

INGENUITY WINDOWS™

A semi-custom product line by
Versatile Wood Products®



Third edition, 2019



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Introducing INGENUITY WINDOWS™

Features

Double Hung

Casement

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A Letter From Richard De Wolf





introducing

INGENUITY WINDOWS™



Why Choose Wood

Since the Ingenuity line was developed with traditional casement and double hung windows in mind, wood is the obvious choice. Replica materials, such as vinyl or fiberglass can look cheap and quickly degrade. Wood is renewable, strong, and easily customized with stain, paint, and ornamental hardware to match your building design. Most importantly, wood is authentic; Ingenuity Windows will fit into an old house or commercial building, look historically accurate, and meet historic review standards.

Built to Last – Beautifully

Wooden windows have always had long lives; we improved on that. We examined old sashes and jambs that no longer functioned properly to determine where they failed, and why. That research informed the design of the Ingenuity Window. Design elements for longevity include: jamb thicknesses required for oversized windows, mortise and tenon joinery, and a sill that prevents any accumulation or wicking of water up into the jamb. For over thirty years, Versatile has used time-honored techniques to build products that last. We build Versatile quality into every Ingenuity window.

For Your Unique Project

The Ingenuity line was created to be highly adaptable to fit the varied architectural needs of our eclectic clientele. We provide both casement and double hung windows; within those two categories are myriad design possibilities. Both styles are available operable or fixed (picture window style), and are available as single units or mullied assemblies, with muntin bars, or even direct glaze. Casements can be configured to be awnings or hoppers as well. With all these options, ordering is still streamlined, with eight different architectural diagrams (cut sheets) that quickly show how the windows relate to your building. Does your project require full custom design? We can do that too! **CONTACT** SALES@VERSATILEWP.COM, FOR MORE INFO.





FEATURES



Our solid wood windows are constructed out of clear vertical grain (CVG) Douglas Fir.

We also provide options to upgrade to a tight grain selection, or Sapele—these materials can bring enhanced beauty and durability to your project. Insulated glass units featuring Cardinal LoE 272 UV coating provide insulation against both temperature and sound. Weatherstripping is applied at all contact points, ensuring top-notch performance. All window types are available as complete full-frame assemblies. Want to keep your original frame and sill? We also build insert windows, which allows for ease of installation in your existing opening. Mulled assemblies are available, allowing you to gang together a pair of windows or more—we designed to allow for a continuous subsill, enhancing the custom look of your installation. We also offer a series of oversized windows, which boast the scaled-up parts that large units require.



When asked what he enjoys doing for fun, Danil says, “My hobbies are working all the time, doing work at home,” as he pages through the large stacks of architectural drawings.

- VERSATILE BLOG



DOUBLE HUNG



Standard Features

Ingenuity Double Hung windows come with solid wood 1 ½" sash and a choice of jamb widths—4 9/16" (for typical wall depths in historic homes) and 6 13/16" (more typical for modern construction). Jamb extensions are available in any size, allowing for a customized fit. Upgrades are available for traditional pulley operation and sash bead adjusters. A selection of lift & lock hardware is available.

HARDWARE OPTIONS

(Top to bottom) Sash lock in polished brass, sash lift in antique brass and pulley.



STAINLESS STEEL
HOUSING

SEALED BALL
BEARING

STAINLESS STEEL
SPINDLE SCREW

SOLID BRASS
FACE PLATE

SOLID BRASS
WHEEL

5 3/8"

2 1/2"



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VWP - PULLEY

PROJECT #
Pulley
DRAWN BY
RRV
DATE
09.06.2018

PAGE #

SK
01.1

Doors

Windows

Cabinetry

Millwork

Sash

Preservation

THE LIFTING SYSTEM



Pulley system or spring balance: the choice is yours.

We provide two options for our Ingenuity double hung window. Each system has its own benefits. We can help you decide which is right for your project. Here are some benefits of each:

Spring Balance

A larger glass opening can be achieved since no room in the opening is needed for weight pockets—the hardware is mortised into the sash and fastened directly to the jamb. Double hung insert window assemblies can be placed inside of your original jambs using this hardware. There are no uninsulated weight pockets. The hardware is less expensive than traditional weight and pulley.

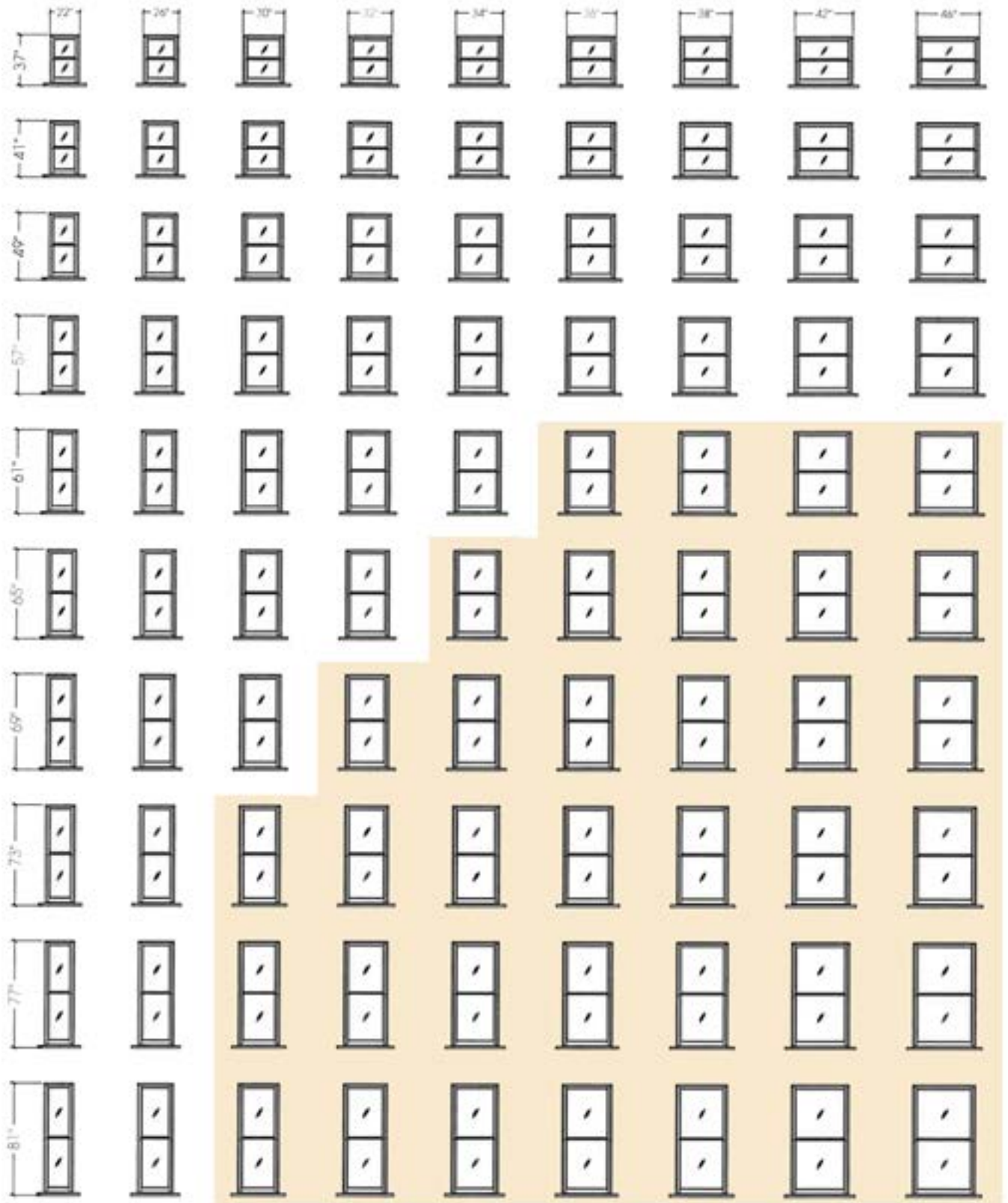
Weight and Pulley

Your historically accurate, beautiful, and classic-looking hardware choice is available for any non-insert double hung. There are no fussy mechanical parts that can fail. Repairs, should they ever be needed, are simple to perform—the rope will be available now or in a hundred years at any hardware store. Balance can be perfectly calibrated to each individual sash, allowing for effortless operation and sash that stay put. The visible hardware adds beauty.

SIZE OPTIONS



DOUBLE HUNG

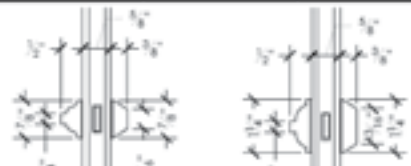


AVAILABLE IN ANY SIZE within this range. Shaded area meets egress requirements.

