

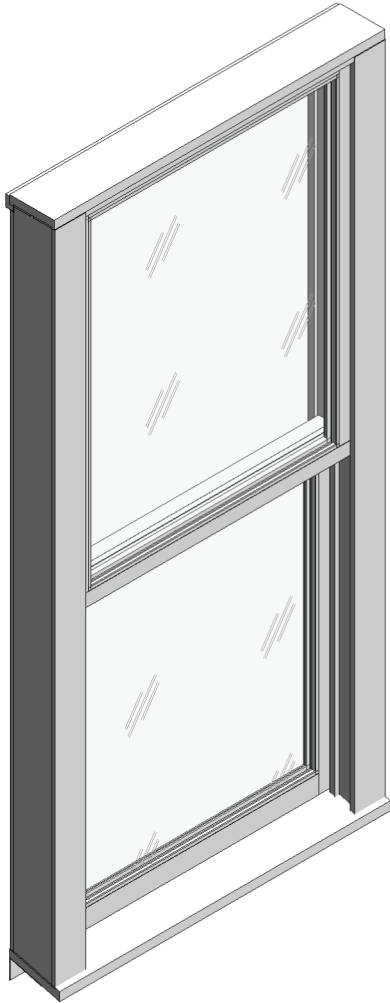
SHEET INDEX	
101	COVER PAGE
102	WINDOW ELEVATIONS
103	CONVERSION TO FIXED / SINGLE HUNG WINDOW
104	GLAZING DETAILS & LOADING CHART
105	EXTERIOR GLAZED UNIT- HEAD/SILL DETAILS
106	CHAIN AND WEIGHT UNIT- JAMB DETAILS
107	INTERIOR GLAZED UNIT- HEAD/SILL DETAIL
108	CHAIN AND WEIGHT UNIT- JAMB DETAILS
109	SPRING AND BALANCE UNIT- JAMB DETAIL
110	INTERLOCK DETAIL AND FRAME ASSEMBLY DETAIL
111	SIDE-BY-SIDE UNIT DETAIL
112	ALTERNATE ANCHORING
113	PARTS LIST
ADDITIONAL DETAILS: FOR SPECIAL SITE CONDITION, CONTACT HARTMAN WINDOWS AND DOORS, LLC. TO OBTAIN AUTOCAD/REVIT COMPATIBLE DETAILS OF THIS PRODUCT, KINDLY GET IN TOUCH WITH US BY SCANNING THE QR CODE PROVIDED BELOW OR CONTACTING US VIA OUR OFFICIAL EMAIL ADDRESS: CONTACT@JA-PE.COM. 	
NOTES: REFER TO GLASS LOADING CHARTS ON SHEET 104 FOR GLASS TYPE OPTIONS (TYP.) AND DESIGN PRESSURES	

HARTMAN WINDOWS & DOORS, LLC.

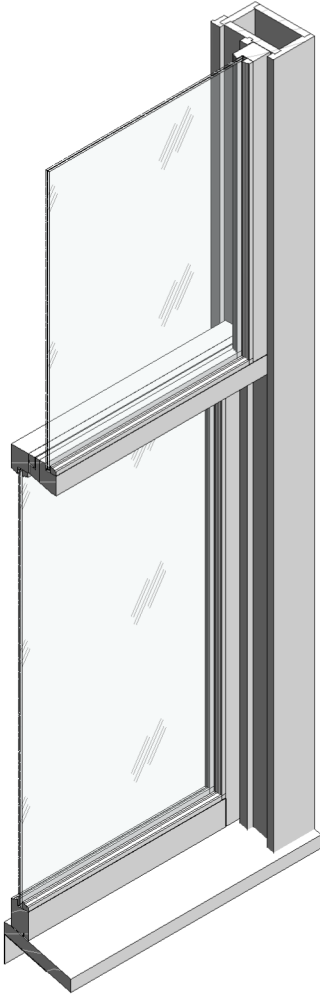
DOUBLE HUNG WINDOW

(LARGE AND SMALL MISSILE IMPACT RATED)

FL# 19151.1



ISOMETRIC VIEW



ISOMETRIC SECTIONAL VIEW

AVAILABLE WINDOW CONFIGURATIONS-

- CHAIN AND WEIGHT TYPE UNIT
- EXTERIOR GLAZED
 - INTERIOR GLAZED

- SPRING AND BALANCE UNIT
- EXTERIOR GLAZED

CONVERTED TO SINGLE HUNG WINDOW

CONVERTED TO FIXED WINDOW

- SIDE-BY-SIDE INSTALLATION
- CHAIN AND WEIGHT UNIT
 - SPRING AND BALANCE UNIT

GENERAL NOTES:

1. THIS SYSTEM PRESENTED HEREIN HAS UNDERGONE DESIGN AND TESTING IN FULL COMPLIANCE WITH THE FLORIDA BUILDING CODE EIGHTH EDITION (2023) AND IS INTENDED FOR USE BOTH WITHIN AND OUTSIDE THE HIGH-VELOCITY HURRICANE ZONE (HVHZ) PER TAS 201/202/203.
2. THE GLASS CAPACITIES SPECIFIED IN THE CHARTS OF THIS CERTIFICATION ARE BASED ON ASTM E1300-16, UTILIZING A 3-SECOND GUST WIND SCENARIO.
3. THE DESIGN PRESSURES OUTLINED IN THIS DOCUMENT ARE DERIVED FROM MAXIMUM TESTED PRESSURES AND INCORPORATE A 1.5 SAFETY FACTOR.
4. THE PRESSURES PROVIDED IN THIS CERTIFICATION ARE DETERMINED USING THE ALLOWABLE STRESS DESIGN METHOD (ASD).
5. THIS PRODUCT HAS BEEN RIGOROUSLY TESTED IN ACCORDANCE WITH THE STANDARDS DESCRIBED IN NOTE 1 OF THE GENERAL NOTES. IT IS CONFIRMED TO BE RESISTANT TO LARGE MISSILE IMPACT, THEREBY NOT NECESSITATING THE USE OF IMPACT-RESISTANT SHUTTERS.
6. THE DESIGN OF THIS SYSTEM DOES NOT INCORPORATE A 33-1/3% INCREASE IN ALLOWABLE STRESS. FOR WOOD ANCHOR DESIGN, A WIND LOAD DURATION FACTOR OF CD=1.6 HAS BEEN EMPLOYED.
7. THE ARCHITECT/ENGINEER OF RECORD RESPONSIBLE FOR THE PROJECT'S SUPERSTRUCTURE, WITH WHICH THIS DESIGN IS ASSOCIATED, SHALL ENSURE THE INTEGRITY OF ALL SUPPORTING SURFACES. COORDINATION WITH THE PERMITTING CONTRACTOR IS REQUIRED, AND PROPER ANCHORING OF WOOD BUCKS (BY OTHERS) MUST FACILITATE LOAD TRANSFER TO THE EXISTING STRUCTURE.

8. THE DETAILS OF THE SYSTEM PROVIDED HEREIN ARE OF A GENERIC NATURE AND DO NOT OFFER SPECIFIC SITE INFORMATION. FOR SITE CONDITIONS THAT DIFFER FROM THOSE SPECIFIED HERE, A LICENSED ENGINEER OR REGISTERED ARCHITECT MUST PREPARE SITE-SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS CERTIFICATION.
9. THE CONTRACTOR IS ACCOUNTABLE FOR INSULATING ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS (E.G., STEEL WITH ALUMINUM).
10. THE SUBSTITUTION OF FASTENERS DESCRIBED IN THIS CERTIFICATION IS PERMISSIBLE, PROVIDED THE ALTERNATIVE ANCHOR EXHIBITS STRENGTH EQUAL TO OR GREATER THAN THE ORIGINALLY SPECIFIED ANCHOR. FINAL APPROVAL OF SUBSTITUTED ANCHORS SHALL BE GRANTED BY RELEVANT AUTHORITIES.
11. THE WOOD SCREWS REFERENCED IN THIS CERTIFICATION MUST MEET A MINIMUM GRADE OF 2 (FU = 74,000 PSI).
12. FASTENERS MUST BE CADMIUM PLATED OR COMPOSED OF OTHERWISE CORROSION-RESISTANT MATERIAL, CONFORMING TO "SPECIFICATIONS FOR ALUMINUM STRUCTURES" AS OUTLINED IN SECTION J.3 OF THE CURRENT CODE BY THE ALUMINUM ASSOCIATION, INC., IN ADDITION TO ANY APPLICABLE FEDERAL, STATE, AND/OR LOCAL CODES.
13. THE ENGINEER'S SEAL AFFIXED HERE VALIDATES THE STRUCTURAL DESIGN AS PRESENTED SOLELY. ANY USE OF THIS SPECIFICATION BY THE CONTRACTOR OR OTHERS INDEMNIFIES AND SAVES THE ENGINEER HARMLESS FROM ALL COSTS AND DAMAGES, INCLUDING LEGAL FEES AND APPELLATE FEES

- ARISING FROM MATERIAL FABRICATION, SYSTEM ERECTION, AND CONSTRUCTION PRACTICES BEYOND THE SCOPE CALLED FOR BY LOCAL, STATE, AND FEDERAL CODES OR DEVIATIONS FROM THE PLAN.
14. NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED BEYOND WHAT IS EXPRESSLY PROVIDED IN THIS DOCUMENT.
15. ALTERATIONS, ADDITIONS, OR ANY MARKINGS TO THIS DOCUMENT ARE STRICTLY PROHIBITED AND WILL INVALIDATE THIS CERTIFICATION.
16. PROPER SAFETY MEASURES MUST BE OBSERVED DURING THE INSTALLATION AND USE OF THIS SYSTEM, EVEN THOUGH THEY ARE NOT EXPLICITLY LISTED IN THIS CERTIFICATION.
17. EACH PRODUCT SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF ONE LABEL PER SYSTEM, CONTAINING THE FOLLOWING REQUIRED INFORMATION:

HARTMAN WINDOWS AND DOORS, LLC
2107 WEST BLUE HERON BLVD
WEST PALM BEACH, FLORIDA 33404
TAS 201/202/203
APPROVED BY FLORIDA BUILDING COMMISSION
FLORIDA PRODUCT APPROVAL NUMBER FL# 19151.1

THIS PRODUCT IS APPROVED FOR IMPACT RESISTANCE LEVEL 'D'.



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DOUBLE HUNG WINDOW

(LARGE AND SMALL MISSILE IMPACT RATED)

HARTMAN WINDOWS & DOORS, LLC.

2107 W. BLUE HERON BOULEVARD

WEST PALM BEACH, FL 33404

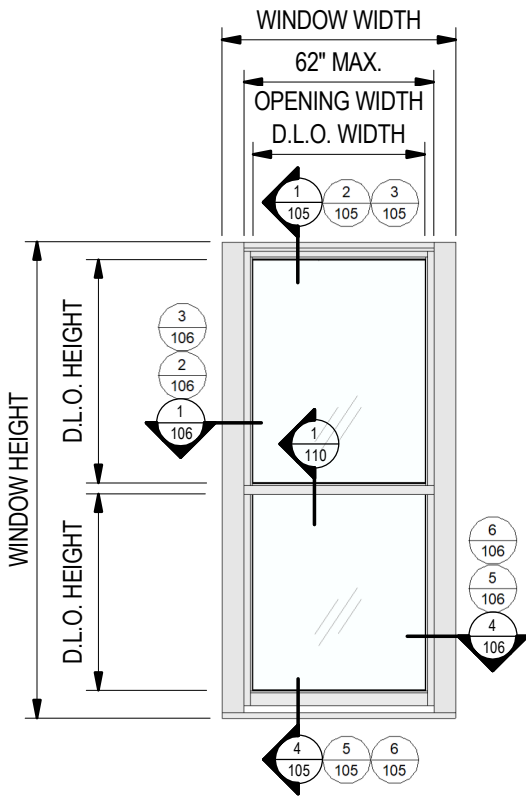
TELEPHONE: (561) 296-9600

FAX: (561) 296-9601

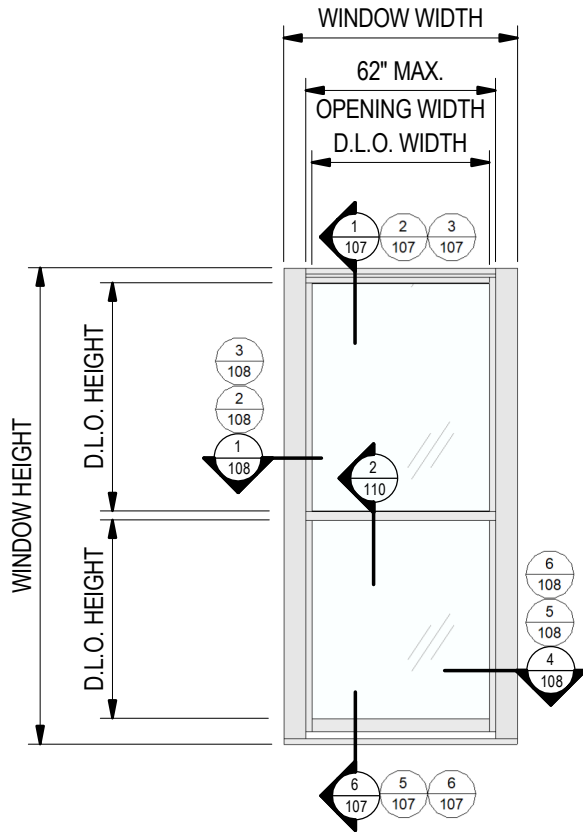
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date:	04-15-24					No.	DATE	BY	DESCRIPTION



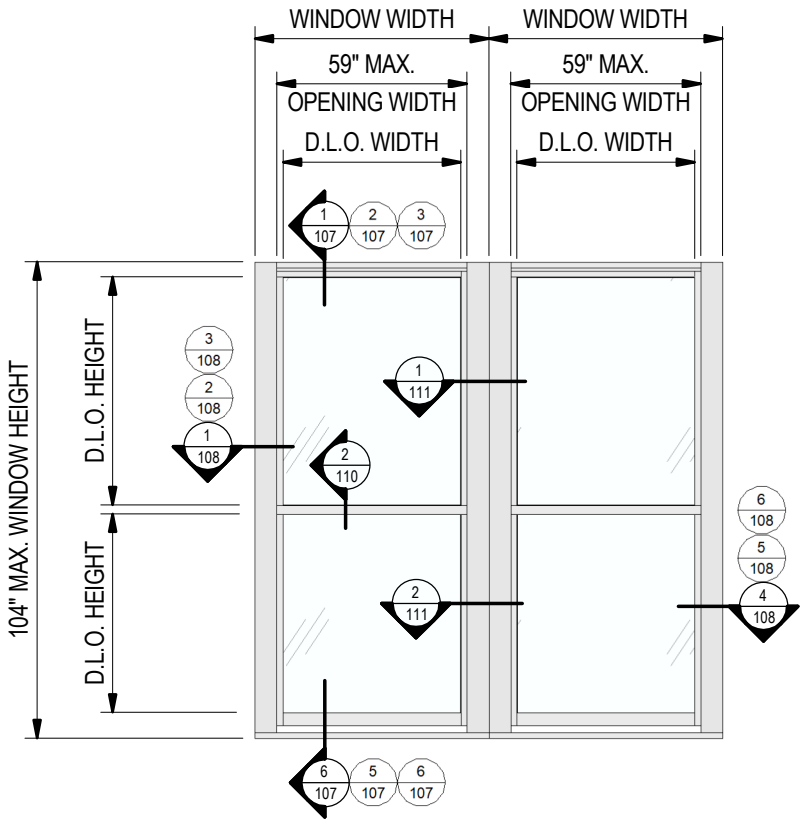
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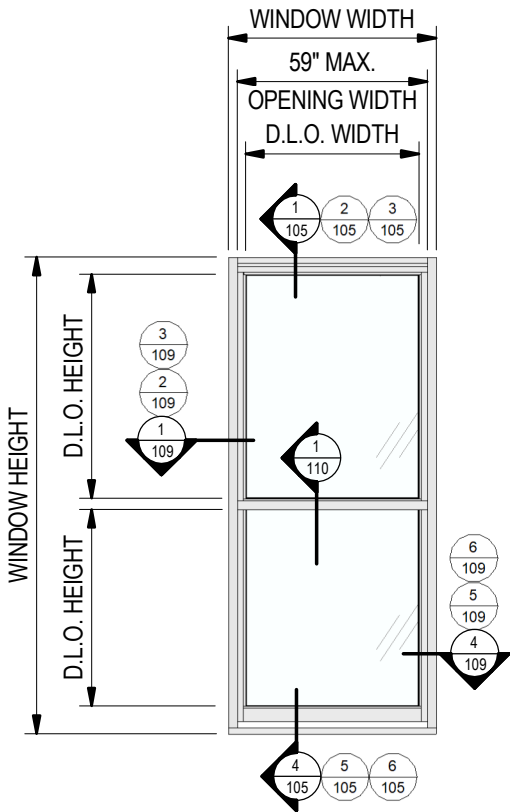
1
102
TYPICAL ELEVATION- EXTERIOR GLAZED
"CHAIN AND WEIGHT" UNIT



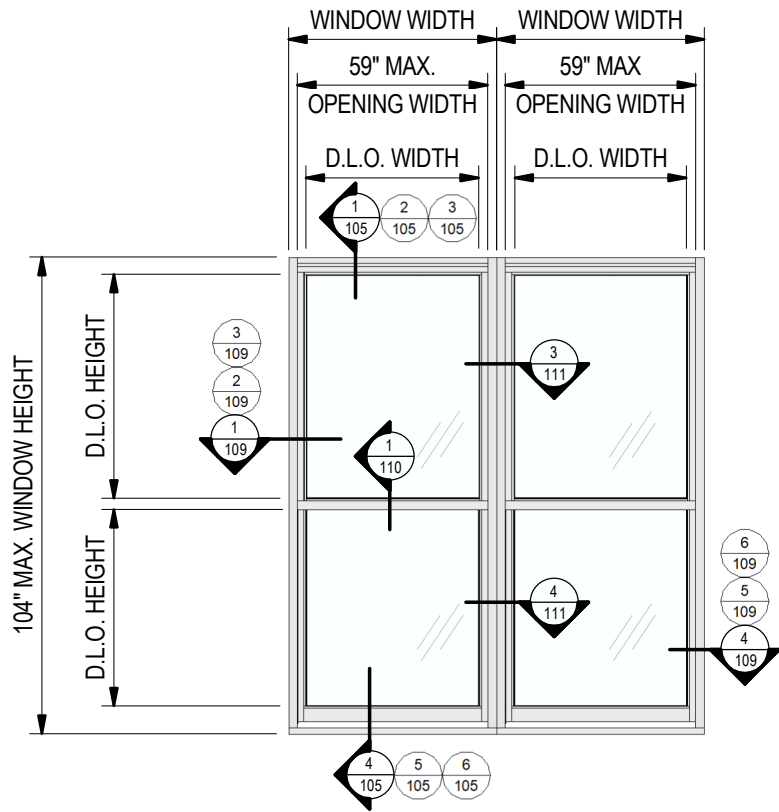
2
102
TYPICAL ELEVATION- INTERIOR GLAZED
"CHAIN AND WEIGHT" UNIT



3
102
TYPICAL ELEVATION- JAMB TO JAMB INTERIOR GLAZED
"CHAIN AND WEIGHT" UNIT



4
102
TYPICAL ELEVATION- EXTERIOR GLAZED
"SPRING AND BALANCE" UNIT



5
102
TYPICAL ELEVATION- JAMB TO JAMB EXTERIOR GLAZED
"SPRING AND BALANCE" UNIT

NOTE:
THIS PRODUCT CAN BE CONVERTED INTO A SINGLE HUNG WINDOW AND/OR A FIXED WINDOW PROVIDED THE FOLLOWING CRITERIA HAVE BEEN MET:

- ANCHORING INSTRUCTIONS SHALL BE FOLLOWED AS PER SHEET 112.
- HARDWARE AND LOCKS SHALL NOT BE MODIFIED, AND SHALL REMAIN THE SAME AS SPECIFIED IN THE DOUBLE HUNG WINDOW.



