REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
B	REVISE PER NEW CODE	05/22/2024	R.L.

NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH REQUIREMENTS OF THE FLORIDA BUILDING CODE INCLUDING THE HVHZ.
2. WOOD FRAMING, METAL STRUCTURE AND MASONRY OPENING TO BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO STRUCTURE. FRAMING AND MASONRY OPENING IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD.
3. WHERE SHIM OR BUCK THICKNESS IS LESS THAN 1–1/2" UNITS MUST BE ANCHORED THROUGH THE FRAME IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS. ANCHORS SHALL BE SECURELY FASTENED DIRECTLY INTO MASONRY, CONCRETE OR OTHER STRUCTURAL SUBSTRATE MATERIAL.
4. WHERE WOOD BUCK THICKNESS IS 1–1/2" OR GREATER, BUCK SHALL BE SECURELY FASTENED TO MASONRY, CONCRETE OR OTHER STRUCTURAL SUBSTRATE. UNITS MAY BE ANCHORED THROUGH FRAME TO SECURED WOOD BUCK IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.
5. WHERE 1X BUCK IS NOT USED DISSIMILAR MATERIALS MUST BE SEPARATED WITH APPROVED COATING OR MEMBRANE. SELECTION OF COATING OR MEMBRANE IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD.
6. BUCKS SHALL EXTEND BEYOND UNIT FRAME INTERIOR FACE SO THAT FULL FRAME SUPPORT IS PROVIDED.
7. FOR FIN INSTALLATION SHIM AS NEEDED. FOR FRAME INSTALLATION SHIM AS REQUIRED AT EACH ANCHOR LOCATION WITH LOAD BEARING SHIM. SHIM WHERE SPACE OF 1/16" OR GREATER OCCURS. MAXIMUM ALLOWABLE SHIM STACK TO BE 1/4".
8. SHIMS SHALL BE LOCATED, APPLIED AND MADE FROM MATERIALS AND THICKNESS CAPABLE OF SUSTAINING APPLICABLE LOADS.
9. WIND LOAD DURATION FACTOR Cd=1.6 WAS USED FOR WOOD ANCHOR CALCULATIONS.
10. FRAME MATERIAL: EXTRUDED ALUMINUM 6063–T6.
11. UNITS MUST BE GLAZED PER ASTM E1300, SEE SHEET 3 FOR GLASS DETAILS.
12. APPROVED IMPACT PROTECTIVE SYSTEM IS NOT REQUIRED FOR THIS PRODUCT IN WIND BORNE DEBRIS REGIONS.
13. FOR ANCHORING THROUGH FRAME INTO WOOD FRAMING OR 2X BUCK USE #12 WOOD SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE A 1 1/4" MINIMUM EMBEDMENT INTO SUBSTRATE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
14. FOR ANCHORING THROUGH FRAME INTO MASONRY/CONCRETE USE 1/4" ELCO CRETE–FLEX TAPCONS WITH SUFFICIENT LENGTH TO ACHIEVE A 1 1/4" MINIMUM EMBEDMENT INTO SUBSTRATE WITH 2 1/2'' MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
15. FOR ANCHORING THROUGH FRAME INTO METAL STRUCTURE USE #12 SMS OR SELF DRILLING SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE 3 THREADS MINIMUM BEYOND STRUCTURE INTERIOR WALL. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
16. ALL FASTENERS TO BE CORROSION RESISTANT.
17. INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED BELOW:
    - 17.1. WOOD: MINIMUM SPECIFIC GRAVITY OF G=0.42
    - 17.2. CONCRETE: MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI.
    - 17.3. MASONRY: HOLLOW/FILLED BLOCK PER ASTM C90 WITH Fm=2,000PSI MINIMUM.
    - 17.4. METAL STRUCTURE: STEEL 18GA (.048") FY=33KSI/FU=52KSI OR ALUMINUM 6063–T5 FU=30KSI 1/8" THICK MINIMUM

TABLE OF CONTENTS	
SHEET NO.	DESCRIPTION
1	NOTES
2	ELEVATION
3	DESIGN PRESSURE CHARTS AND GLAZING DETAIL
4	CROSS SECTIONS
5 – 7	INSTALLATION DETAILS
8 – 9	COMPONENTS

