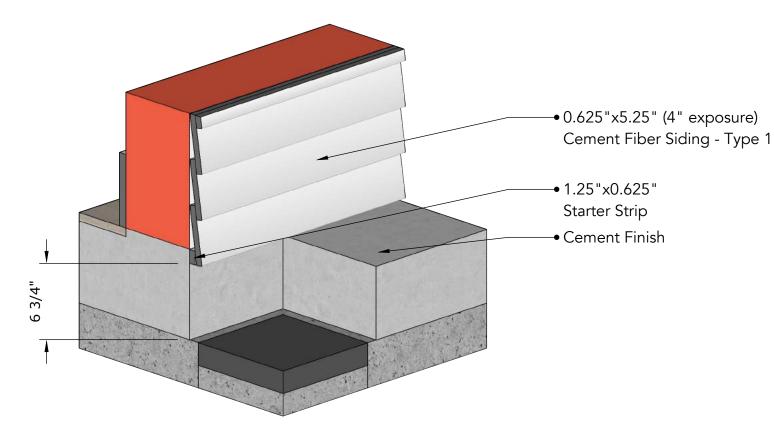




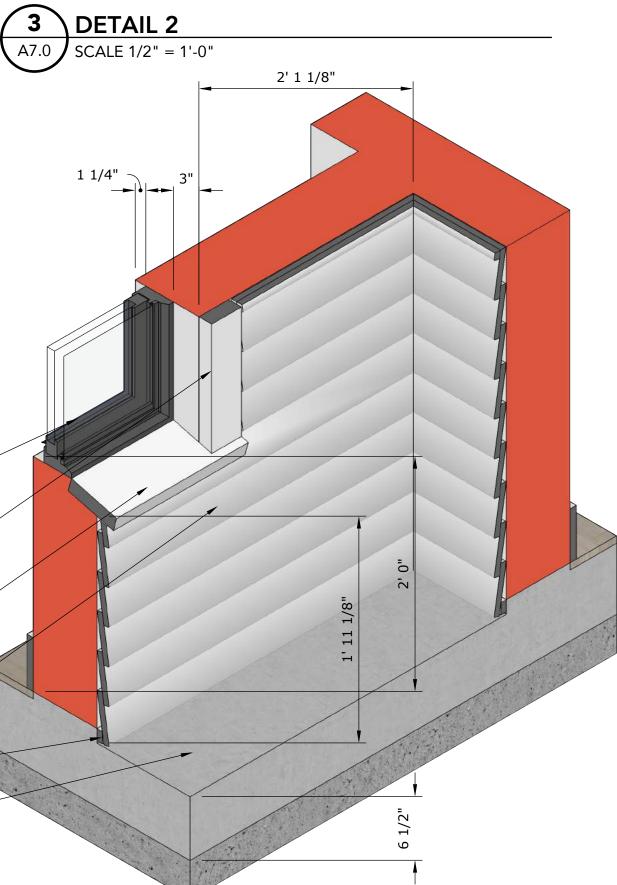






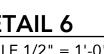


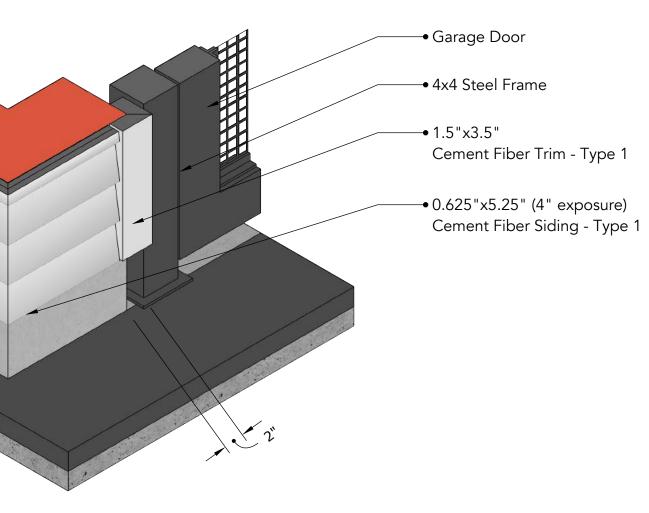












arson ш **BOB** E Carson San Antonio, T

Issue Dates: <u>10/12/2018</u> HDRC Final Approval

Revisions No. Date Remark

Project Number: 201801 Sheet Contents: Details





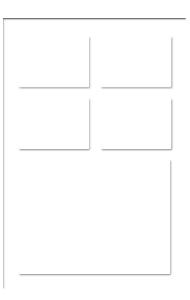
BUILDER SERIES

ALUMINUM ⁴²/NDON¹⁵

ALUMINUM PRODUCTS



A WHOLE NEW POINT OF VIEW.



It's more than a window. It's a whole new point of view. At Ply Gem Windows, we have a different view for the way the window business should be run. We believe you should have access to all of the top quality styles and brands across the country. That's why we've taken our entire portfolio of brands, brands that you know and trust, and given them one name – Ply Gem Windows. With this one name comes a lot of big advantages, starting with a national manufacturing and distribution network. Pair that with our commitment to customer service, sustainable practices and wide variety of window styles that fit all of your design needs, and you'll get the right window for every project and every budget.

