

# Series 250-T

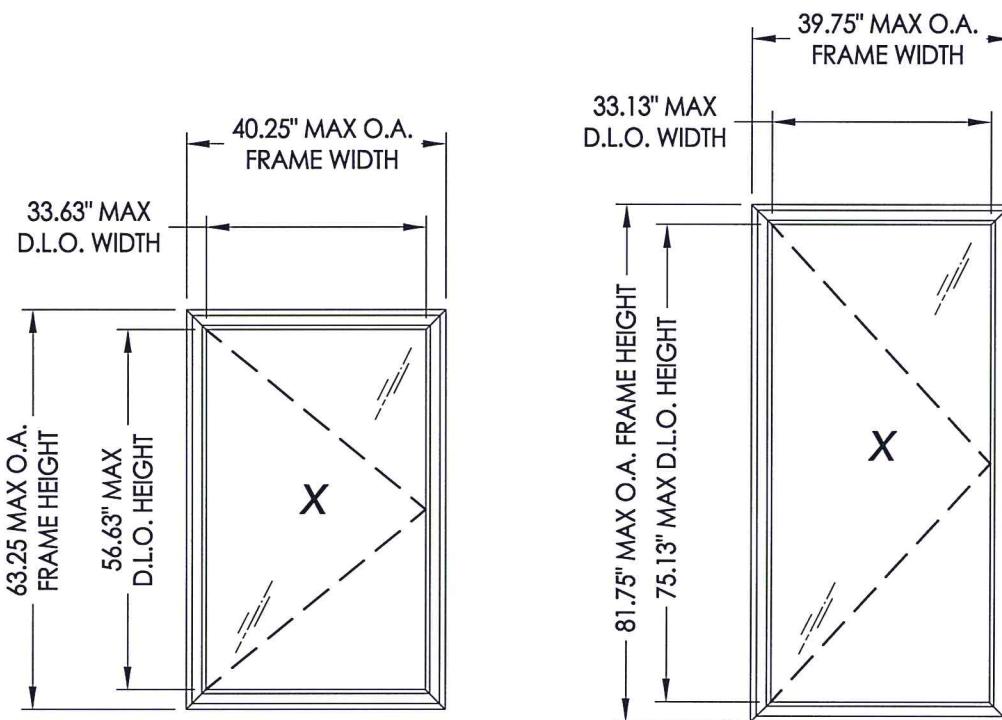
## Aluminum Casement Window

### w/ Thermal Break Frame "NON-IMPACT"

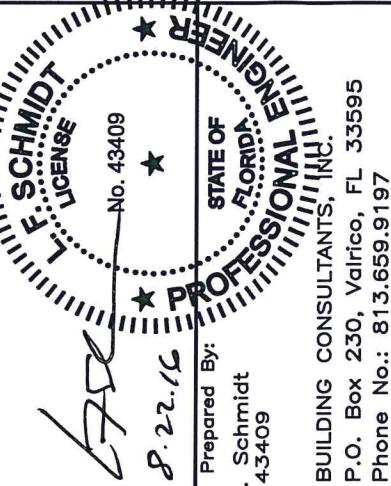
#### GENERAL NOTES

1. This product has been evaluated and is in compliance with the 5th Edition (2014) Florida Building Code (FBC) structural requirements excluding the "High Velocity Hurricane Zone" (HVHZ).
2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.
3. When used in areas requiring wind borne debris protection this product is required to be protected with an impact resistant covering that complies with Section 1609.1.2 of the FBC.
4. For 2x stud framing construction, anchoring of these units shall be the same as that shown for 2x buck masonry construction.
5. Site conditions that deviate from the details of this drawing require further engineering analysis by a licensed engineer or registered architect.

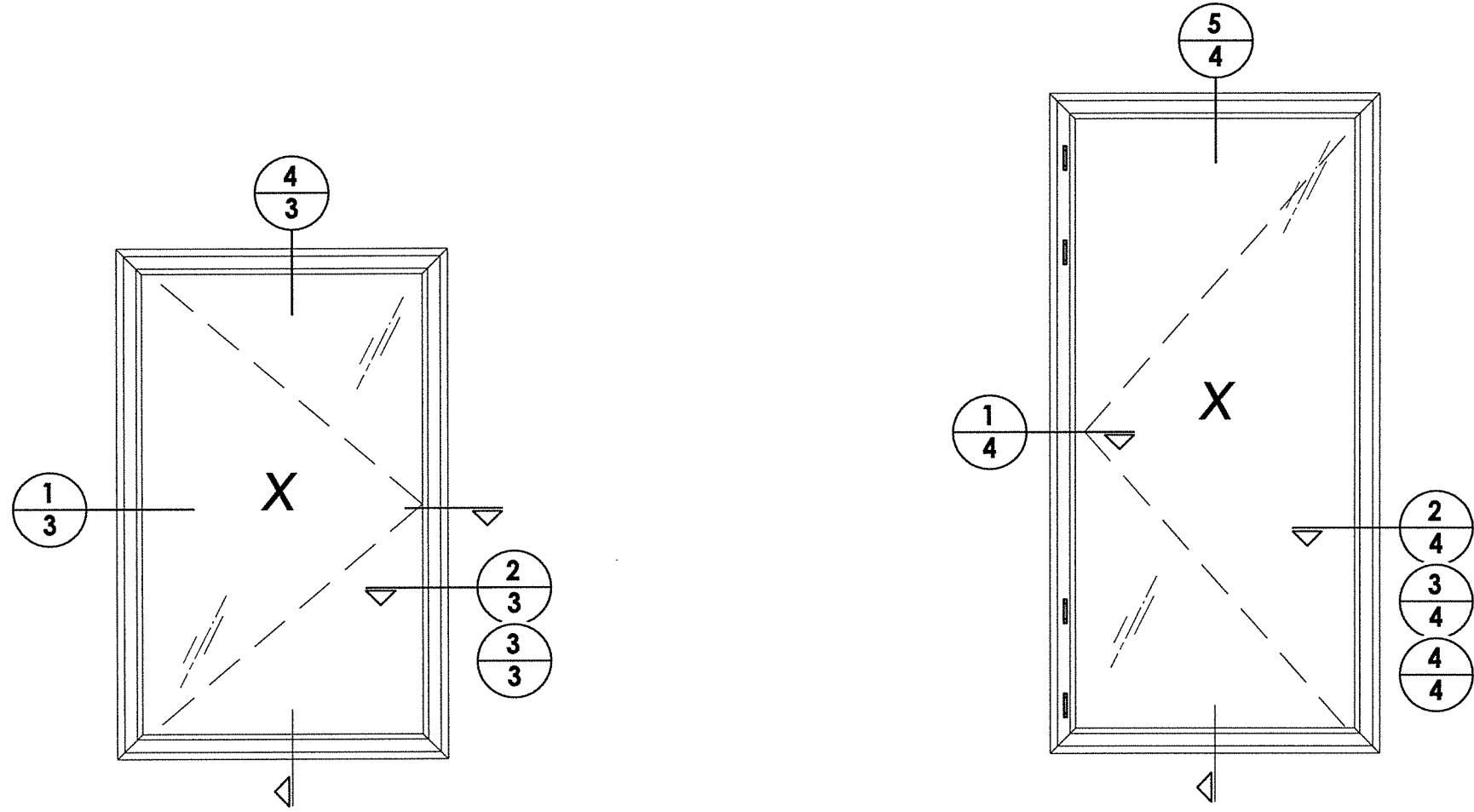
TABLE OF CONTENTS	
SHEET#	DESCRIPTION
1	Typical elevations, design pressures and general notes
2	Elevations
3	Horizontal and vertical cross sections
4	Horizontal and vertical cross sections
5	Buck and frame anchoring
6	Buck and frame anchoring
7	Bill of materials, components and glazing detail



OVERALL FRAME DIMENSION	OVERALL D.L.O. DIMENSION	GLASS TYPE	DESIGN PRESSURE (PSF)	
			POSITIVE	NEGATIVE
40.25" X 63.25"	33.63" X 56.63"	G1	+65.0	-65.0
39.75" X 81.75"	33.13" X 75.13"	G1	+65.0	-65.0

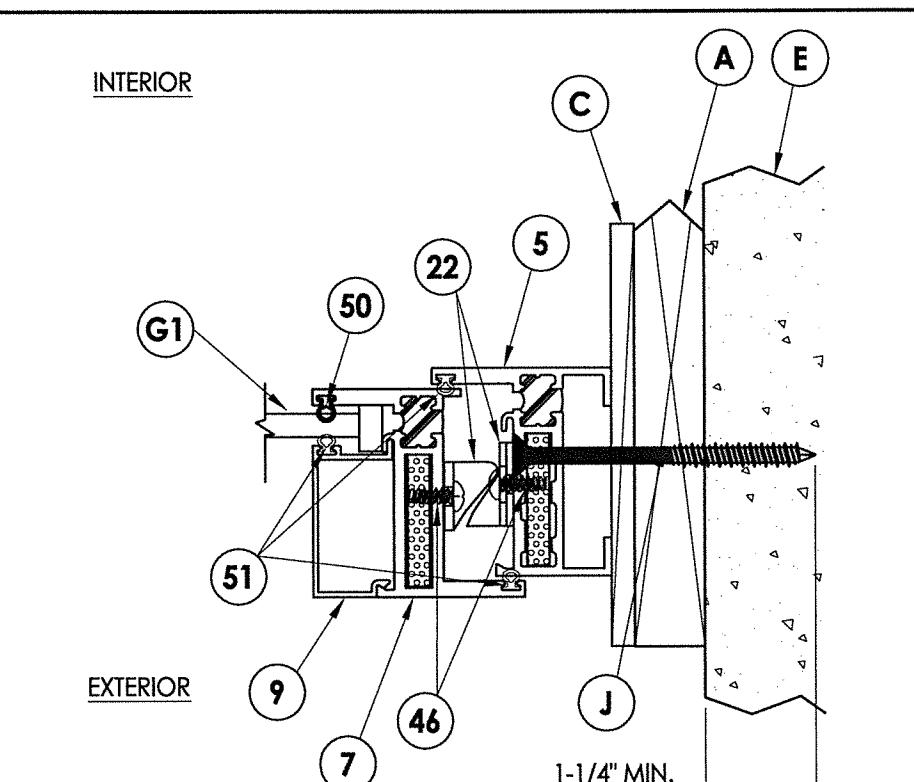
	
<b>RW</b> Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409	
<b>RW</b> BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813	
PRODUCT: <u>FLEETWOOD WINDOWS AND DOORS</u>	PART OR ASSEMBLY: <u>LFS</u>
TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES	
BY <u>LFS</u>	REVISIONS
DATE: 10/23/13	
SCALE: N.T.S.	
DWG. BY: JK	
CHK. BY: LFS	
DRAWING NO.: FL-14904.8	
SHEET <u>1</u> OF <u>7</u>	

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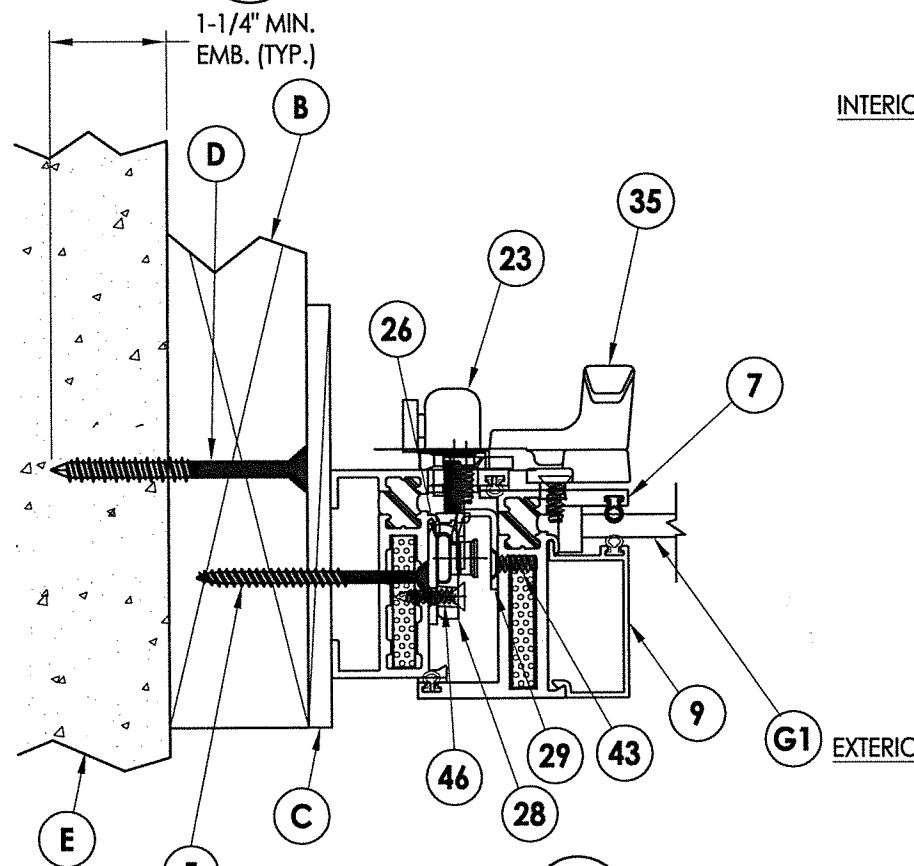


HARDWARE TABLE			
HINGE			
Qty.	Description	Height	Snubbers
4	Butt hinge	$\leq 81.75"$	Yes (2)
2	Butt hinge	$\leq 50"$	Yes (2)
2	4 Bar hinge	$\leq 65"$	Yes (3)
HANDLES			
Points	Description	Height	*Cam locks can be used in conjunction with multipoint lock or in lieu of multipoint locks
4	Multipoint	$> 72"$	
3	Multipoint	$\leq 72"$	
Qty.			*Cam locks can be used in conjunction with multipoint lock or in lieu of multipoint locks
3	Cam*	$\leq 65"$	
1	Cam*	$\leq 50"$	