SIGNED: 05/22/2024

CENTOR NORTH AMERICA INC.
966–130 CORPORATE BLVD.
AURORA, IL 60502

400 SERIES/MODEL 405 FOLDING OUTWARD OPENING DOOR WITH ALUMINUM TRIM – IMPACT NOTES

DRAWN:	DWG NO.	REV
A.R.	08–03199	B
SCALE NTS	DATE 11/06/17	SHEET 1 OF 9

L. ROBERTO LOMAS P.E.
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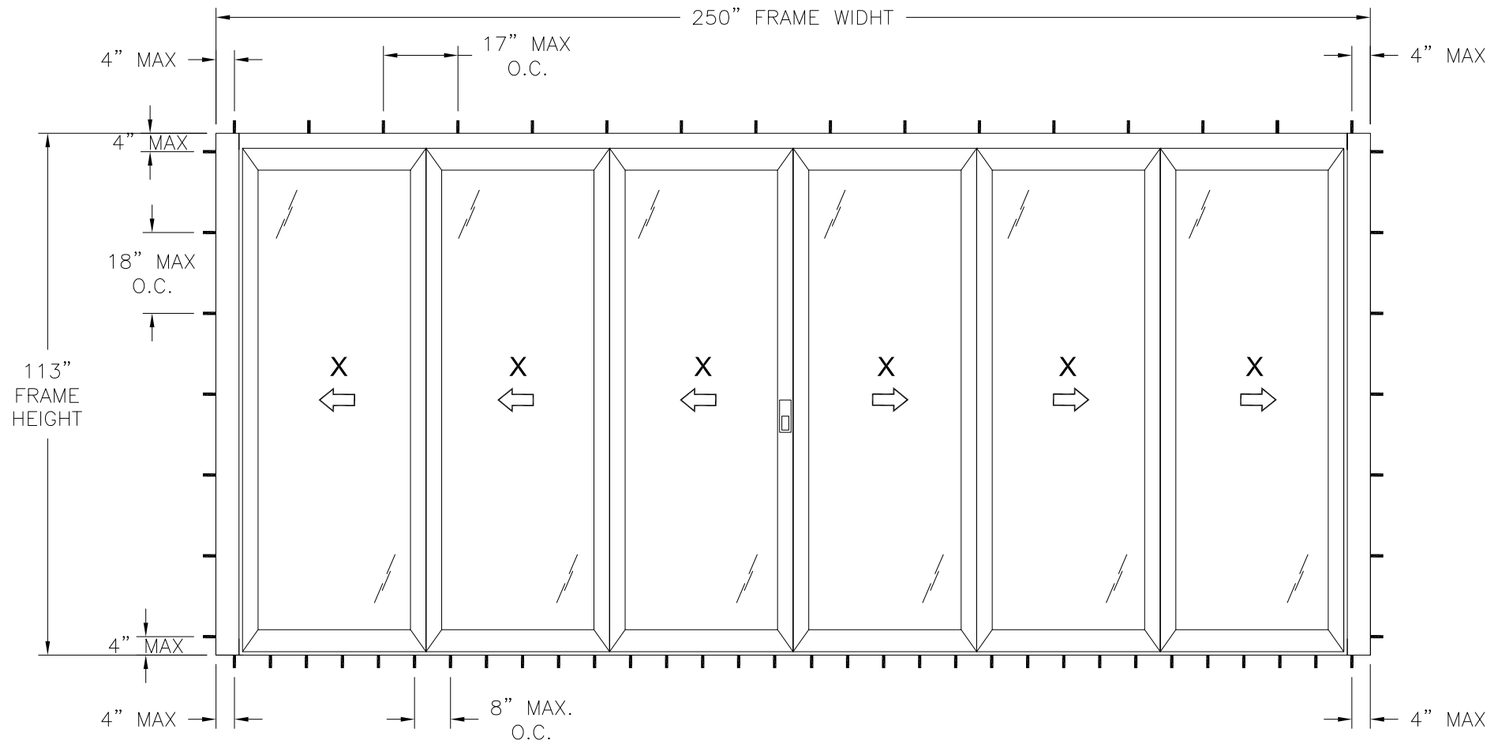
434-688-0609 rllomas@lrlomaspe.com

LUIS R. LOMAS LICENSE No. 62514 STATE OF FLORIDA PROFESSIONAL ENGINEER

Luis R. Lomas P.E.
FL No.: 62514

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
B	REVISE PER NEW CODE	05/22/2024	R.L.



400 SERIES/MODEL 405 FOLDING OUTWARD DOOR

EXTERIOR VIEW

UNLIMITED NUMBER OF PANELS IN UNLIMITED CONFIGURATIONS ARE APPROVED AS LONG AS INDIVIDUAL PANEL AREA DOES NOT EXCEED 30.08 FT² AND USES VERTICAL CONDITIONS AS SHOWN IN APPROVAL DRAWING, AND MAXIMUM FRAME AREA DOES NOT EXCEED 294.27FT²

DESIGN PRESSURE RATING	*IMPACT RATING*
±55.0PSF	*LARGE AND SMALL MISSILE IMPACT*

MISSILE LEVEL D, WIND ZONE 4, AND HVHZ
WHERE WATER RESISTANCE IS REQUIRED
SEE CHART #1, SHEET 3

DESIGN PRESSURE RATING	*IMPACT RATING*
±55.0PSF	*LARGE AND SMALL MISSILE IMPACT*

MISSILE LEVEL D, WIND ZONE 4, AND HVHZ
WHERE WATER RESISTANCE IS NOT REQUIRED
SEE CHART #2, SHEET 3

SIGNED: 05/22/2024

NOTES:
1. *PANEL SIZE: 39 3/4" x 109"*
2. *D.L.O.: 33" x 99 1/2"*

HARDWARE SCHEDULE	
A.	(6) CONCEALED HINGES, 7 1/4" FROM TOP AND BOTTOM AND 7 1/4" MAX O.C.
B.	(2) INTERMEDIATE CARRIER AT TOP OF CENTER PANEL OF EACH SIDE
C.	(2) CENTER INTERMEDIATE HINGE, LOCATED BETWEEN TOP CARRIER AND BOTTOM GUIDE
D.	(8) COVER PLATES AT TOP CARRIER AND BOTTOM GUIDE
E.	(2) TOP PIVOT HINGE AND (2) BOTTOM PIVOT HINGE AT LEFT AND RIGHT SIDE OF JAMBS
F.	(1) EXTERNAL CYLINDER AND INTERNAL SNIB, 32" FROM SILL WITH KEEPER SYSTEM
G.	(1) AUTO LATCH LOCKS, 32" FROM SILL AT TOP AND BOTTOM LEFT CORNERS OF INTERMEDIATE PANELS
H.	(1) ALUMINUM REINFORCEMENT BAR AT JAMB STILE

CENTOR NORTH AMERICA INC.
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AURORA, IL 60502

400 SERIES/MODEL 405 FOLDING OUTWARD OPENING DOOR WITH ALUMINUM TRIM – IMPACT ELEVATION

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A.R.	08–03199	B
SCALE NTS	DATE 11/06/17	SHEET 2 OF 9

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Luis R. Lomas P.E.
FL No.: 62514

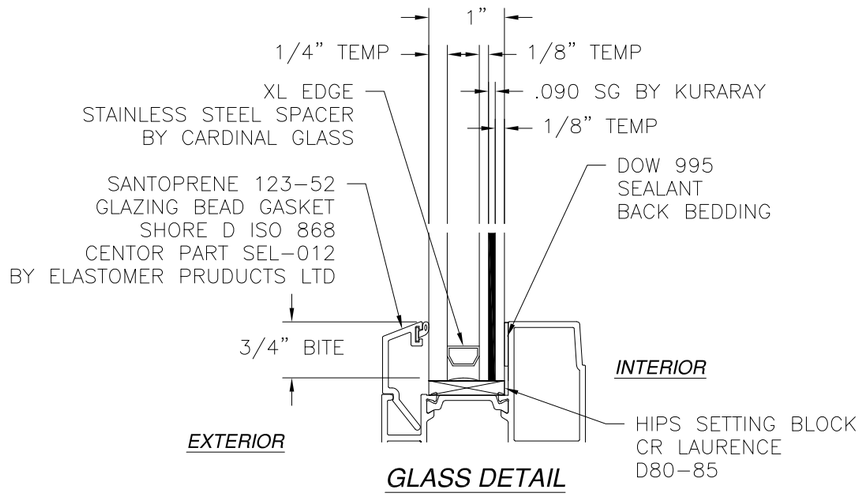
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
B	REVISE PER NEW CODE	05/22/2024	R.L.