And, because we're part of the Ply Gem family, you know you'll always have access to leading brands. Windows, doors, siding and accessories, stone veneer, fence and rail, rainware, shutters and designer accents, we have something for every project. We work with residential builders, remodelers, architects, distributors and dealers to help build sales. When you combine over 50 years of experience, industry-leading customer service, and trusted local relationships you've got a company you can count on. **Ply Gem. Building products. Building success.**



t

BUILDER SERIES

TABLE OF CONTENTS

3710 Series Single Hung6	
3752/53 Series Single Hung8	
3724 Series Sliding Window10	7
3780 Sliding Patio Door 12	
4710/4712 Series Single Hung1	4
4720 Series Sliding Window	.16
4780 Sliding Patio Door	18
4810F/4812F Single Hung	20
4820F Series Sliding Window	
NFRC Thermal Performance Data	24
Glass Options, Screens and Low-E	26
Impact Rated	27
Architectural Shapes	
Grille Patterns and Options	
Hardware and Color Options	



More value. More performance. More solutions. If you're looking for a window that delivers the best possible performance at the best possible value, look no further than Ply Gem Windows Builder Series. It's energy-efficient, virtually maintenance-free and can withstand the toughest tests, including the test of time. Combine that quality with our commitment to customer service and you've got a company that knows how to deliver exactly what you want.





BUILDER SERIES 3710 SERIES SINGLE HUNG

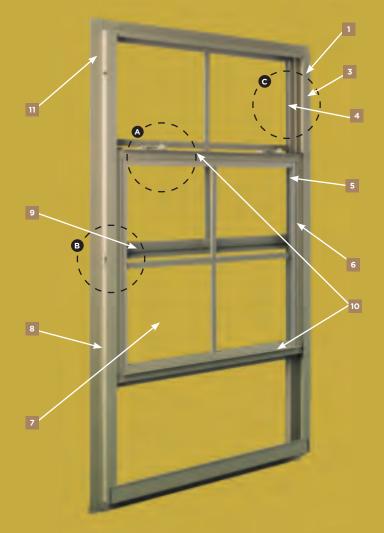
aluminum windows are available in singles, twins, triples and stack options and a wide selection of architectural shapes.

3710 SERIES SINGLE HUNG



WARM EDGE TECHNOLOGY





FEATURES

- 1 Virtually maintenance-free extruded aluminum construction with electrostatically applied finish
- 2 Sloped sill allows for proper water drainage to the exterior
- **3** Sleek profile provides larger viewing area
- 4 Interior glazing allows for easier glass replacement
- **5** Side loading removable bottom sash
- 6 Block and tackle balance for smooth operation
- 7 Energy-efficient Warm Edge insulating glass for enhanced performance
- 8 2" or $2^{7}/_{16}$ " frame depth (see chart below)
- **9** Structural meeting rail provides rigid stability and allows for a tighter, weather-resistant unit
- **10** Dual lift rails on bottom sash for easy operation
- **11** Integral nailing fin for simple installation

3710 series single hung windows are manufactured out of virtually maintenance-free extruded aluminum with a long-lasting electrostatically applied finish.

SINGLE HUNG SELECTION GUIDE

		CONSTRUCTION TYPE				
FRAME DEPTH	NAIL FIN SETBACK	WOOD SIDING		3 COAT STUCCO		
2"	7/8"	•	•	•		
2"	1³/8″	•	•		•	
2 7/16"	1³/8″	•	•		•	

В

Color-coordinated



Structural meeting rail provides rigid stability and allows for a tighter, weatherresistant unit



Block and tackle balance system fo smooth operation

Optional Low-E upgrade for better performance.
Optional Low-E^{sc} (solar cooling optimized) upgrade for increased performance.
Optional HP Glass upgrade combines Low-E with argon gas fill for high performance.
Optional HP^{sc} Glass upgrade combines solar cooling optimized Low-E with argon gas fill for high performance.

3752/53 SERIES SINGLE HUNG

BUILDER SERIES 3752/53 SERIES SINGLE HUNG

aluminum windows are available in singles, twins, triples and stack options and a wide selection of architectural shapes.

3752/53 SERIES SINGLE HUNG





FEATURES

- Virtually maintenence-free extruded aluminum construction with electrostatically applied finish
- 2 Sloped sill allows for proper water drainage to the exterior
- **3** Removable top sash
- 4 Sleek profile provides larger viewing area
- 5 Interior glazing allows for easier glass replacement
- 6 Bottom sash tilts in for easy cleaning and is removable
- **7** Block and tackle balance system for smooth operation
- 8 Energy-efficient Warm Edge insulating glass for enhanced performance
- 9 2" frame depth
- **10** Structural meeting rail provides rigid stability and allows for a tighter, weather-resistant unit
- **11** Dual lift rails on bottom sash for easy operation
- **12** Flange (shown) or integral nailing fin for simple installation

3752/53 series single hung windows are designed for high wind zones and are Florida approved. They are manufactured out of virtually maintenance-free extruded aluminum with a long-lasting electrostatically applied finish.