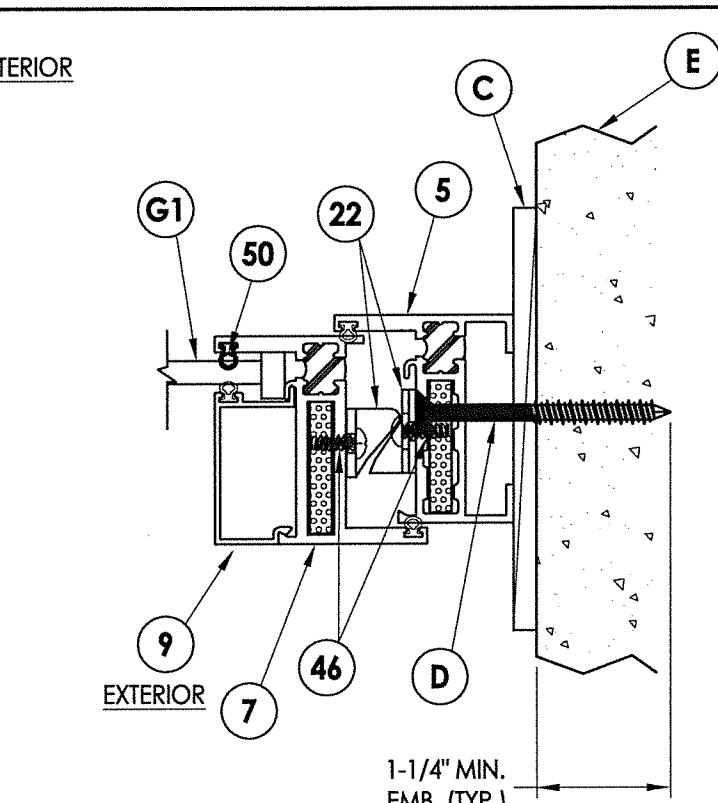
DOCUMENTS PREPARED BY:	
Lyndon F. Schmidt P.E. No. 43409	
F. SCHMIDT PROFESSIONAL ENGINEER No. 43409	
F. SCHMIDT PROFESSIONAL ENGINEER No. 43409	
BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813	
<b>RW</b> PART OR ASSEMBLY: ELEVATIONS BY REVISIONS	
DATE:	10/23/13
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	FL-14904.8
SHEET	2 OF 7



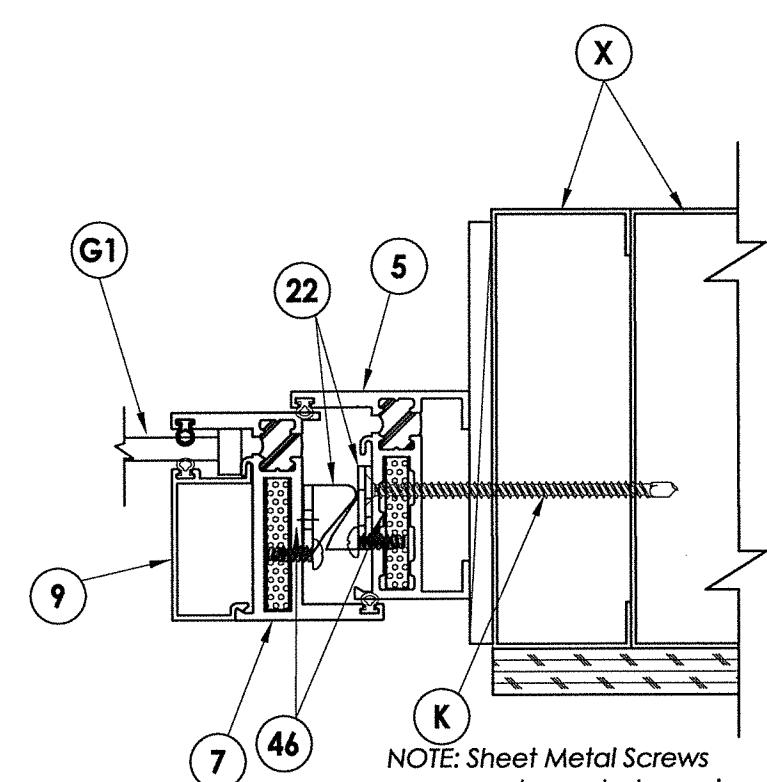
**2 HORIZONTAL CROSS SECTION**  
**3 Shown w/ 1X Sub buck option**



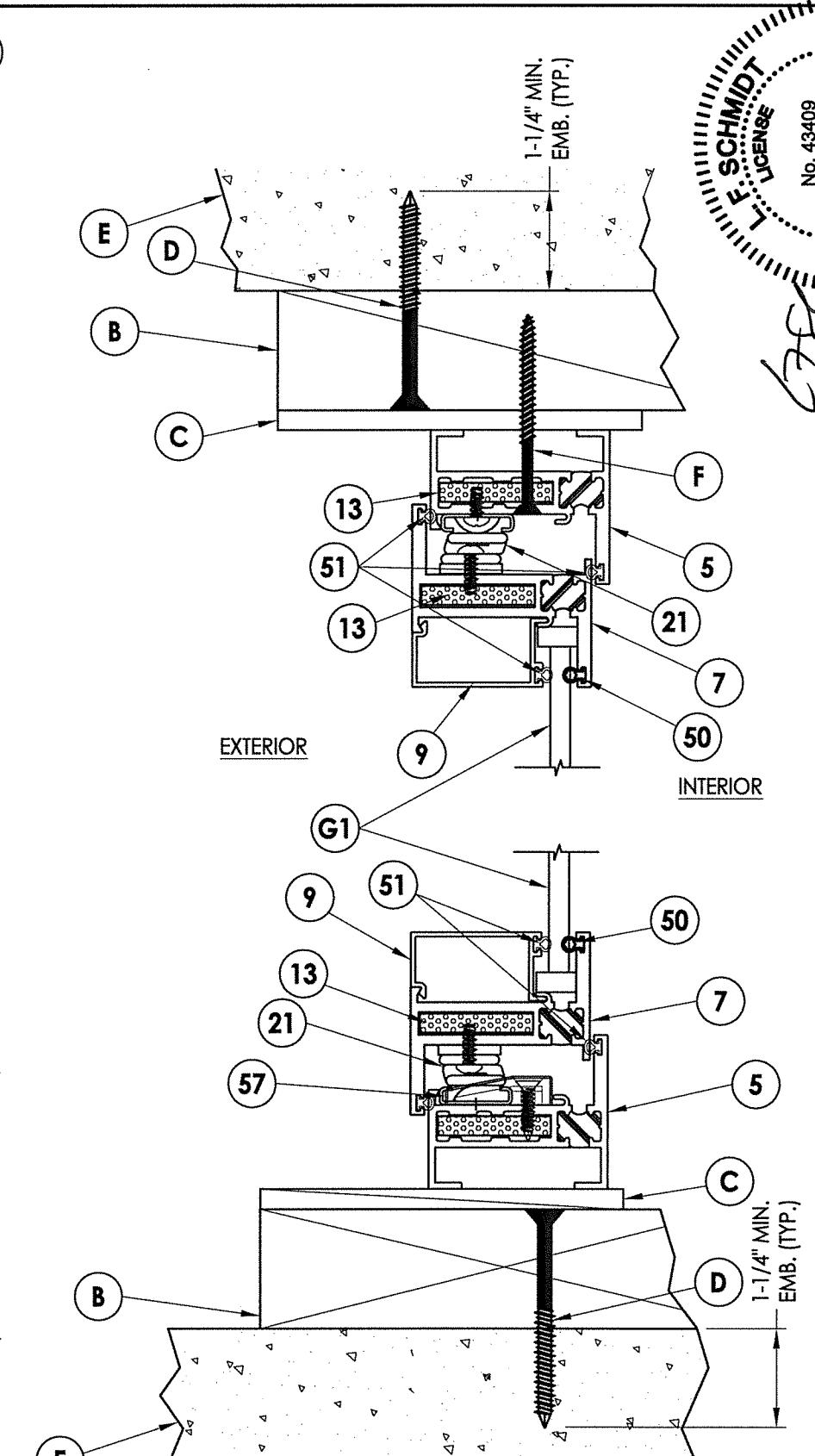
**1** **HORIZONTAL CROSS SECTION**  
**3** Show w/ 2X Buck and Steel Stud option



## **3** HORIZONTAL CROSS SECTION **3** Shown w/ Direct to Masonry option

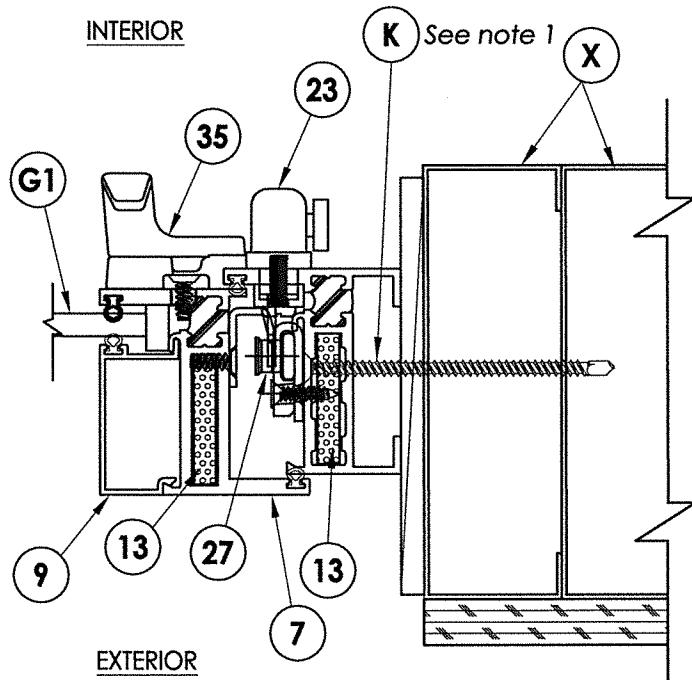


**NOTE:** Sheet Metal Screws  
must penetrate a min.  
of 3 threads through  
at least two (2) sheets  
of metal.

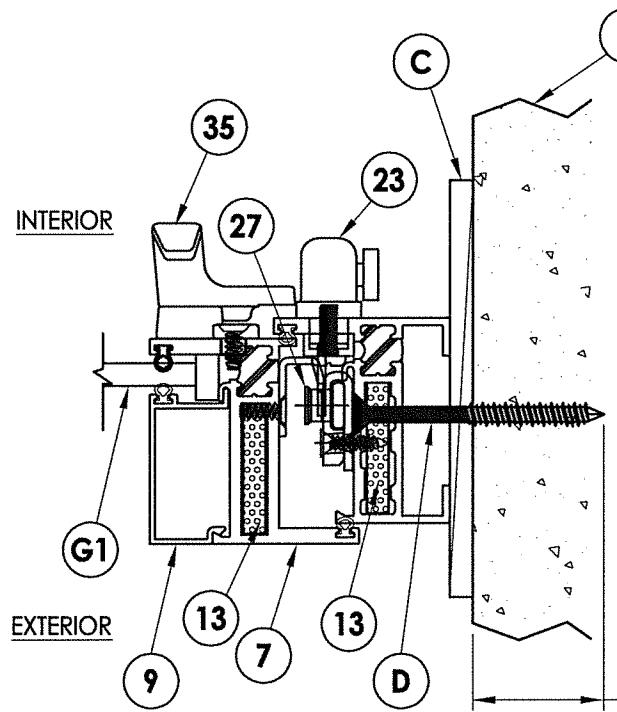


**4** VERTICAL CROSS SECTION  
**3** Shown w/ 2X Buck Construction

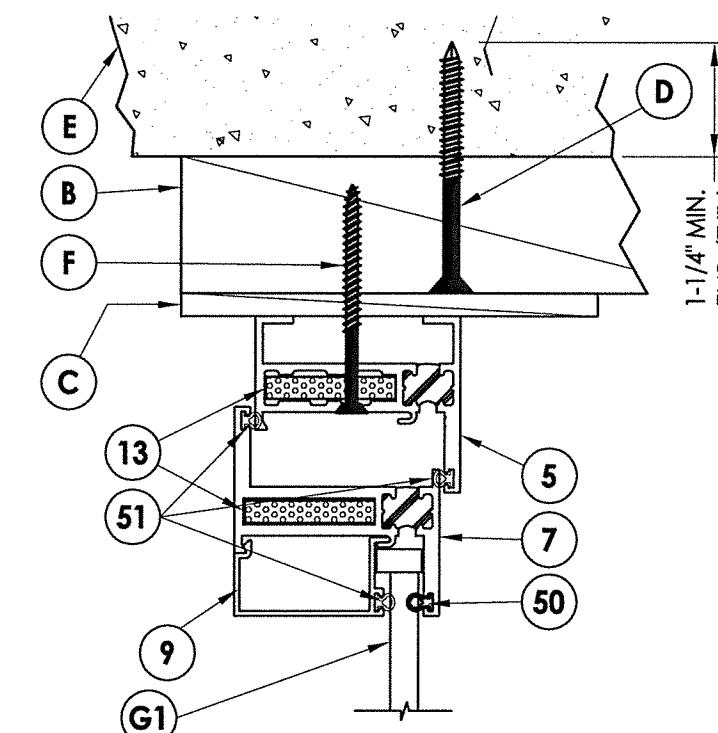
		PRODUCT: <b>FLEETWOOD WINDOWS AND DOORS</b>		Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409	
		PART OR ASSEMBLY: <b>HORIZONTAL AND VERTICAL CROSS SECTIONS</b>		BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813	
NO.	DATE	LFS	LFS	BY	REVISIONS
2	8/22/16	Renumber Drawings			
1	1/22/15	UPDATE TO 5TH ED. (2014)	FBC		
DRAWING NO.: <b>FL-14904.8</b>					
SHEET <b>3</b> OF <b>7</b>					