VERSATILE

WOOD PRODUCTS

INGENUITY ORDER FORM DOUBLE HUNG WINDOWS			ADDITIONAL UNITS OF THE SAME TYPE W/ DIFFERENT FRAME SIZE		
CONTRACTOR / CLIENT			Use a new sheet for additional windows with different selections		
Date:	Unit #:	Qty:	Mulled assembly? Y N		
Indicate selections below. Items marked * are upgrades; ** are deducts					
• STYLE •					
Operation:	<input type="checkbox"/> Double hung	<input type="checkbox"/> **Single hung	Width	Height	Qty
	<input type="checkbox"/> **Fixed	<input type="checkbox"/> **Direct glaze/picture			
Configuration:	<input type="checkbox"/> Full Frame	<input type="checkbox"/> Insert (spring balance only)	Width	Height	Qty
Balance: (Operable sash only)	<input type="checkbox"/> Spring Balance	<input type="checkbox"/> *Weight & Pulley			
• MATERIAL •					
<input type="checkbox"/> CVG Douglas Fir (standard grain)	<input type="checkbox"/> *CVG Douglas Fir (tight grain)	<input type="checkbox"/> *Saple			
• FRAME •					
Frame Size	Width	Height			
Allow 1 1/2" each side if weight & pulley or 1/2" each side if spring balance					
• JAMB DEPTH •					
<input type="checkbox"/> 4 5/16" (insert)	<input type="checkbox"/> 4 13/16"	<input type="checkbox"/> 6 13/16"			
<input type="checkbox"/> *Jamb extensions (indicate depth in inches):					
• SASH •					
Detail	<input type="checkbox"/> Ogee	<input type="checkbox"/> Ovolo			
Glass Type:	<input type="checkbox"/> Annealed IGU, Low E	<input type="checkbox"/> *Tempered IGU, Low E			
*Divided Lites count--Upper Sash		Wide High			
*Divided Lites count--Lower Sash		Wide High			
Weather Strip (loose or installed)	<input type="checkbox"/> Bronze	<input type="checkbox"/> White			
• HARDWARE FINISHES •					
<input type="checkbox"/> Oil Rubbed Bronze	<input type="checkbox"/> Antique Brass	<input type="checkbox"/> Satin Brass			
<input type="checkbox"/> Polished Brass	<input type="checkbox"/> --Unlacquered Brass	<input type="checkbox"/> Chrome			
<input type="checkbox"/> Polished Nickel	<input type="checkbox"/> --Satin Nickel	--finish n/a for pulleys			
EXTERIOR CASING			MULLED ASSEMBLY--SKETCH BELOW		
<input type="checkbox"/> *Brick Mould	<input type="checkbox"/> *Shake Mould	<input type="checkbox"/> *Flat Stock	As viewed from exterior:		
<input type="checkbox"/> *Mull Cap, Flat Stock (for mulled assemblies only)					
• ADDITIONAL UPGRADE OPTIONS •					
<input type="checkbox"/> *Subsill - indicate sill horn length in inches from inside of blind stop:		<input type="checkbox"/> *Sash adjusters (6 13/16" jamb only)			
<input type="checkbox"/> *Primed	<input type="checkbox"/> *Split Prime	<input type="checkbox"/> *Ogee Lugs			
• FLEX SCREEN •					
Available with exterior casing rabbeted by VWP for snug fit. See casing options above.		<input type="checkbox"/> *Yes			
		<input type="checkbox"/> No			
SPECIAL INSTRUCTIONS:					



OGEE SDL MUNTIN BAR OVOLO SDL MUNTIN BAR
DIVIDED LITE PATTERN--SKETCH BELOW

As viewed from exterior:

MULLED ASSEMBLY--SKETCH BELOW

As viewed from exterior:



Sash locks and lifts

We offer simple, traditional, classic, and functional choices.

This hardware is best-quality, in solid brass and available in eight thoughtfully selected finishes to coordinate with your design needs.

FINISH OPTIONS

(Left to right, top to bottom) Oil Rubbed Bronze, Anitque Brass, Satin Brass, Polished Brass, Unlacquered Brass, Polished Chrome, Polished Nickel, Satin Nickel.



Stop bead sash adjusters

These classic accessories are for mounting removable sash stops, and are a great alternative to nails for installing this component. Seasonal swelling and



contracting of wood is easily managed, with 1/8" of lateral adjustment provided with the slotted screw hole. If a sash ever needs to be removed, it is a simple and painless procedure to remove the sash stop that holds it in place.

**Did you know Versatile
also makes cabinets?**

Ask us about more details or check the website,
versatilewp.com.





STORAGE

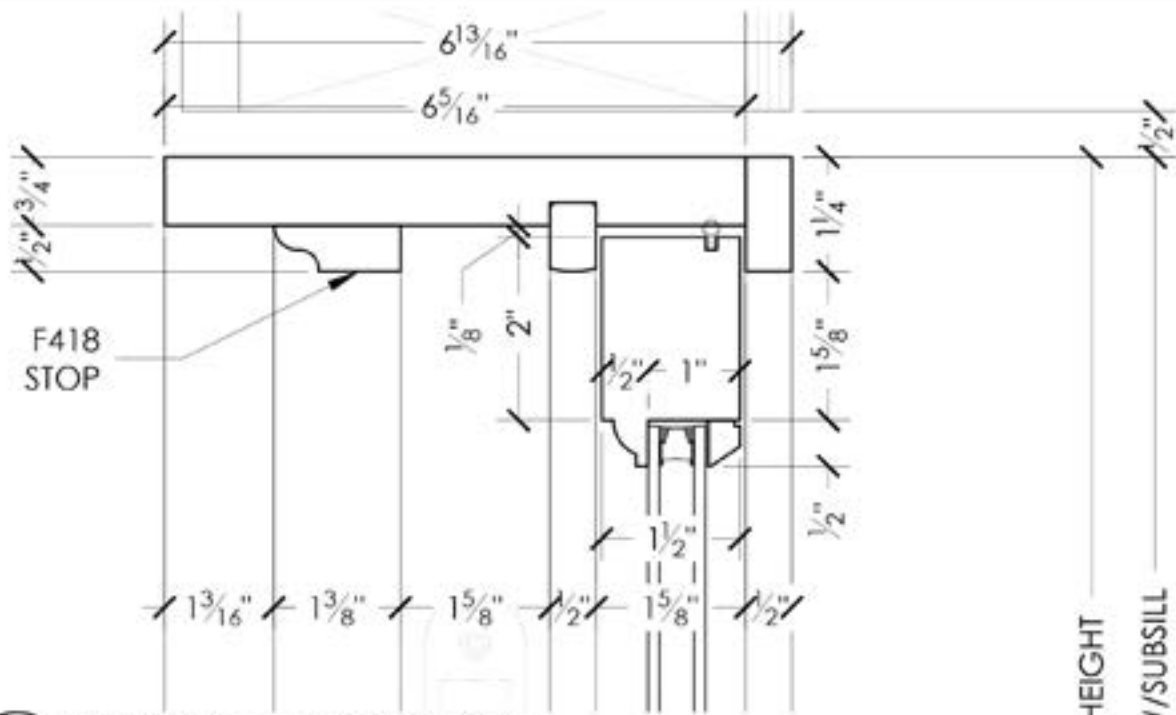


TOWNE STORAGE

Building more than 200 windows, we retained the historic character of this 103 year-old building while offering modern performance.