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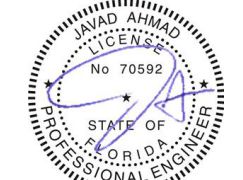
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DOUBLE HUNG WINDOW

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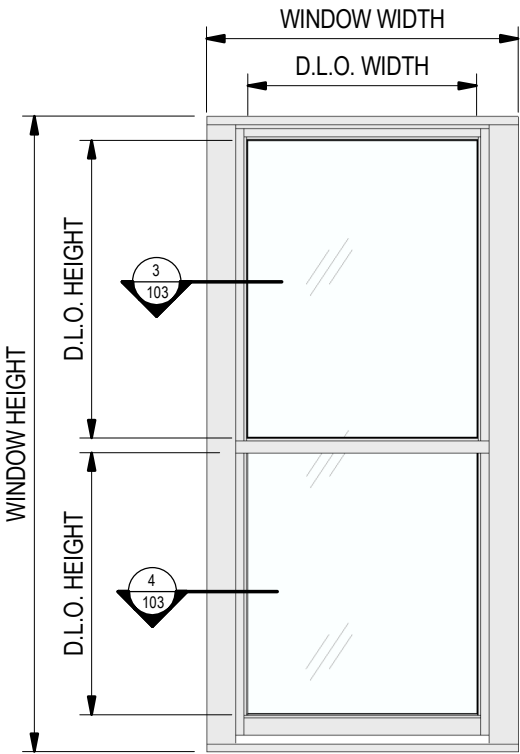
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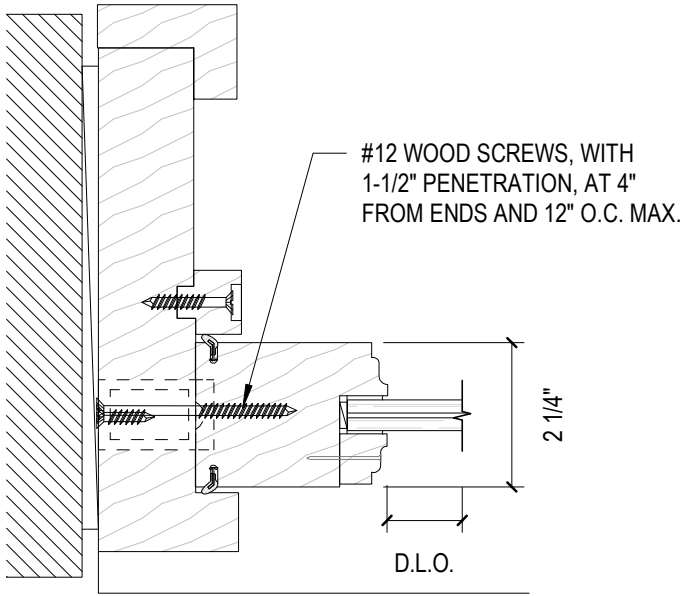
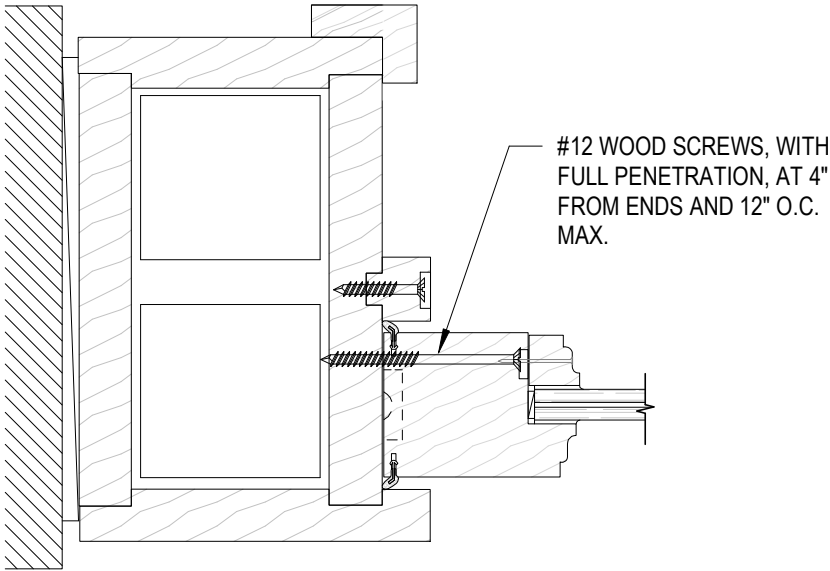
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CONVERSION TO FIXED / SINGLE HUNG WINDOW

FL# 19151.1

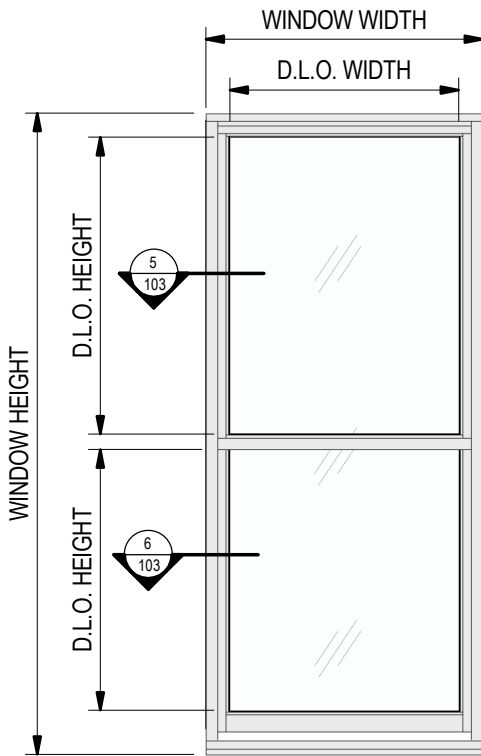


3
103 JAMB DETAIL 1- UPPER PANE FIXED
"CHAIN AND WEIGHT" UNIT

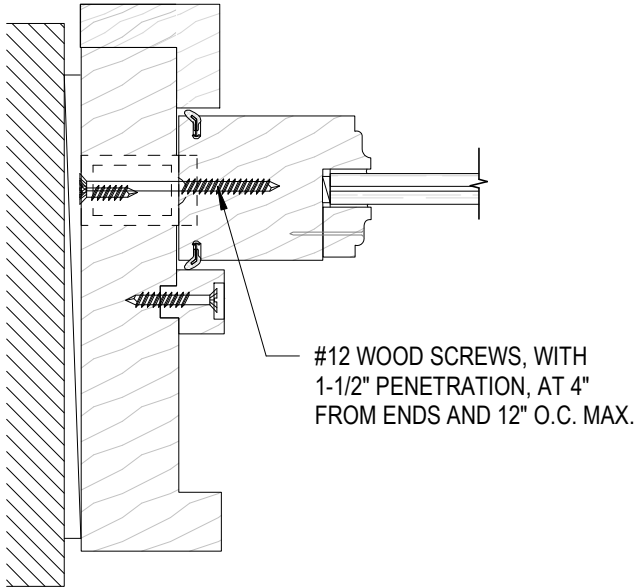
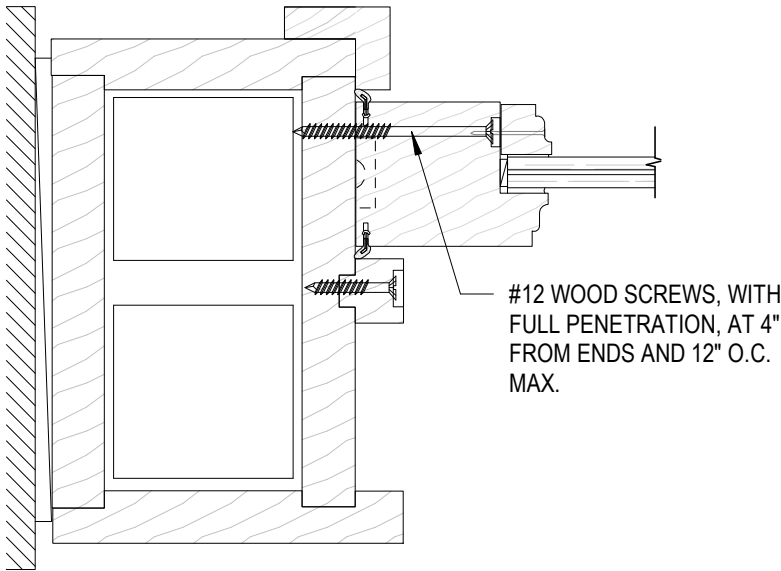


5
103 JAMB DETAIL 3- UPPER PANE FIXED
"SPRING AND BALANCE" UNIT

1
103 CONVERSION TO SINGLE HUNG / FIXED WINDOW
"CHAIN AND WEIGHT" UNIT



4
103 JAMB DETAIL 2- LOWER PANE FIXED
"CHAIN AND WEIGHT" UNIT



6
103 JAMB DETAIL 4- LOWER PANE FIXED
"SPRING AND BALANCE" UNIT

NOTE:

CONVERSION TO SINGLE HUNG WINDOW-

- CHAIN AND WEIGHT UNIT- FIX THE UPPER PANE AS PER DETAIL 3/103
- SPRING AND BALANCE UNIT- FIX THE UPPER PANE AS PER DETAIL 5/103

CONVERSION TO FIXED WINDOW-

- CHAIN AND WEIGHT UNIT- FIX THE UPPER PANE AS PER DETAIL 3/103, AND LOWER PANE AS PER DETAIL 4/103
- SPRING AND BALANCE UNIT- FIX THE UPPER PANE AS PER DETAIL 5/103, AND LOWER PANE AS PER DETAIL 6/103

2
103 CONVERSION TO SINGLE HUNG / FIXED WINDOW
"SPRING AND BALANCE" UNIT



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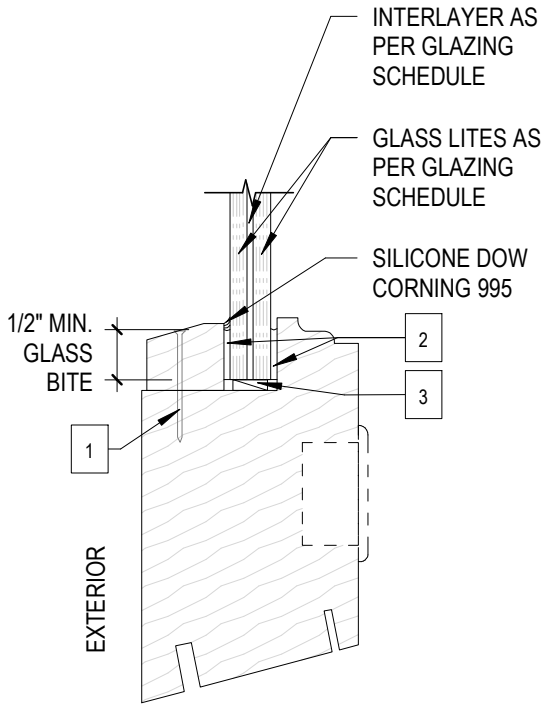
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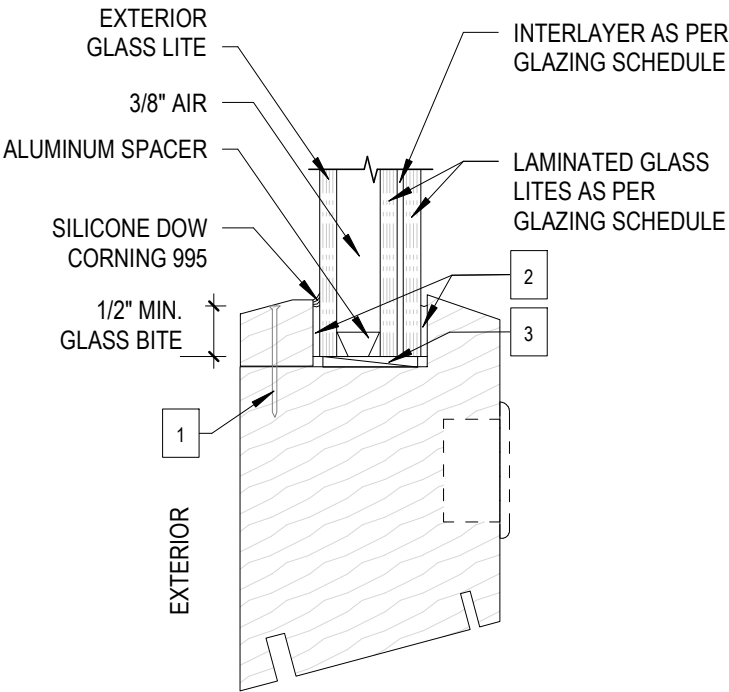
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103

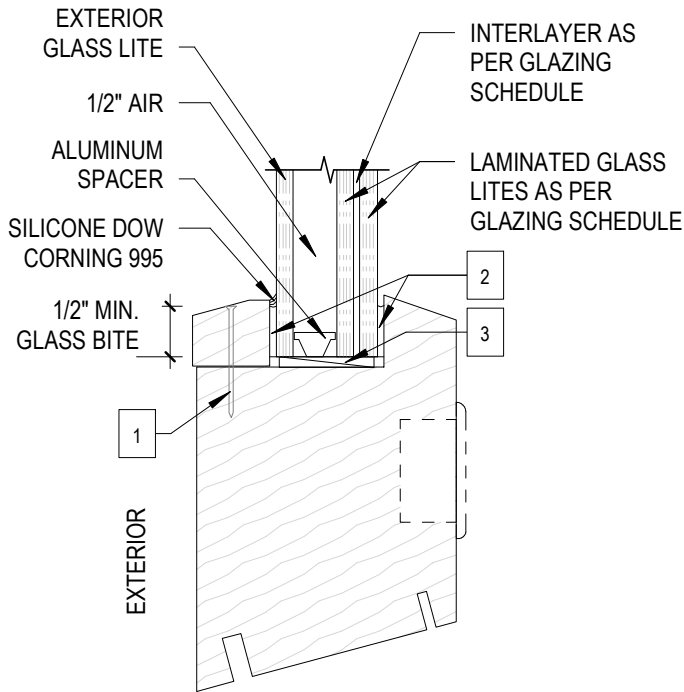
103 OF 113



1
104 GLAZING DETAIL FOR GLASS TYPE A,B,C,D,E,F
6" = 1'-0"



2
104 GLAZING DETAIL FOR GLASS TYPE HI, II
6" = 1'-0"



3
104 GLAZING DETAIL FOR GLASS TYPE GI, JI
6" = 1'-0"

- 1 18 GA. X 1-1/2" BRAD NAILS AT 3" FROM ENDS AND 8" O.C. MAX.
- 2 GLAZING TAPE 1/16" X 1/2" NORTON HPF970
- 3 NEOPRENE SETTING BLOCK 80 + / - 5 DUROMETER AT 1/4 POINTS

GLAZING SCHEDULE

GLASS TYPE	LAMINATED GLASS LITE	INTERLAYER	REF. DETAIL
A	3/16" ANNEALED GLASS	0.09" PVB INTERLAYER	
B	3/16" HEAT STREN'D GLASS	0.09" PVB INTERLAYER	
C	3/16" HEAT STREN'D GLASS	0.09" SENTRYGLAS INTERLAYER	
D	3/16" ANNEALED GLASS	0.09" SENTRYGLAS INTERLAYER	1/ 104
E	1/4" HEAT STREN'D GLASS	0.09" SENTRYGLAS INTERLAYER	
F	1/4" HEAT STREN'D GLASS	0.075" PVB INTERLAYER	

GLASS TYPE	EXTERIOR GLASS LITE	LAMINATED GLASS LITE	INTERLAYER	REF. DETAIL
GI	1/4" TEMPERED GLASS	3/16" HEAT STREN'D GLASS	0.075" PVB INTERLAYER	3/ 104
HI	1/4" TEMPERED GLASS	1/8" ANNEALED GLASS	0.09" SENTRYGLAS INTERLAYER	2/ 104
II	1/4" TEMPERED GLASS	1/4" HEAT STREN'D GLASS	0.09" SENTRYGLAS INTERLAYER	2/ 104
JI	3/16" TEMPERED GLASS	3/16" HEAT STREN'D GLASS	0.09" SENTRYGLAS INTERLAYER	3/ 104