## **3** HORIZONTAL CROSS SECTION **4** Shown w/ Steel Stud option



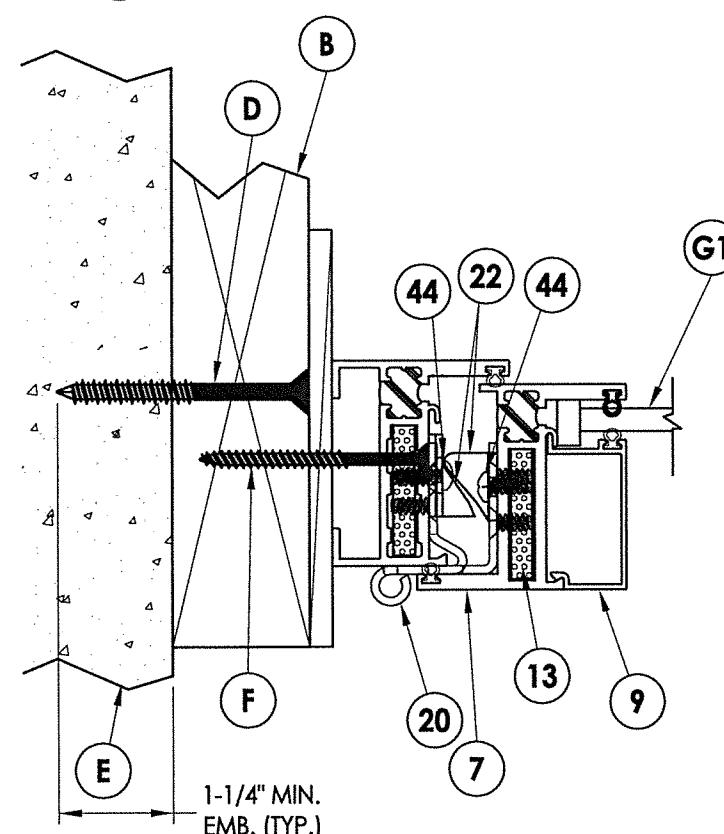
## **4** HORIZONTAL CROSS SECTION



Documents Prepared By:  
Wyllndon F. Schmidt  
P.E. No. 43409

RW

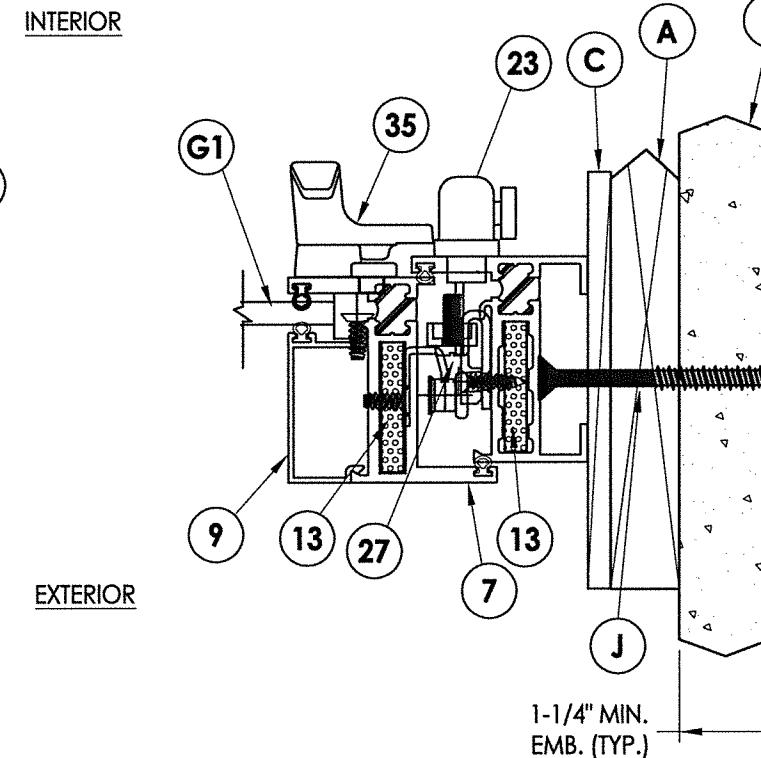
STATE OF FLORIDA PROFESSIONAL BUILDING CONSULTANTS, INC.  
P.O. Box 230, Valrico, FL 33558  
Phone No.: 813.659.9197  
FBPE C.A. No. 9813



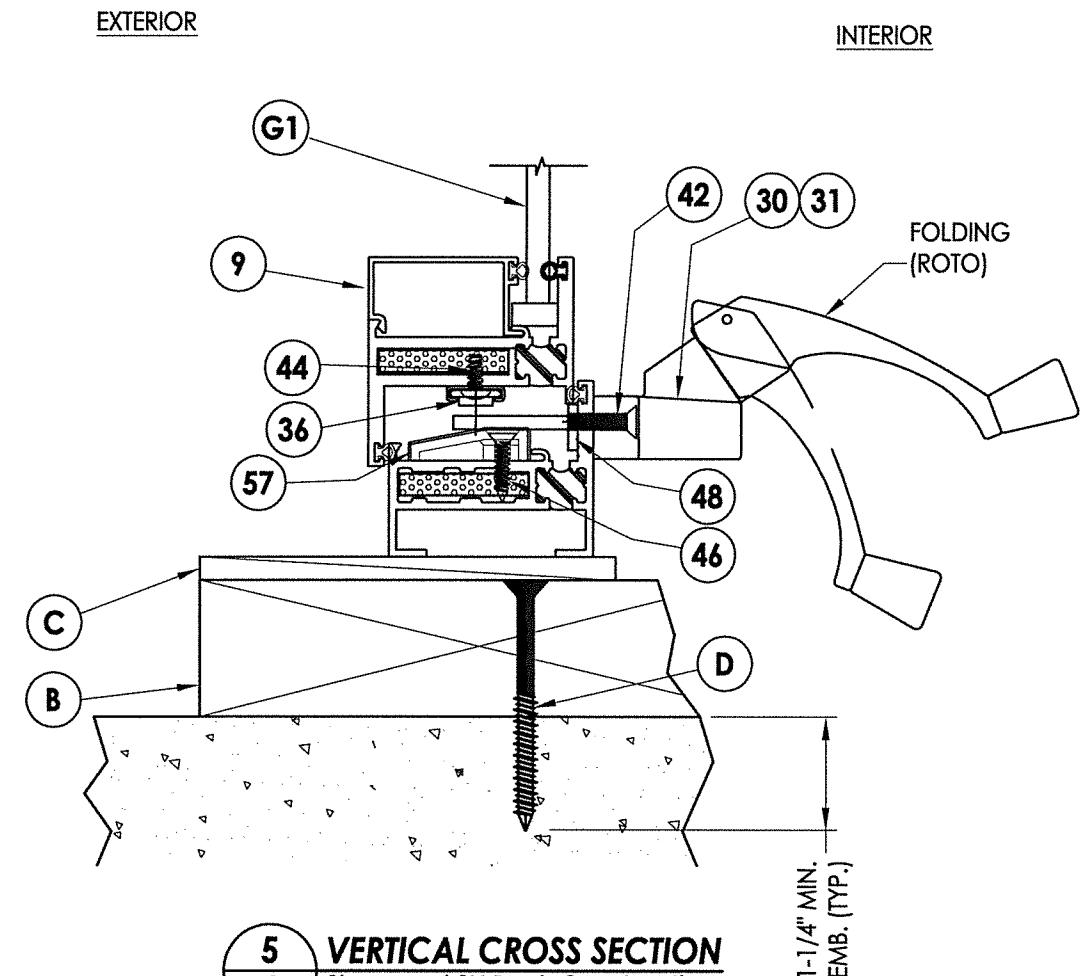
**HORIZONTAL CROSS SECTION**  
Shown w/ 2X Buck Construction

**NOTE:**

1. Sheet Metal Screws must penetrate a min. of 3 threads through at least two (2) sheets of metal.

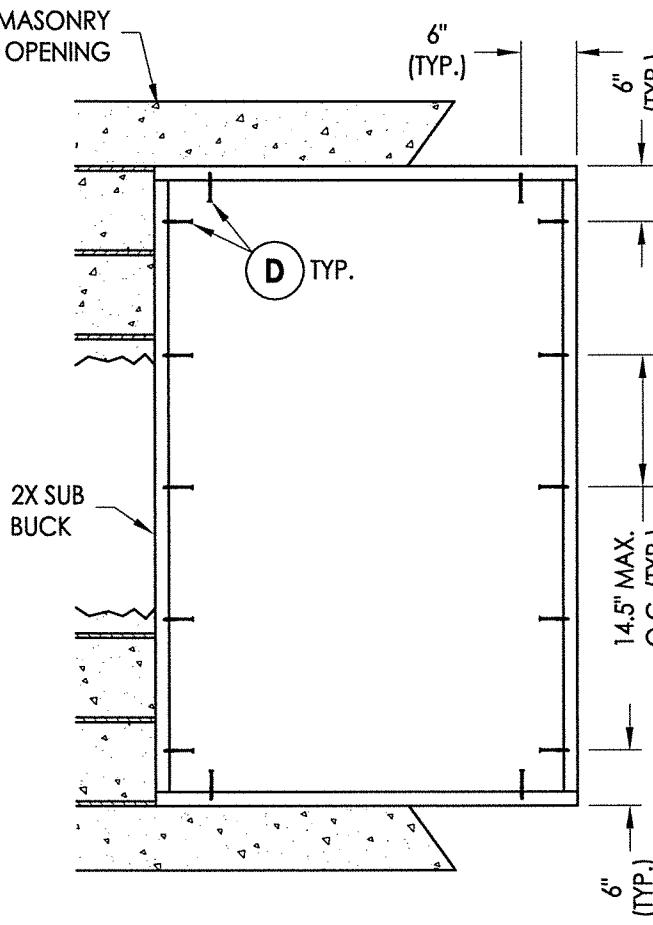


**2** HORIZONTAL CROSS SECTION  
**4** Shown w/ 1X Sub buck option

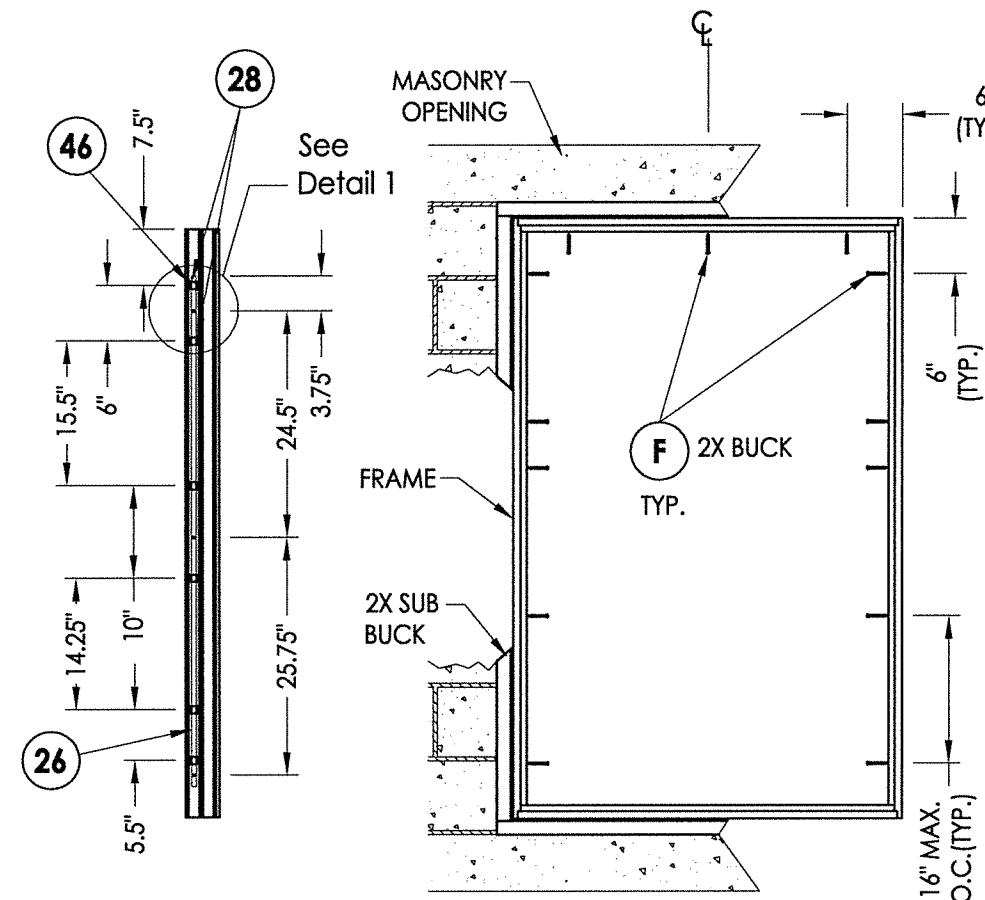


**5** VERTICAL CROSS SECTION  
**4** Shown w/ 2X Buck Construction

PRODUCT:			
<u>FLEETWOOD WINDOWS AND DOORS</u>			
PART OR ASSEMBLY:			
2	8/22/16	Renumber Drawings	LFS
1	1/22/15	UPDATE TO 5TH ED. (2014)	FBC
NO.	DATE		LFS
			BY
DATE: 10/23/13			
SCALE: N.T.S.			
DWG. BY: JK			
CHK. BY: LFS			
DRAWING NO.:			
FL-14904.8			
SHEET <u>4</u> OF <u>7</u>			