CHART #1, WHERE WATER RESISTANCE IS REQUIRED

Maximum Design pressure (psf)												
Panel Height (in)	Single Panel Width (in)											
	24.0		30.0		36.0		39.75		42.0		48.0	
	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg
78.0	55.7	82.5	55.7	82.5	55.7	82.5	55.7	76.9	55.7	72.7	55.7	63.6
84.0	55.7	82.5	55.7	82.5	55.7	78.8	55.7	71.4	55.7	67.5	55.7	59.1
90.0	55.7	82.5	55.7	82.5	55.7	73.5	55.7	66.6	55.7	63.0	55.2	55.2
96.0	55.7	82.5	55.7	80.2	55.7	69.0	55.7	62.4	55.7	59.1	-	-
102.0	55.7	82.5	55.7	74.7	55.7	64.4	55.7	58.8	55.6	55.6	-	-
109.0	55.7	82.5	55.7	69.1	55.7	59.5	55.0	55.0	-	-	-	-
114.0	55.7	76.8	55.7	62.1	52.4	52.4	-	-	-	-	-	-
120.0	55.7	65.7	53.1	53.1	44.7	44.7	-	-	-	-	-	-
126.0	55.7	56.7	45.7	45.7	-	-	-	-	-	-	-	-
132.0	49.2	49.2	39.7	39.7	-	-	-	-	-	-	-	-
138.0	43.1	43.1	34.7	34.7	-	-	-	-	-	-	-	-
144.0	37.9	37.9	30.5	30.5	-	-	-	-	-	-	-	-

CHART #2, WHERE WATER RESISTANCE IS NOT REQUIRED

Maximum Design pressure (psf)												
Panel Height (in)	Single Panel Width (in)											
	24.0		30.0		36.0		39.75		42.0		48.0	
	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg
78.0	82.5	82.5	82.5	82.5	82.5	82.5	76.9	76.9	72.7	72.7	63.6	63.6
84.0	82.5	82.5	82.5	82.5	78.8	78.8	71.4	71.4	67.5	67.5	59.1	59.1
90.0	82.5	82.5	82.5	82.5	73.5	73.5	66.6	66.6	63.0	63.0	55.2	55.2
96.0	82.5	82.5	80.2	80.2	69.0	69.0	62.4	62.4	59.1	59.1	-	-
102.0	82.5	82.5	74.7	74.7	64.4	64.4	58.8	58.8	55.6	55.6	-	-
109.0	82.5	82.5	69.1	69.1	59.5	59.5	55.0	55.0	-	-	-	-
114.0	76.8	76.8	62.1	62.1	52.4	52.4	-	-	-	-	-	-
120.0	65.7	65.7	53.1	53.1	44.7	44.7	-	-	-	-	-	-
126.0	56.7	56.7	45.7	45.7	-	-	-	-	-	-	-	-
132.0	49.2	49.2	39.7	39.7	-	-	-	-	-	-	-	-
138.0	43.1	43.1	34.7	34.7	-	-	-	-	-	-	-	-
144.0	37.9	37.9	30.5	30.5	-	-	-	-	-	-	-	-



GLASS DETAIL

SIGNED: 05/22/2024

CENTOR NORTH AMERICA INC.
966-130 CORPORATE BLVD.
AURORA, IL 60502

400 SERIES/MODEL 405 FOLDING OUTWARD OPENING DOOR WITH ALUMINUM TRIM - IMPACT DESIGN PRESSURE CHARTS & GLAZING DETAIL

DRAWN:	DWG NO.	REV
A.R.	08-03199	B
SCALE NTS	DATE 11/06/17	SHEET 3 OF 9

L. ROBERTO LOMAS P.E.
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434-688-0609 rllomas@lrlomaspe.com

LUIS R. LOMAS LICENSE No. 62514 STATE OF FLORIDA PROFESSIONAL ENGINEER

Luis R. Lomas P.E.
FL No.: 62514

BILL OF MATERIALS				
ITEM NO.:	PART NUMBER	DESCRIPTION	MANUFACTURER	MATERIAL
1	ASSY-0849	INOPERABLE JAMB	CENTOR	
2	ASSY-0852	DOOR PANEL STILE	CENTOR	
3	ASSY-0850	TOP RAIL	CENTOR	
4	ASSY-0851	BOTTOM RAIL	CENTOR	
5	ASSY-0855	ENTRANCE HANDLE	CENTOR	
6	ASSY-0852	PIVOT SET	CENTOR	
7	ASSY-0855	ENTRANCE LOCK	CENTOR	
8	ASSY-0560	CONCEALED HINGE	CENTOR	
9	ASSY-0852	INTERMEDIATE SET	CENTOR	
10	ASSY-0847	HEAD	CENTOR	
11	ASSY-0840	SILL	CENTOR	
12	ASSY-0855	STILE ACTIVE	CENTOR	
13	ASSY-0856	STILE PASSIVE	CENTOR	
14	ASSY-0854	JAMB STILE	CENTOR	
15	ASSY-0618	INTERMEDIATE CARRIER	CENTOR	
16	ASSY-0620	INTERMEDIATE HINGE	CENTOR	
17	ASSY-0331	TOP PIVOT	CENTOR	
18	ASSY-0332	END CARRIER	CENTOR	
19	ASSY-0626	BOTTOM GUIDE JAMB	CENTOR	
20	ASSY-0565	BOTTOM LEFT PIVOT	CENTOR	
21	ASSY-0619	INTERMEDIATE GUIDE	CENTOR	