LOADING CHART FOR DOUBLE HUNG WINDOW- PRESSURES IN PSF (ASD)

GLASS TYPES: A, B, C, D, E, F, GI, HI, II, JI					
WIDTH (IN.)	WINDOW HEIGHT (IN.)				
	24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96	102	108	114	120
24	+ / - 60	+ / - 60	+ / - 60	+ / - 60	+ / - 60
30	+ / - 60	+ / - 60	+ / - 60	+ / - 60	+ / - 60
36	+ / - 60	+ / - 60	+ / - 60	+ / - 60	+ / - 60
42	+ / - 60	+ / - 60	+ / - 60	+ / - 60	+ / - 60
48	+ / - 60	+ / - 60	+ / - 60	+ / - 60	+ / - 54
54	+ / - 60	+ / - 60	+ / - 60	+ / - 54	0
60	+ / - 60	+ / - 60	0	0	0
62	+ / - 60	+ / - 59	0	0	0



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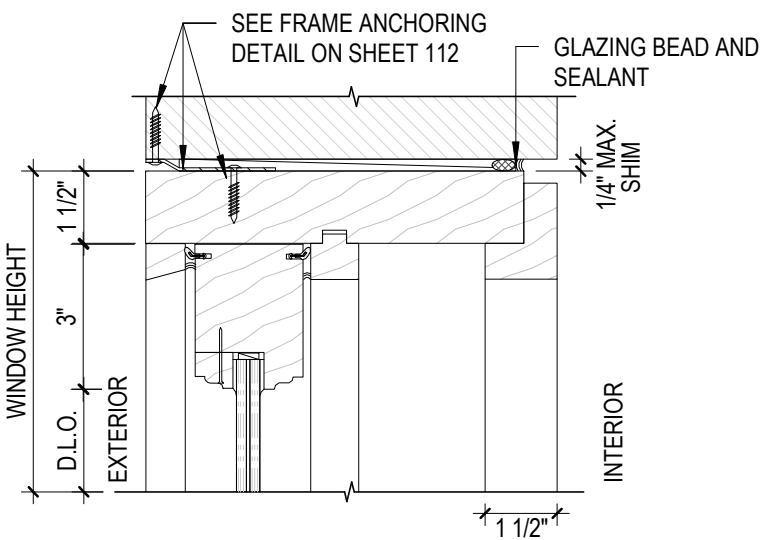
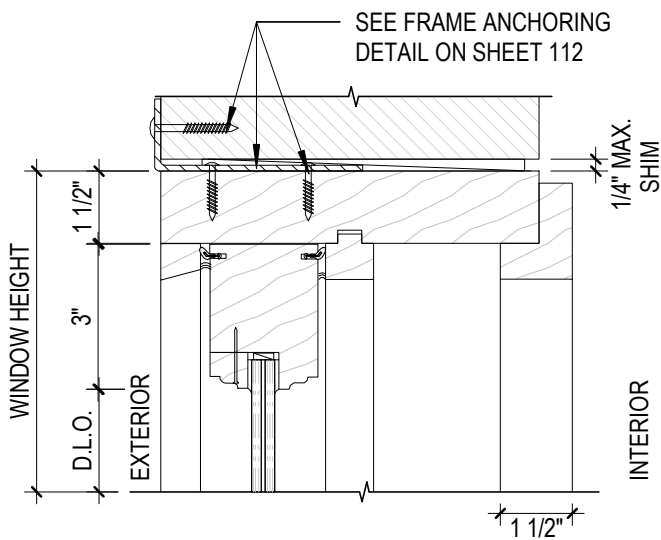
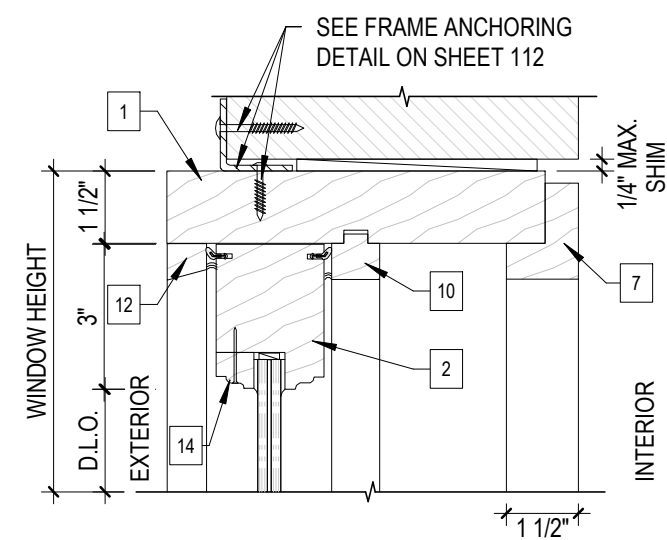
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DATE	No.



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EXTERIOR GLAZED UNIT- HEAD/SILL DETAILS

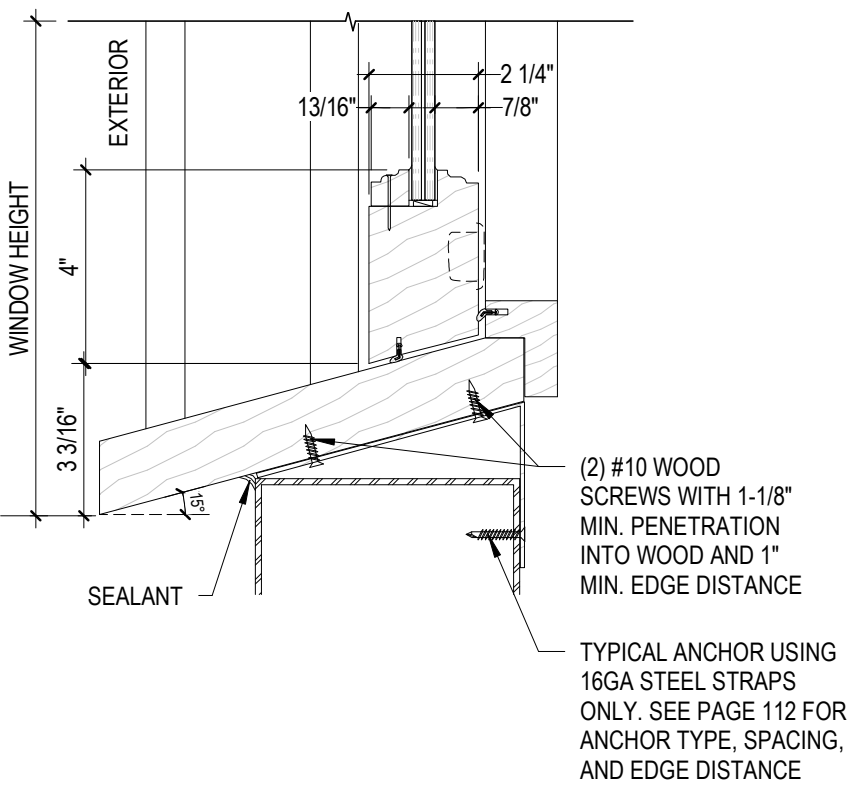
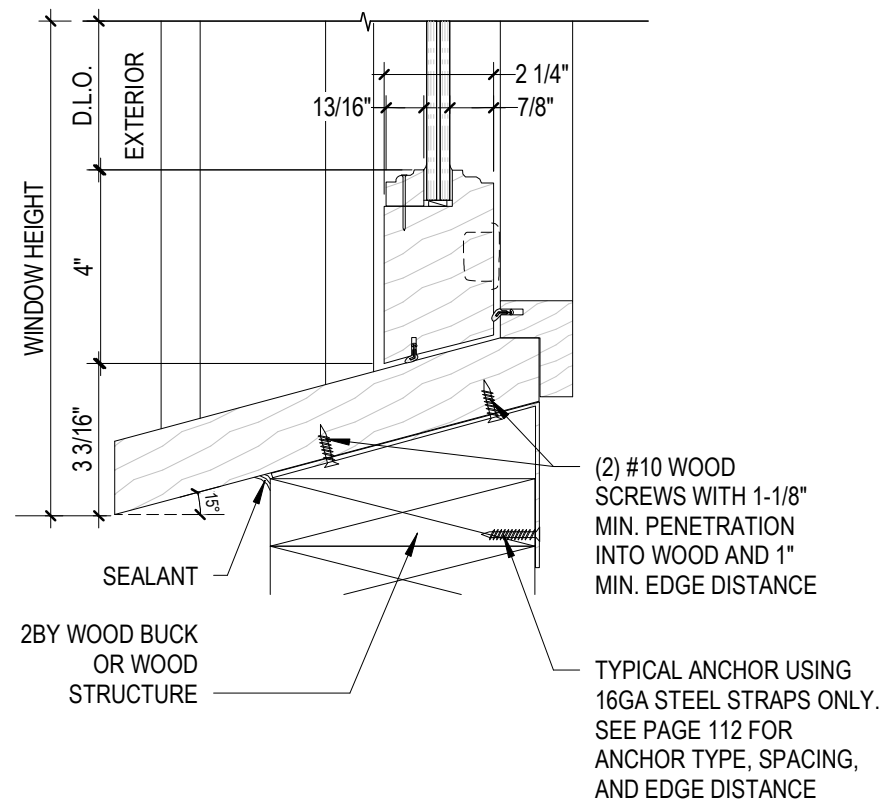
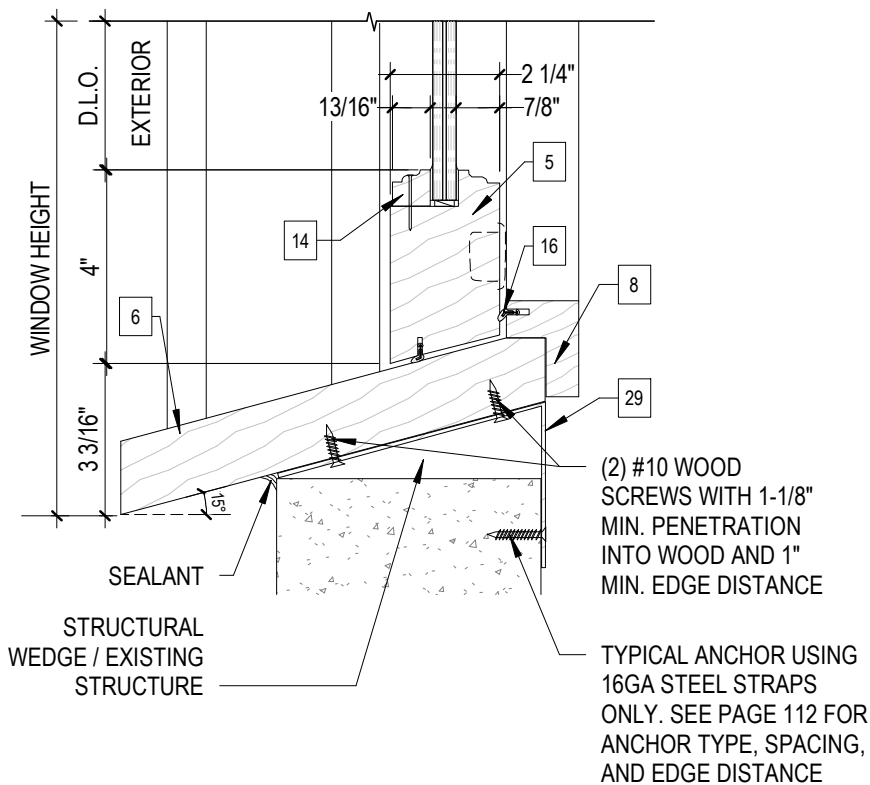
FL# 19151.1



1 HEAD DETAIL- ALUMINUM ANGLE-1
105 N.T.S.

2 HEAD DETAIL-CS16Z STEEL STRAP-1
105 N.T.S.

3 HEAD DETAIL-STEEL "Z" CLIP-1
105 N.T.S.



4 SILL DETAIL- CONCRETE / MASONRY SUBSTRATE
105 N.T.S.

5 SILL DETAIL- WOODEN SUBSTRATE
105 N.T.S.

6 SILL DETAIL- METAL SUBSTRATE
105 N.T.S.

NOTES:

- ALL STRAPS, CLIPS AND ANGLES CAN BE MIXED & MATCHED WITH ALL DIFFERENT SUBSTRATES.
- EXAMPLES SHOWN HEREIN ARE A SAMPLE REPRESENTATION OF THE DIFFERENT ATTACHMENT METHODS. SEE SHEET 112 FOR ALL QUALIFIED SUBSTRATES & ANCHOR TYPES.
- REFER TO GLASS LOADING CHARTS FOR GLASS TYPE OPTIONS (TYP.)

NOTES:

- THE ALTERNATIVE ACHORAGE STEEL STRAP ALUMINUM ANGLE "Z" CLIP CAN BE MOUNTED IN EXTERIOR OR INTERIOR AS PER REQUIREMENT AS SHOWN IN DETAIL ABOVE PAGE 105 AND 107



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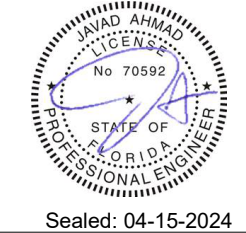
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DOUBLE HUNG WINDOW

(LARGE AND SMALL MISSILE IMPACT RATED)

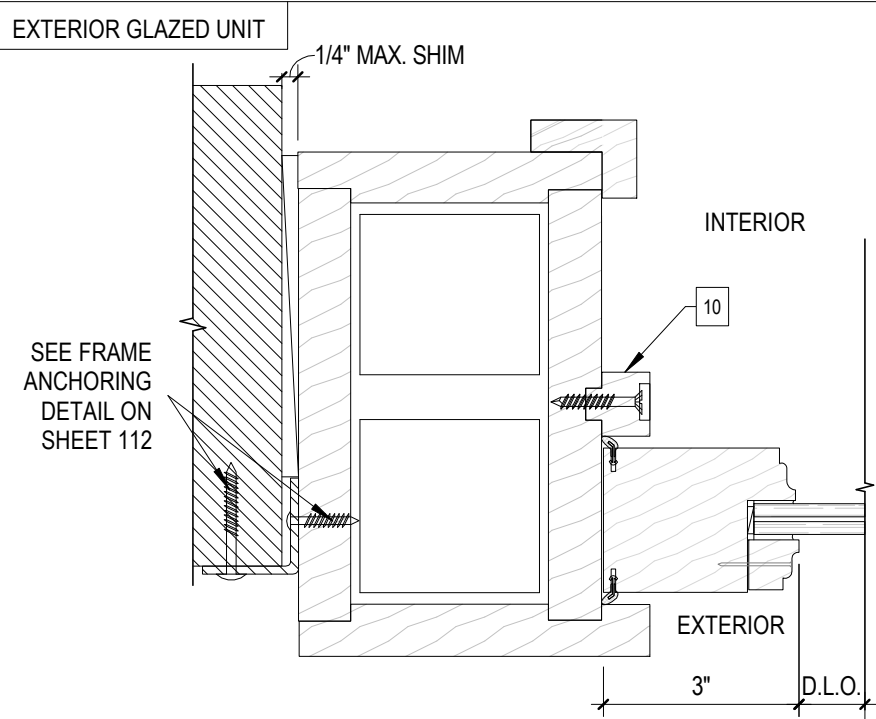
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drawn by:	BS	check by:	BVS			