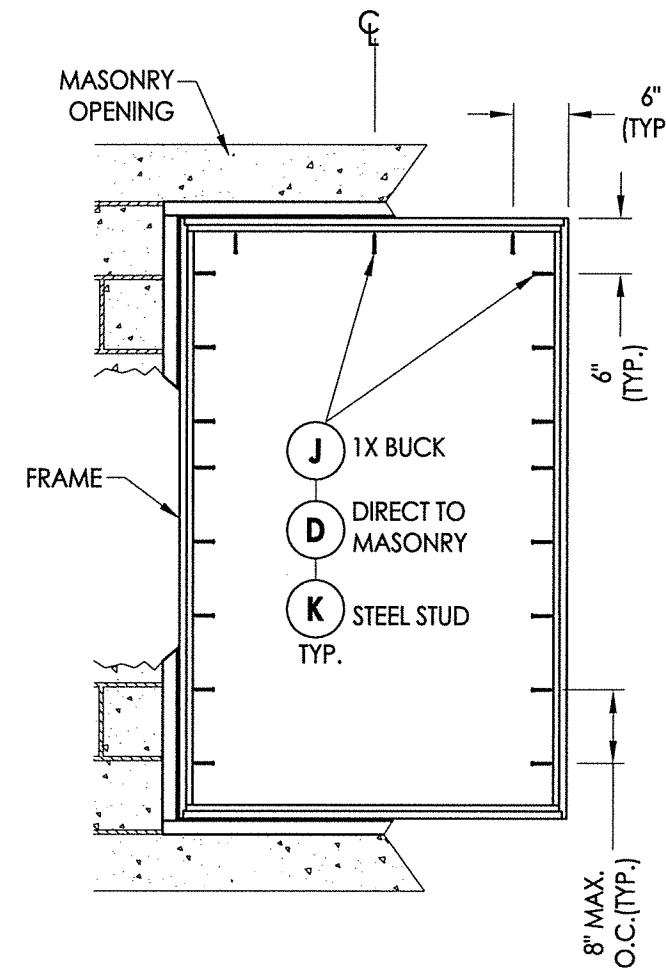


**2X BUCK ANCHORING**  
40.25" X 63.25" Max Size

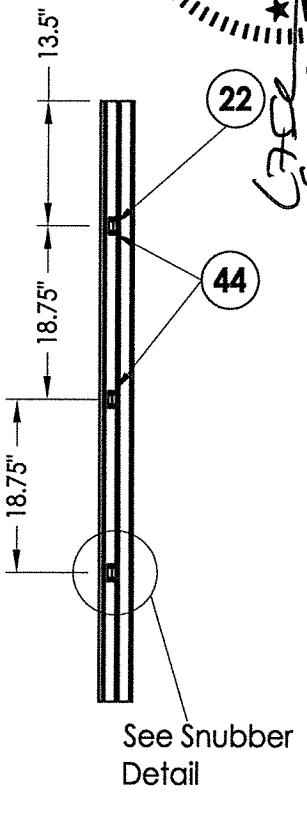


**LOCK JAMB**  
Locking Points (3)

**FRAME MOUNT ANCHORING**  
40.25" X 63.25" Max Size  
(2X BUCK)



**FRAME MOUNT ANCHORING**  
40.25" X 63.25" Max Size  
(1X BUCK, DIR. TO MASONRY, STEEL STUD)



**SNUBBERS JAMB**

DOCUMENTS PREPARED BY:	
Lyndon F. Schmidt P.E. No. 43409	
BUILDING CONSULTANTS, INC.	
P.O. Box 230, Valrico, FL 33595	
Phone No.: 813.659.9197	
FBPE C.A. No. 9813	
STATE OF FLORIDA PROFESSIONAL ENGINEER LICENSE NO. 43409	
F-22-1/C	
R.W. SCHMIDT	
See Snubber Detail	

**PRODUCT:** FLEETWOOD WINDOWS AND DOORS

**PART OR ASSEMBLY:** BUCK & FRAME ANCHORING

**REVISIONS:**

DATE: 10/23/13
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: FL-14904.8
SHEET 5 OF 7

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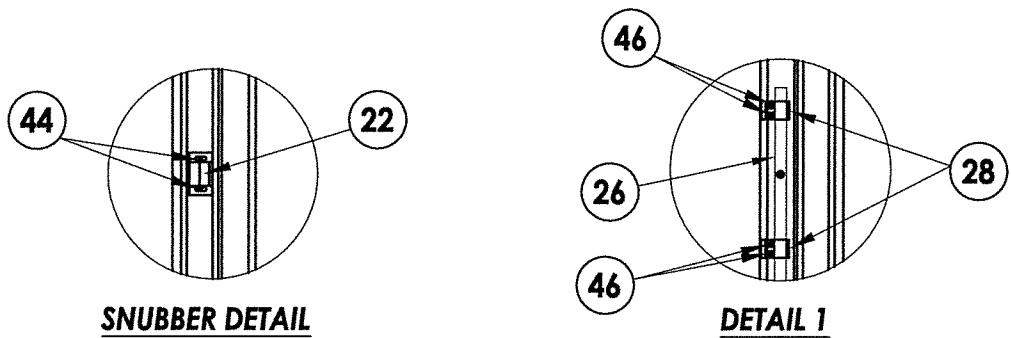
**CONCRETE ANCHOR NOTES:**

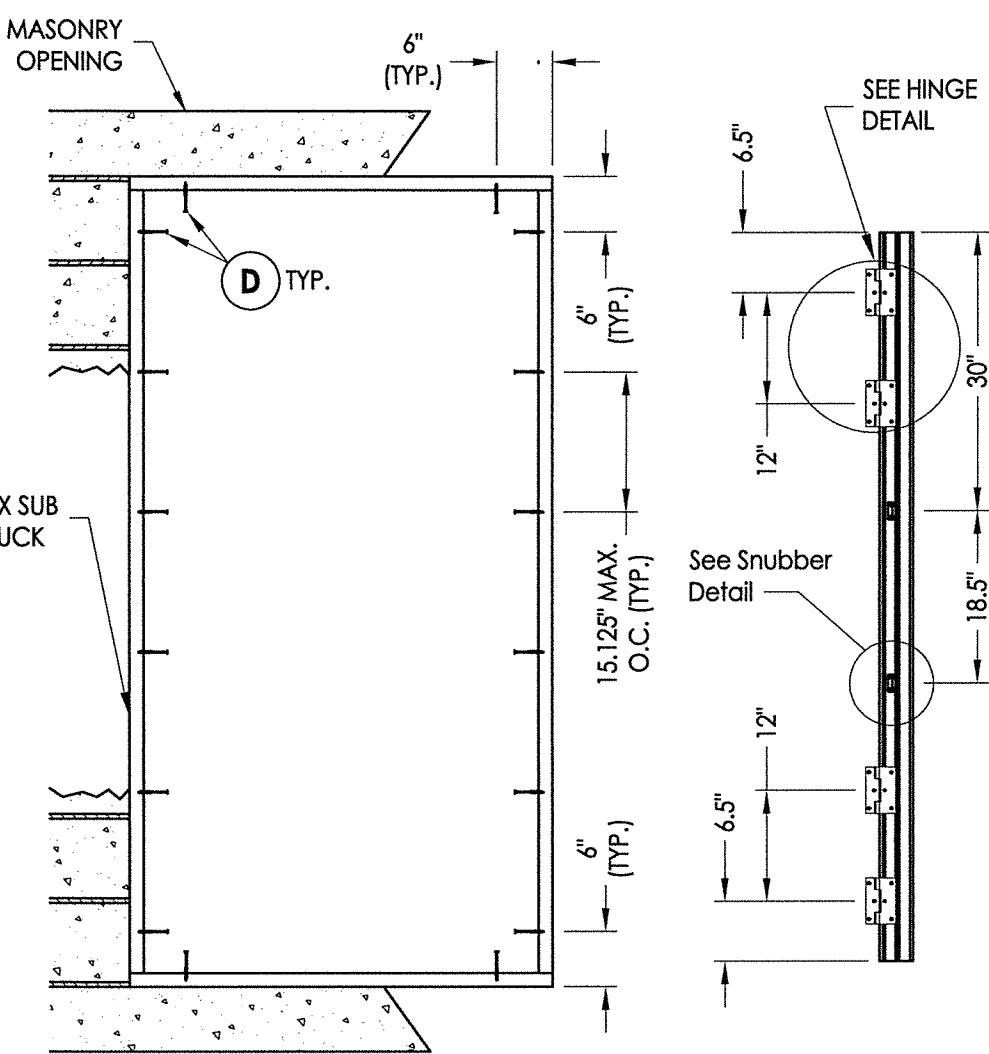
- Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
- Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
- Concrete anchor table:

ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-1/4"	2"	4"
ELCO ULTRA CON®	1/4"	1-1/4"	1"	4"

**WOOD SCREW INSTALLATION NOTES:**

- Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.





**2X BUCK ANCHORING**  
39.75" X 81.75" Max Size

**HINGE JAMB**

**FRAME MOUNT ANCHORING**  
39.75" X 81.75" Max Size  
(2X BUCK)

**FRAME MOUNT ANCHORING**  
39.75" X 81.75" Max Size  
(1X BUCK, DIR. TO MASONRY, STEEL STUD)

**LOCK JAMB**  
Locking Points (4)

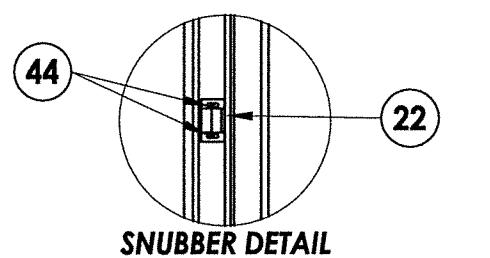
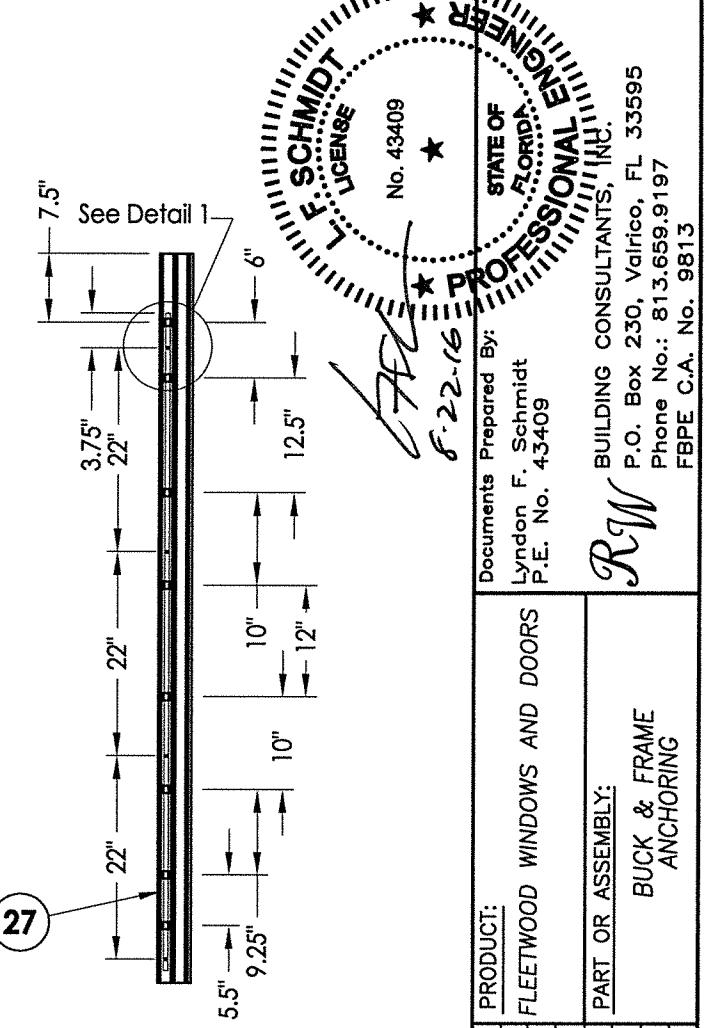
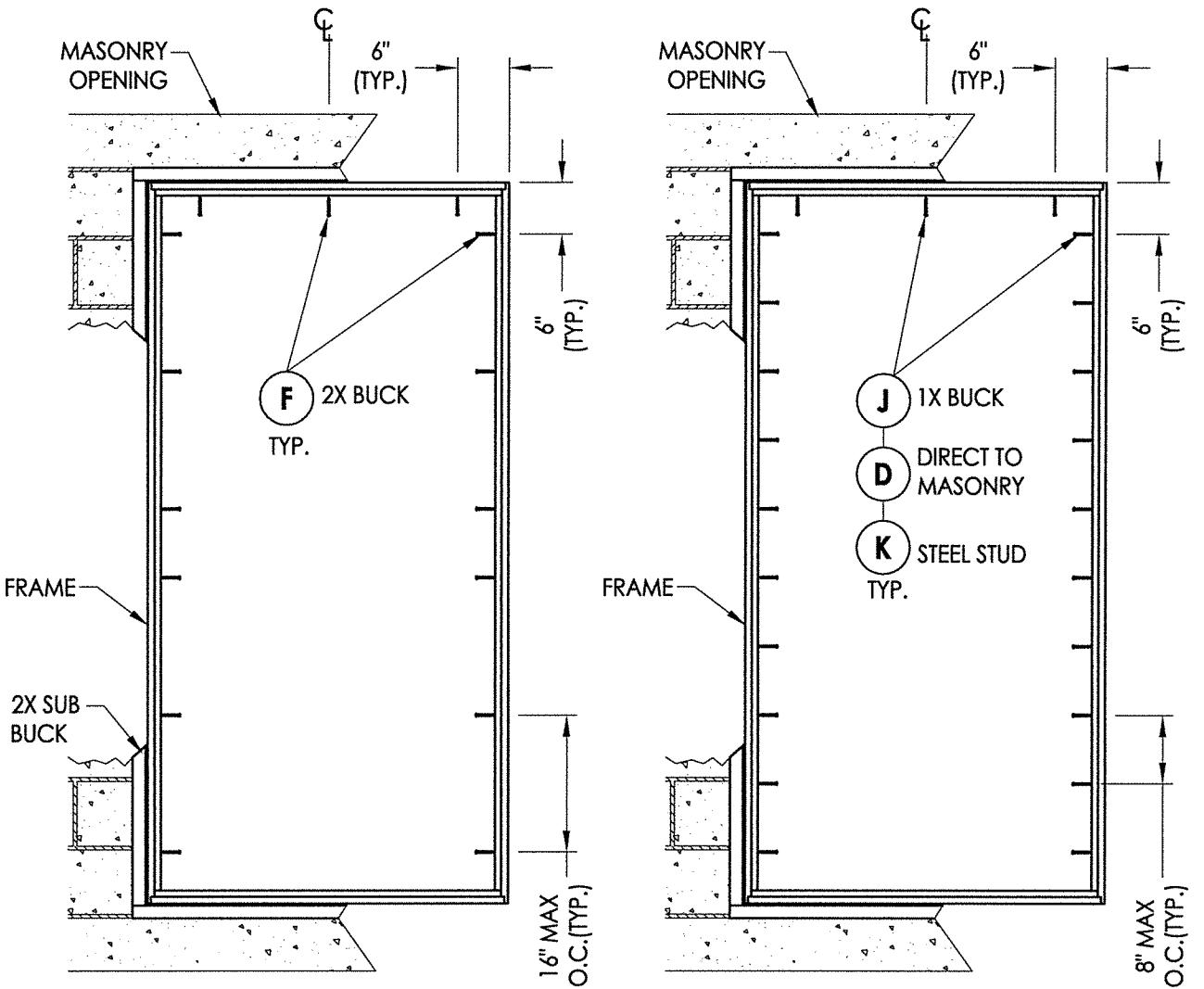
**CONCRETE ANCHOR NOTES:**

1. Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
2. Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
3. Concrete anchor table:

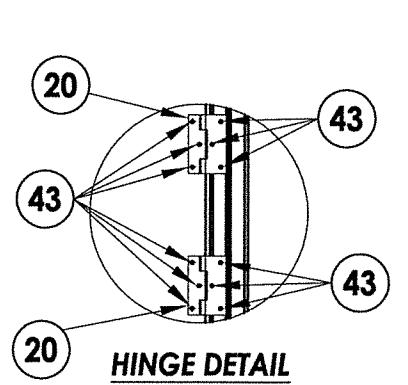
ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
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**WOOD SCREW INSTALLATION NOTES:**

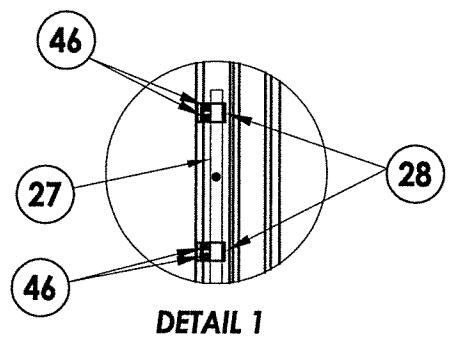
1. Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.