WASHINGTON HIGH SCHOOL

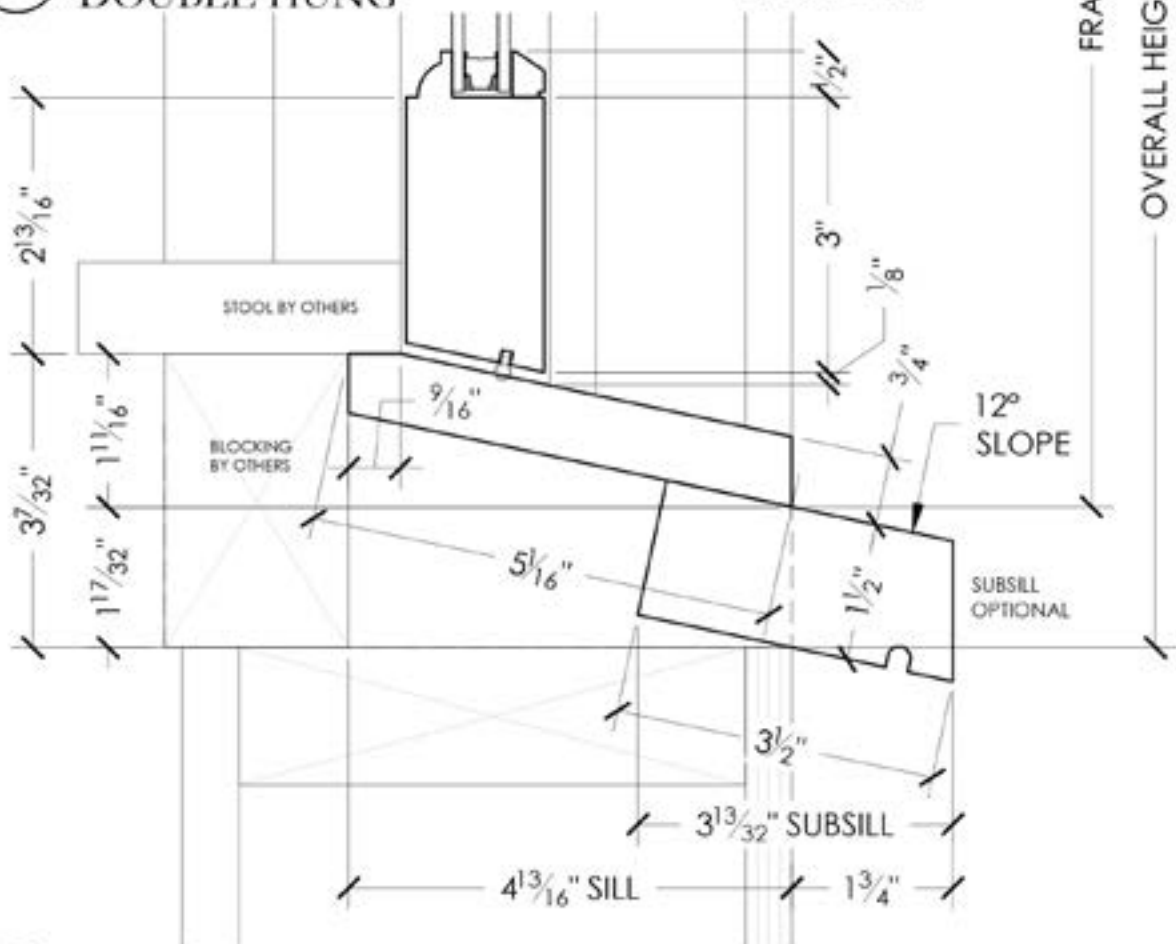
More than 50 exterior windows and interior partitions completed the 95 year-old school.



1

TYPICAL HEAD DETAIL DOUBLE HUNG

SCALE 6" = 1'-0"



3

TYPICAL SILL DETAIL DOUBLE HUNG

SCALE 6" = 1'-0"

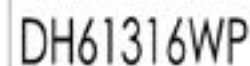
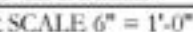
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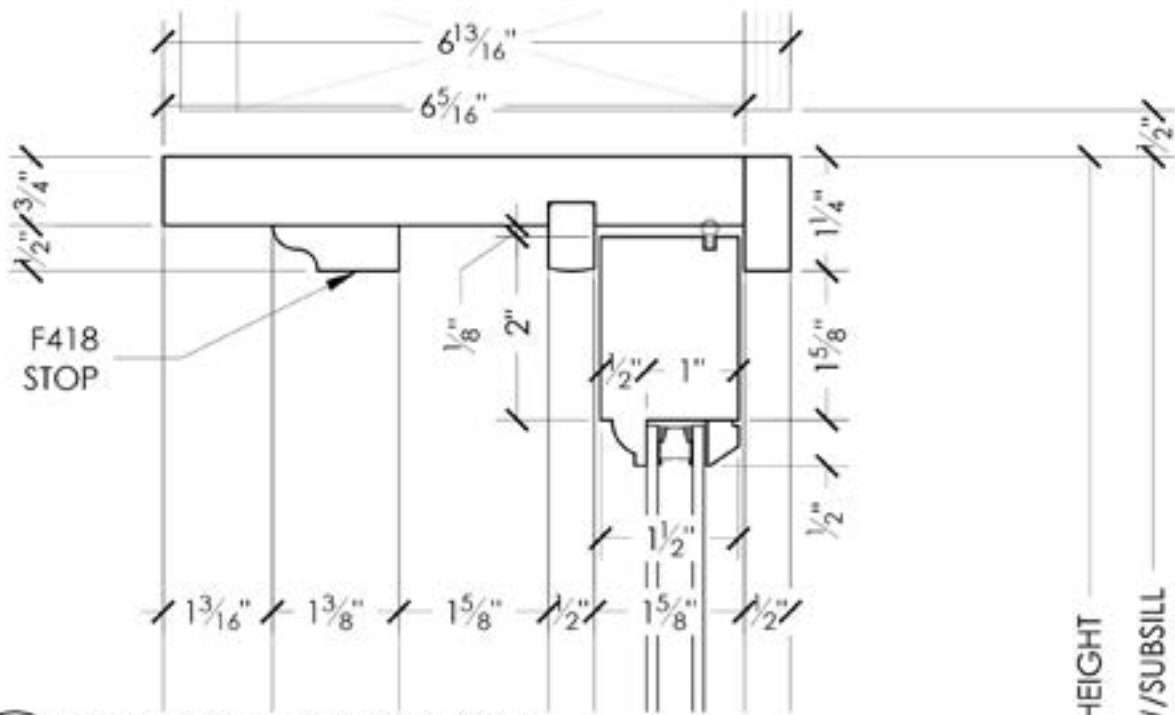
TYPE
DOU

WS
WEATH

4

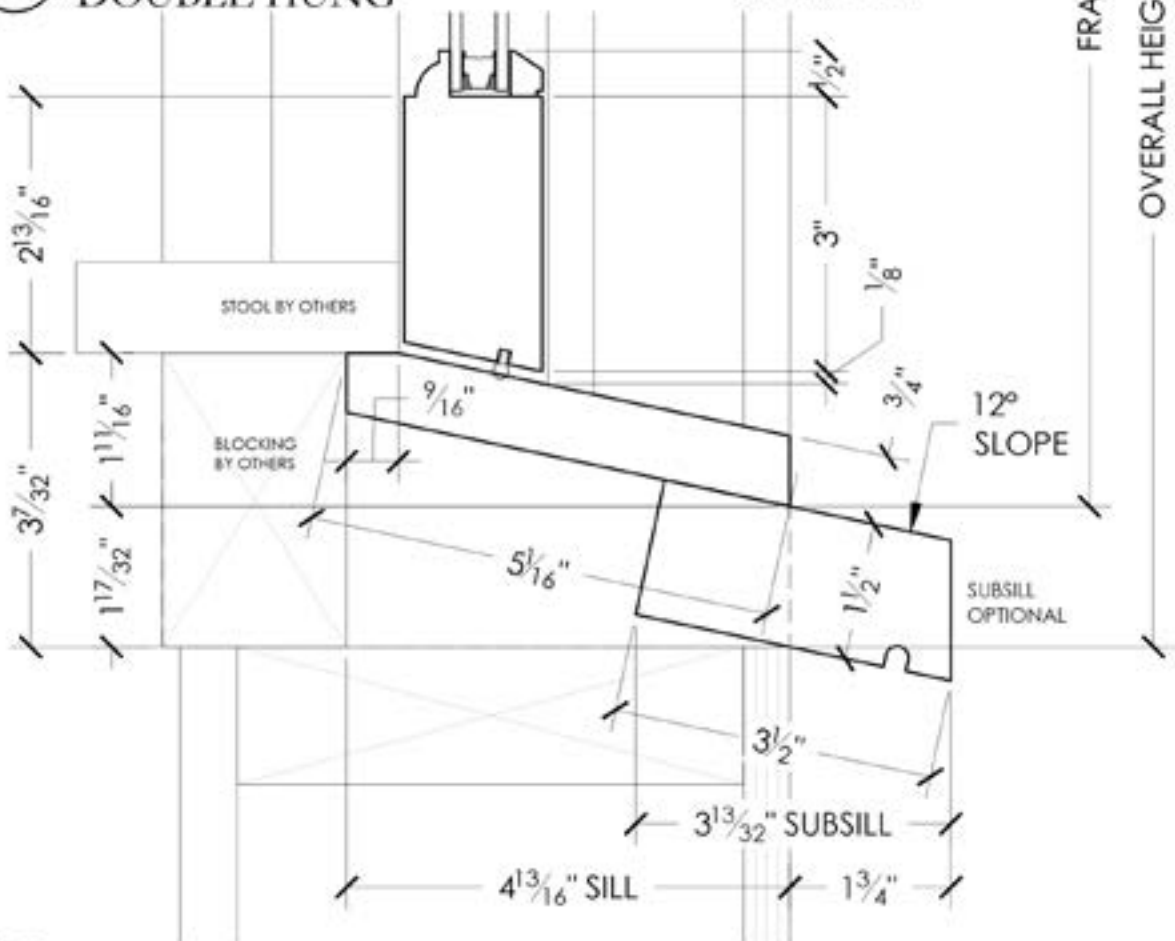
TYPE
DOU





1 TYPICAL HEAD DETAIL
DOUBLE HUNG

SCALE 6" = 1'-0"