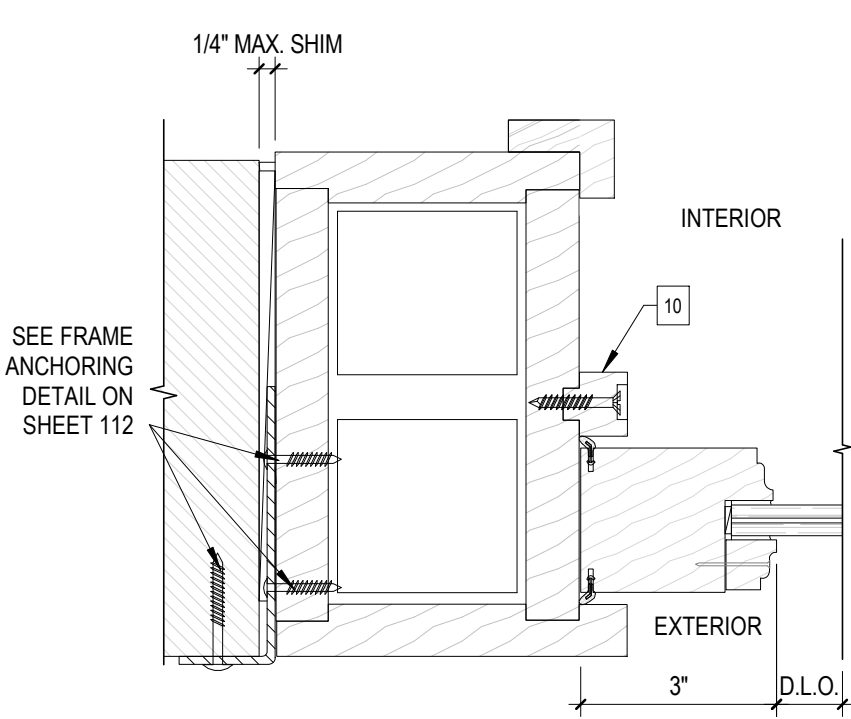


CHAIN AND WEIGHT UNIT- JAMB DETAILS

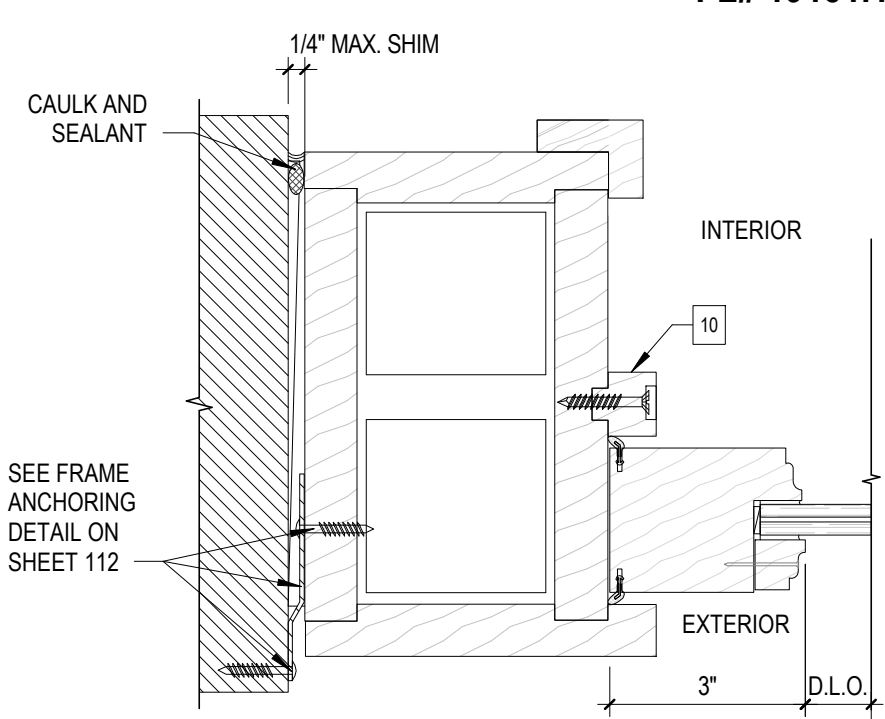
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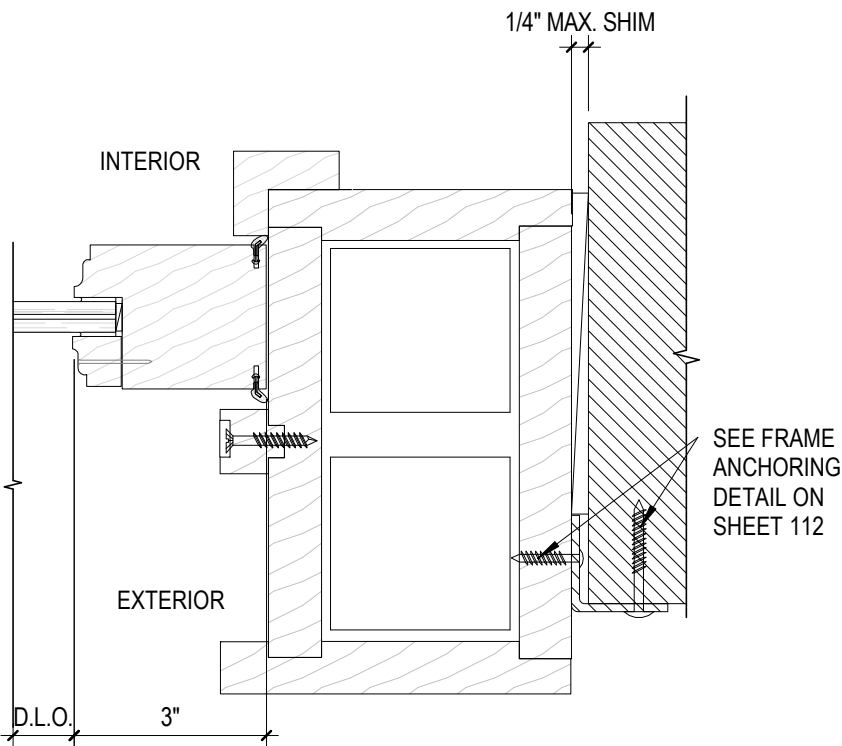
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106 JAMB DETAIL- ALUMINUM ANGLE-1
N.T.S.



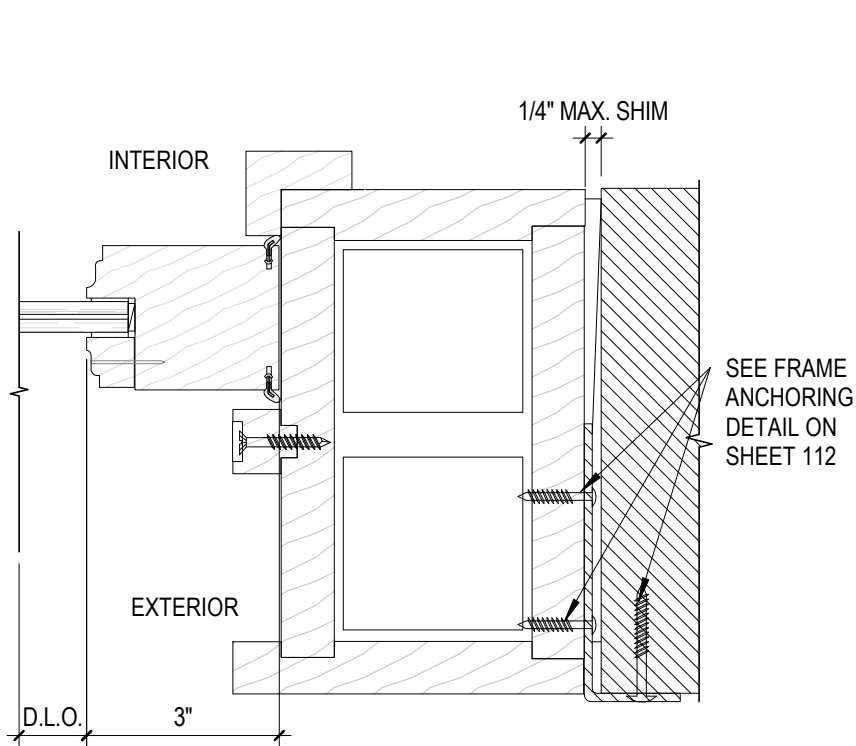
2
106 JAMB DETAIL-CS16Z STEEL STRAP-1
N.T.S.



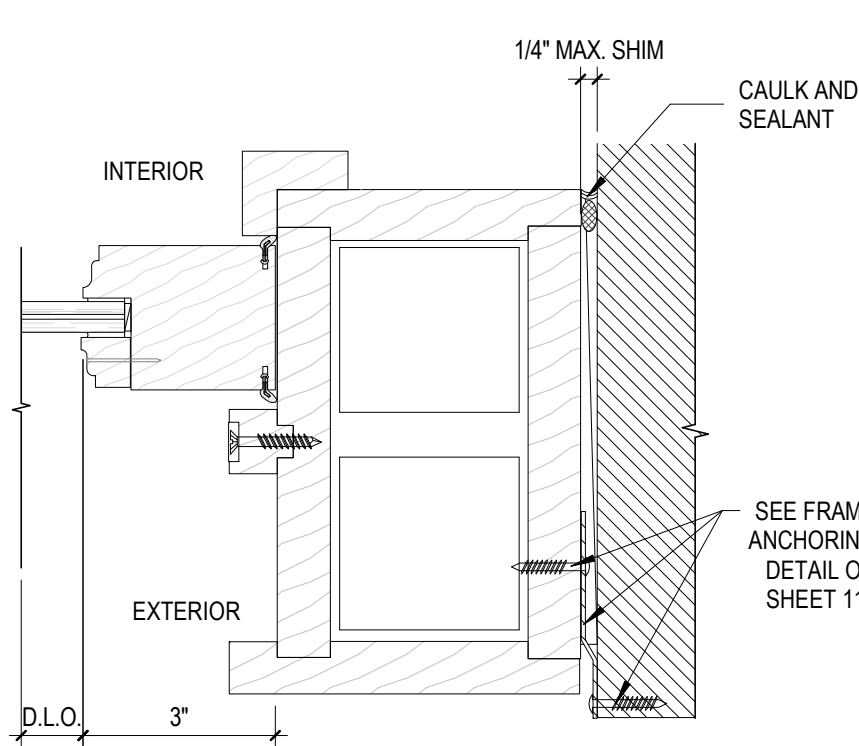
3
106 JAMB DETAIL-STEEL "Z" CLIP-1
N.T.S.



4
106 JAMB DETAIL- ALUMINUM ANGLE-2
N.T.S.



5
106 JAMB DETAIL-CS16Z STEEL STRAP-2
N.T.S.



6
106 JAMB DETAIL-STEEL "Z" CLIP-2
N.T.S.

NOTES:

- ALL STRAPS, CLIPS AND ANGLES CAN BE MIXED & MATCHED WITH ALL DIFFERENT SUBSTRATES.
- EXAMPLES SHOWN HEREIN ARE A SAMPLE REPRESENTATION OF THE DIFFERENT ATTACHMENT METHODS. SEE SHEET 112 FOR ALL QUALIFIED SUBSTRATES & ANCHOR TYPES.
- REFER TO GLASS LOADING CHARTS FOR GLASS TYPE OPTIONS (TYP.)

NOTES:

- THE ALTERNATIVE ACHORAGE STEEL STRAP ALUMINUM ANGLE "Z" CLIP CAN BE MOUNTED IN EXTERIOR OR INTERIOR AS PER REQUIREMENT AS SHOWN IN DETAIL ABOVE PAGE 106 AND 108



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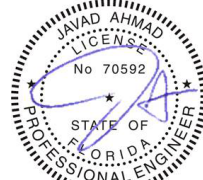
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DOUBLE HUNG WINDOW

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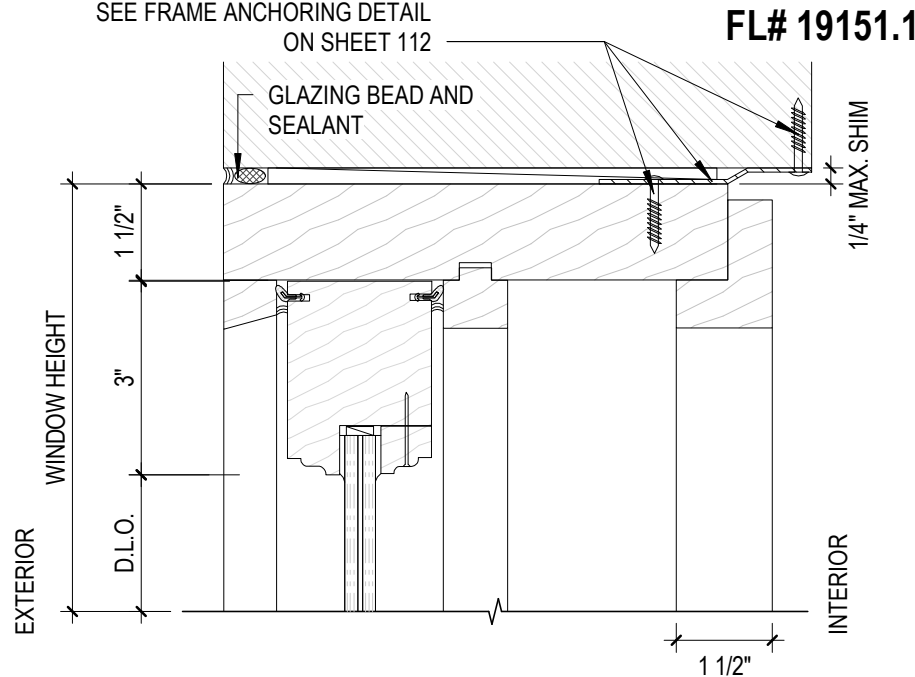
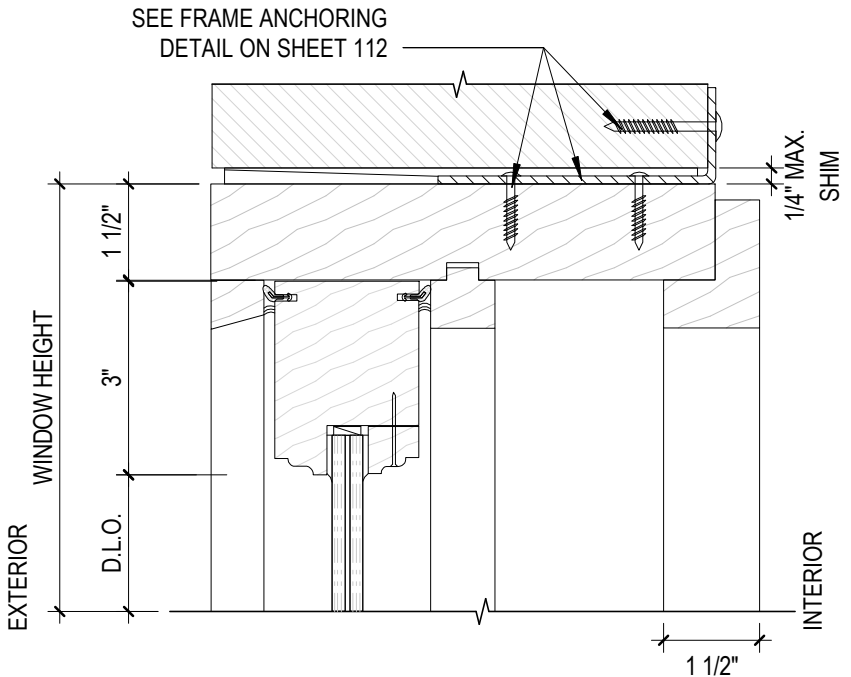
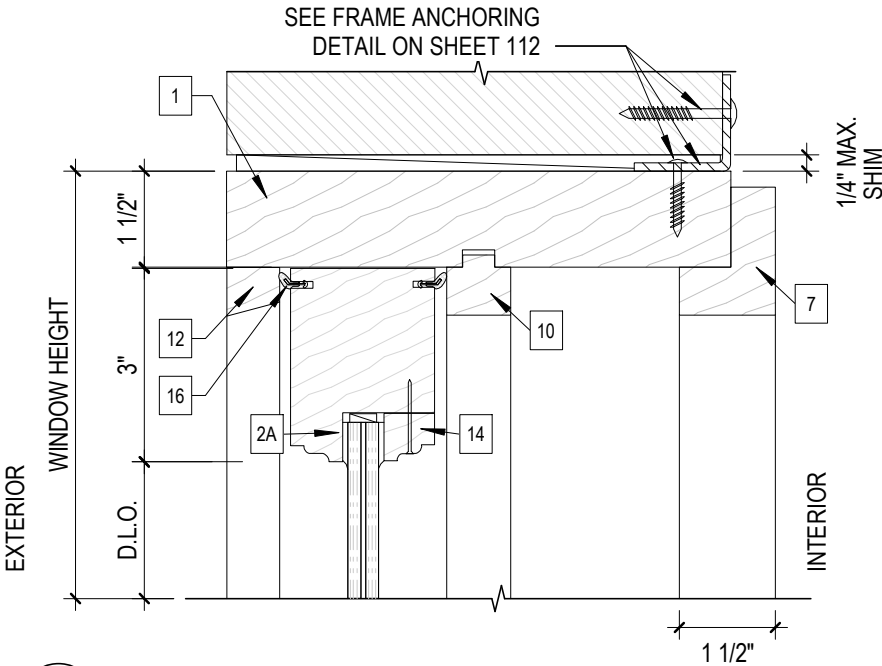
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			DATE	DESCRIPTION
JA-1425-23	04-15-24	1		
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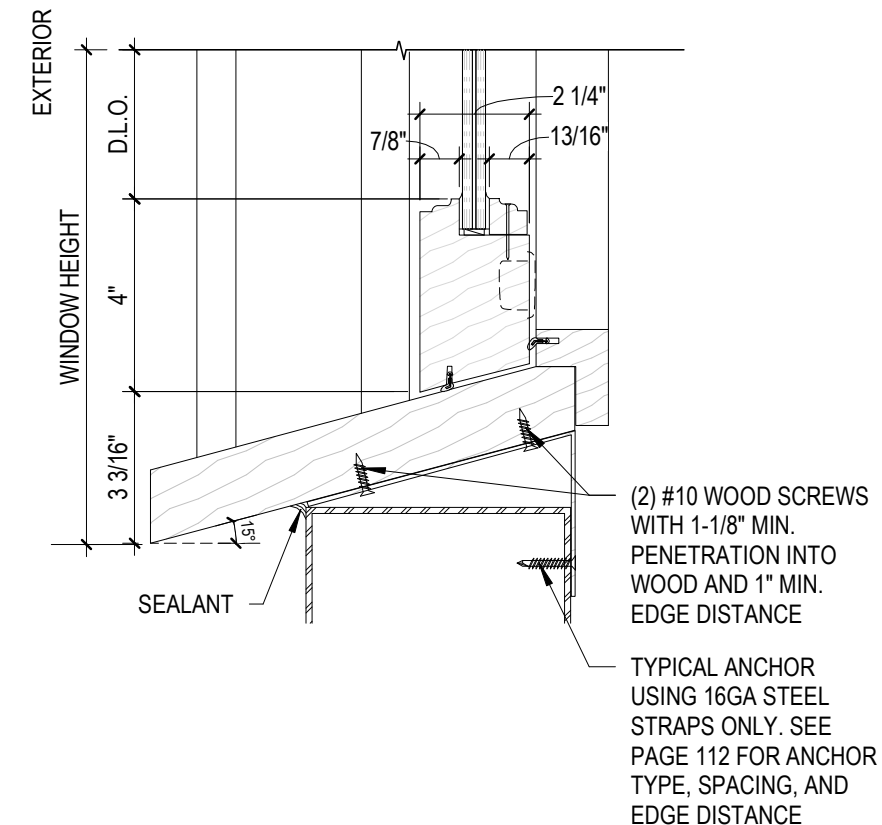
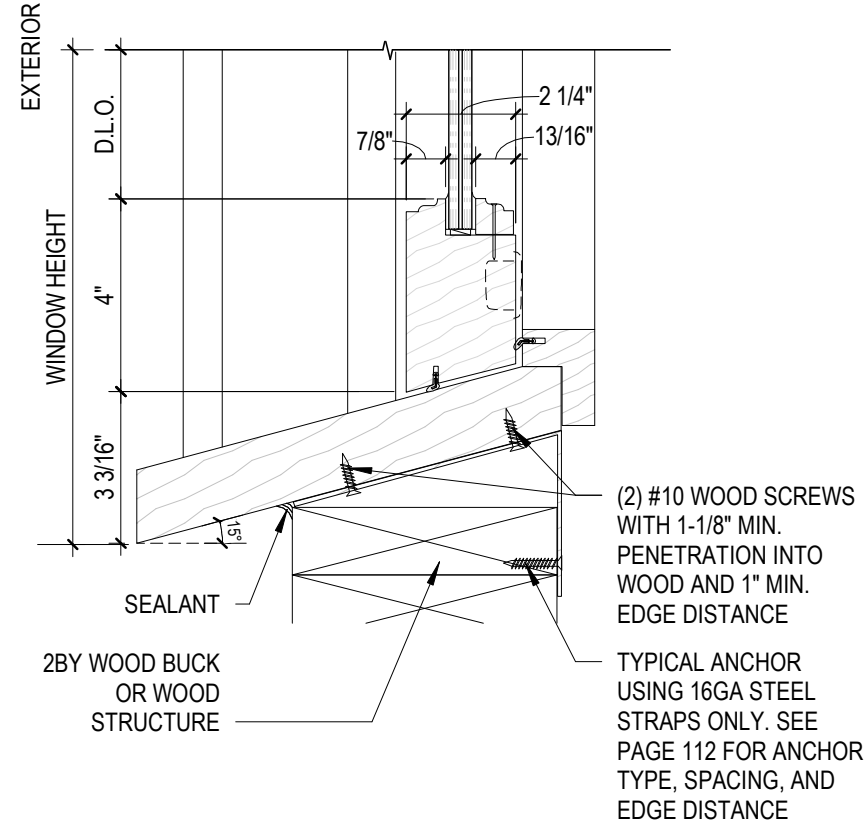
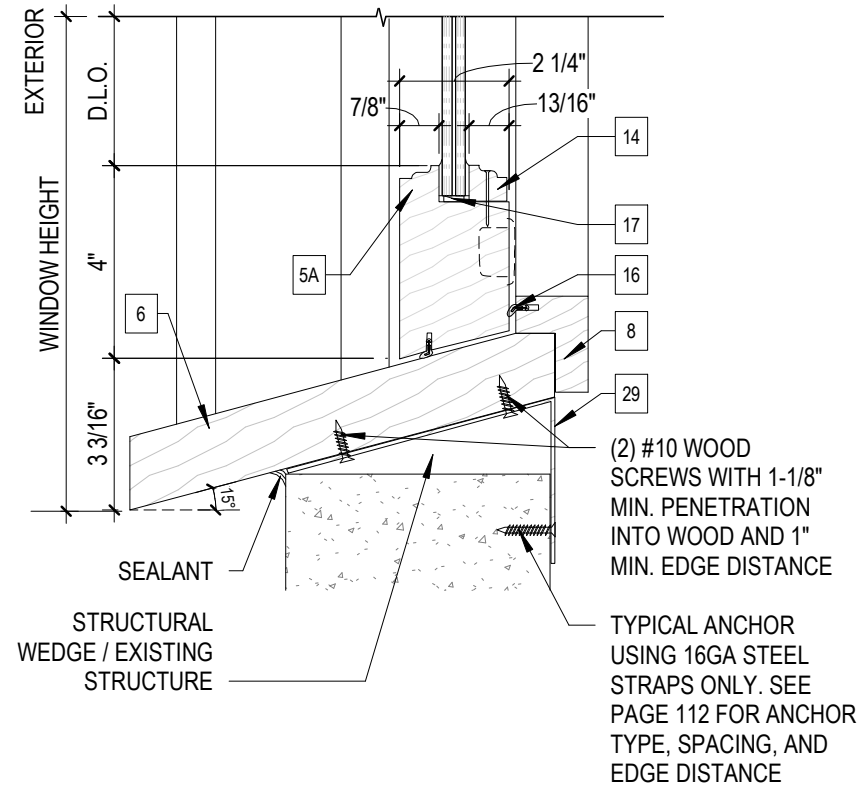
INTERIOR GLAZED UNIT- HEAD/SILL DETAIL