3752/53 SERIES SINGLE HUNG SELECTION GUIDE

			CONSTRUCTION TYPE				
NAIL FIN SET BACK	THERMALLY ENHANCED FRAME	HIGH WIND ZONE	FLORIDA APPROVED	WOOD SIDING		3 COAT STUCCO	
7/8"				•	•	•	
7/8"	•			•	•	•	
7/8″		•	•	•	•	•	
FLANGE		•	٠				•

C

A

Color-coordinated sash lock and tilt latch hardware



Structural meeting rail provides rigid stability and allows for a tighter, weatherresistant unit

Dual lift rails on bottom sash for easy operation



WARM EDGE



BUILDER SERIES 3724 SERIES ALUMINUM SLIDING WINDOWS are available in two different picture configurations $(1/_4-1/_2-1/_4 \text{ or } 1/_3-1/_3-1/_3)$.

3724 SERIES SLIDING WINDOW





FEATURES

- Sleek profile provides larger viewing area
- 4 Interior glazing allows for easier glass
- Energy-efficient Warm Edge insulating glass
- 6 2" frame depth
- Structural meeting rail provides rigid stability and allows for a tighter, weather-resistant unit
- 8 Push rail located at meeting rail
- 9 Integral nailing fin (shown) or flange for

with a long-lasting electrostatically applied finish.



aluminum







SLIDING WINDOW SELECTION GUIDE

						CONSTRUCTION TYPE					
	NAIL FIN SETBACK	HIGH WIND ZONE	FLORIDA APPROVED	WOOD SIDING		3 COAT STUCCO	BLOCK				
	7/8"		•	•	•	•					
	1 ³ /8″	•	•	•	•			•			
	FLANGE	•	•				•				

Α

Integral nailing fin (shown) or flange for simple installation



С

Color-coordinated

1. Optional Low-E upgrade for better performance. 2. Optional Low-E^{sc} (solar cooling optimized) upgrade for increased performance. 3. Optional HP Glass upgrade combines Low-E with argon gas fill for high performance. 4. Optional HP^{sc} Glass upgrade combines solar cooling optimized Low-E with argon gas fill for high performance. 5. Optional Warm Edge+ spacer system for enhanced performance. 6. Meets Florida building codes for certain zones. Consult your local codes for specific requirements.

В

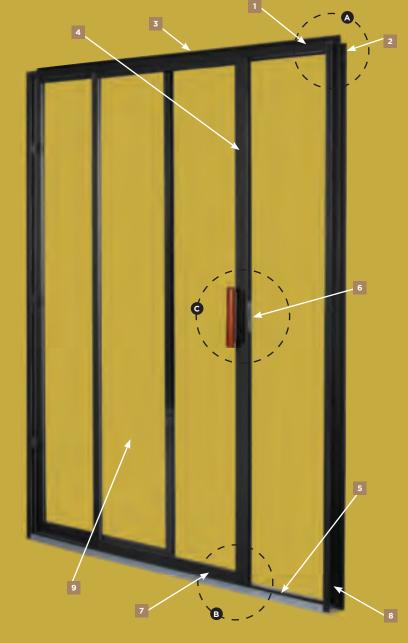
3780 SLIDING PATIO DOOR

BUILDER SERIES 3780 ALUMINUM SLIDING PATIO DOORS are available with matching side lites, fixed panels, transoms, segmented transoms and a wide selection of architectural shapes.

3780 SLIDING PATIO DOOR







FEATURES

- 1 Virtually maintenance-free extruded aluminum construction with electrostatically applied finish
- **2** Integral nailing fin for simple installation
- 3 Assembled or knockdown frame available
- 4 Reversible (before installation)
- 5 Stainless steel track cover allows for troublefree active panel operation
- 6 Mortise or clam lockset stylish, functional and adjustable
- 7 Adjustable tandem rollers for a more effortless operation and fine tuning the fit and operation
- 8 Frame depth available in $3^{5}/8^{"}$ or $5^{13}/16^{"}$
- **9** Energy-efficient Warm Edge insulating tempered glass



Sliding patio doors are reversible before installation. They are constructed with full-perimeter weatherstripping for a tight seal. Exterior handles are available with or without keyed lock.

Virtually maintenance-free extruded aluminum construction with integral nail fin and electrostatically applied finish



Stainless steel track cover allows for trouble-free active panel operation, adjustable tandem rollers for a more effortless operation and fine tuning the fit and operation



lockset – stylish functional and adjustable

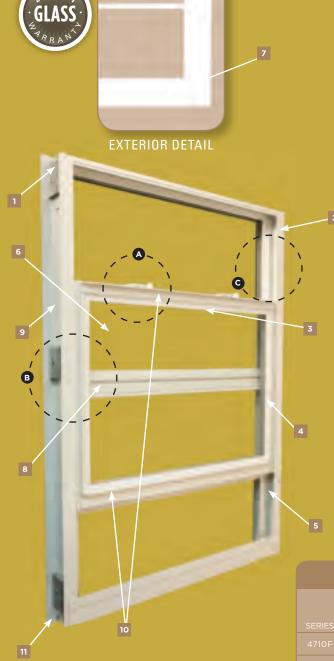


BUILDER SERIES 4710/4712 SERIES SINGLE HUNG

aluminum windows are available in singles, twins, triples, fixed and a wide selection of architectural shapes.