**SNUBBER DETAIL**



**HINGE DETAIL**

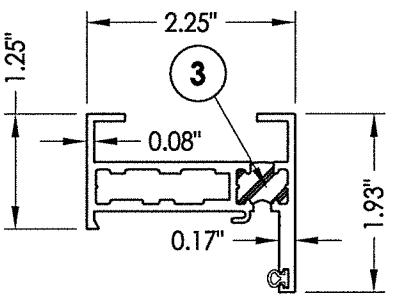


**DETAIL 1**

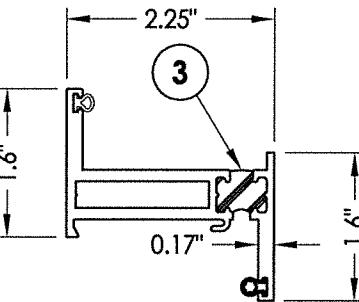
PRODUCT: FLEETWOOD WINDOWS AND DOORS	LFS PART OR ASSEMBLY: BUCK & FRAME ANCHORING
DOCUMENTS PREPARED BY: Lyndon F. Schmidt P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813	BUILDING CONSULTANTS, INC. No. 43409 F. SCHMIDT LICENCE No. 43409 STATE OF FLORIDA PROFESSIONAL ENGINEER No. 43409 6-22-16 R.W.
DATE: 10/23/13 SCALE: N.T.S. DWG. BY: JK CHK. BY: LFS DRAWING NO.: FL-14904.8 SHEET 6 OF 7	DATE: 10/23/13 SCALE: N.T.S. DWG. BY: JK CHK. BY: LFS DRAWING NO.: FL-14904.8 SHEET 6 OF 7

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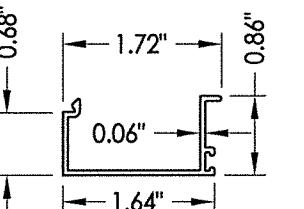
BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
A	1X BUCK SG >= 0.55	WOOD
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
D	1/4" X 2-3/4" ELCO OR ITW PFH CONCRETE SCREW	STEEL
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
F	#10 X 2" PPH WOOD SCREW (1-1/4" MIN. EMBEDMENT)	STEEL
J	1/4" x 3-1/4" ELCO OR ITW PFH CONCRETE SCREW	STEEL
K	#10 PPH SELF-DRILLING SMS	STEEL
X	STEEL STUD Min. Thk .033" (ASTM A653 GRADE 33 Fy=33 ksi Min, Fu=45 ksi Min)	STEEL
3	THERMAL BREAK ("LIQUID POLYURETHANE" by Azon USA, Inc.)	-
5	WESTWOOD BLOCK FRAME	6063-T6 ALUM
7	WESTWOOD ZEE BAR (PANEL)	6063-T6 ALUM
9	GLASS STOP (1/4")	6063-T6 ALUM
13	CORNER KEY	6063-T6 ALUM
20	SS. BUTT HINGE	SS
21	4 BAR HINGE	SS
22	SNUBBER-COMMERCIAL PULL-IN BLOCK	SS
23	MULTIPOINT LOCK HANDLE (STEVE HAGG)	SS
26	3 POINTS LOCKING BAR (TRUTH)	SS
27	4 POINTS LOCKING BAR (TRUTH)	SS
28	TIE BAR GUIDE (TRUTH)	-
29	KEEPER (TRUTH)	SS
30	CASEMENT ROTOR GEAR 13.5" (TRUTH)	SS
31	CASEMENT ROTOR GEAR 9.5" (TRUTH)	SS
35	CAM HANDLE / STRIKE PLATE (MELRON)	SS
36	CASEMENT SS. TRACK (TRUTH)	SS
42	MACHINING SCREW NO 10-32, FHP .75"	STEEL
43	SCREW NO 10 , UFHP .5"	STEEL
44	SCREW NO 8, PHP, .50"	STEEL
46	SCREW NO 8, FHP, .750"	STEEL
48	BACK UP NUTS	STEEL
50	BULB VINYL (EPDM 70 DUROMETER) - TREMCO	-
51	MINI BULB VINYL (EPDM 70 DUROMETER) - TREMCO	-
55	SETTING BLOCK	-
57	PIVOT SHIM	-



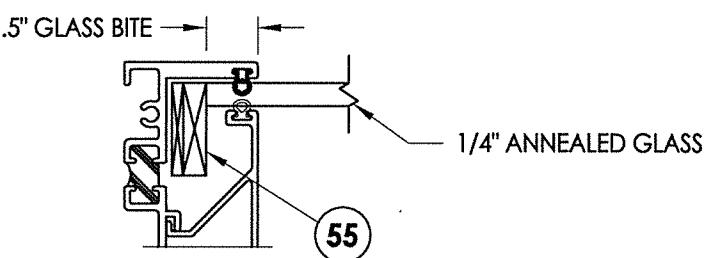
5 BLOCK FRAME



7 ZEE BAR (PANEL)



9 GLASS STOP 1/4"



55 GLAZING DETAIL

STATE OF FLORIDA PROFESSIONAL ENGINEER'S LICENSE	
No. 43409	
Lyndon F. Schmidt P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813	
Documents Prepared By: R.W. BUILDING CONSULTANTS, INC.	
LFS 8/22/16 Renumber Drawings 1 1/22/15 UPDATE TO 5TH ED. (2014) FBC NO. DATE BY	
PRODUCT: FLEETWOOD WINDOWS AND DOORS PART OR ASSEMBLY: LFS BILL OF MATERIALS, COMPONENTS AND GLAZING DETAIL BY	
REVISIONS	
DATE:	10/23/13
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	FL-14904.8
SHEET	7 OF 7

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# Series 250-T

## Aluminum Casement Window

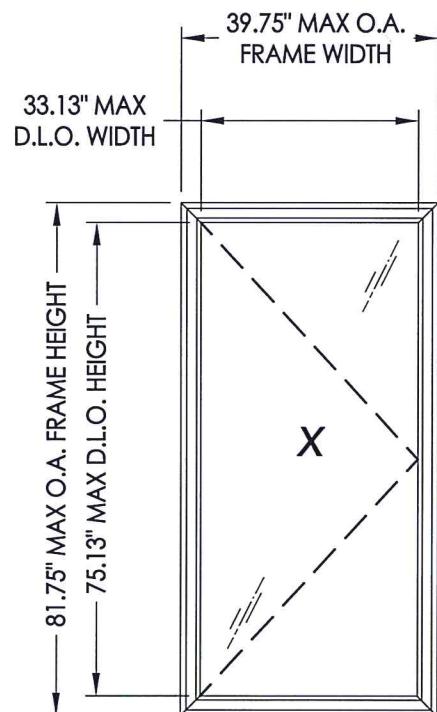
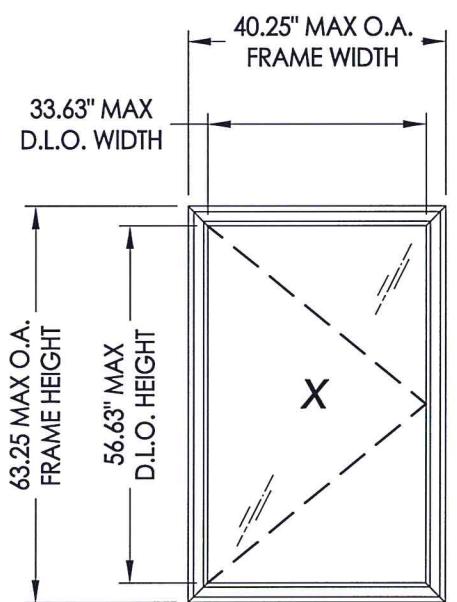
### w/ Thermal Break Frame "IMPACT"

#### GENERAL NOTES

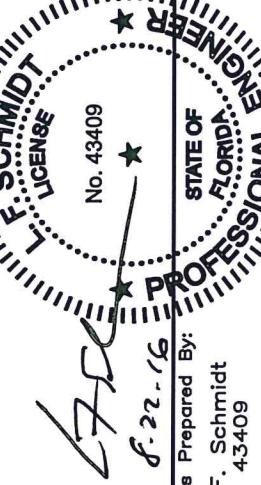
1. This product has been evaluated and is in compliance with the 5th Edition (2014) Florida Building Code (FBC) structural requirements excluding the "High Velocity Hurricane Zone" (HVHZ).
2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.
3. When used in areas requiring wind borne debris protection this product complies with Section 1609.1.2 of the FBC and does not require an impact resistant covering. This product meets missile level "D" and includes Wind Zone 4 as defined in ASTM E1996 and Section 1609.1.2.2 of the FBC.
4. For 2x stud framing construction, anchoring of these units shall be the same as that shown for 2x buck masonry construction.
5. Site conditions that deviate from the details of this drawing require further engineering analysis by a licensed engineer or registered architect.

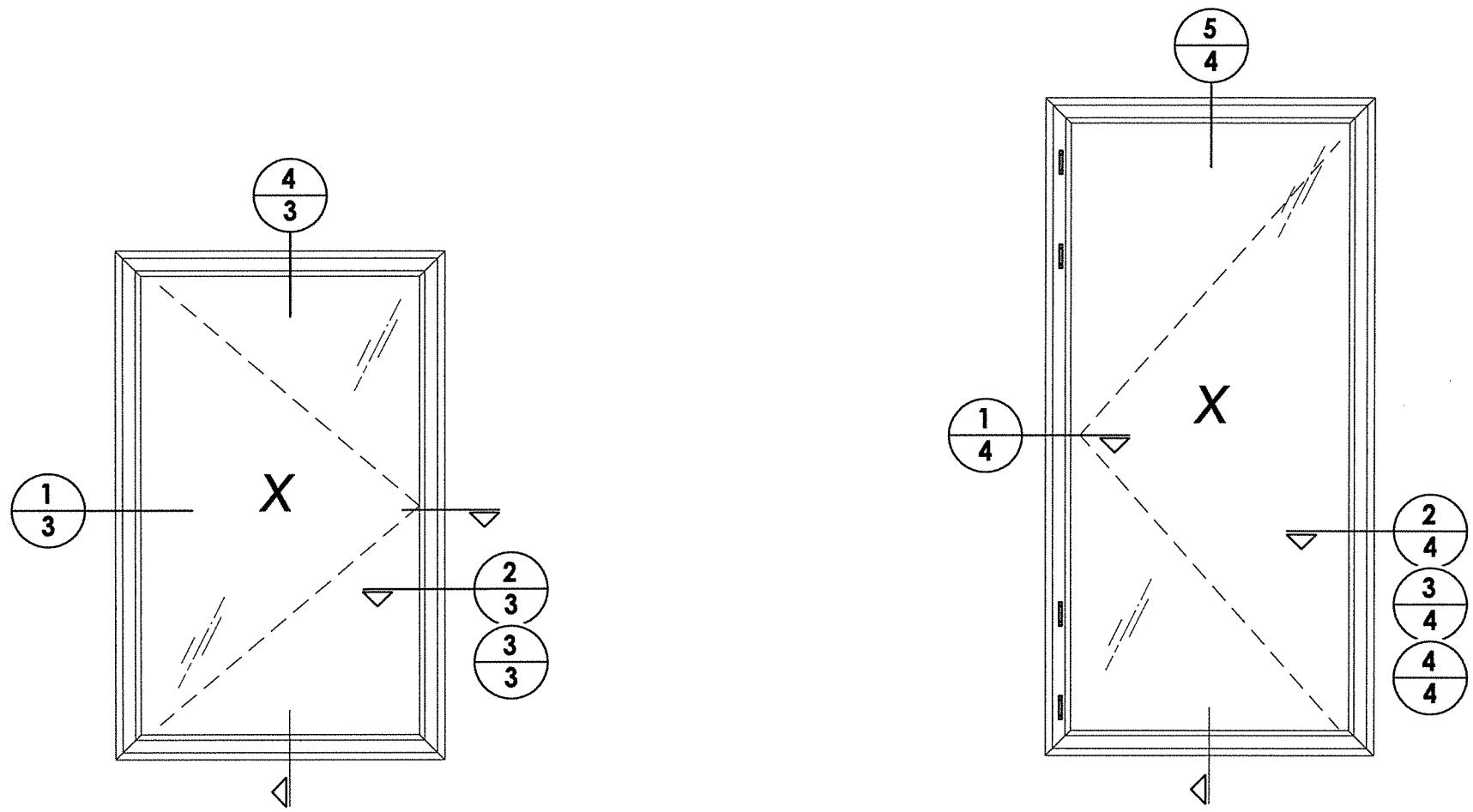
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7	Glazing details
8	Bill of materials and components