3 TYPICAL SILL DETAIL
DOUBLE HUNG

SCALE 6" = 1'-0"

2 TYPICAL
DOUBLE HUNG

4 TYPICAL
DOUBLE HUNG

WS86 L
WEATHERST

INGENUITY - DOUBLE HUNG
6 13/16" JAMB W/ SPRING BALANCE

Presentation

Sarab

Milwork

Cabinetry

Windows

Days

PROJECT #	INGENUITY
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DRAWN BY	CDN
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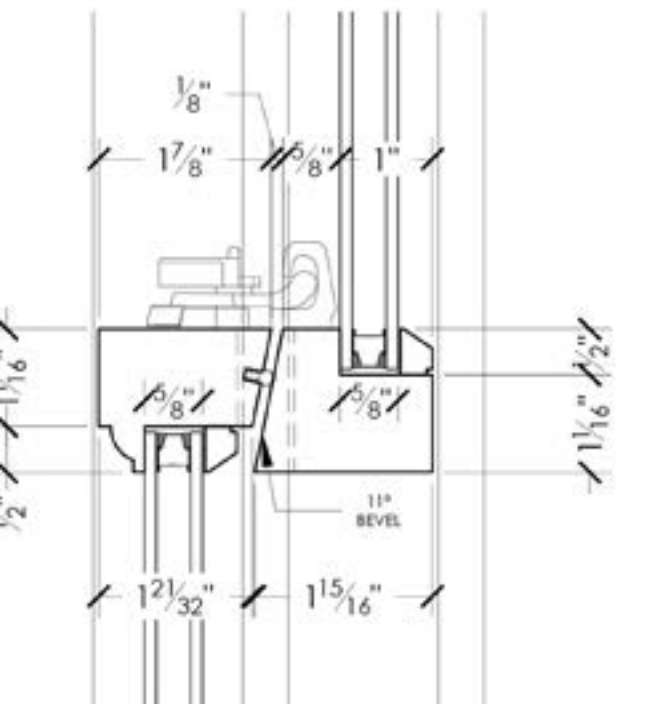
DATE:	04.06.2018
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REVISION DATE	RV 08.19.2019
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DESCRIPTION
HEAD, JAMB, SILL &
CHECK RAIL DETAILS

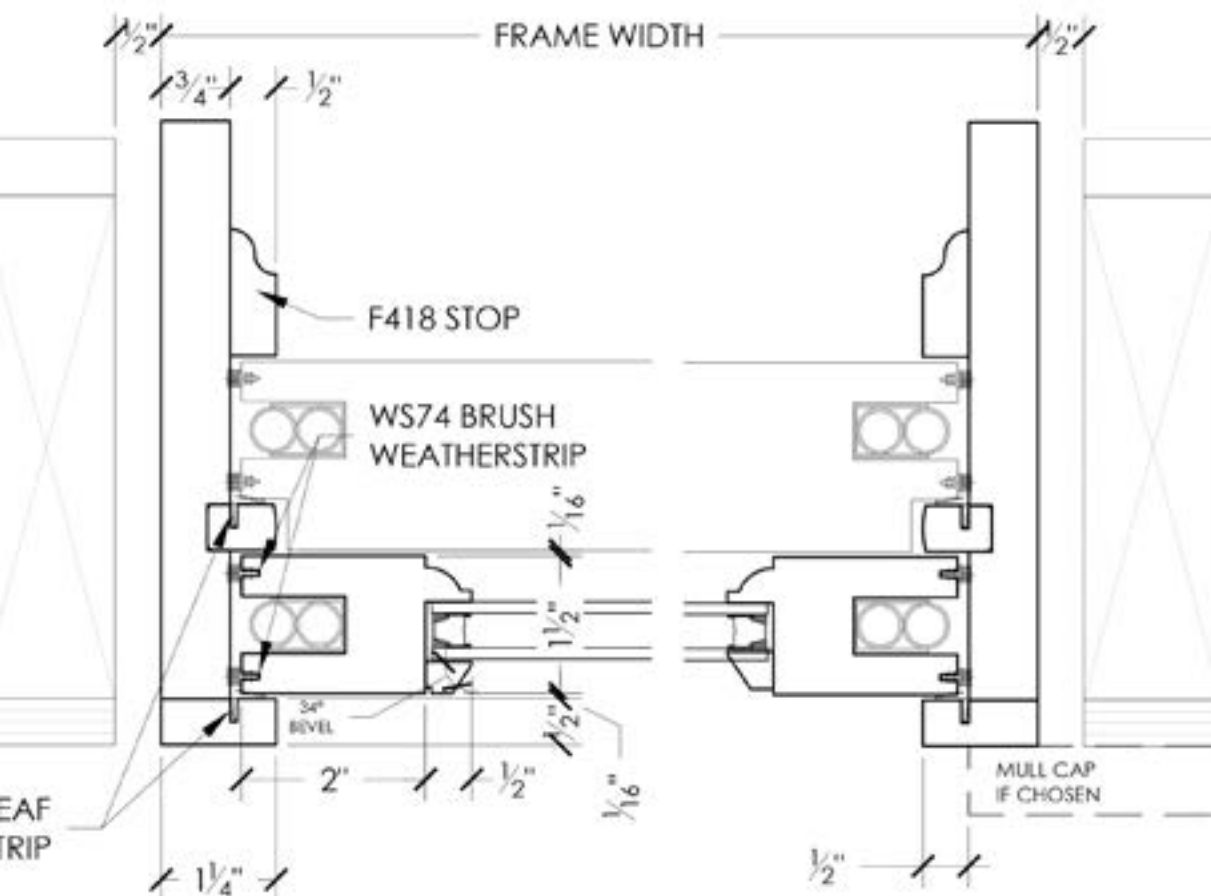
PAGE #

DH61316SB



CAL CHECK RAIL DETAIL

SCALE 6" = 1'-0"



CAL JAMB DETAIL

DOUBLE HUNG

SCALE 6" = 1'-0"

5

TYPICAL JAMB DETAIL
DOUBLE HUNG SCALE 6" = 1'

SCALE 6" = 1'-0"



CASEMENT



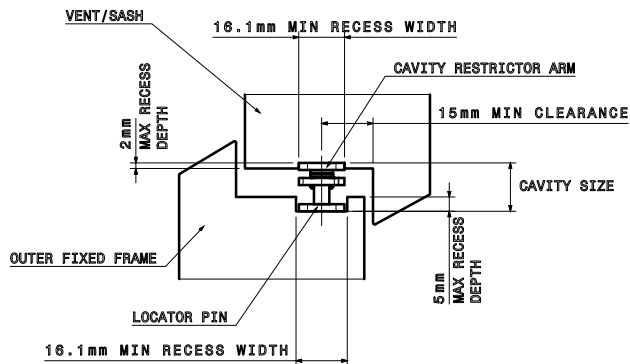
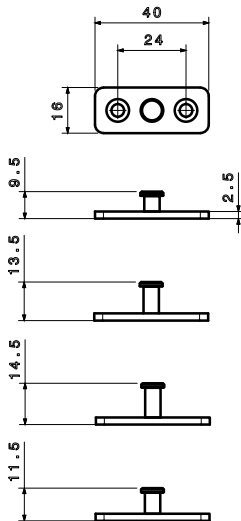
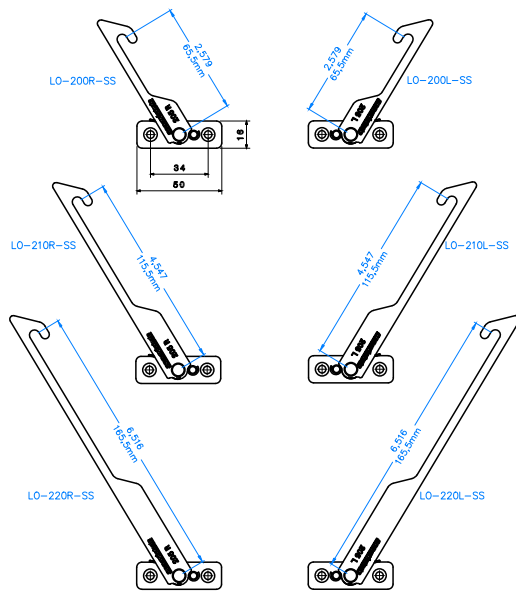
Standard Features

Ingenuity Casement windows come with solid wood 1 ½" sash and a choice of jamb width—5 5/16" (for typical wall depths in historic homes) and 6 13/16" (more typical for modern construction). Jamb extensions are available in any size, allowing for a customized fit.

All casements come with top-of-the-line pushout hinges and sleek locking hardware. Window Operating Control Device (WOCD) child safety locks are also available.