4710/4712 SERIES SINGLE HUNG





FEATURES

- 1 Virtually maintenance-free extruded aluminum construction with electrostatically applied finish
- 2 Sleek profile provides larger viewing area
- **3** Interior glazing allows for easier glass replacement
- 4 Side load removable bottom sash
- 5 Block and tackle balance system
- 6 Energy-efficient Warm Edge insulating glass
- 7 Sloped sill allows for proper water drainage to the exterior
- 8 Structural meeting rail provides rigid stability and allows for a tighter, weather-resistant unit
- **9** Frame depth available in $2^{7}/_{16}$ "
- **10** Dual lift rails on bottom sash for easy operation
- I1 Flange (shown) or integral nailing fin for simple installation

4710/4712 series single hung windows are designed for high wind zones and are Florida approved. Upgrade to Impact Rated units for protection against wind borne debris. Manufactured out of virtually maintenancefree extruded aluminum with a long-lasting electrostatically applied finish.



SINGLE HUNG SELECTION GUIDE

				со	NSTRUCT	ION TYP	Έ
NAIL FIN SETBACK		HIGH WIND ZONE	FLORIDA APPROVED	WOOD SIDING			
1³/8″		•	•	•	•		•
FLANGE		•	•			•	
1³/8″	•	•	•	•	•		•
FLANGE	•	•	•			•	

A

Color-coordinated



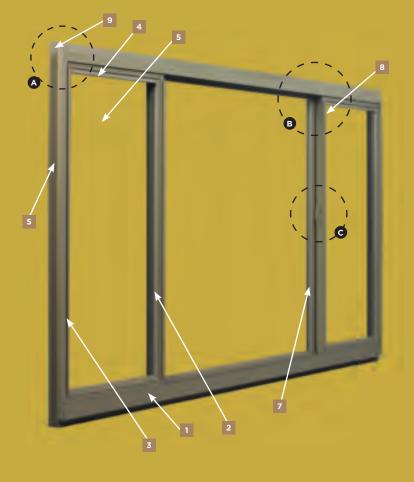
Structural meeting rail provides rigid stability and allows for a tighter, weather-resistant unit c

Block and tackle balance system



4720 SERIES SLIDING WINDOW





FEATURES

- Virtually maintenance-free extruded aluminum construction with electrostatically applied finish
- 2 Removable sash
- **3** Sleek profile provides larger viewing area
- 4 Interior glazing allows for easier glass replacement
- **5** Energy-efficient Warm Edge insulating glass
- 6 $2^{7}/_{16}$ " frame depth
- **7** Structural meeting rail provides rigid stability and allows for a tighter, weather-resistant unit
- 8 Push rail located at meeting rail
- **9** Integral nailing fin (shown) or flange for simple installation

4720 series sliding windows are designed for high wind and are Florida approved. Manufactured out of virtually maintenance-free extruded aluminum with a long-lasting electrostatically applied finish.



ALUMINUM





SLIDING WINDOW SELECTION GUIDE									
					со	NSTRUCT	ION TYP	РЕ	
NAIL FIN SETBACK	SASH TYPE	BALANCE TYPE	HIGH WIND ZONE	FLORIDA APPROVED	WOOD SIDING				
1³/8″	SIDE LOAD	BLOCK & TACKLE	•	•	•	•		•	
FLANGE	SIDE LOAD	BLOCK & TACKLE	•	•			•		

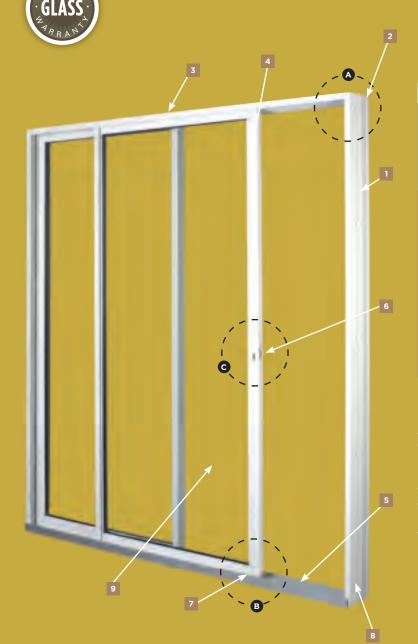


4780 SLIDING PATIO DOOR

BUILDER SERIES 4780 ALUMINUM SLIDING PATIO DOORS are available with matching side lites, fixed panels, transoms, segmented transoms and a wide selection of architectural shapes.