1
107 HEAD DETAIL-ALUMINUM ANGLE -2
N.T.S.

2
107 HEAD DETAIL-CS16Z STEEL STRAP-2
N.T.S.

3
107 HEAD DETAIL- STEEL "Z" CLIP-2
N.T.S.



4
107 SILL DETAIL-CONCRETE SUBSTRATE
N.T.S.

5
107 SILL DETAIL-WOODEN SUBSTRATE
N.T.S.

6
107 SILL DETAIL-METAL SUBSTRATE
N.T.S.

NOTES:

- ALL STRAPS, CLIPS AND ANGLES CAN BE MIXED & MATCHED WITH ALL DIFFERENT SUBSTRATES.
- EXAMPLES SHOWN HEREIN ARE A SAMPLE REPRESENTATION OF THE DIFFERENT ATTACHMENT METHODS. SEE SHEET 112 FOR ALL QUALIFIED SUBSTRATES & ANCHOR TYPES.
- REFER TO GLASS LOADING CHARTS FOR GLASS TYPE OPTIONS (TYP.)

NOTES:

- THE ALTERNATIVE ACHORAGE STEEL STRAP ALUMINUM ANGLE "Z" CLIP CAN BE MOUNTED IN EXTERIOR OR INTERIOR AS PER REQUIREMENT AS SHOWN IN DETAILS ABOVE PAGE 105 AND 107



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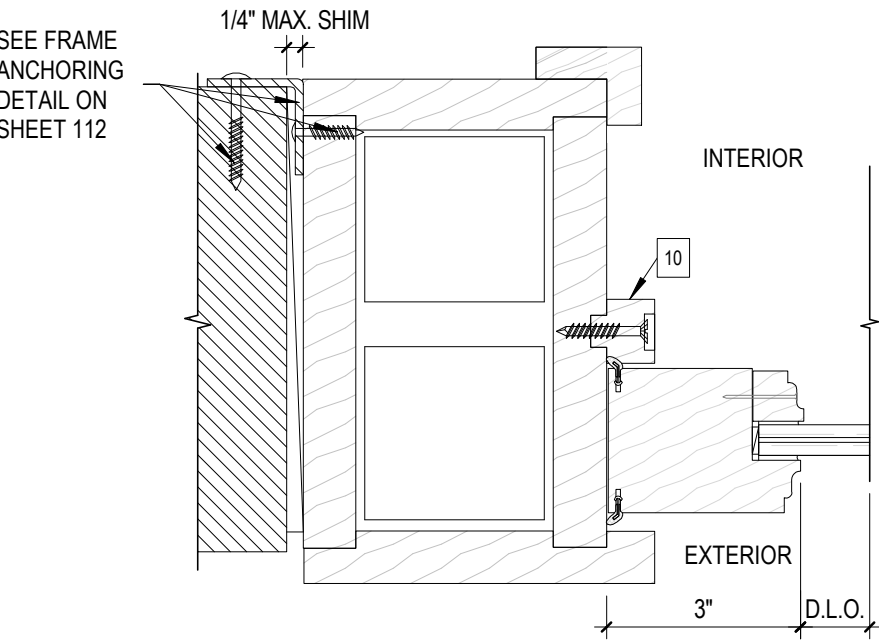
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date:	04-15-24	No.	DATE	BY	DESCRIPTION				



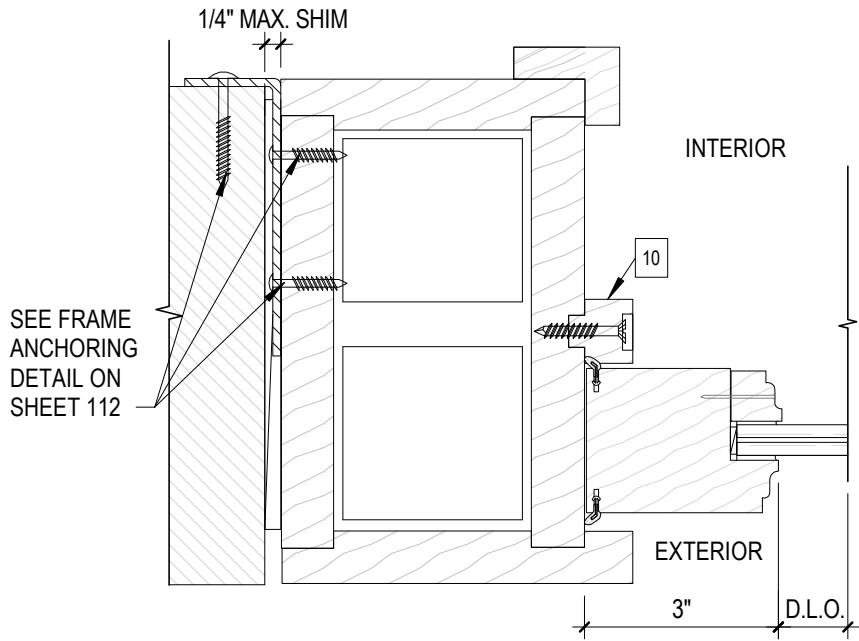
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CHAIN AND WEIGHT UNIT- JAMB DETAILS

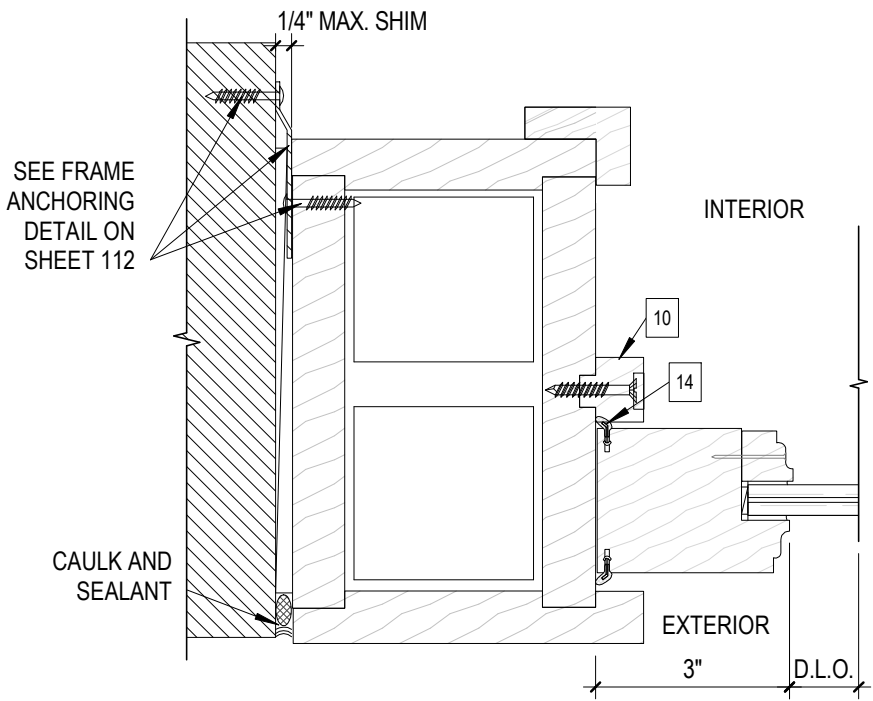
INTERIOR GLAZED UNIT



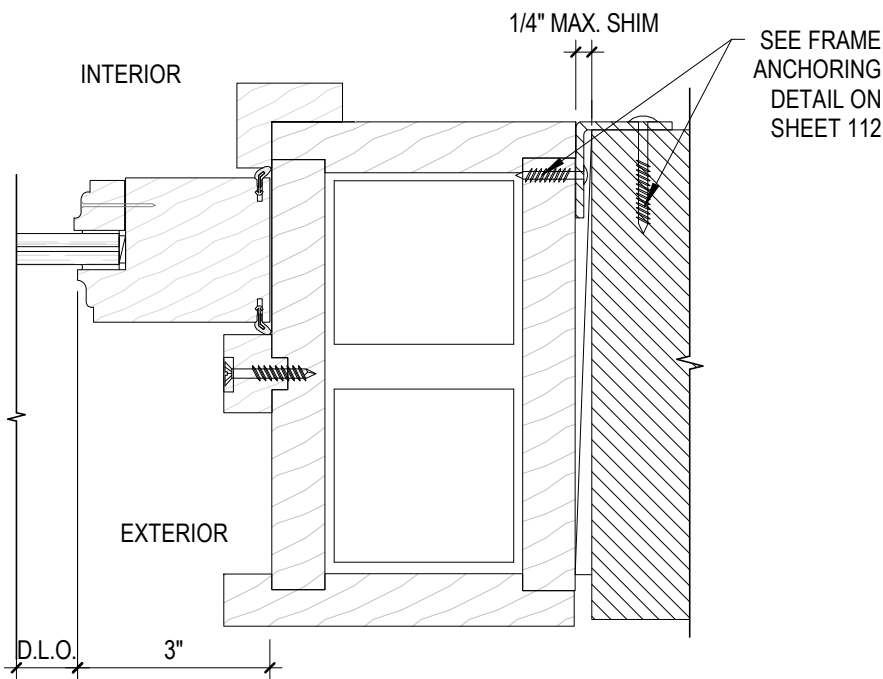
1 JAMB DETAIL-ALUMINUM ANGLE-3
108 N.T.S.



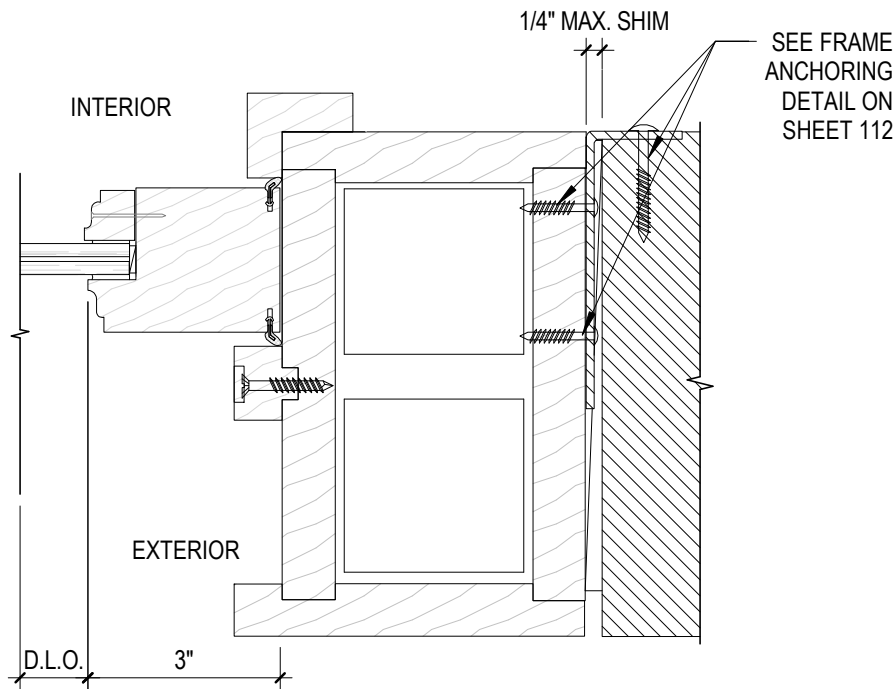
2 JAMB DETAIL-CS16Z STEEL STRAP-3
108 N.T.S.



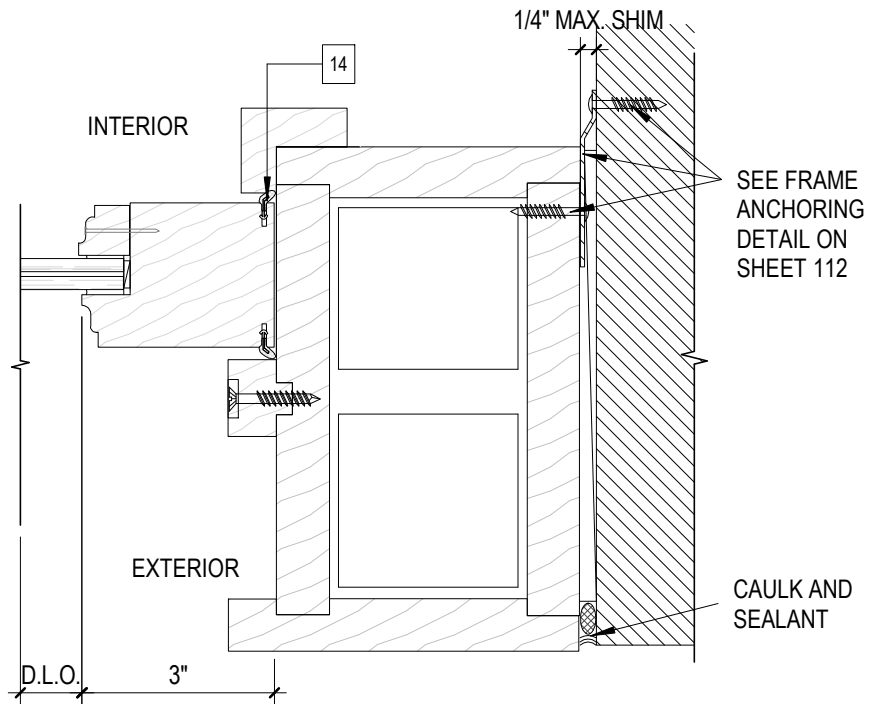
3 JAMB DETAIL-STEEL "Z" CLIP-3
108 N.T.S.



4 JAMB DETAIL-ALUMINUM ANGLE-4
108 N.T.S.



5 JAMB DETAIL-CS16Z STEEL STRAP-4
108 N.T.S.



6 JAMB DETAIL-STEEL "Z" CLIP-4
108 N.T.S.

NOTES:

- ALL STRAPS, CLIPS AND ANGLES CAN BE MIXED & MATCHED WITH ALL DIFFERENT SUBSTRATES.
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- REFER TO GLASS LOADING CHARTS FOR GLASS TYPE OPTIONS (TYP.)