HARDWARE

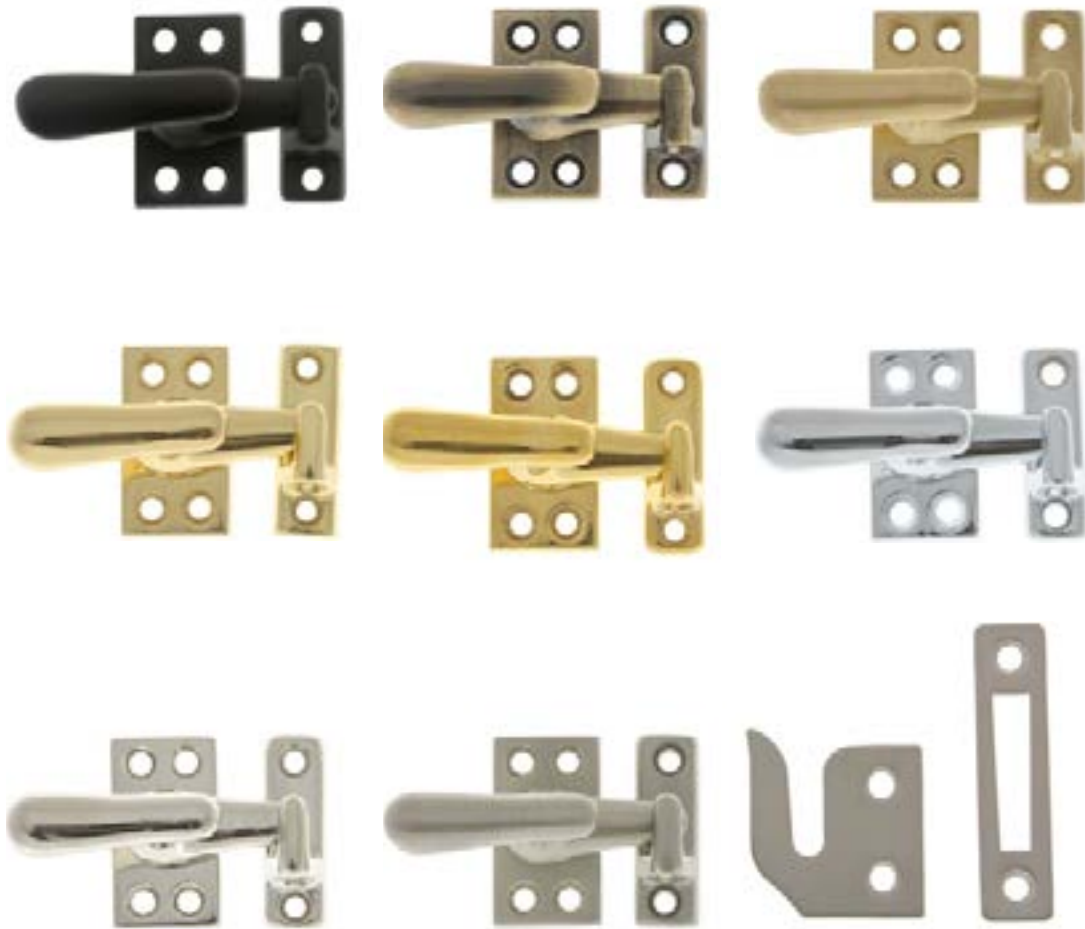
RIGHT (from top clockwise):
Hinge, latch and
WOCD



WOOD AND HINGE

ABOVE: The window operating control device is available in stainless steel and comes in three lengths, as well as left- or right-handed windows. RIGHT: Pushout casement hinge shown in yellow chromate finish. Heavy duty hinges are available for larger sash.





Latches, hinges and WOCD

Our Casement *INGENUITY* line uses solid brass latches and robust pushout hinges. The latch hardware is available in eight thoughtfully-selected finishes to coordinate with your design needs. Pushout hinges are available in steel or yellow chromate finishes. For additional peace of mind, we offer a WOCD (Window Opening Control Device) that limits the opening size simply and easily.

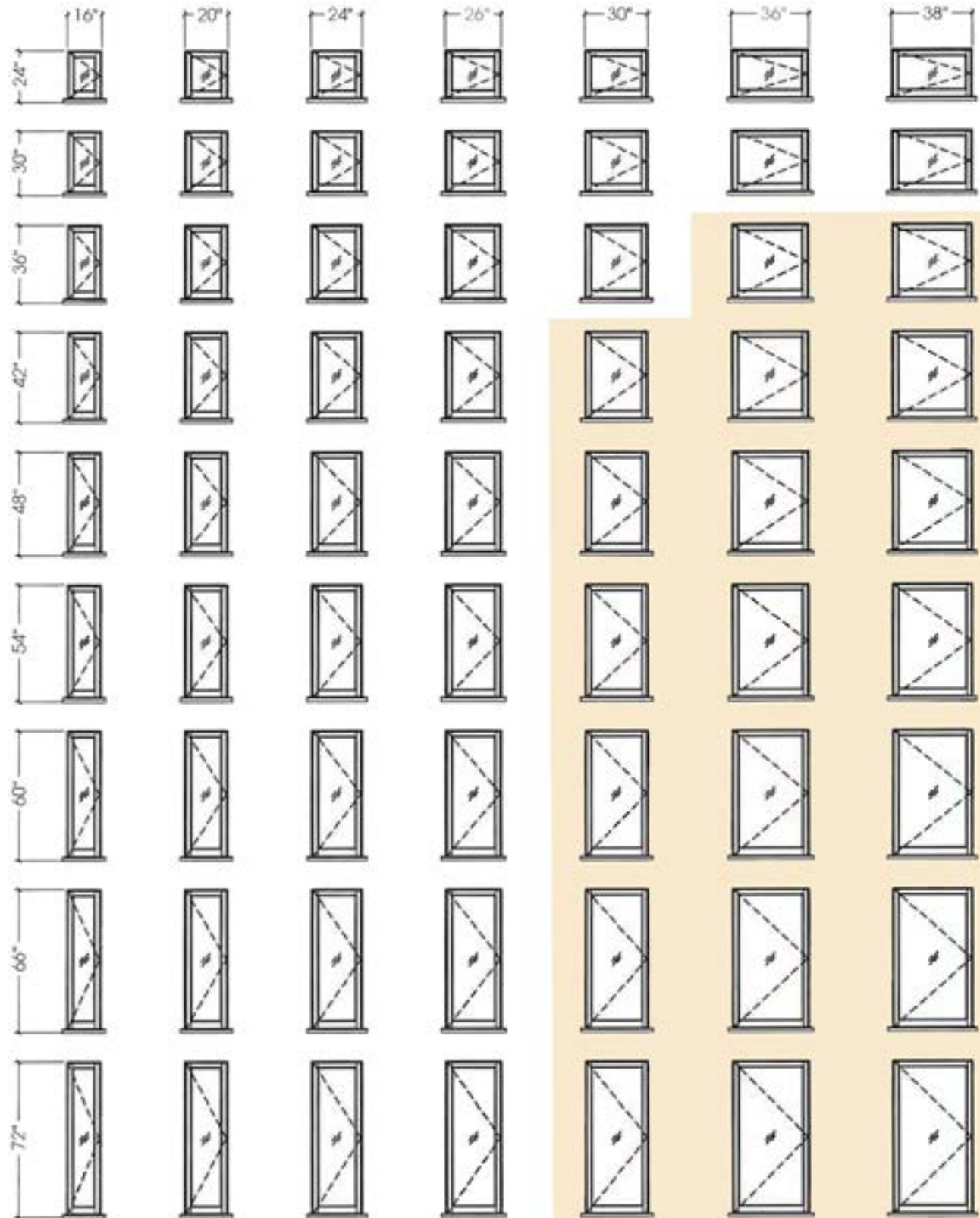
LEFT TO RIGHT, TOP TO BOTTOM

Oil Rubbed Bronze, Anitque Brass, Satin Brass, Polished Brass, Unlacquered Brass, Polished Chrome, Polished Nickel, satin Nickel. All latches include accompanying pieces. Body: 1-1/16" x 2-1/16". Projection: 1-7/8". Rim Strike: 1-1/2" x 1-1/2". Surface Strike: 1/2" x 2". Mortise Strike: 3/4" x 3".

SIZE OPTIONS



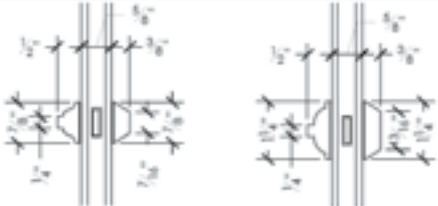
CASEMENT



AVAILABLE IN ANY SIZE within this range. Shaded area meets egress requirements. Additional Egress options available with specialty hinges.