NOTE:
1. *ITEMS 15 THROUGH 21 ARE USED BUT NOT SHOWN, SEE SHEET 9 FOR DETAILS.*

REVISIONS			
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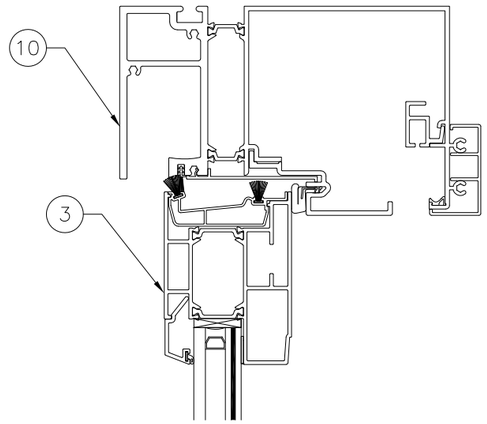
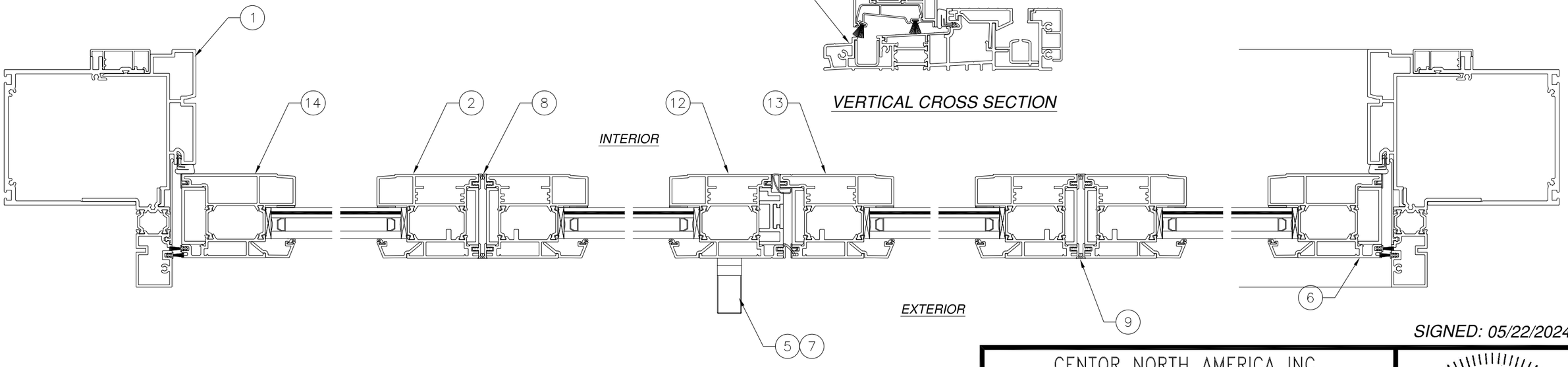


VERTICAL CROSS SECTION



HORIZONTAL CROSS SECTION

SIGNED: 05/22/2024

CENTOR NORTH AMERICA INC.
966-130 CORPORATE BLVD.
AURORA, IL 60502

400 SERIES/MODEL 405 FOLDING OUTWARD OPENING DOOR WITH ALUMINUM TRIM – IMPACT CROSS SECTIONS

DRAWN:	DWG NO.	REV
A.R.	08-03199	B
SCALE NTS	DATE 11/06/17	SHEET 4 OF 9

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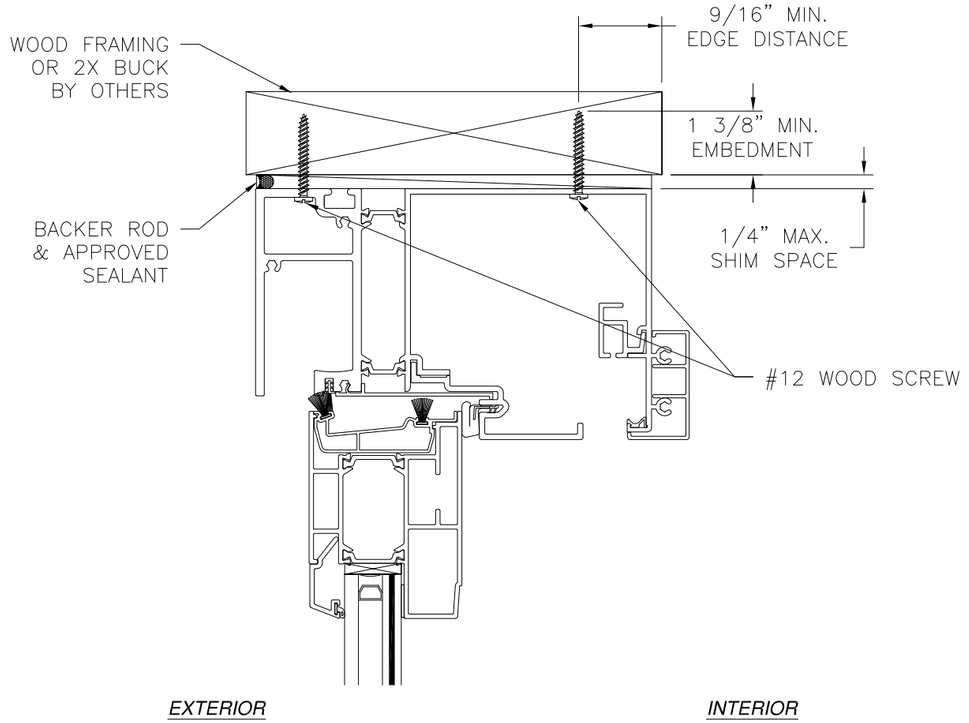
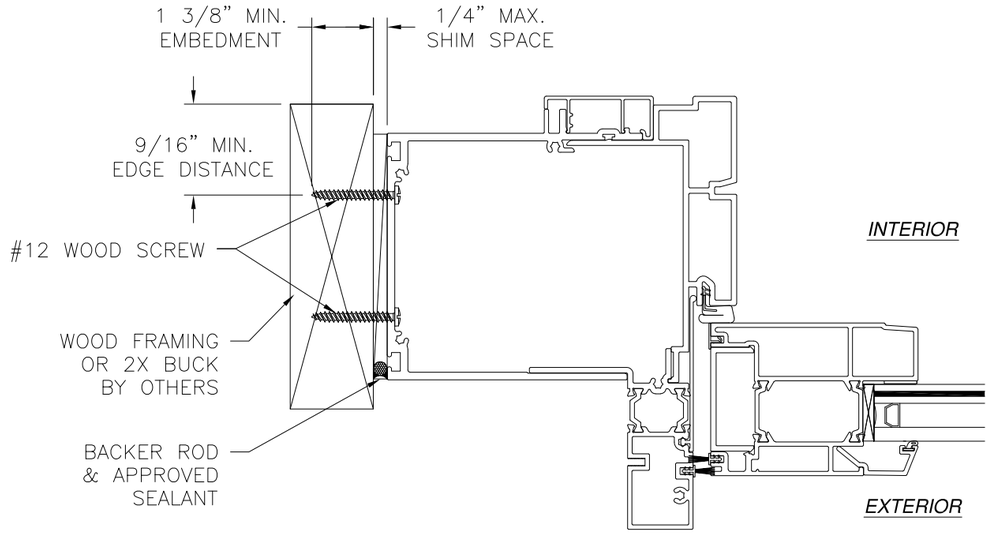
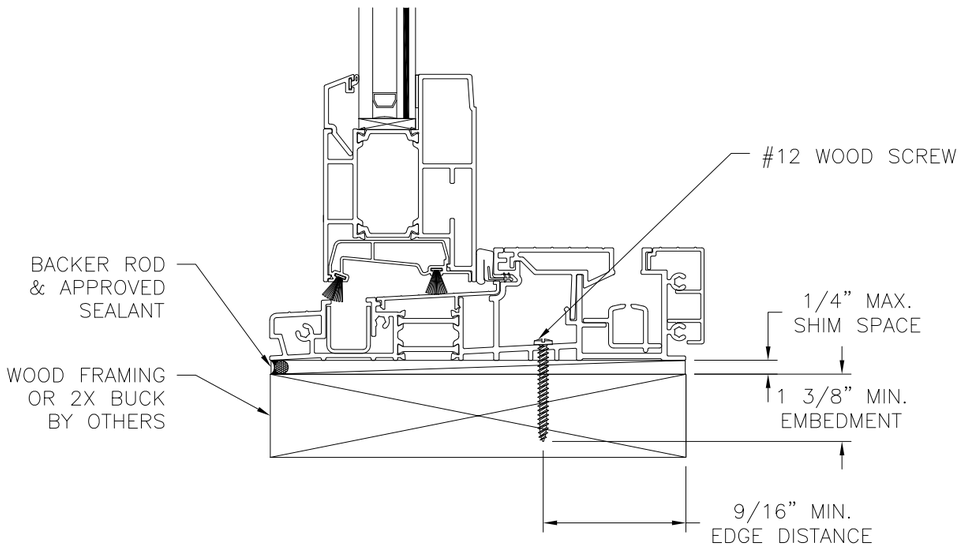