NOTES:

- THE ALTERNATIVE ACHORAGE STEEL STRAP ALUMINUM ANGLE "Z" CLIP CAN BE MOUNTED IN EXTERIOR OR INTERIOR AS PER REQUIREMENT AS SHOWN IN DETAIL ABOVE PAGE 106 AND 108

FL# 19151.1



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No.	DATE	BY	DESCRIPTION	

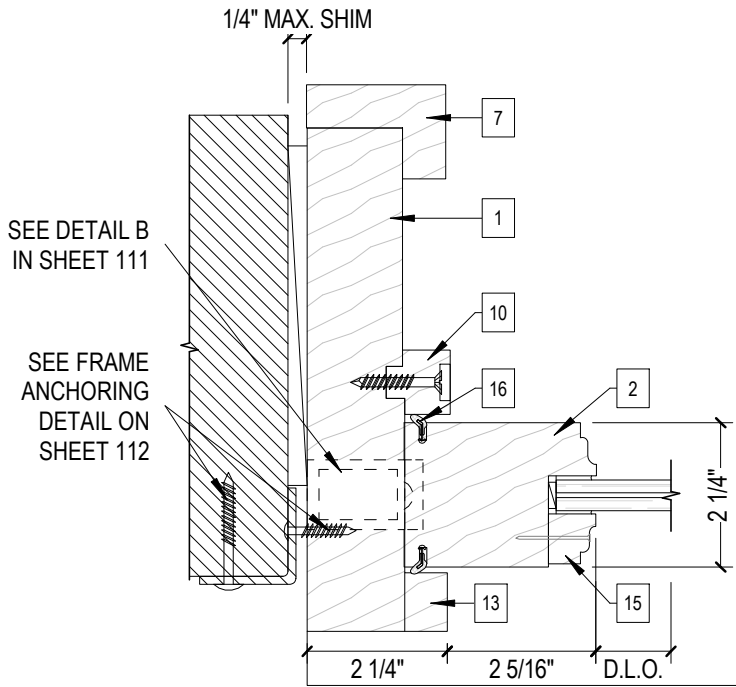


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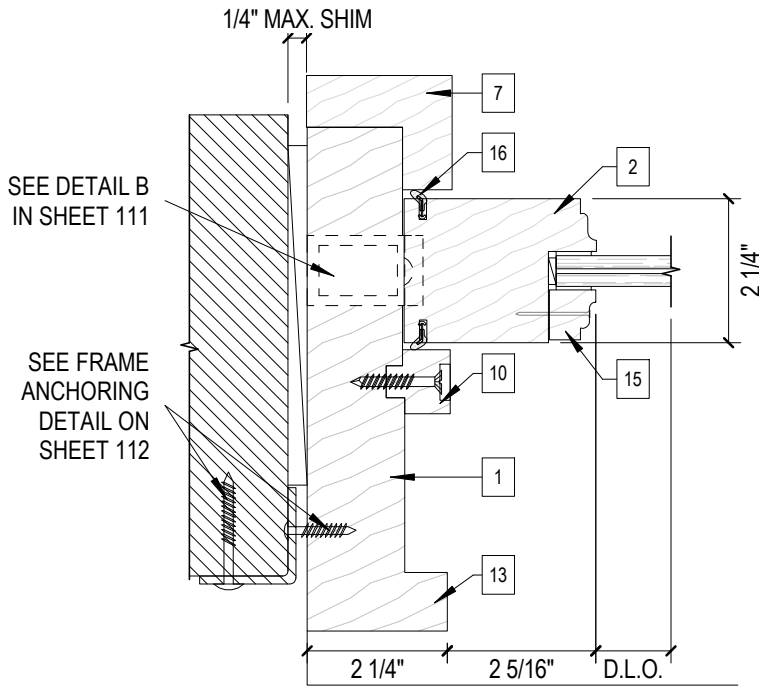
SPRING AND BALANCE UNIT- JAMB DETAIL

FL# 19151.1

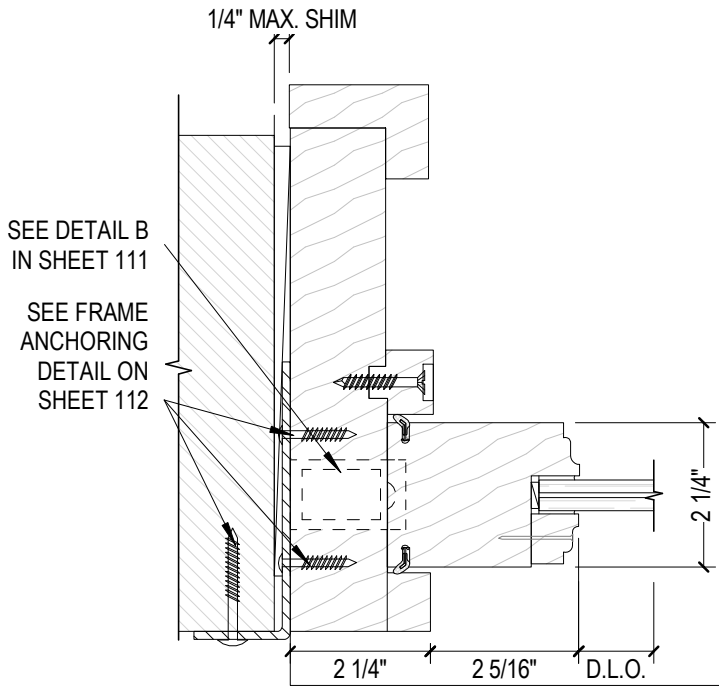
EXTERIOR GLAZED UNIT



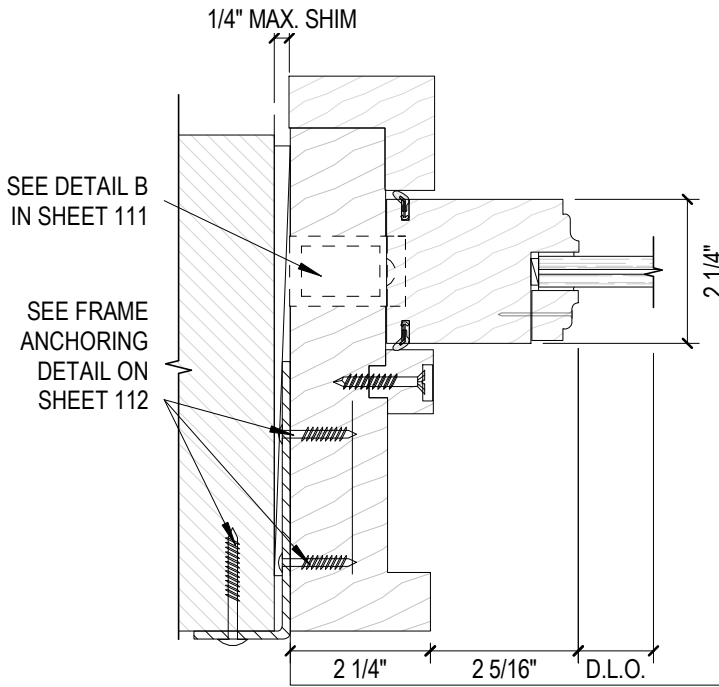
1
109 JAMB DETAIL-ALUMINUM ANGLE-5
N.T.S.



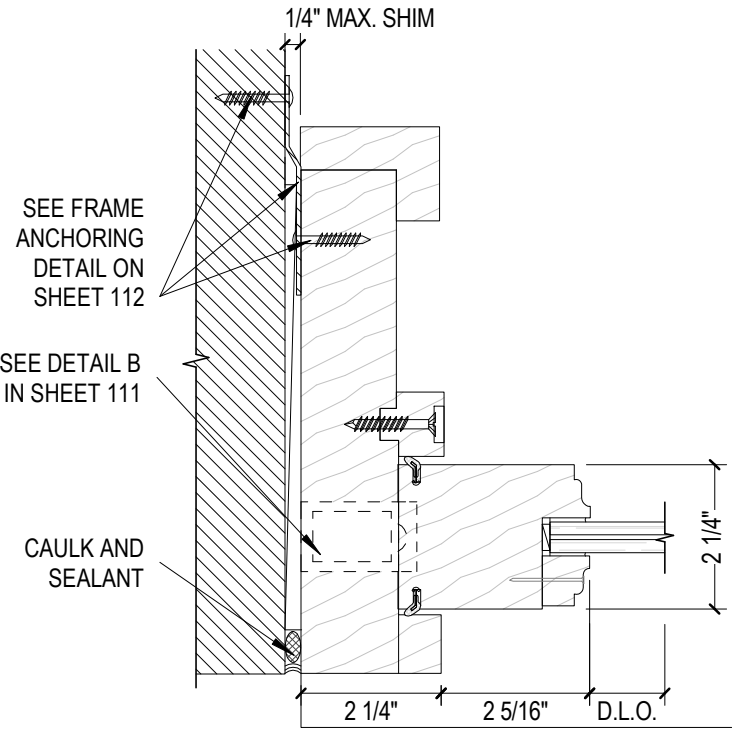
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109 JAMB DETAIL-ALUMINUM ANGLE-6
N.T.S.



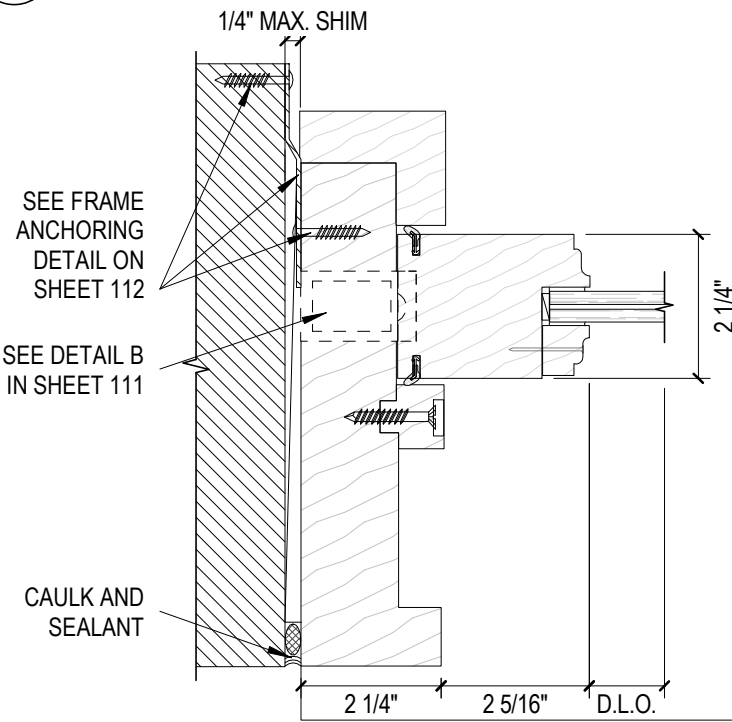
2
109 JAMB DETAIL-CS16Z STEEL STRAP-5
N.T.S.



5
109 JAMB DETAIL-CS16Z STEEL STRAP-6
N.T.S.



3
109 JAMB DETAIL-STEEL "Z" CLIP-5
N.T.S.



6
109 JAMB DETAIL-STEEL "Z" CLIP-6
N.T.S.

NOTE:

- ALL STRAPS, CLIPS AND ANGLES CAN BE MIXED & MATCHED WITH ALL DIFFERENT SUBSTRATES.
- EXAMPLES SHOWN HEREIN ARE A SAMPLE REPRESENTATION OF THE DIFFERENT ATTACHMENT METHODS. SEE PAGE 112 FOR ALL QUALIFIED SUBSTRATES & ANCHOR TYPES.
- REFER TO GLASS LOADING CHARTS FOR GLASS TYPE OPTIONS (TYP.)

NOTES:

- THE ALTERNATIVE ACHORAGE STEEL STRAP ALUMINUM ANGLE "Z" CLIP CAN BE MOUNTED IN EXTERIOR OR INTERIOR AS PER REQUIREMENT AS SHOWN IN DETAIL ABOVE PAGE 106 AND 108



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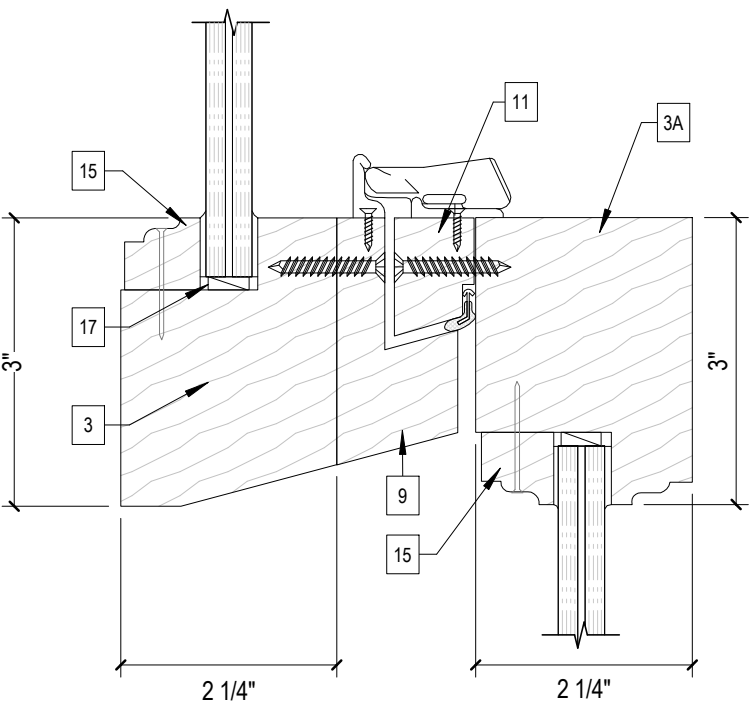
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							No.	DATE	BY	DESCRIPTION



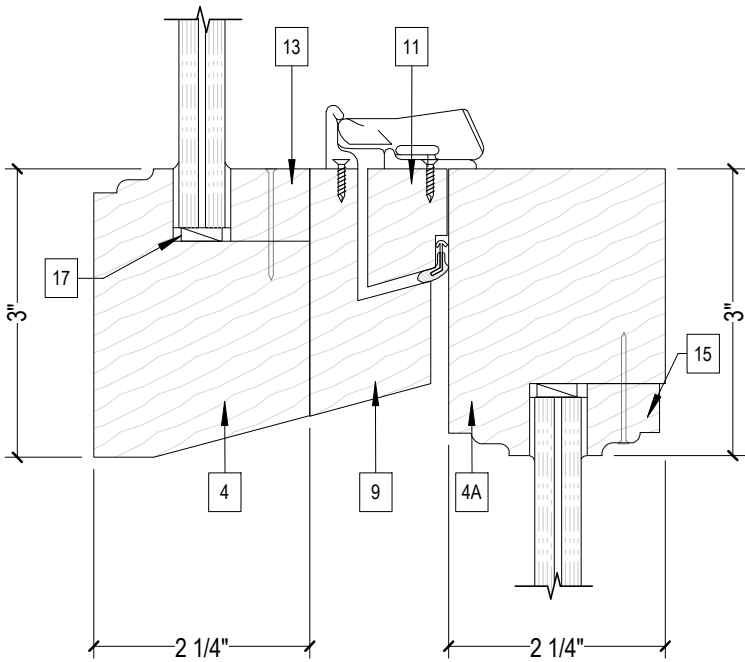
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INTERLOCK DETAIL AND FRAME ASSEMBLY DETAIL

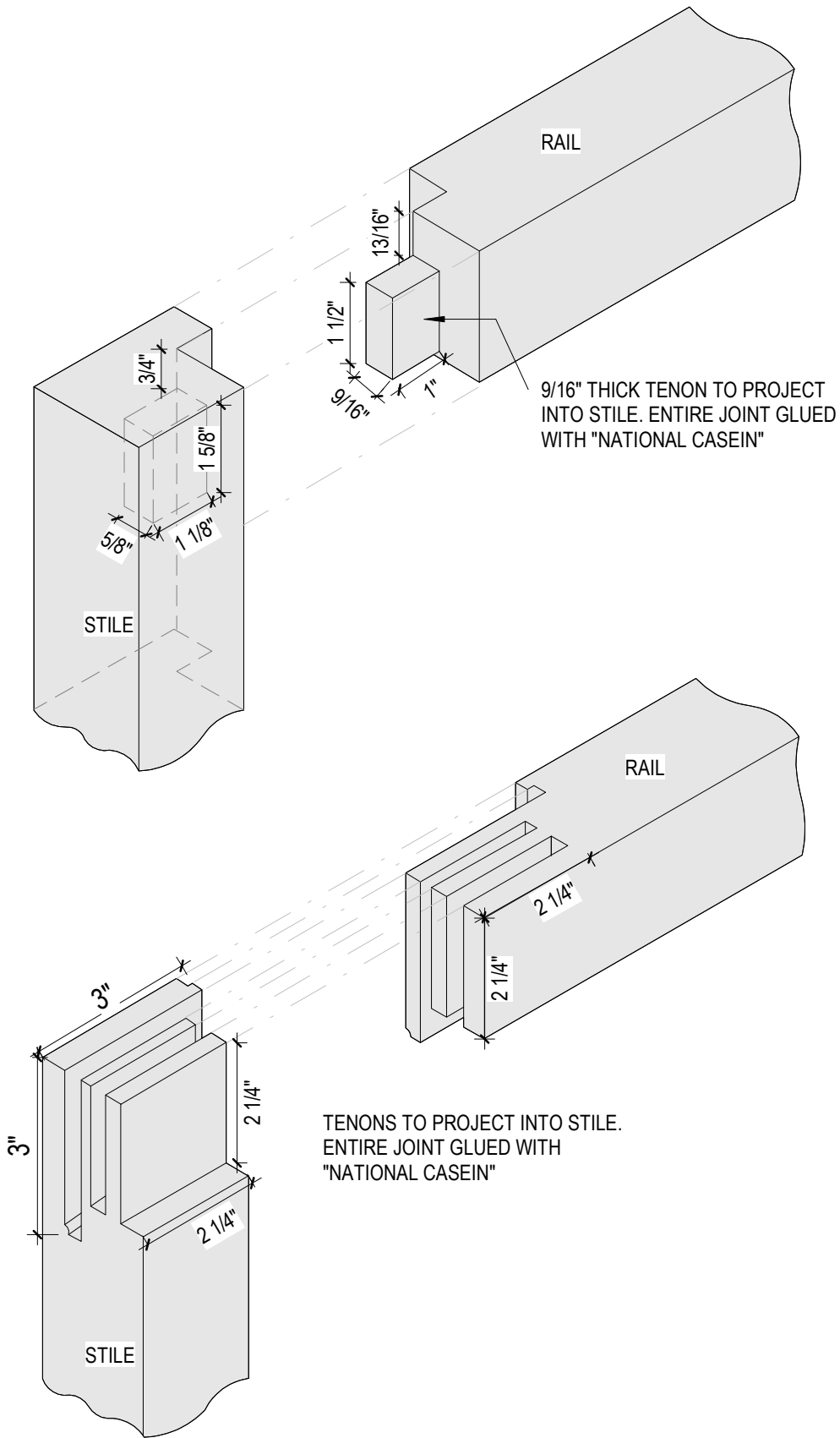
FL# 19151.1



1
110 INTERLOCK DETAIL- EXTERIOR GLAZED UNIT
N.T.S.