4780 SLIDING PATIO DOOR





FEATURES

- I Virtually maintenance-free extruded aluminum construction with electrostatically applied finish
- 2 Available with or without nailing fin (shown without)
- **3** Assembled or knockdown frame available
- **4** Reversible (before installation)
- 5 Stainless steel track cover allows for troublefree active panel operation
- 5 Mortise or clam lockset stylish, functional and adjustable
- 7 Adjustable tandem rollers for a more effortless operation and fine tuning the fit and operation |
- 8 Frame depth available in 5⁹/₁₆"
- **9** Energy-efficient Warm Edge insulating tempered glass

4780 sliding patio doors are designed for high wind zones and are Florida approved. They are reversible before installation. They are constructed with full-perimeter weatherstripping for a tight seal. Exterior handles are available with or without keyed lock. Optional metal reinforced stiles provide rigid stability for units up to 8'0" tall.







Virtually maintenancefree extruded aluminum construction and pre-punched nailing fin with fully fusionwelded corner and electrostatically applied finish В

Adjustable tandem rollers for a more effortless operation and fine tuning the fit and operation С

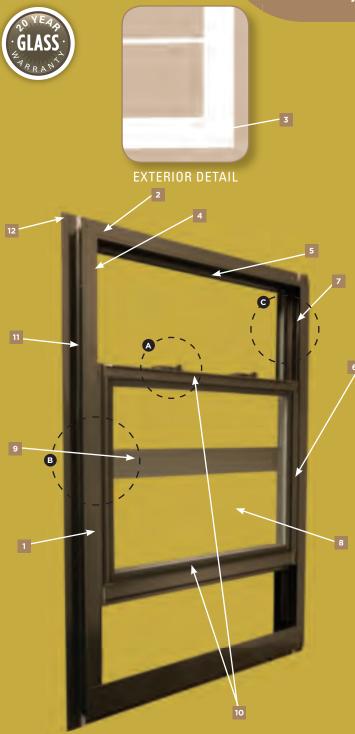
Mortise or clam lockset – stylish, functional and adjustable

4810F/4812F SINGLE HUNG

BUILDER SERIES 4810F/4812F SINGLE HUNG

aluminum windows are available in singles, twins, triples, fixed and a wide selection of architectural shapes.

4810F/4812F SINGLE HUNG



FEATURES

ALUMINUM

WINDO

GLA9

WARM EDGE

- Thermally broken aluminum frame with polyurethane poured in place and debridged to reduce thermal conductivity of aluminum frame
- 2 Virtually maintenance-free extruded aluminum construction with electrostatically applied finish
- **3** Sloped sill allows for proper water drainage to the exterior
- 4 Sleek profile provides larger viewing area
- 5 Interior glazing allows for easier glass replacement
- 6 Side load removable bottom sash
- 7 Block and tackle balance system
- 8 Energy-efficient Warm Edge insulating glass
- **9** Structural meeting rail provides rigid stability and allows for a tighter, weather-resistant unit
- **10** Dual lift rails on bottom sash for easy operation
- **11** Frame depth available in $2^{7}/_{16}$ "
- **12** Integral nailing fin with a 1³/₈" setback for simple installation

4810F/4812F single hung windows are designed for high wind zones. Upgrade to Impact Rated units for protection against wind borne debris.

This series is set apart by its improved performance. The thermally broken aluminum frame with polyurethane poured in place and debridged reduces the thermal conductivity of the aluminum frame. Manufactured out of virtually maintenance-free extruded aluminum with a longlasting electrostatically applied finish.

SINGLE HUNG SELECTION GUIDE

				CONS	STRUCTI TYPE	ON
1³/8″		•	•	•	•	•
1³/8″	•	•	•	•	•	•

C

Α

Color-coordinated sash lock hardware В

Structural meeting rail provides rigid stability and allows for a tighter, weatherresistant unit

Block and tackle balance system

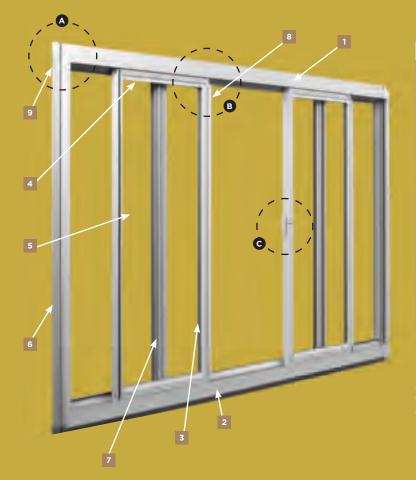
Optional Low-E upgrade for better performance.
Optional Low-E^{SC} (solar cooling optimized) upgrade for increased performance.
Optional HP Glass upgrade combines Low-E with argon gas fill for high performance.
Optional HP Glass upgrade combines combines solar cooling optimized Low-E with argon gas fill for high performance.
Impact Rated units are available in select sizes and configurations.
Meets Florida building codes for certain zones. Consult your local codes for specific requirements.

4820F SLIDING WINDOW

BUILDER SERIES 4820F ALUMINUM SLIDING WINDOWS are available in two different picture configurations $(1/4 - 1/2 - 1/4 \text{ or})^{-1/3} - 1/3$.