OVERALL FRAME DIMENSION	OVERALL D.L.O. DIMENSION	GLASS TYPE	DESIGN PRESSURE (PSF)	
			POSITIVE	NEGATIVE
40.25" X 63.25"	33.63" X 56.63"	G1, G2, G3, G4, G5	+65.0	-65.0
39.75" X 81.75"	33.13" X 75.13"	G1, G2, G3, G4, G5	+65.0	-65.0

	
STATE OF FLORIDA PROFESSIONAL ENGINEER LICENSE No. 43409 6-22-16	
DOCUMENTS PREPARED BY: Lyndon F. Schmidt P.E. No. 43409	
<b>RW</b> BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813	
PRODUCT:	FLEETWOOD WINDOWS AND DOORS
PART OR ASSEMBLY:	LFS
BY:	LFS
REVISIONS:	
DATE:	10/23/13
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	FL-14904.9
SHEET	1 OF 8

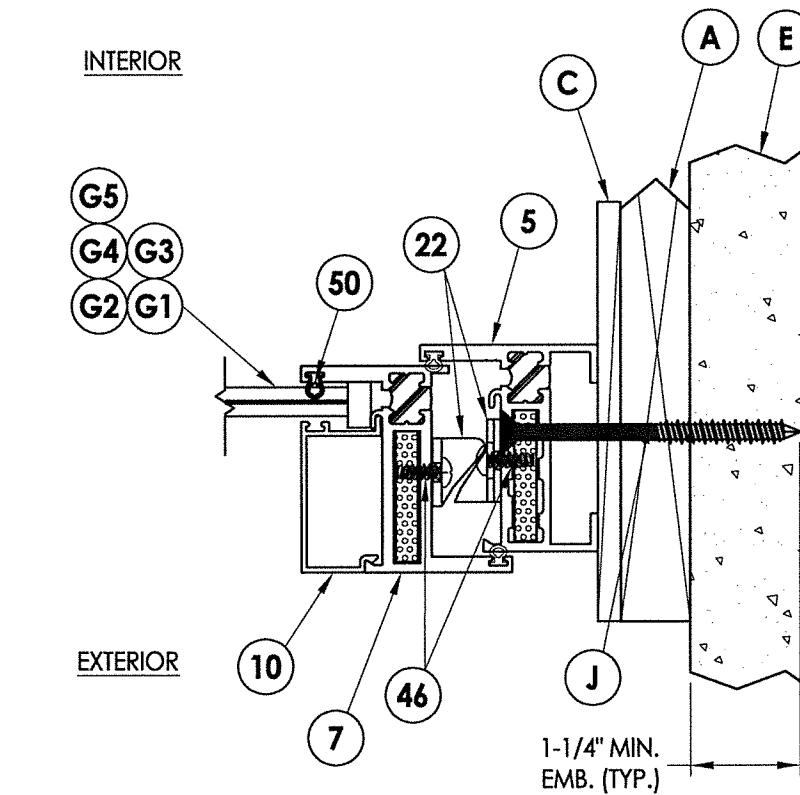


HARDWARE TABLE			
HINGE			
Qty.	Description	Height	Snubbers
5	Butt hinge	$\leq 81.75"$	Not Req'd
4	Butt hinge	$\leq 81.75"$	Yes (2)
2	Butt hinge	$\leq 50"$	Yes (2)
2	4 Bar hinge	$\leq 65"$	Yes (3)
HANDLES			
Points	Description	Height	*Cam locks can be used in conjunction with multipoint lock or in lieu of
4	Multipoint	$> 72"$	
3	Multipoint	$\leq 72"$	

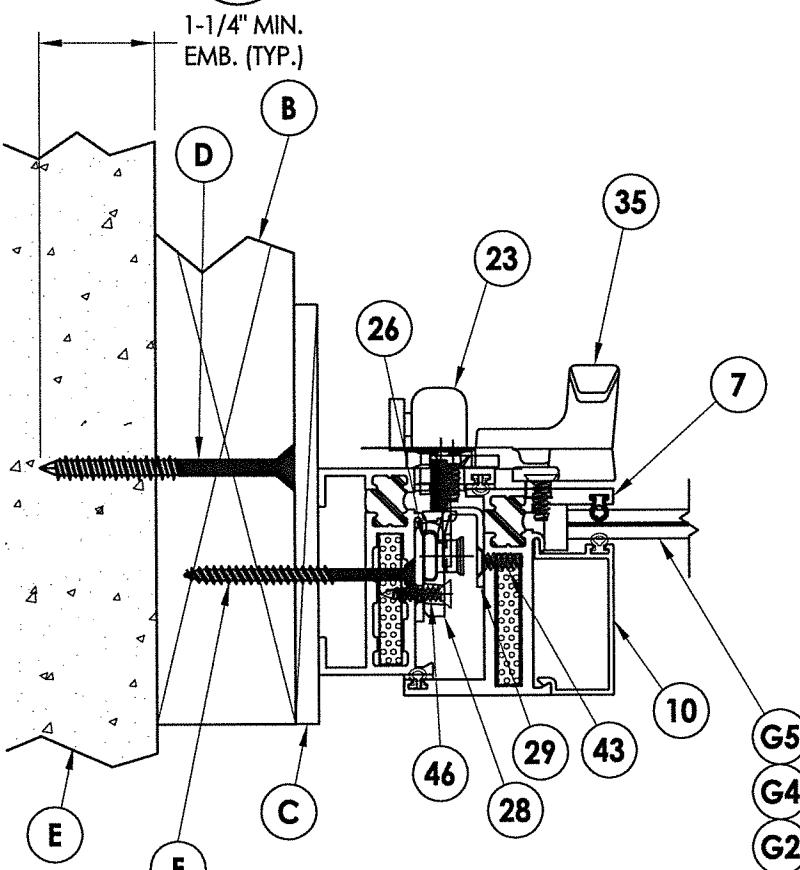
**Qty.**

3	Cam*	$\leq 65"$	*Cam locks can be used in conjunction with multipoint lock or in lieu of
1	Cam*	$\leq 50"$	

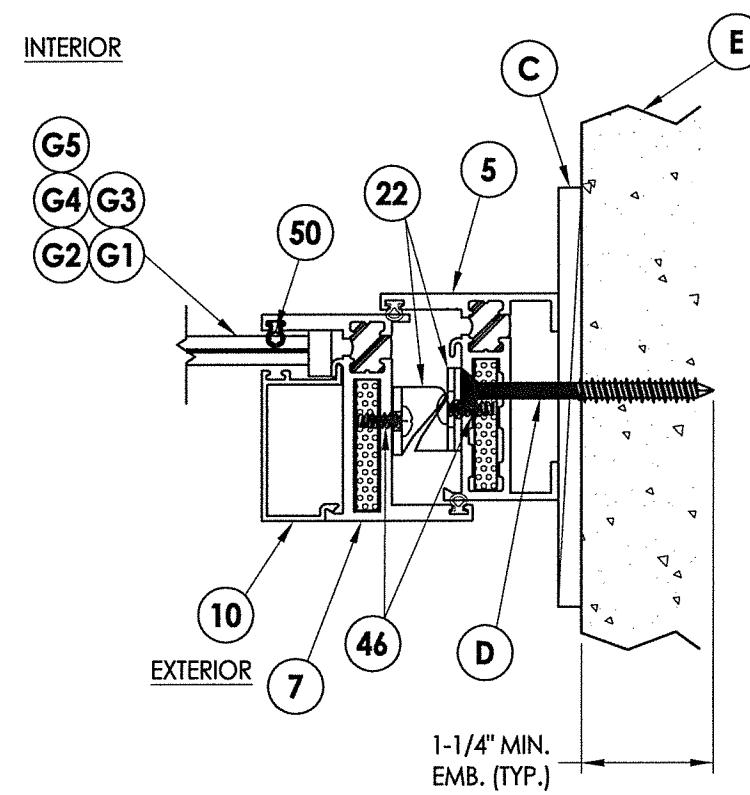
<b>L.F. SCHMIDT</b> <b>PROFESSIONAL</b> <b>E</b> <i>f. 22.16</i> <i>RW</i>		No. 43409	
		STATE OF FLORIDA LICENSE	Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409
		BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813	
PRODUCT: <u>FLEETWOOD WINDOWS AND DOORS</u>	PART OR ASSEMBLY: <u>LFS ELEVATIONS</u>	DATE: 10/23/13	SCALE: N.T.S.
1	2	1/22/15	DWG. BY: JK
NO. DATE	8/22/16	UPDATE TO 5TH ED. (2014) FBC	CHK. BY: LFS
REVISIONS			DRAWING NO.: FL-14904.9
SHEET 2 OF 8			© 2013 R.W. BUILDING CONSULTANTS INC.



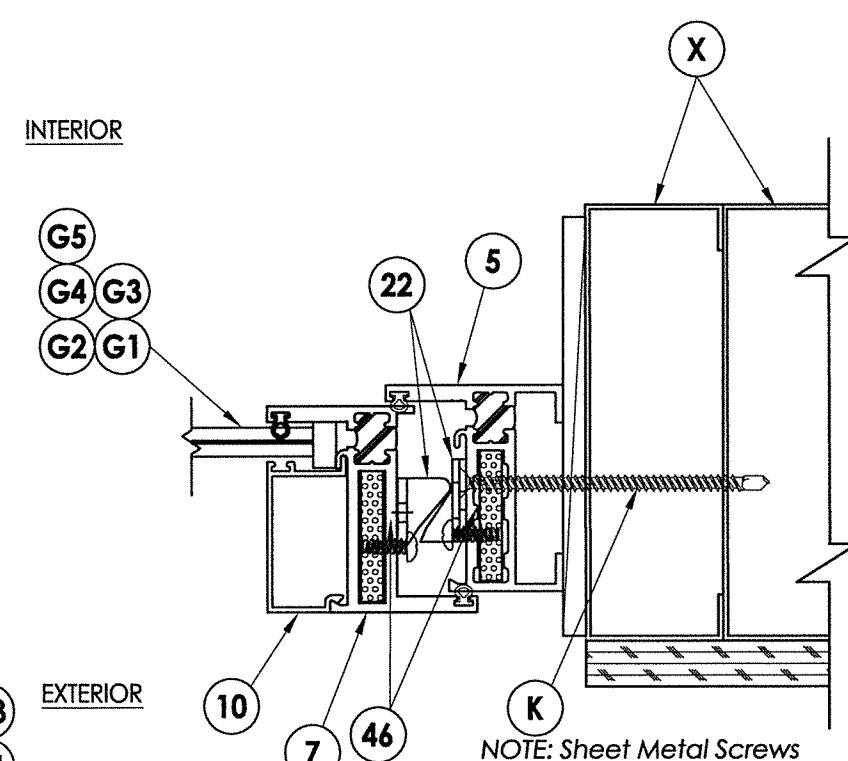
**2 / 3 HORIZONTAL CROSS SECTION**  
Shown w/ 1X Sub buck option



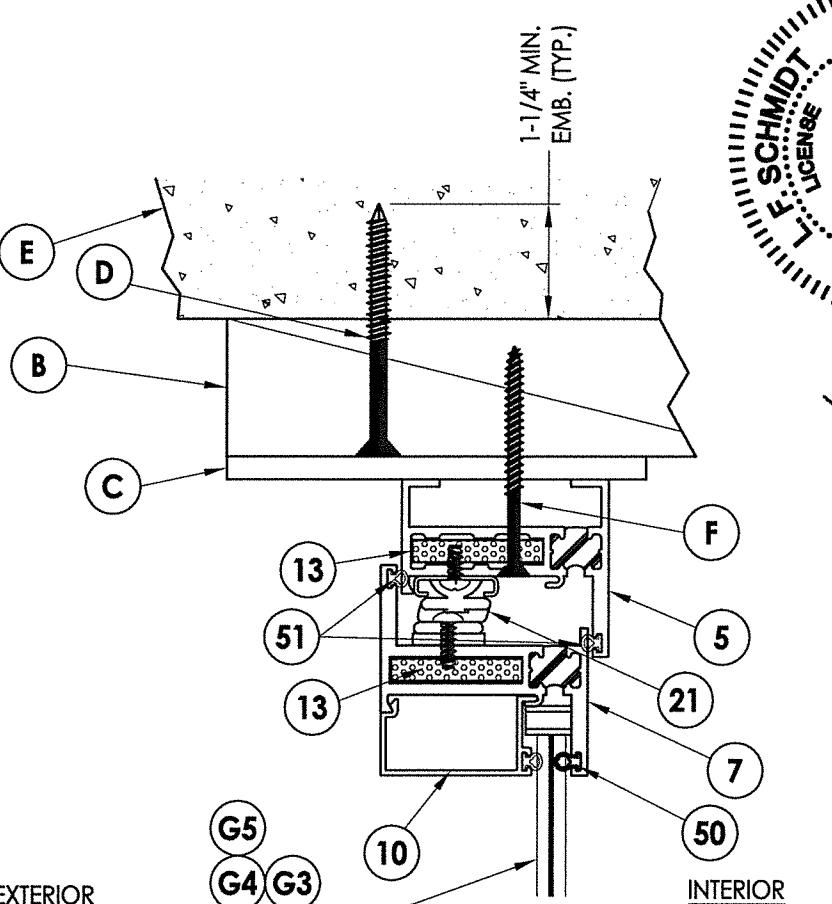
**1 / 3 HORIZONTAL CROSS SECTION**  
Shown w/ 2X Buck and Steel Stud options



**3 / 3 HORIZONTAL CROSS SECTION**  
Shown w/ Direct to Masonry option

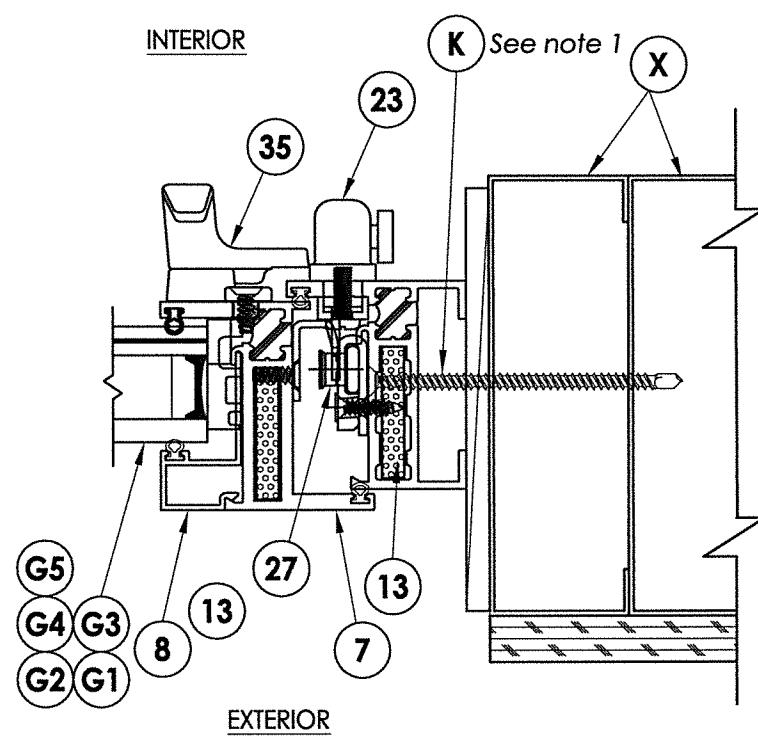


NOTE: Sheet Metal Screws  
must penetrate a min.  
of 3 threads through  
at least two (2) sheets  
of metal.