JAMB INSTALLATION DETAIL

WOOD FRAMING OR 2X BUCK INSTALLATION



VERTICAL CROSS SECTION

WOOD FRAMING OR 2X BUCK INSTALLATION

NOTES:

1. *INTERIOR AND EXTERIOR FINISHES, BY OTHERS, NOT SHOWN FOR CLARITY.*
2. *PERIMETER AND JOINT SEALANT BY OTHERS TO BE DESIGNED IN ACCORDANCE WITH ASTM E2112*

SIGNED: 05/22/2024

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966-130 CORPORATE BLVD.
AURORA, IL 60502

400 SERIES/MODEL 405 FOLDING OUTWARD OPENING DOOR WITH ALUMINUM TRIM – IMPACT INSTALLATION DETAILS

DRAWN:	DWG NO.	REV
A.R.	08-03199	B
SCALE NTS	DATE 11/06/17	SHEET 5 OF 9

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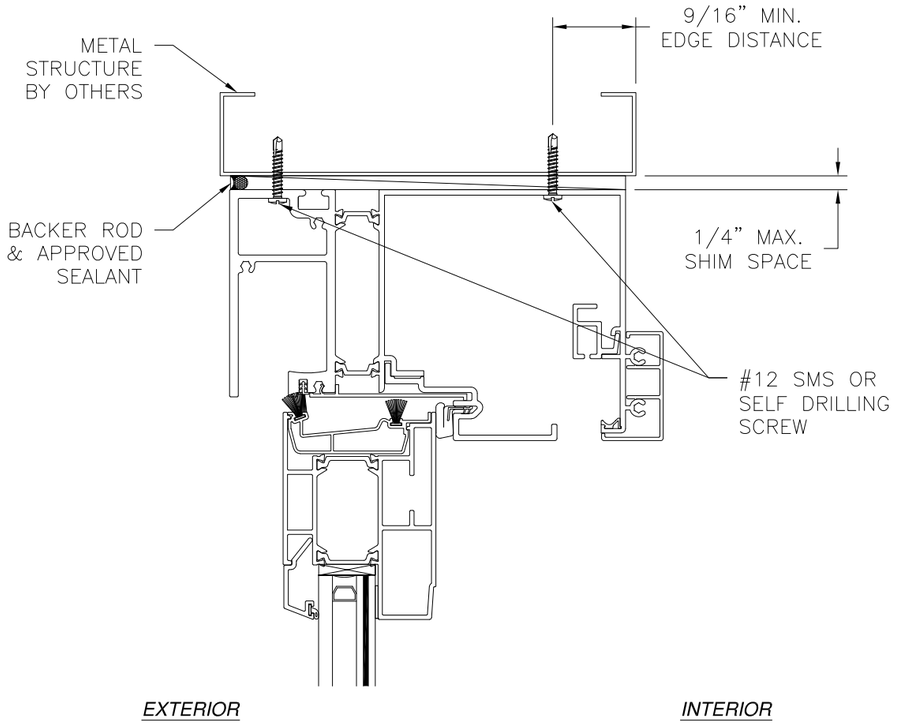
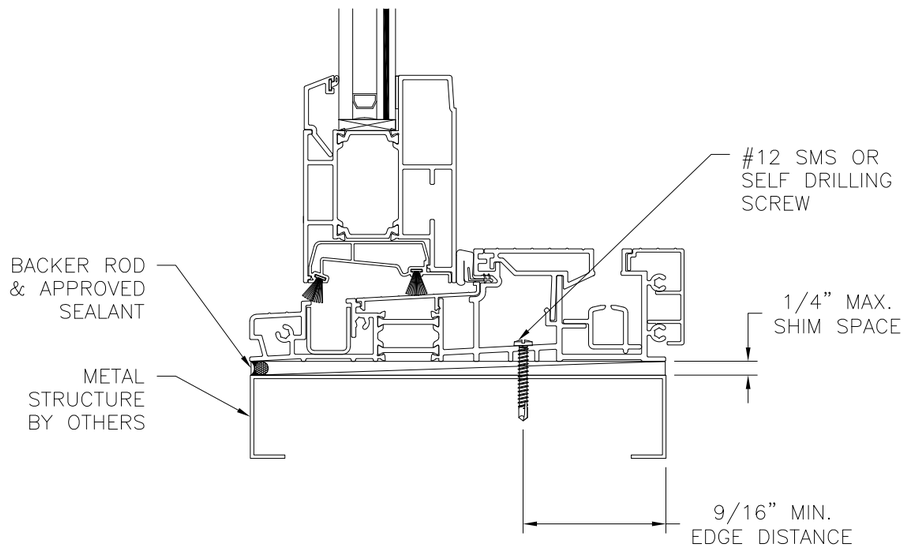
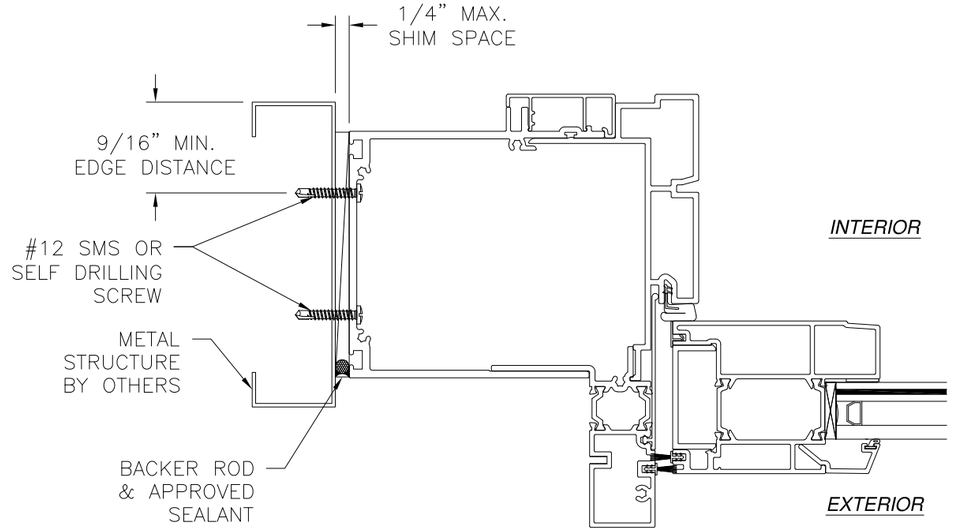