4820F SLIDING WINDOW





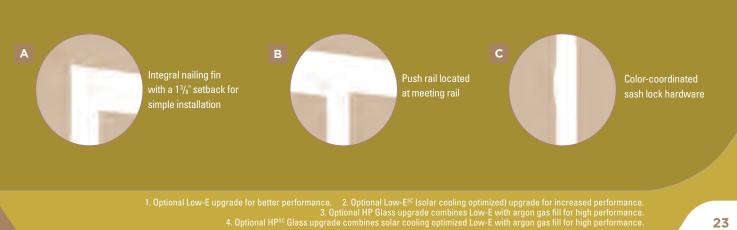
FEATURES

ALUMINUM

WARM EDGE

- reduce thermal conductivity of aluminum frame
- construction with electrostatically applied finish
- **3** Sleek profile provides larger viewing area
- 4 Interior glazing allows for easier glass
- **5** Energy-efficient Warm Edge insulating glass
- 6 Frame depth available in 2⁷/₁₆"
- Structural meeting rail provides rigid stability and allows for a tighter, weather-resistant unit
- 8 Push rail located at meeting rail
- 9 Integral nailing fin with a 1³/₈" setback for

maintenance-free extruded aluminum with a long-lasting



NFRC THERMAL PERFORMANCE DATA

BUIILDER SERIES ALUMINUM PRODUCTS

3710N ALUMINUM SINGLE HUNG

		NFRC CERTIFIED					
	R Value	U Factor	SHGC	VT			
WARM EDGE							
⁵∕₀″ Clear	1.52	0.66	0.65	0.68			
⁵∕₀″ Low-E	1.92	0.52	0.32	0.57			
⁵∕ ₈ ″ Low-E ^{sc}	1.92	0.52	0.25	0.45			
	2.08	0.48	0.32	0.58			
	2.08	0.48	0.25	0.46			

3710F ALUMINUM SINGLE HUNG

		NFRC CERTIFIED				
	R Value	U Factor	SHGC	VT		
	WARM	EDGE				
⁵∕₀″ Clear	1.49	0.67	0.65	0.68		
⁵/₀″ Low-E	1.89	0.53	0.32	0.57		
⁵∕ ₈ ″ Low-E ^{sc}	1.89	0.53	0.25	0.45		
	2.00	0.50	0.32	0.58		
⁵/₀″ HP ^{sc} Glass	2.04	0.49	0.25	0.46		

3752/3753¹ ALUMINUM SINGLE HUNG

		NFRC CERTIFIED					
	R Value	U Factor	SHGC	VT			
WARM EDGE							
⁵∕₀″ Clear	1.47	0.68	0.67	0.69			
⁵∕ଃ″ Low-E	1.89	0.53	0.32	0.59			
⁵∕ ₈ ″ Low-E ^{sc}	1.89	0.53	0.25	0.46			
	2.08	0.48	0.32	0.59			
	2.08	0.48	0.25	0.46			

3752T² THERMAL PERFORMANCE

		NFRC CERTIFIED			
	R Value	U Factor	SHGC	VT	
WARM EDGE					
⁵∕₀″ Clear	1.67	0.60	0.66	0.69	
⁵/ଃ″ Low-E	2.17	0.46	0.32	0.58	
⁵∕₀″ Low-E ^{sc}	2.17	0.46	0.25	0.46	
	2.38	0.42	0.32	0.59	
⁵∕₅″ HP ^{sc} Glass	2.44	0.41	0.24	0.46	

NFRC CERTIFIED U Factor R Value 1.43 0.70 0.66 0.67 1.82 0.55 0.32 0.57 1.82 0.55 0.25 0.45 2.00 0.50 0.32 0.57 2.00 0.50 0.25 0.45 2.04 0.49 0.32 0.57 2.04 0.49 0.25 0.45

3724 ALUMINUM SLIDING WINDOW

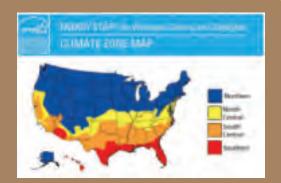
ENERGY STAR® Qualification Criteria WINDOWS and DOORS

Zone	U Factor	SHGC
Northern	≤ 0.30	ANY
North-Central	≤ 0.32	≤ 0.40
South-Central	≤ 0.35	≤ 0.30
Southern	≤ 0.60	≤ 0.27



R Value: Restrictive ambient air flow

ENERGY STAR® CLIMATE ZONES



NOTE: Low- E^{sc} = Solar cooling optimized Low-E HP = Combines Low-E and argon gas fill for high performance HP^{sc}=Combines solar cooling optimized Low-E and argon gas fill for warm Edge+ = High performance Warm Edge+ spacer system

by a NAMI Accredited lab. Performance values reflect the performance of units tested with the following configuration: 3mm glass, no grilles and IGU thickness specified in the chart.