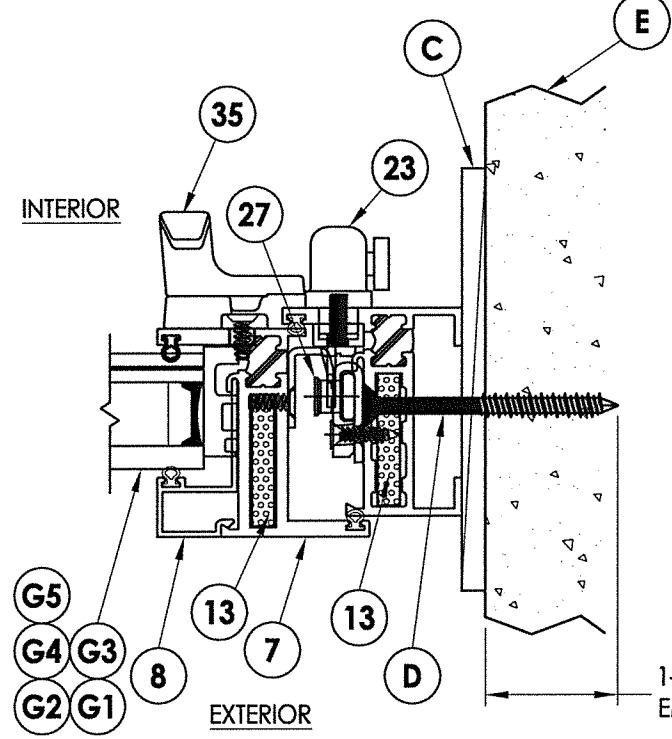


**4 / 3 VERTICAL CROSS SECTION**  
Shown w/ 2X Buck Construction

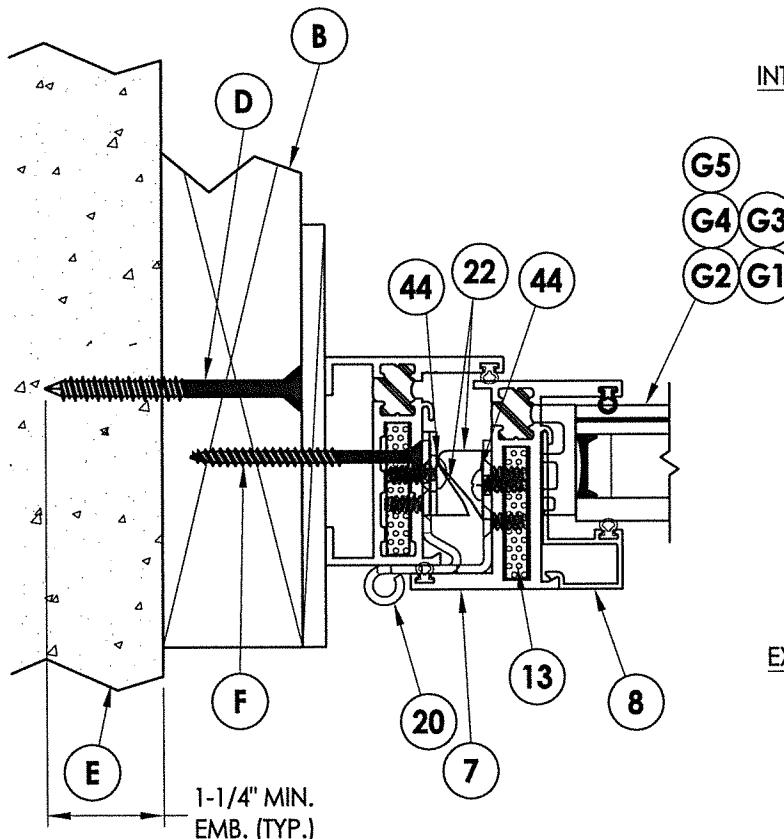
PRODUCT: FLEETWOOD WINDOWS AND DOORS		LFS PART OR ASSEMBLY: HORIZONTAL AND VERTICAL CROSS SECTIONS	
DOCUMENTS PREPARED BY: Lyndon F. Schmidt P.E. No. 43409		BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813	
DATE: 10/23/13	SCALE: N.T.S.	DWG. BY: JK	CHK. BY: LFS
NO. 1 / 22 / 15	UPDATE TO 5TH ED. (2014)	FBC BY	DRAWING NO.: FL-14904.9
REVISIONS			SHEET 3 OF 8



**3 HORIZONTAL CROSS SECTION**  
Shown w/ Steel Stud option

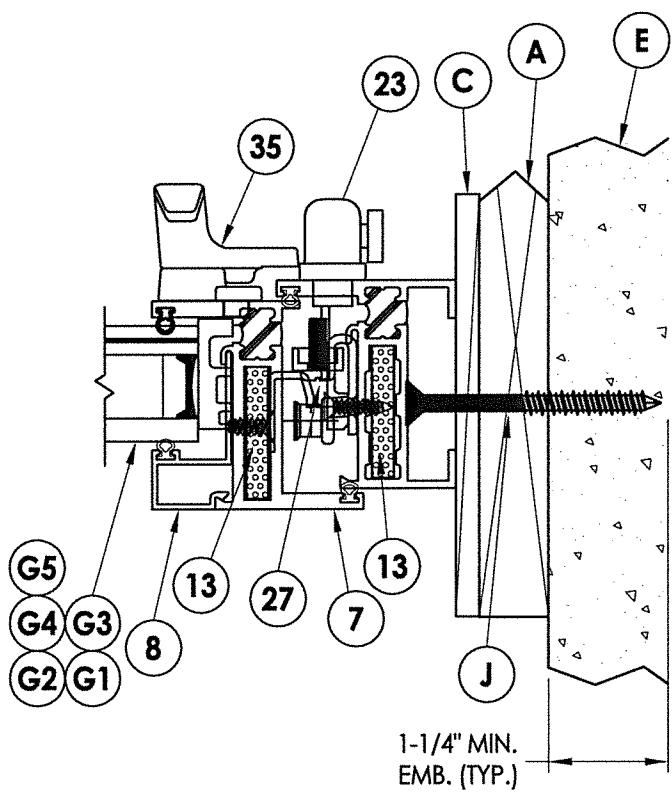


**4 HORIZONTAL CROSS SECTION**  
Shown w/ Direct to Masonry option

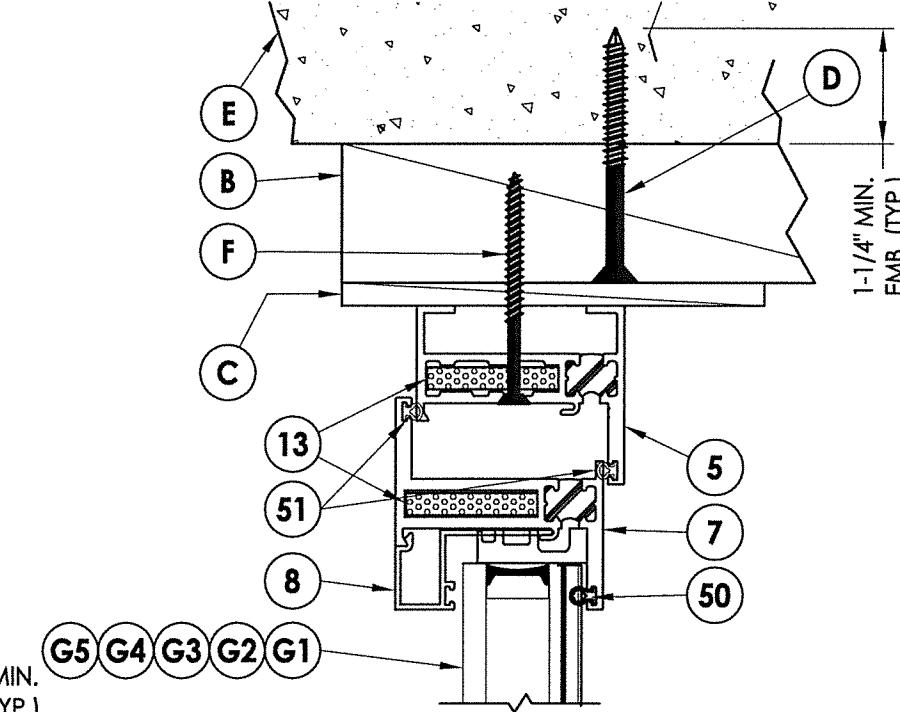


**1 HORIZONTAL CROSS SECTION**  
Shown w/ 2X Buck Construction

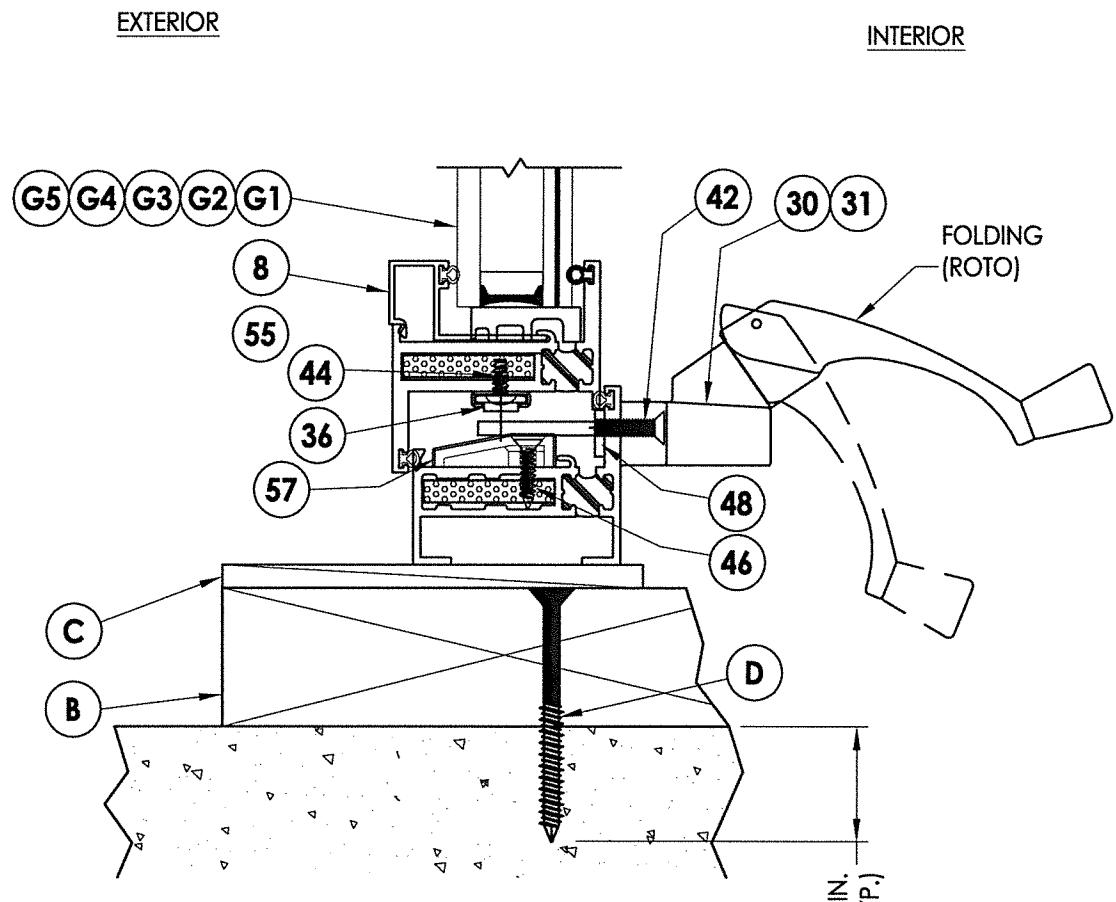
**NOTE:**  
1. Sheet Metal Screws must penetrate a min. of 3 threads  
through at least two (2) sheets of metal.