VERTICAL CROSS SECTION
METAL STRUCTURE INSTALLATION



JAMB INSTALLATION DETAIL
METAL STRUCTURE INSTALLATION

NOTES:
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DRAWN:	DWG NO.	REV
A.R.	08-03199	B

SCALE	DATE	SHEET
NTS	11/06/17	6 OF 9

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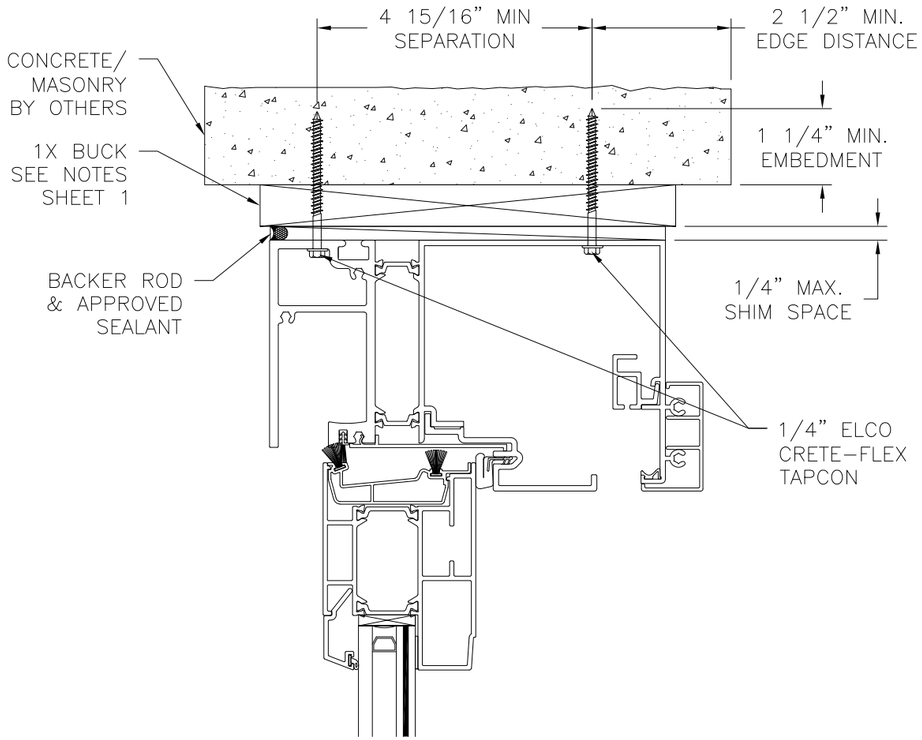
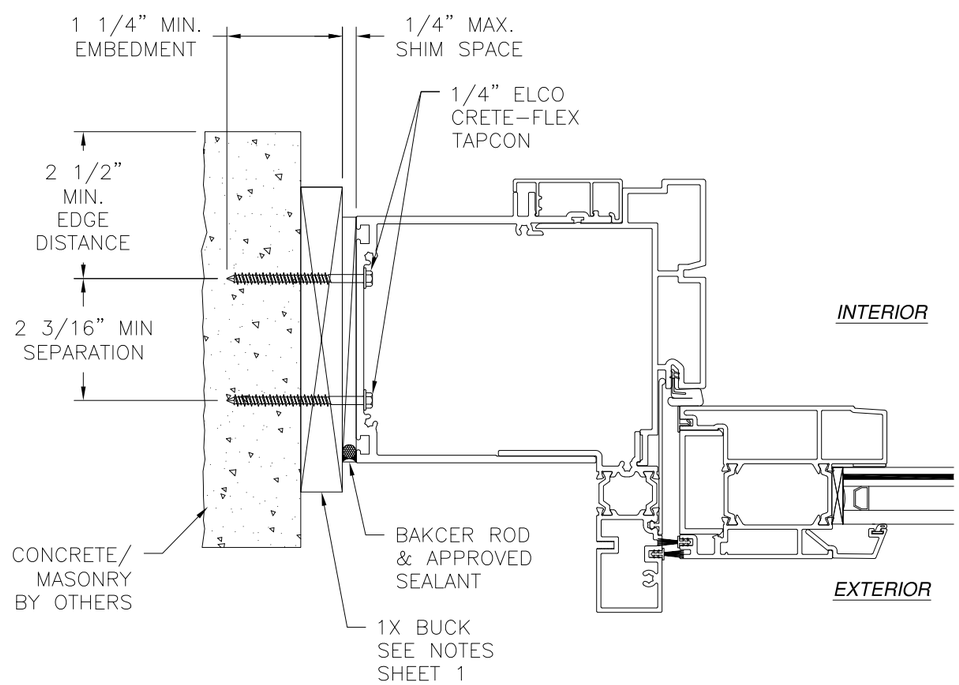
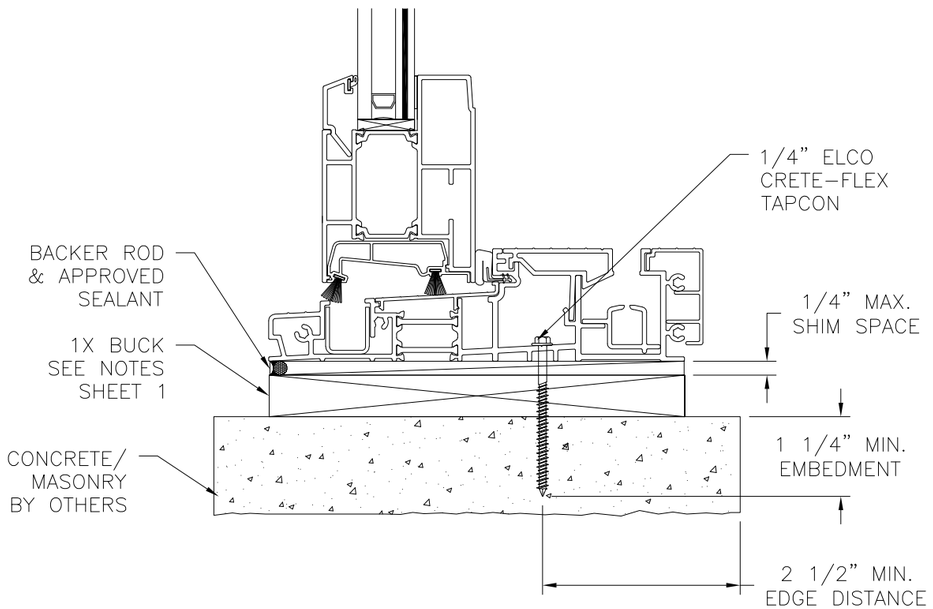