2
110 INTERLOCK DETAIL- INTERIOR GLAZED UNIT
N.T.S.



FRAME CORNER DETAILS



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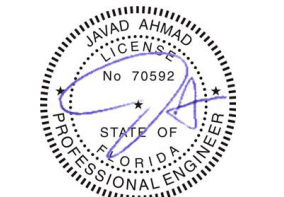
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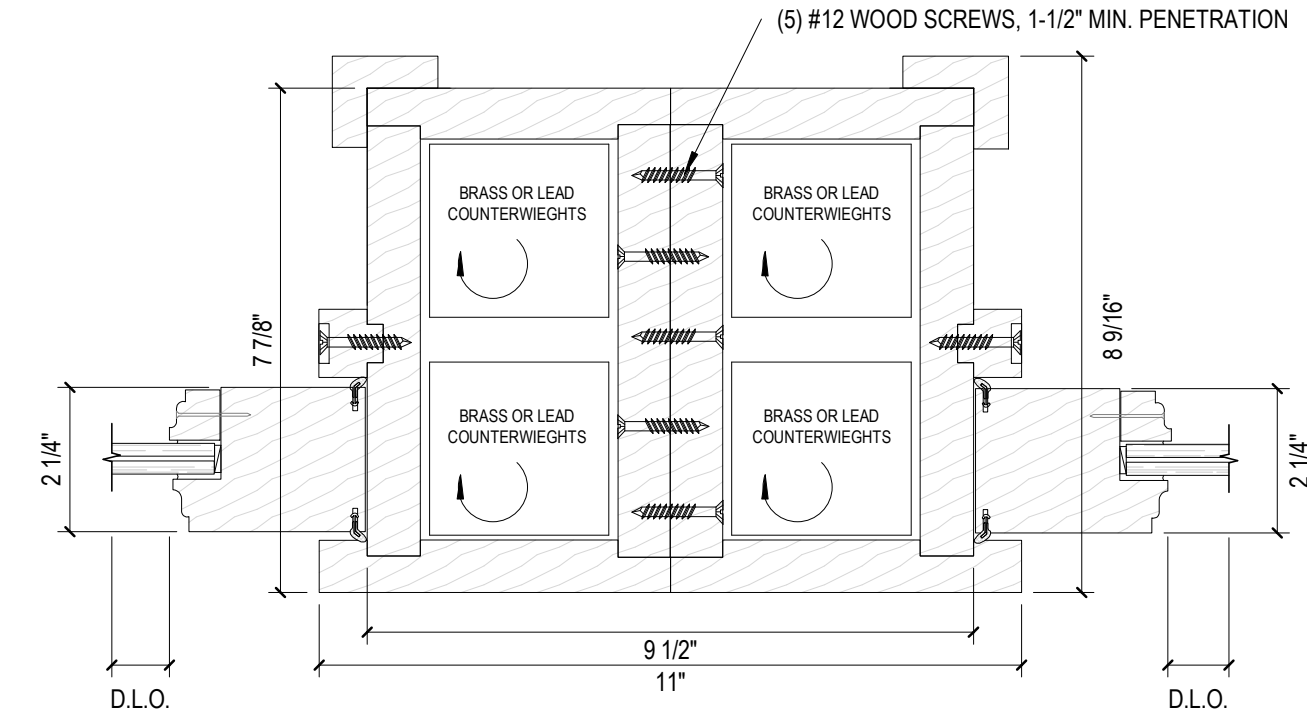
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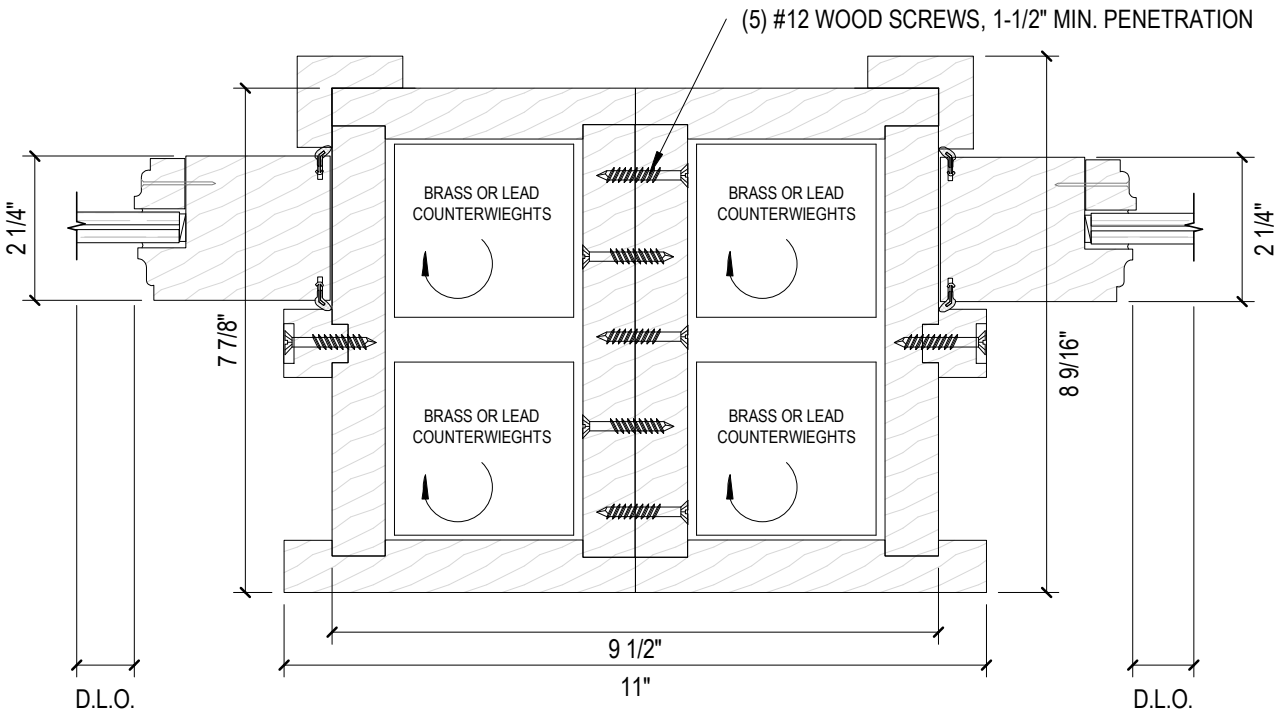
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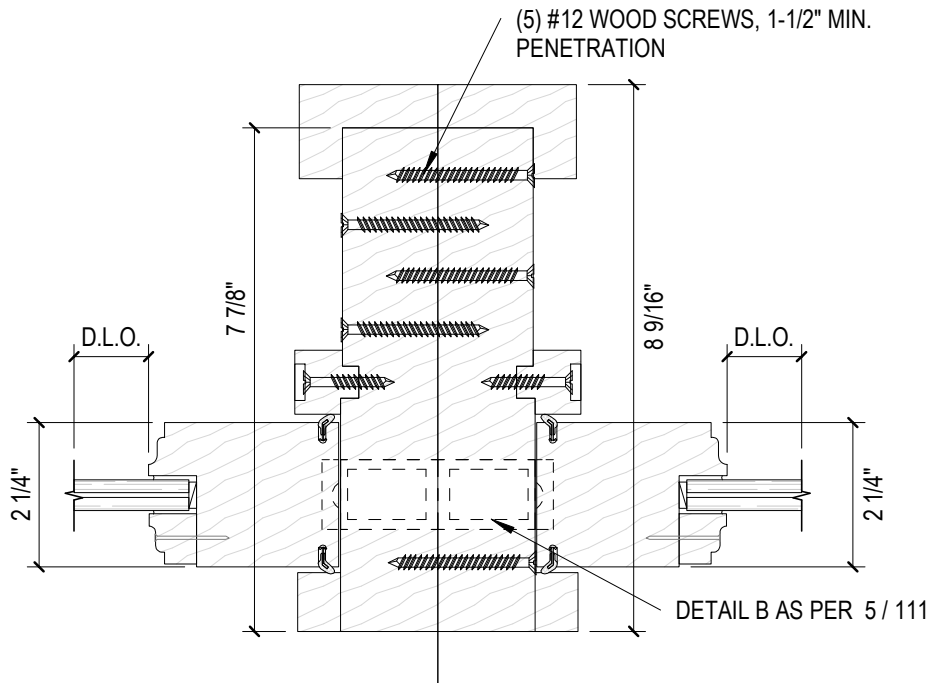
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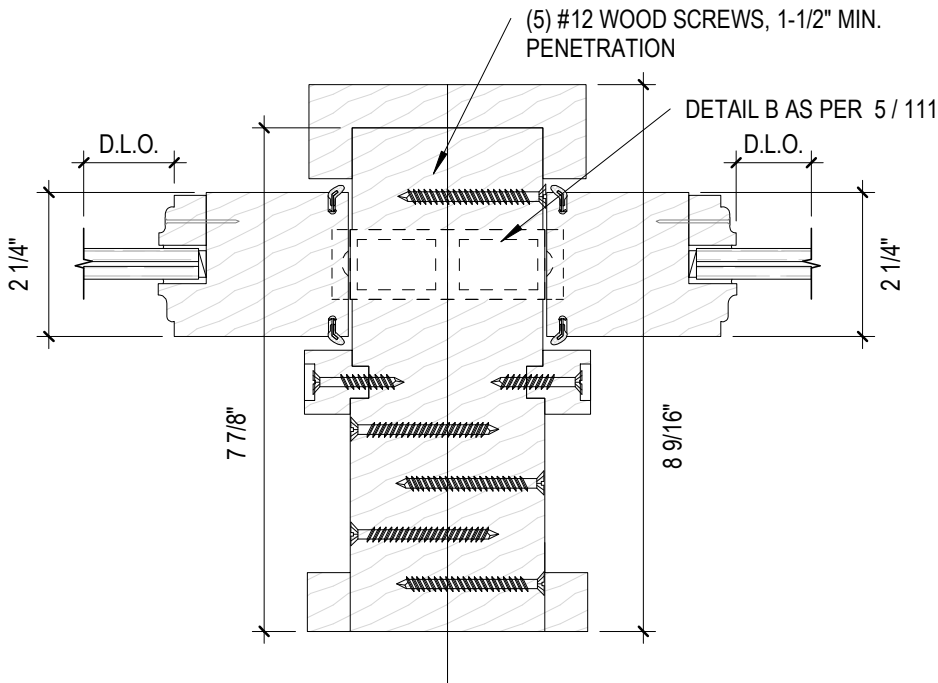
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111 JAMB TO JAMB DETAIL
N.T.S.



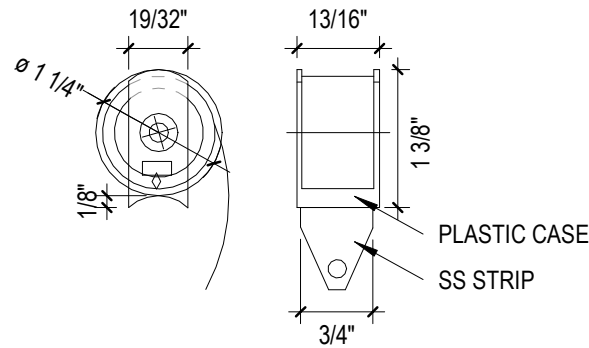
2
111 JAMB TO JAMB DETAIL 2
N.T.S.



3
111 JAMB TO JAMB DETAIL 3
N.T.S.



4
111 JAMB TO JAMB DETAIL 4
N.T.S.



5
111 DETAIL B
N.T.S.

DOUBLE HUNG WINDOW

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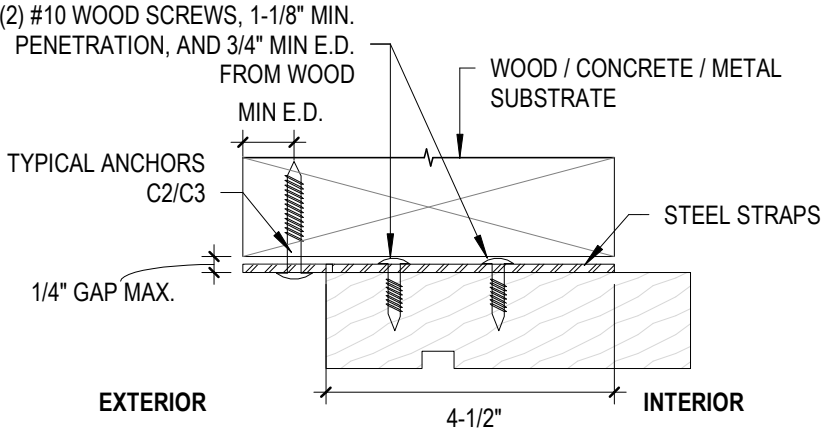
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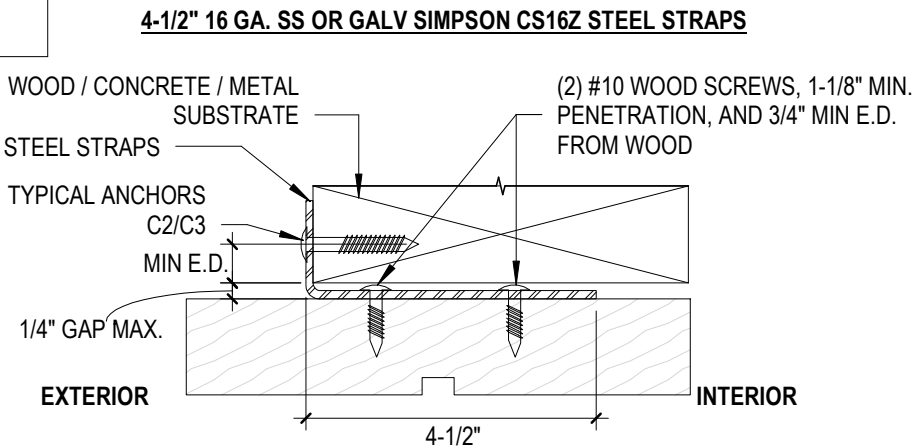


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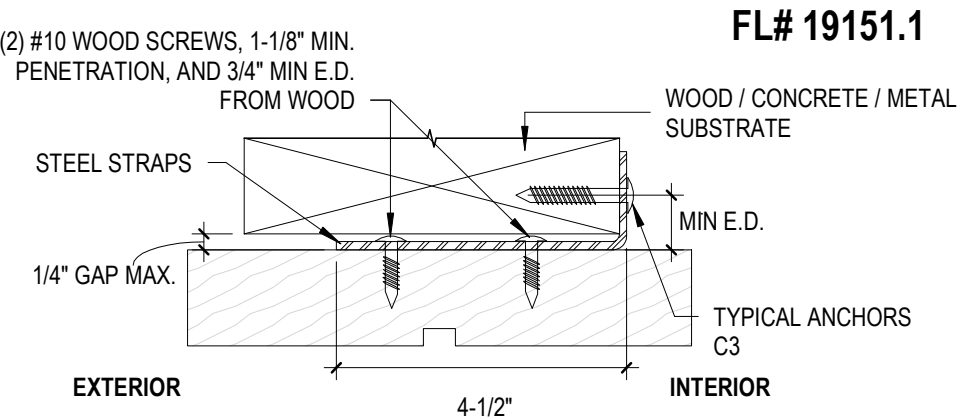
ALTERNATE ANCHORING