NFRC THERMAL PERFORMANCE DATA

3780 SLIDING PATIO DOOR NFRC CERTIFIED U Factor 0 69 0.68 0.72 1.45 1.82 0.55 0.33 0.61 1.82 0.55 0.25 0.48 ⁵/₈" HP Glass 2.00 0.50 0.32 0.61

0.50

0.25

0.48

2.00

4780 SLIDING PATIO DOOR NFRC CERTIFIED U Factor 1.41 0.71 0.66 0.70 1.75 0.57 0.32 0.59 1.75 0.57 0.25 0.46 ⁵/₈" HP Glass 1.92 0.52 0.37 0.59 1.92 0.52 0.29 0.46

4710 SERIES SINGLE HUNG NFRC CERTIFIED U Factor 1.49 0.67 0.64 0.67 1.89 0.53 0.31 0.57 3/4" Low-Esc 1.89 0.53 0.24 0.45 1.92 0.52 0.31 0.57 1.96 0.51 0.24 0.45

4810F SINGLE HUNG				
		NFRC CERTIFIED		
	R Value	U Factor	SHGC	VT
WARM EDGE				
³/₄" Clear	1.64	0.61	0.64	0.67
³/₄″ Low-E	2.17	0.46	0.31	0.57
³ / ₄ " Low-E ^{sc}	2.17	0.46	0.24	0.44
³/₄″ HP Glass	2.33	0.43	0.31	0.57
³ /4" HP ^{sc} Glass	2.33	0.43	0.23	0.44

4720 SERIES SLIDING WINDOW

		NFRC CERTIFIED			
	R Value	U Factor	SHGC	VT	
WARM EDGE					
³/₄" Clear	1.43	0.70	0.65	0.66	
³ / ₄ ″ Low-E	1.79	0.56	0.31	0.56	
³ / ₄ " Low-E ^{sc}	1.79	0.56	0.24	0.44	
³ / ₄ " HP Glass	1.92	0.52	0.31	0.56	
³ /4" HP ^{sc} Glass	1.92	0.52	0.24	0.44	

4712 SERIES SINGLE HUNG

		NFRC CERTIFIED			
	R Value	U Factor	SHGC	VT	
WARM EDGE					
³/₄" Clear	1.47	0.68	0.65	0.67	
³ / ₄ ″ Low-E	1.85	0.54	0.31	0.57	
³ /4″ Low-E ^{sc}	1.85	0.54	0.24	0.45	
³/₄″ HP Glass	2.00	0.50	0.31	0.57	
³ /4" HP ^{sc} Glass	2.00	0.50	0.24	0.45	

4812 SERIES THERMAL PERFORMANCE

		NFRC CERTIFIED			
	R Value	U Factor	SHGC	VT	
WARM EDGE					
³/₄" Clear	1.59	0.63	0.64	0.66	
³ /4″ Low-E	2.04	0.49	0.31	0.56	
³ / ₄ " Low-E ^{sc}	2.04	0.49	0.24	0.44	
³ / ₄ " HP Glass	2.17	0.46	0.30	0.56	
³ /4" HP ^{sc} Glass	2.22	0.45	0.23	0.44	

4820F SLIDING WINDOW

		NFRC CERTIFIED			
	R Value	U Factor	SHGC	VT	
WARM EDGE					
³/₄" Clear	1.54	0.65	0.65	0.66	
³ / ₄ ″ Low-E	1.96	0.51	0.31	0.56	
³ / ₄ " Low-E ^{sc}	2.00	0.50	0.24	0.44	
³/₄″ HP Glass	2.17	0.46	0.31	0.56	
³/₄″ HP ^{sc} Glass	2.17	0.46	0.24	0.44	

GLASS OPTIONS

SCREENS

- Low-E
- Obscure
- Low^{SC} (Solar Cooling optimized Low-E)
- HP Glass (Low-E/argon)
- HP^{sc} Glass
- Tempered¹

1. Tempered glass is standard on sliding patio doors.

Builder Series screens feature color matched aluminum frames with fiberglass or wire mesh. Sliding patio door screens feature steel rollers for ease of operation.

WHAT IS LOW-E?

It is a microscopically thin, virtually invisible metallic oxide layer deposited on a window glazing surface. Low-E can reduce heating and cooling bills while dramatically improving overall comfort.