JAMB INSTALLATION DETAIL
CONCRETE/MASONRY INSTALLATION



VERTICAL CROSS SECTION
CONCRETE/MASONRY INSTALLATION

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2. *PERIMETER AND JOINT SEALANT BY OTHERS TO BE DESIGNED IN ACCORDANCE WITH ASTM E2112*

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DRAWN:	DWG NO.	REV
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SCALE NTS	DATE 11/06/17	SHEET 7 OF 9

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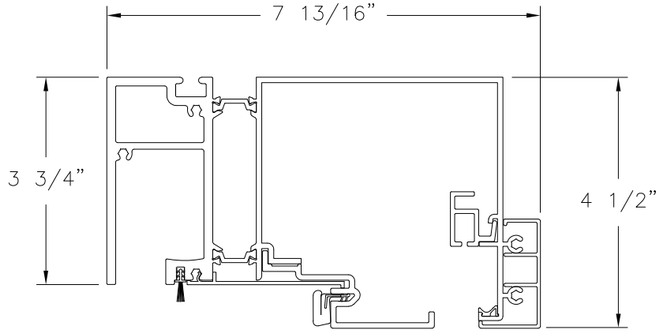
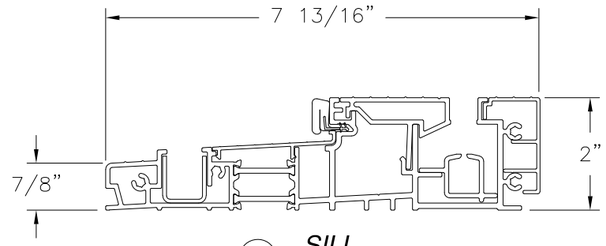
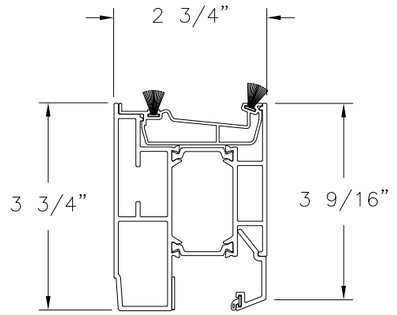