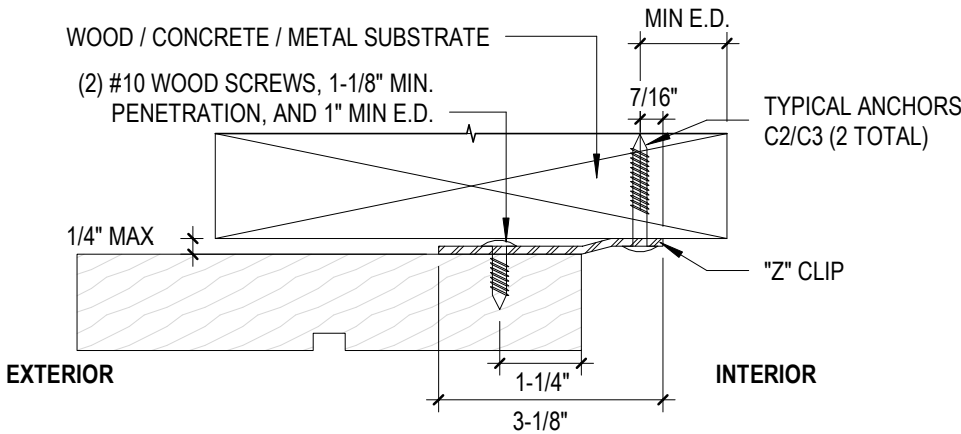
1
112 EXTERIOR FLAT STRAP
N.T.S



2
112 EXTERIOR BENT STRAP
N.T.S

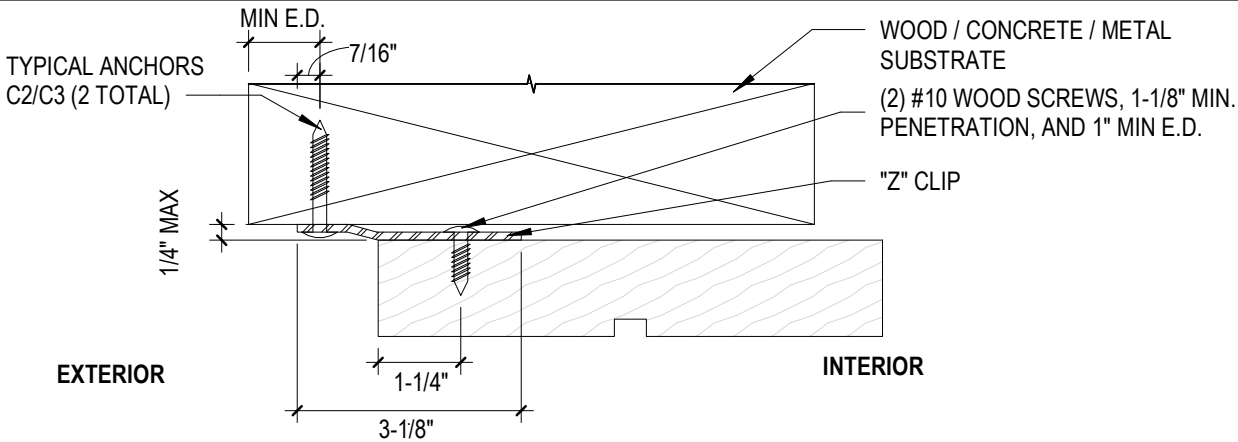


3
112 INTERIOR BENT STRAP
N.T.S



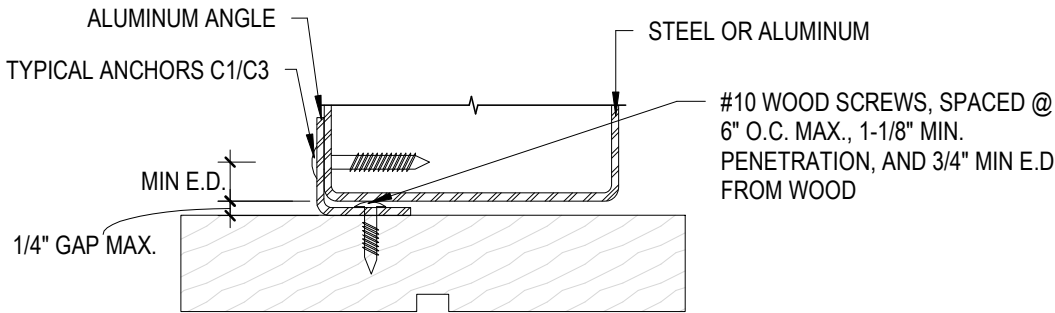
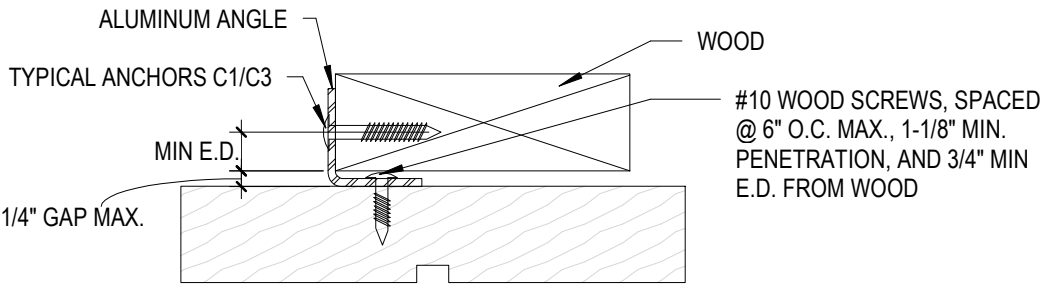
4
112 INTERIOR Z-CLIP STRAP
N.T.S

GALVANIZED STEEL "Z" CLIP (14 GA)



5
112 EXTERIOR Z-CLIP STRAP
N.T.S

1-1/2" X 1-1/2" X 1/8" ALUMINUM ANGLE (CONT.)



TYPICAL ANCHOR TYPES

TYPE C1 - 1/4" DEWALT ULTRA CON (Fu = 177,000 PSI, Fy = 155,000 PSI)

- INTO 2BY WOOD WITH 1-1/2" MIN EMBEDMENT, AND 3/4" MIN EDGE DISTANCE

TYPE C2 - 1/4" DEWALT ULTRA CON (Fu = 177,000 PSI, Fy = 155,000 PSI)

- INTO 2BY WOOD WITH 1-1/2" MIN EMBEDMENT, AND 3/4" MIN EDGE DISTANCE
- DIRECTLY INTO CONCRETE, OR HOLLOW/GROUT FILLED MASONRY* WITH 1-3/4" EMBEDMENT, AND 2-1/2" MIN EDGE DISTANCE

TYPE C3 - #12 SMS OR SDS (GRADE 5 MIN/316 SS)

- INTO ALUMINUM / STEEL WITH 5 PITCHES PASSED THE THREAD PLANE, AND 3/4" MIN EDGE DISTANCE
- INTO APPROVED MULLIONS WITH 5 PITCHES PASSED THE THREAD PLANE, AND 3/4" MIN EDGE DISTANCE
- INTO 2BY WOOD WITH 1-1/2" MIN ENGAGEMENT, AND 3/4" MIN EDGE DISTANCE

SUBSTRATE NOTES:

- WOOD AT HEAD, SILL OR JAMBS IS SOUTHERN YELLOW PINE #2 (SG=0.55 MIN.)
- CONCRETE AT HEAD, SILL OR JAMBS f'c= 3000 PSI
- HOLLOW/GROUT FILLED MASONRY UNITS AT JAMBS f'm= 2000 PSI
- STEEL (1/8" THICK, A36 MIN) AT HEAD, SILL OR JAMBS
- ALUMINUM (1/8" THICK, 6063-T6 MIN) AT HEAD, SILL OR JAMBS

NOTE:

CONTRACTOR SHALL BE RESPONSIBLE FOR INSULATING ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS (EXAMPLE: STEEL WITH ALUMINUM)

ANCHOR LAYOUT / SPACING:

FOR 1-1/2" X 1-1/2" X 1/8" ALUMINUM ANGLE (CONT.):

- ANCHORS C1/C2/C3 SHALL BE PLACED AT-
- MAX. 6" O.C. SPACING
- MAX. 3" FROM UNIT CORNER FOR HEAD
- MAX. 4" FROM UNIT CORNER FOR JAMB

FOR GALVANIZED STEEL "Z" CLIP (14 GA) OR 4-1/2" 16 GA. SS OR GALV SIMPSON CS16Z STEEL STRAPS:

ANCHORS C1/C2/C3 SHALL BE PLACED AS PER ANCHOR LAYOUT SHOWN ON SHEET 102

THE STEEL CLIPS SHALL BE PLACED AT-

- MAX. 8" O.C. SPACING
- MAX. 3" FROM UNIT CORNER FOR HEAD
- MAX. 4" FROM UNIT CORNER FOR JAMB



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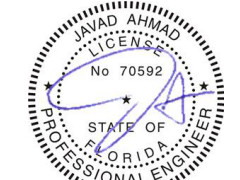
DOUBLE HUNG WINDOW

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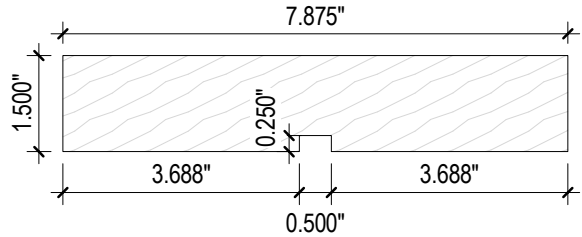
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							No.		

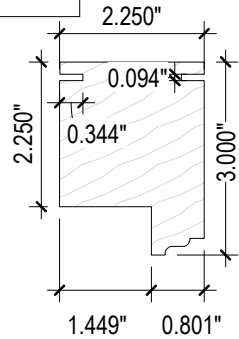


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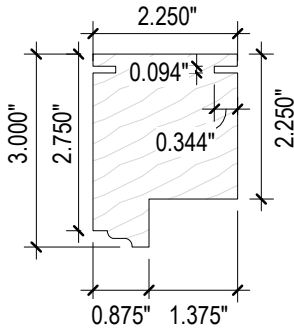
PARTS LIST



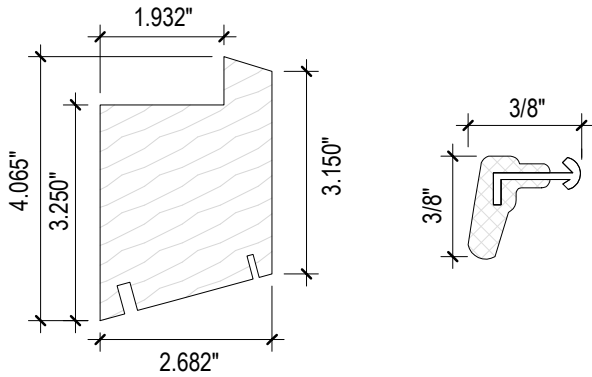
1 HEAD / JAMB (FOR "SPRING & BALANCE" UNITS)



2 TOP RAIL

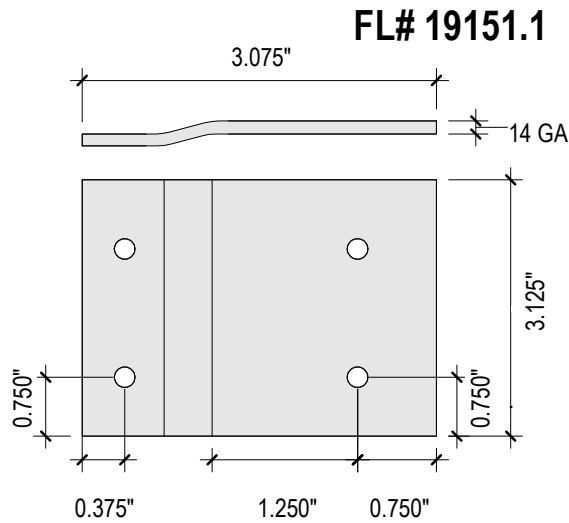


2A TOP RAIL

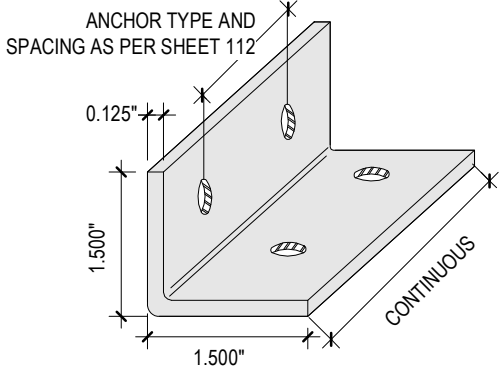


5B BOTTOM RAIL
(INS. GLASS)

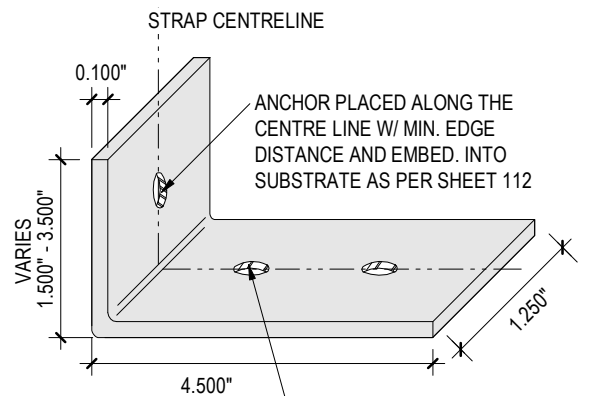
16 SCHLEGEL
QEZ-320 SEAL



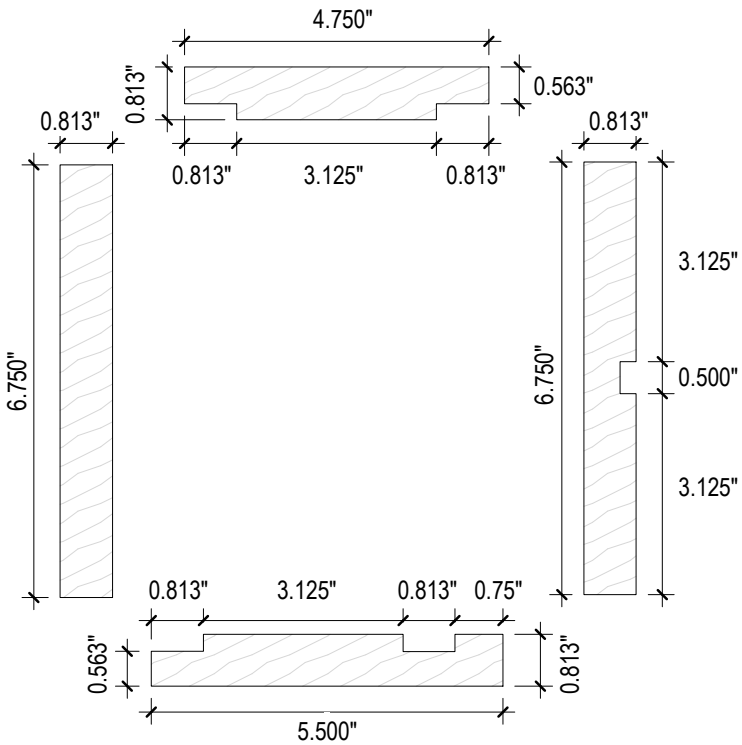
28 GALVANIZED STEEL "Z" CLIP (14 GA)



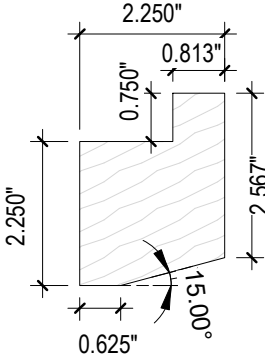
29 1-1/2" X 1-1/2" X 1/8" ALUMINUM ANGLE
(CONT.)



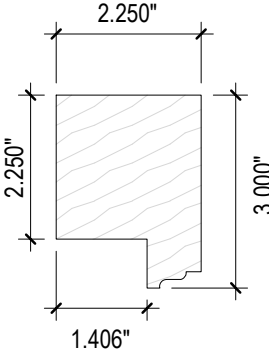
30 4-1/2" 16 GA. SS OR GALV SIMPSON
CS16Z STEEL STRAPS



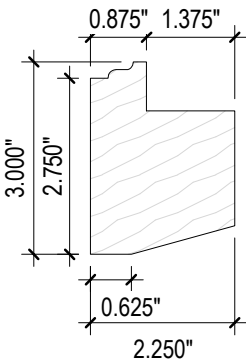
JAMB PARTS (FOR "CHAIN & WEIGHTS" UNITS)



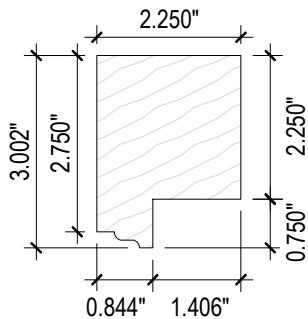
3 MEETING RAIL



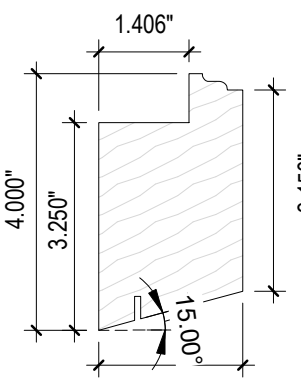
3A MEETING RAIL



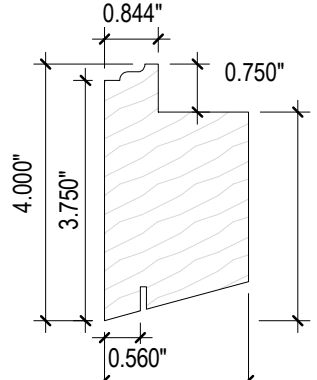
4 MEETING RAIL



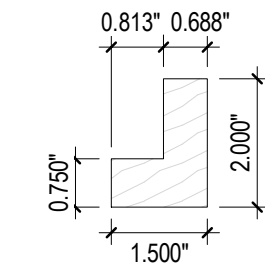
4A MEETING RAIL



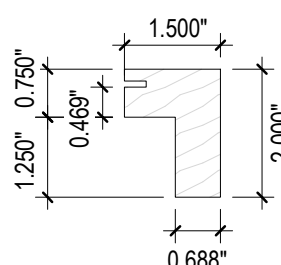
5 BOTTOM RAIL



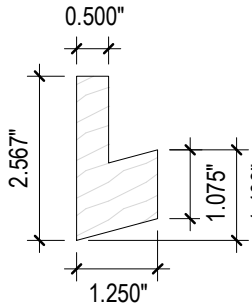
5A BOTTOM RAIL



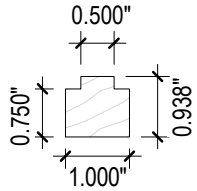
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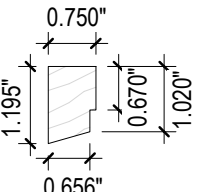
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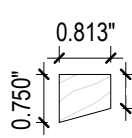
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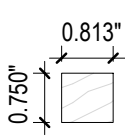
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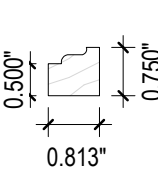
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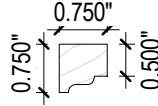
12



13



14



15

ALL WINDOW PARTS ARE HONDURES MAHOGANY LUMBER
SPECIFIC GRAVITY = 0.45 MIN.
GRADE = 2 MIN.
MOISTURE CONTENT = 19% MAX.



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FAX: (561) 296-9601

drawing no.	date:	JA-1425-23	drawn by:	BS	check by:	BVS	REVISION			
							No.	DATE	BY	DESCRIPTION



Sealed: 04-15-2024

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