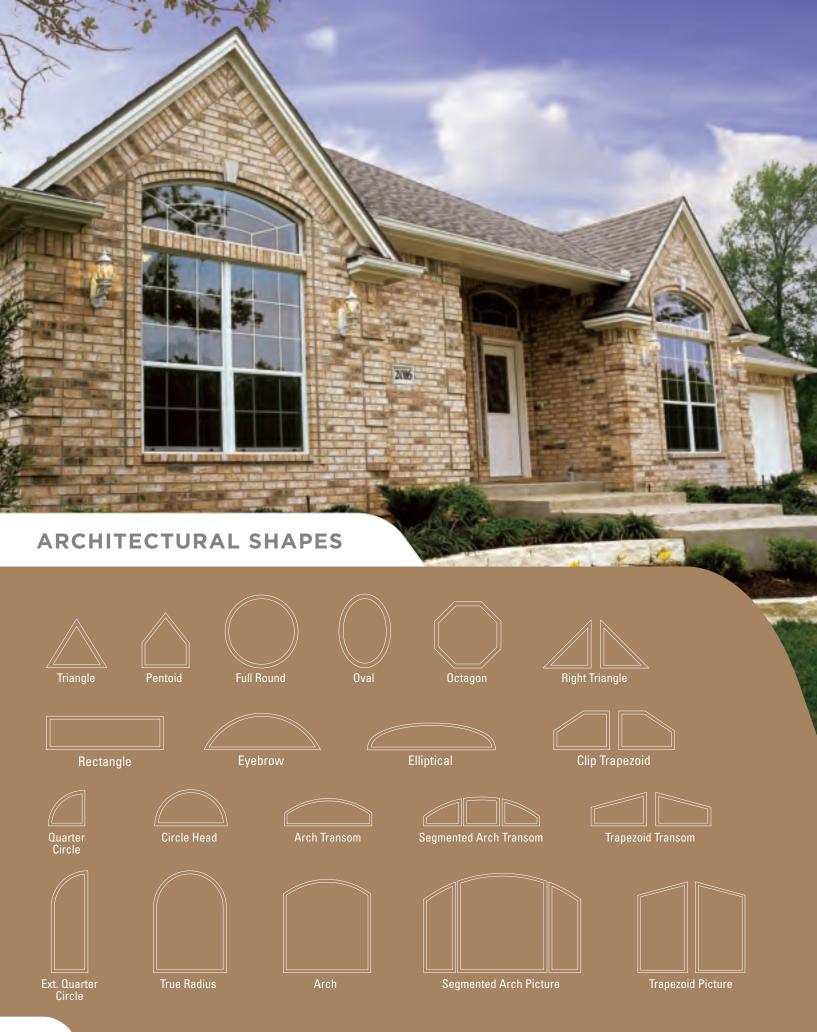




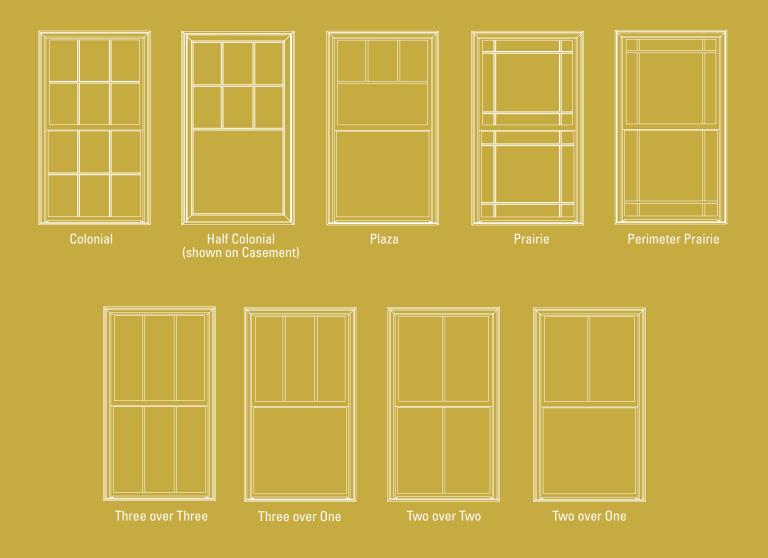


IMPACT RATED WINDOWS & DOORS

- **4710FIR/FLIR impact single hung units** are constructed to meet H-R40 performance.
- **4720FIR impact sliding window units** are constructed to meet HS-R50 up to 72" x 48" XO performance.
- 4810FIR impact single hung units are constructed to meet H-LC40 performance.
- Rated in accordance with the International Residential Codes and meet impact requirements in U.S. Zone 2 (110-120 mph) and Zone 3 (120-140 mph).
- Passes ASTM E1886/1996 Large Missile Impact and Cycling Tests.
- Meets AAMA/WDMA/CSA 101/I.S.2/A440 standard. 4710FIR/FLIR and 4720F units are Florida Building Commission Approved.



STANDARD GRILLE PATTERNS



Call customer service for optional grille patterns (800.999.8400).

GRILLE STYLE OPTIONS





⁵/₈" Flat GBG

³/₄" Flat GBG

HARDWARE OPTIONS

2.



50 1%

DOOR HANDLE COLOR OPTIONS

DOOR HANDLE COLOR OPTIONS

3780 Sliding Patio Door

4780 Sliding Patio Door

WHITE (INTERIOR/ EXTERIOR)

ADOBE GREY (INTERIOR/ EXTERIOR) BRONZE (INTERIOR/ EXTERIOR)

Colors shown may not be accurate representations. For color matching, please request color swatches from your Ply Gem sales representative.

COLOR OPTIONS





Ply Gem, the Ply Gem logo, the "Building Products. Building Success." slogan, Ply Gem Windows and the Ply Gem Windows logo are trademarks of Ply Gem Industries, Inc. ENERGY STAR[®] is a registered trademark of the U.S. Environmental Protection Agency. ©2010 Ply Gem Industries, Inc.

For more information, call 888-9PLYGEM.