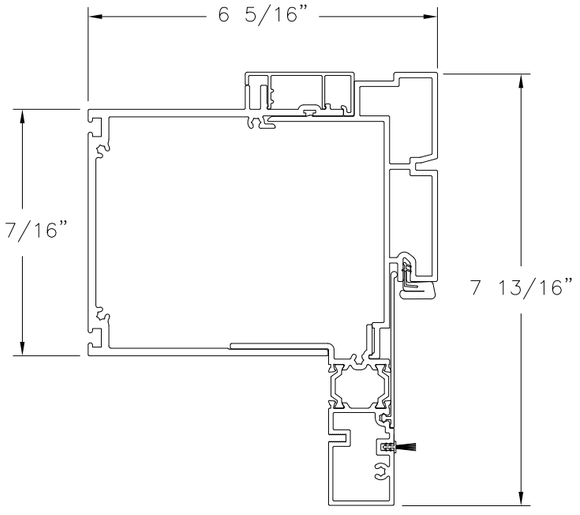
10 **HEAD**
ASSY-0847



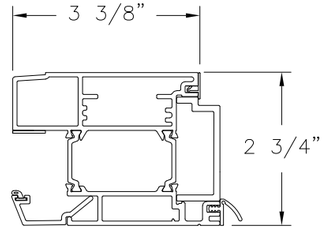
11 **SILL**
ASSY-0840



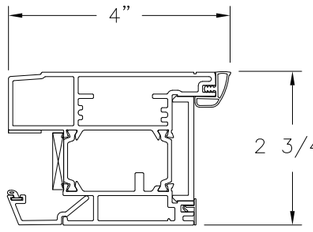
3 **TOP RAIL**
ASSY-0850



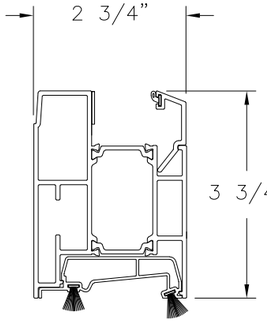
1 **INOPERABLE JAMB**
ASSY-0849



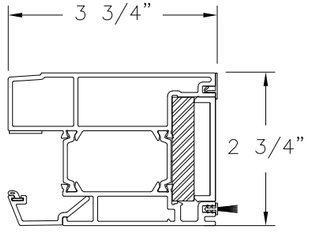
12 **STILE ACTIVE**
ASSY-0855



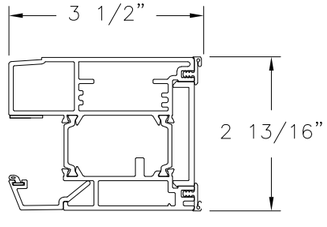
13 **STILE PASSIVE**
ASSY-0856



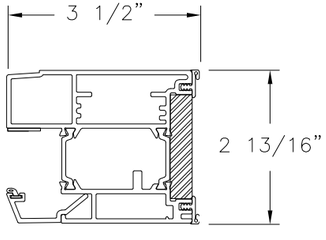
4 **BOTTOM RAIL**
ASSY-0851



14 **JAMB STILE HURRICANE**
ASSY-0854



2 **COMMON STILE**
ASSY-0852



COMMON STILE HURRICANE
ASSY-0853

SIGNED: 05/22/2024

CENTOR NORTH AMERICA INC.
966–130 CORPORATE BLVD.
AURORA, IL 60502

400 SERIES/MODEL 405 FOLDING OUTWARD OPENING DOOR WITH ALUMINUM TRIM – IMPACT COMPONENTS

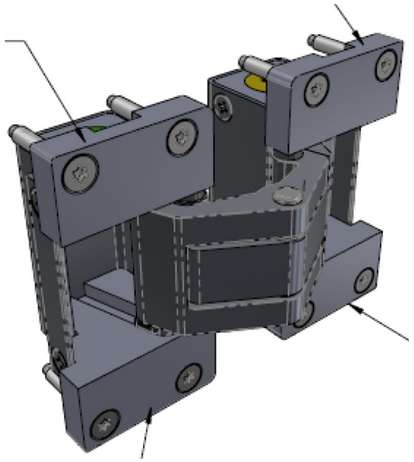
DRAWN:	DWG NO.	REV
A.R.	08–03199	B
SCALE NTS	DATE 11/06/17	SHEET 8 OF 9

L. ROBERTO LOMAS P.E.
208 7th Ave, INDIALANTIC, FL 32903
434-688-0609 rllomas@lrlomaspe.com

LUIS R. LOMAS LICENSE No. 62514 STATE OF FLORIDA PROFESSIONAL ENGINEER

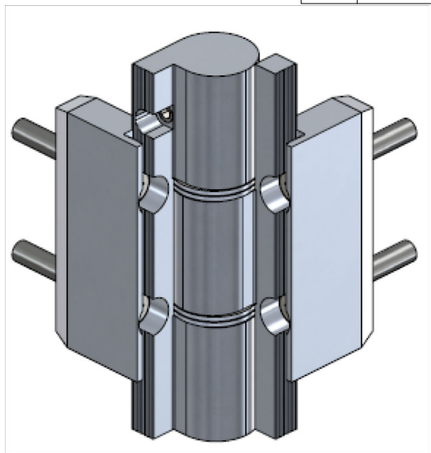
Luis R. Lomas P.E.
FL No.: 62514

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
B	REVISE PER NEW CODE	05/22/2024	R.L.

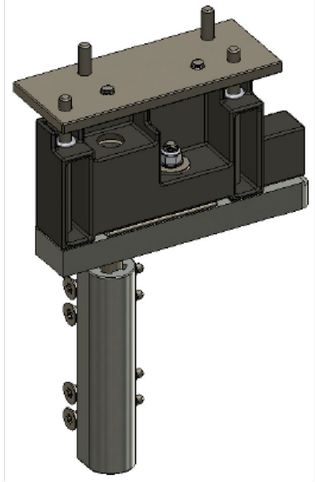


8 *CONCEALED HINGE*
ASSY-0560

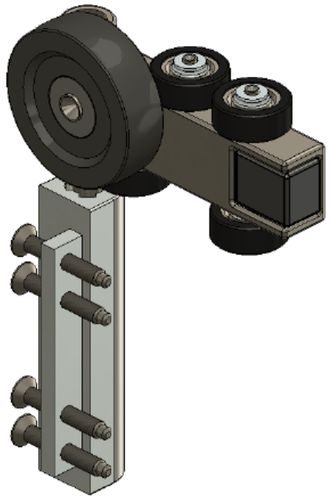
15 *INTERMEDIATE CARRIER*
ASSY-0618



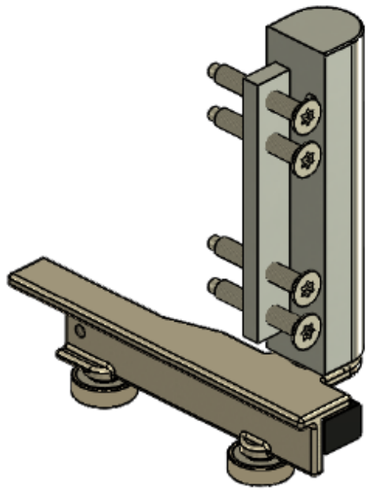
16 *INTERMEDIATE HINGE*
ASSY-0620



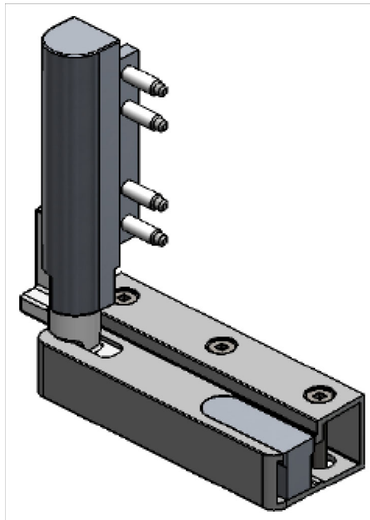
17 *TOP PIVOT*
ASSY-0331



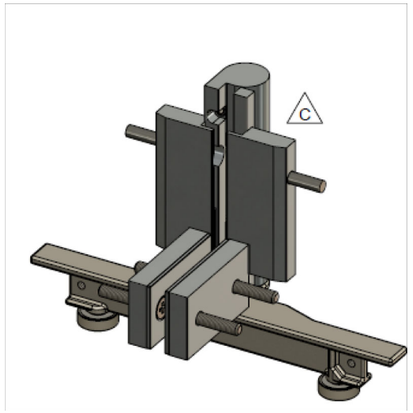
18 *END CARRIER*
ASSY-0332



19 *BOTTOM GUIDE JAMB*
ASSY-0626



20 *BOTTOM LEFT PIVOT*
ASSY-0565



21 *INTERMEDIATE GUIDE*
ASSY-0619

SIGNED: 05/22/2024

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AURORA, IL 60502

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