VERSATILE

WOOD PRODUCTS

INGENUITY ORDER FORM CASEMENT WINDOWS			ADDITIONAL UNITS OF THE SAME TYPE W/ DIFFERENT FRAME SIZE		
CONTRACTOR / CLIENT			Use a new sheet for additional windows with different selections		
Date:	Unit #:	Qty:	Mulled Assembly? Y N		
Indicate selections below. Items marked * are upgrades; ** are deducts					
• STYLE •					
Operation:	<input type="checkbox"/> Casement	<input type="checkbox"/> Awning	Width	Height	Qty
<input type="checkbox"/> Hopper	<input type="checkbox"/> **Fixed	<input type="checkbox"/> **Direct glaze/picture	Width	Height	Qty
Configuration:	<input type="checkbox"/> Full Frame	<input type="checkbox"/> Insert			
• MATERIAL •					
<input type="checkbox"/> CVG Douglas Fir (standard grain)	<input type="checkbox"/> *CVG Douglas Fir (tight grain)	<input type="checkbox"/> *Sapele	Width	Height	Qty
• FRAME •					
Frame Size: Allow 1/2" each side	Width	Height			
• JAMB DEPTH •					
<input type="checkbox"/> 3 3/8" (insert)	<input type="checkbox"/> 5 5/16"	<input type="checkbox"/> 6 13/16"			
<input type="checkbox"/> *Jamb extensions (indicate depth in inches):					
• SASH •					
Detail	<input type="checkbox"/> Ogee	<input type="checkbox"/> Ovolo			
Glass Type:	<input type="checkbox"/> Annealed IGU, Low E	<input type="checkbox"/> *Tempered IGU, Low E			
*Divided Lites, count	Wide	High			
Handing (casement sash only):	<input type="checkbox"/> LHOS	<input type="checkbox"/> RHOS			
Weather Strip: (loose or installed)	<input type="checkbox"/> Bronze	<input type="checkbox"/> White			
• HARDWARE FINISHES •					
Whiteco pushout hinges:	<input type="checkbox"/> Chromated Steel	<input type="checkbox"/> *Solid Brass			
Casement latch:	<input type="checkbox"/> Oil Rubbed Bronze	<input type="checkbox"/> Antique Brass			
<input type="checkbox"/> Satin Brass	<input type="checkbox"/> Polished Brass	<input type="checkbox"/> Unlacquered Brass			
<input type="checkbox"/> Chrome	<input type="checkbox"/> Polished Nickel	<input type="checkbox"/> Satin Nickel			
• EXTERIOR CASING •					
<input type="checkbox"/> *Brick Mould	<input type="checkbox"/> *Shake Mould	<input type="checkbox"/> *Flat Stock			
<input type="checkbox"/> *Mull Cap, Flat Stock (for mulled assemblies only)					
• ADDITIONAL UPGRADE OPTIONS •					
<input type="checkbox"/> *Subsill - indicate sill horn length in inches from inside of jamb:					
<input type="checkbox"/> *Primed	<input type="checkbox"/> *Split Prime				
SPECIAL INSTRUCTIONS:					
			 <p>OGEE SDL MUNTIN BAR OVOLO SDL MUNTIN BAR</p> <p>DIVIDED LITE PATTERN--SKETCH BELOW</p> <p>As viewed from exterior:</p>		
			<p>MULLED ASSEMBLY--SKETCH BELOW</p> <p>As viewed from exterior:</p>		



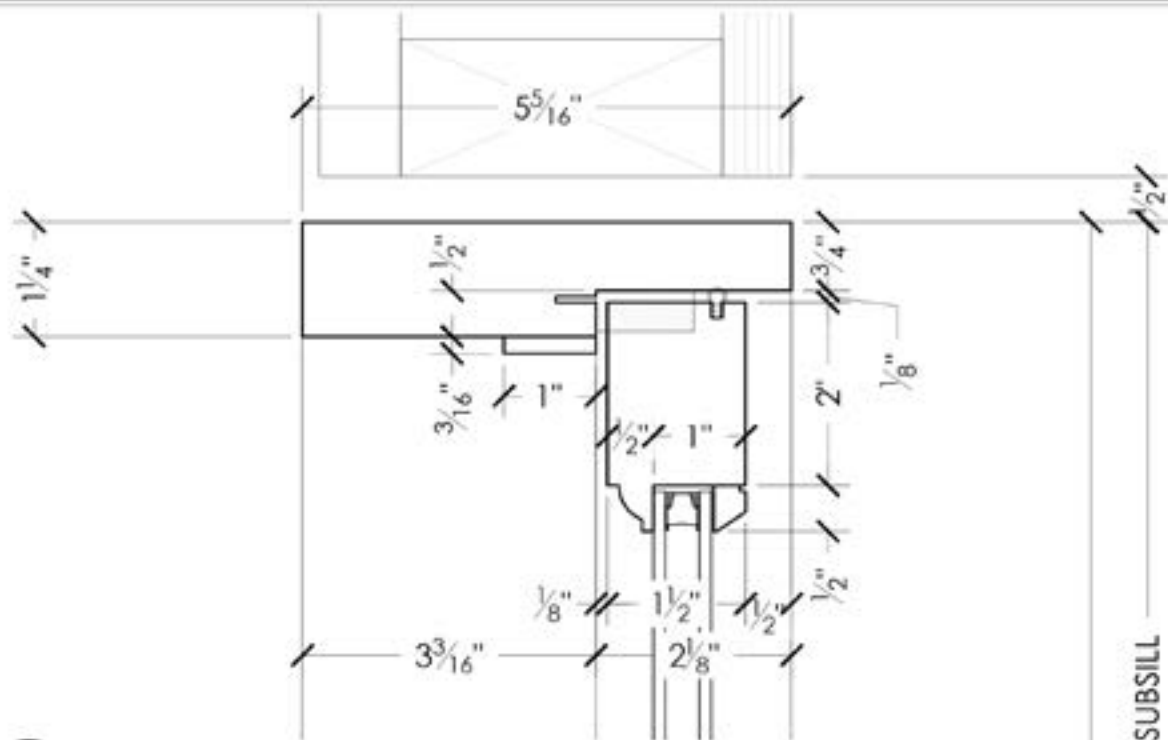






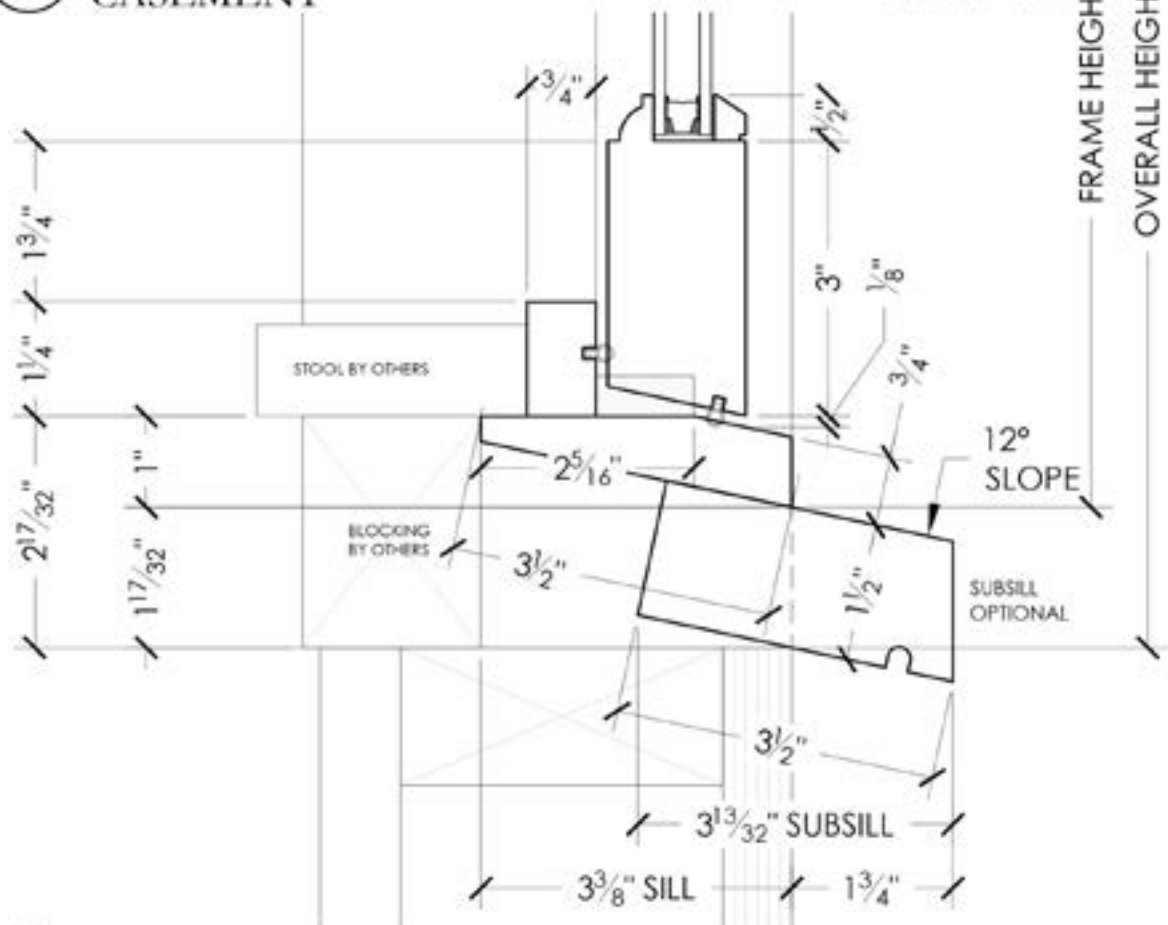
WINDOWS BUILT FOR ALL CONDITIONS

When a historic wood window needs replicating, and it ends in a shower, added protection can be given with a shower curtain or a mini-shower door (shown at right). Ingenuity Windows are customized for any condition!



1 TYPICAL HEAD DETAIL
CASEMENT

SCALE 6" = 1'-0"



2 TYPICAL SILL DETAIL CASEMENT

SCALE 6" = 1'-0"



3 TYPICAL CASE



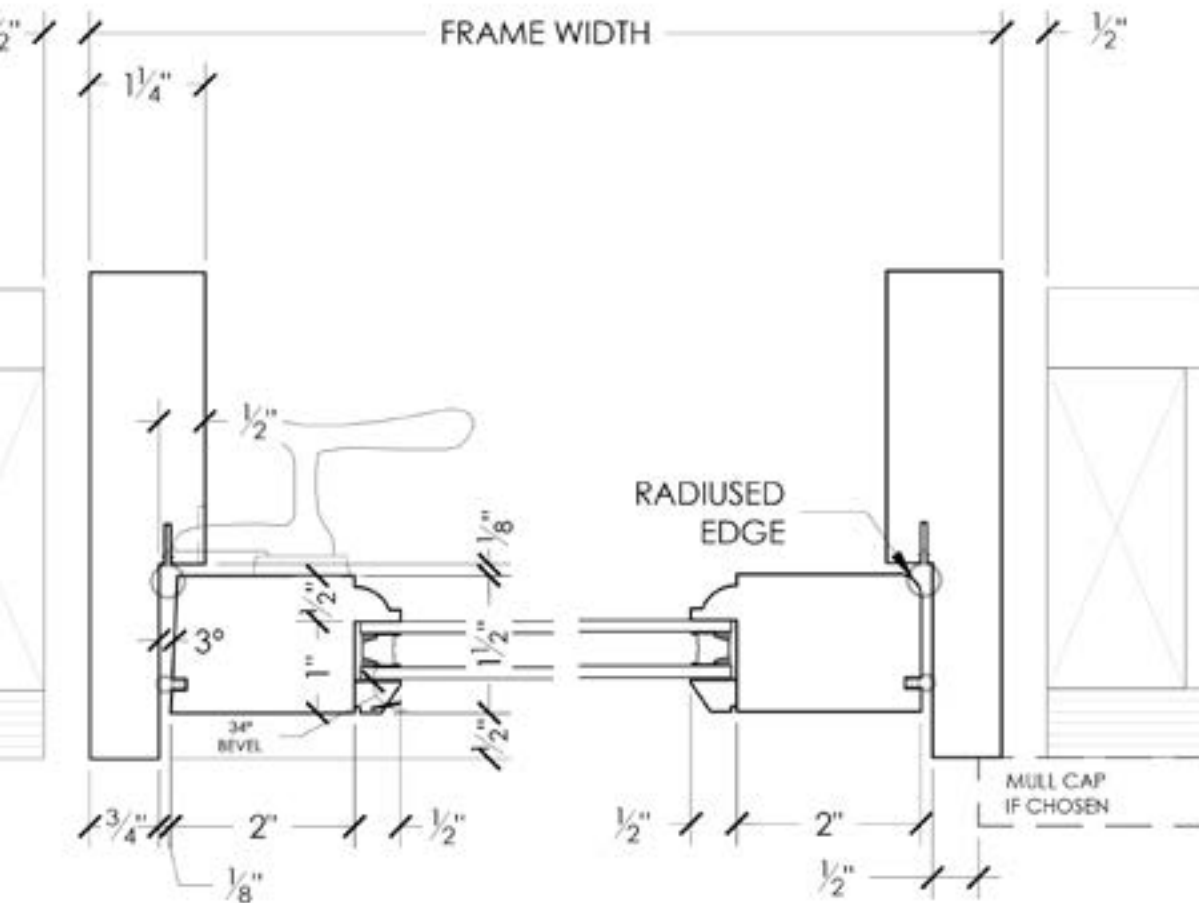
2303 N Ramapo Ave,
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INGENUITY - CASEMENT 5 5/16" JAMB W/ "PUSHOUT" HINGE

Doors Windows Cabinetry Millwork Sash Preservation

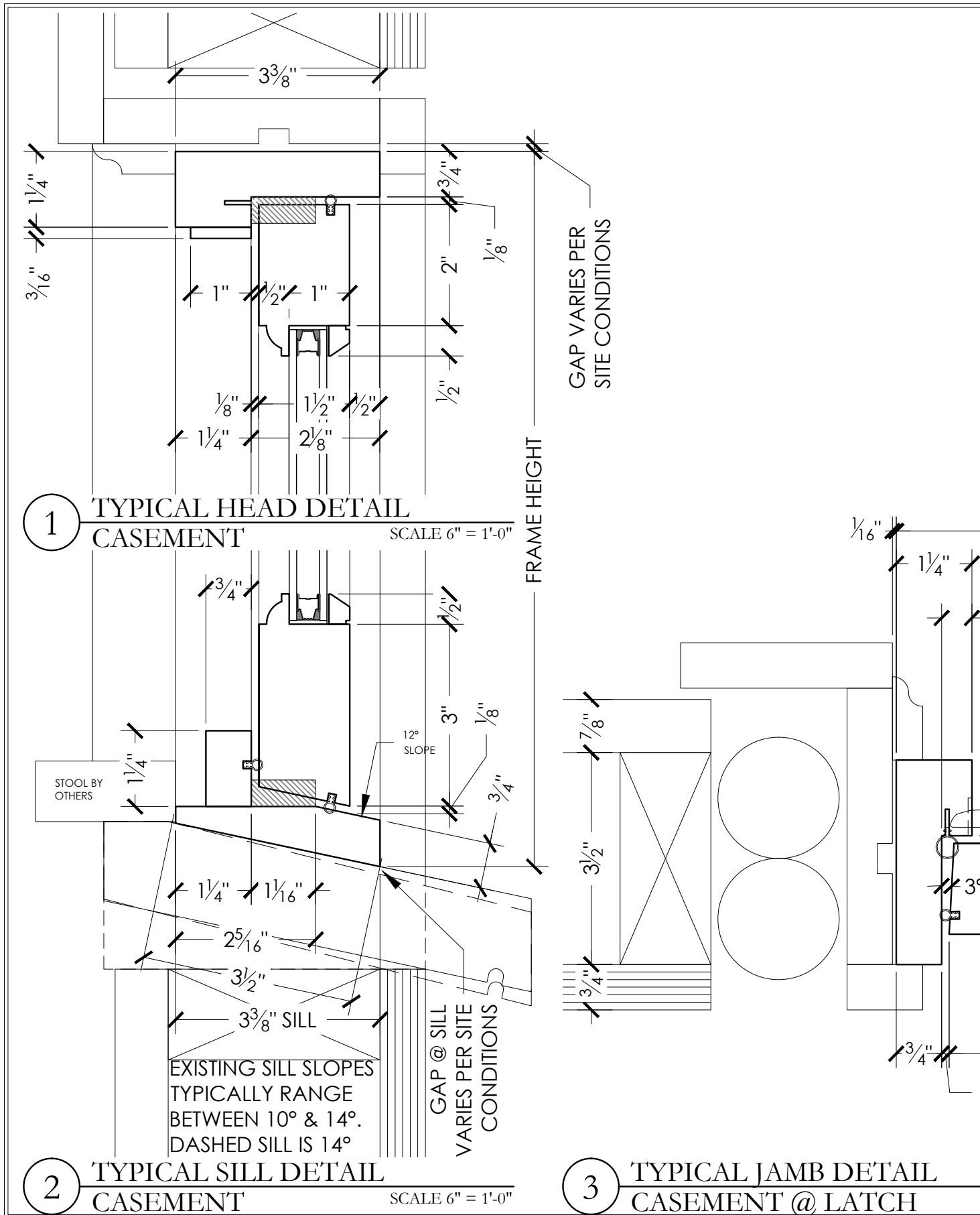


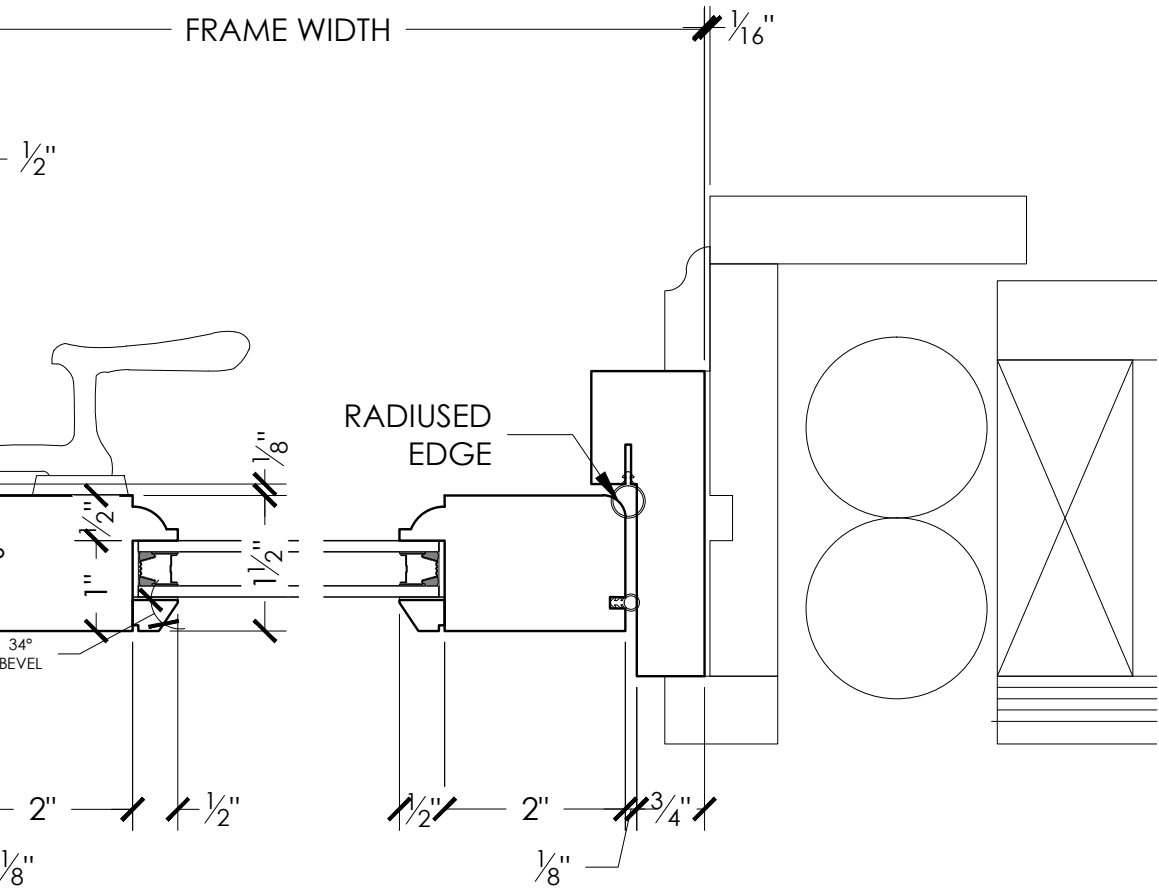
TYPICAL JAMB DETAIL
CASEMENT @ LATCH SCALE 6" = 1'-0"

4 TYPICAL JAMB DETAIL
CSMT. @ HINGE SCALE 6" = 1'-0"

PROJECT #	INGENUITY
DRAWN BY	CDN
DATE	04.19.2018
REVISION DATE	RV 05.19.2019
DESCRIPTION	HEAD, JAMB, & SILL DETAILS

PAGE #
C5516





SCALE 6" = 1'-0"

4 TYPICAL JAMB DETAIL
CASEMENT @ HINGE

SCALE 6" = 1'-0"



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INGENUITY - CASEMENT INSERT
3 3/8" JAMB W/ "PUSHOUT" HINGES

Doors Windows Cabinetry Millwork Sash Preservation

PROJECT #	INGENUITY
DRAWN BY	CDN
DATE	04.11.2018
REVISION DATE	10.24.2018
DESCRIPTION	HEAD, JAMB, & SILL DETAILS
PAGE #	

CI338

Inside Glass And Outside Temperatures

The table below compares the room-side center of glass temperatures of different glass types against two different winter conditions.

IG TYPE AND COATING	OUTSIDE TEMP °F	
	-20°F VERY COLD OUTSIDE	20°F COLD OUTSIDE
	INSIDE TEMP	INSIDE TEMP
Single-pane, clear	0°F	31°F
Double-pane, clear	37°F	51°F
Ordinary low-e (air fill)	46°F	57°F
LoE ² -272/270 (air fill)	49°F	58°F
LoE ² -272/270 (argon fill)	52°F	60°F

Glass Performance

Cardinal LoE² glass is ideal for all weather conditions in most climates. In summer, it’s patented coating blocks 86% of the sun’s harmful ultraviolet rays and 63% of the sun’s heat.

IG TYPE AND COATING	VISIBLE LIGHT			FADE
	TRANSMITTANCE	EXTERNAL REFLECTANCE	INTERNAL REFLECTANCE	UV
Single-pane, clear	90%	90%	90%	INSIDE TEMP
Double-pane, clear	82%	82%	82%	31°F
Ordinary low-e (air fill)	76%	76%	76%	51°F
LoE ² -272	72%	72%	72%	57°F



VISIBLE LIGHT

Transmittance: 72%, external reflectance: 11% and internal reflectance: 12%

FADE TRANSMISSION

UV = 0.16, ISO = 0.55

U-FACTOR

Air fill: 0.30, Argon fill: 0.25



Although windows provide beautiful views and wonderful natural light, they can also account for up to 50% of the heating and cooling energy consumed in your home.

We use Cardinal LoE2 glass for the Ingenuity series because of its ability to handle all weather conditions. In the summer, your Ingenuity windows keep your home cool and comfortable by rejecting the sun's heat and damaging rays. In the winter, they help your home stay warm and cozy by blocking heat loss to the cold weather outside. In short, Ingenuity windows by Versatile save energy year around. We use locally assembled insulated glass units, and we can design any combination to your liking. If the ultimate low-e performance is desired, we can specify Cardinal LoE³-366—it delivers the ideal balance of solar control and high visibility. If code (or comfort level) indicates tempered glass, any unit can be specified accordingly. We provide a number of obscured glass to address privacy concerns and design choices—cross-reeled, satin etched, and seedy are among the selections available to you.

OPTIONS & ACCESSORIES

A standard wood species, casings and profiles make up our Ingenuity line of windows.

OGEE DETAILS



Sash detail



Muntin bar



Exterior bevel

OVOLO DETAILS



Sash detail



Muntin bar



Exterior bevel

SPECIES

Standard CVG
Douglas Fir



Tight grain CVG
Douglas Fir



Sapele



CASING



Brickmold



Shakemold



Flat



FlexScreen is the simple solution for double hung screen needs.

We are excited to offer FlexScreen as an upgrade to all Ingenuity Double Hung windows. The PVC coated, high-performance spring steel frame seats into the screen track. FlexScreen is easily installed by hand, without any attachment hardware, and is easily installed and removed from the interior. No more bent aluminum frames or scratched paint to contend with. Clean sight lines, ease of use, and durability make this a great companion to Ingenuity Double Hungs.







The **INGENUITY WINDOW™** of Opportunity for Home and Building Owners, Architects, Designers and Friends

Innovation is a commonly used word these days, but what does it really mean? We believe innovation means to rethink and redesign with one guiding question constantly in mind – what is a better solution? At Versatile Wood Products, we honor the past. So the challenge for us in creating a better window was to integrate historic aesthetics while implementing new standards and techniques that improve performance and durability.

A team of our best designers, carpenters and multi-talented crewmembers were dedicated to solving that challenge. Now we're proud to introduce our semi-custom line of windows: Ingenuity Windows.

Ingenuity Windows fills a market gap; simply put, the “big box” window manufacturers were supplying substandard products. There was a need for a better system. And as the old saying goes, if you want it done right, do it yourself. In the following pages, I invite you to discover all the details. For now, I'd just like to say, thanks. Because we couldn't have created the Ingenuity Window line without you – that's because we imagined it with your needs in mind.

A handwritten signature in black ink, appearing to read 'RDW'.

Richard De Wolf, Owner
richard@versatilewp.com



VERSATILE

WOOD PRODUCTS