**2 HORIZONTAL CROSS SECTION**  
Shown w/ 1X Sub buck option



**5 VERTICAL CROSS SECTION**  
Shown w/ 2X Buck Construction



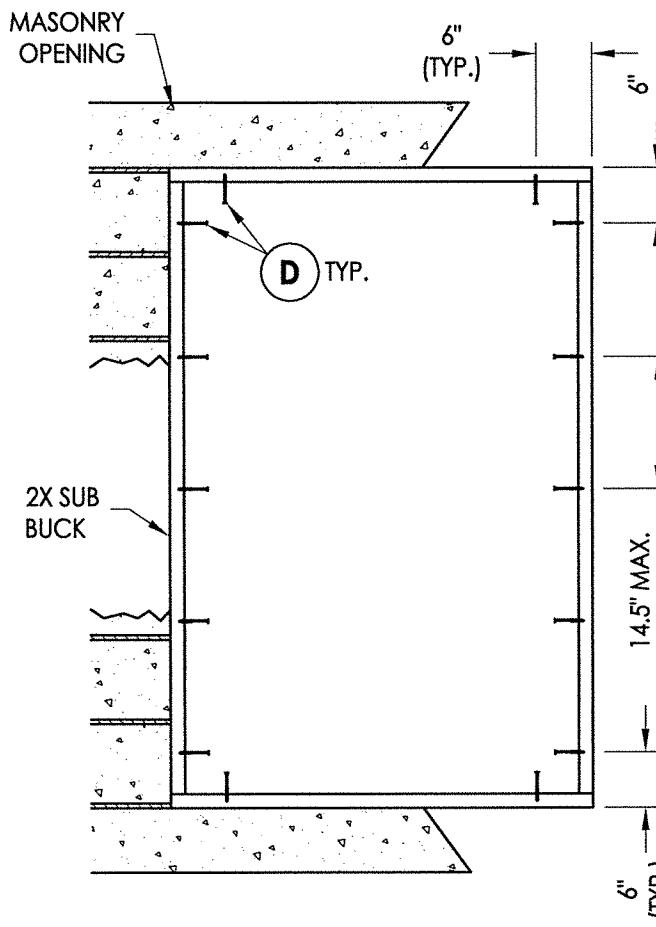
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PART OR ASSEMBLY: <b>HORIZONTAL AND VERTICAL CROSS SECTIONS</b>	
DATE: 10/23/13	LFS
SCALE: N.T.S.	LFS
DWG. BY: JK	FBC
CHK. BY: LFS	BY
NO. DATE	
2 8/22/16 Renumber Drawings	
1 1/22/15 UPDATE TO 5TH ED. (2014)	
DRAWING NO.: FL-14904.9	
SHEET 4 OF 8	

Documents Prepared By:  
Lyndon F. Schmidt  
P.E. No. 43409

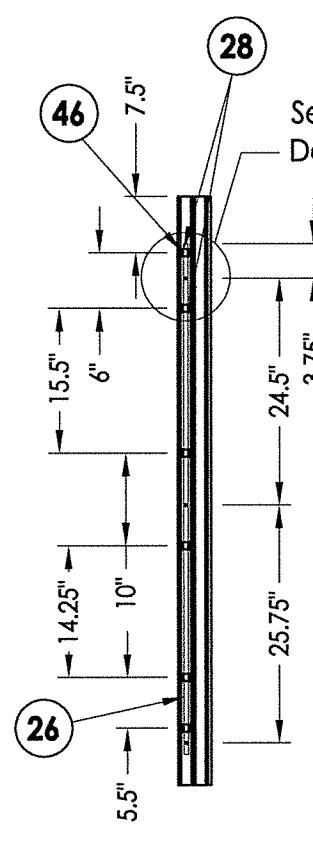
BUILDING CONSULTANTS, INC.  
P.O. Box 230, Valrico, FL 33595  
Phone No.: 813.659.9197  
FBPE C.A. No. 9813

**F. SCHMIDT**  
No. 43409  
F. SCHMIDT  
PROFESSIONAL ENGINEER  
LICENCE  
STATE OF FLORIDA  
S. 22-16  
R.W. BUILDING CONSULTANTS INC.

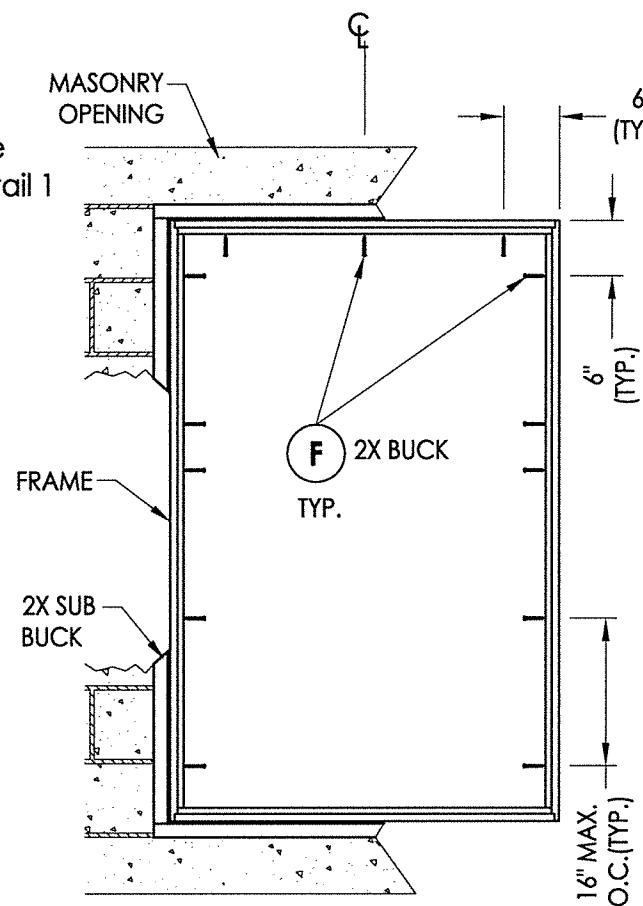
© 2013 R.W. BUILDING CONSULTANTS INC.



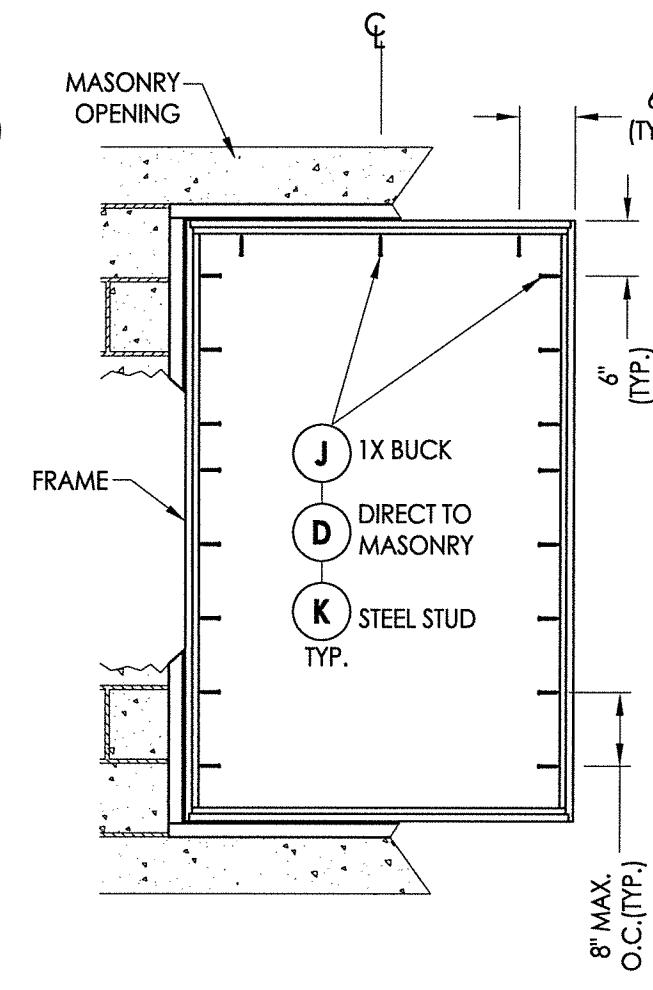
**2X BUCK ANCHORING**  
40.25" X 63.25" Max Size



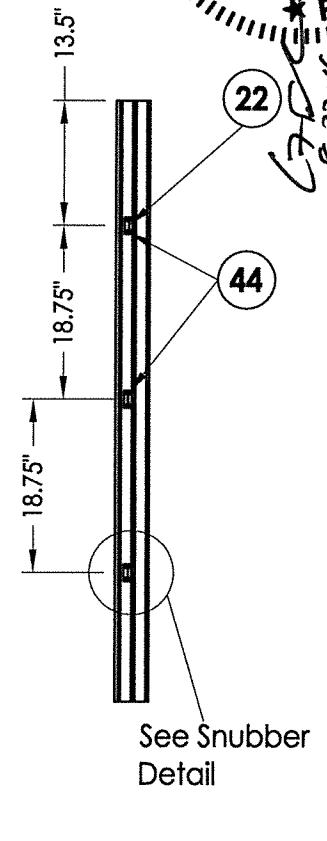
**LOCK JAMB**  
Locking Points (3)



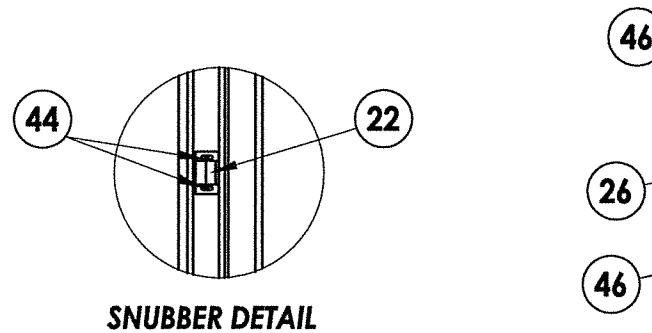
**FRAME MOUNT ANCHORING**  
40.25" X 63.25" Max Size  
(2X BUCK)



**FRAME MOUNT ANCHORING**  
40.25" X 63.25" Max Size  
(1X BUCK, DIR. TO MASONRY, STEEL STUD)



**SNUBBERS JAMB**  
See Snubber Detail



#### CONCRETE ANCHOR NOTES:

- Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
- Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
- Concrete anchor table:

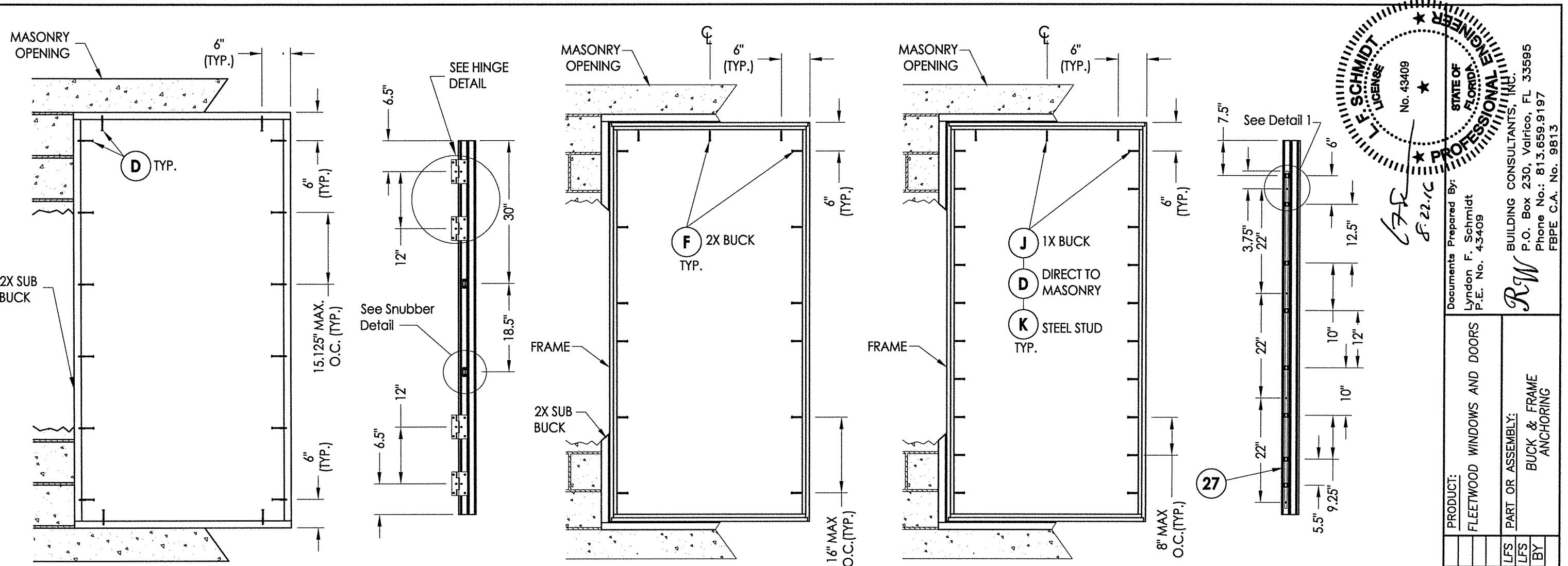
ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-1/4"	2"	4"
ELCO ULTRACON®	1/4"	1-1/4"	1"	4"

#### WOOD SCREW INSTALLATION NOTES:

- Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.

DOCUMENTS PREPARED BY:		STATE OF FLORIDA PROFESSIONAL ENGINEERING LICENSE No. 43409	
R.W. BUILDING CONSULTANTS, INC.		Lyndon F. Schmidt P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813	
PRODUCT: FLEETWOOD WINDOWS AND DOORS	PART OR ASSEMBLY: BUCK & FRAME ANCHORING	DATE: 10/23/13	SCALE: N.T.S.
LFS	LFS	NO. DATE	DWG. BY: JK
			CHK. BY: LFS
			DRAWING NO.: FL-14904.9
			SHEET 5 OF 8

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**2X BUCK ANCHORING**  
39.75" X 81.75" Max Size

### HINGE JAMB

**FRAME MOUNT ANCHORING**  
**39.75" X 81.75" Max Size**  
**(2X BUCK)**

**FRAME MOUNT ANCHORING**  
39.75" X 81.75" Max Size  
1X BUCK, DIR. TO MASONRY, STEEL STUD)

**LOCK JAMB**  
Locking Points (4)

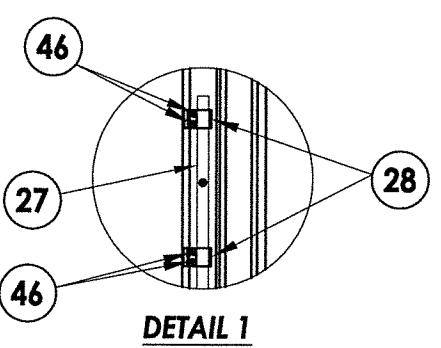
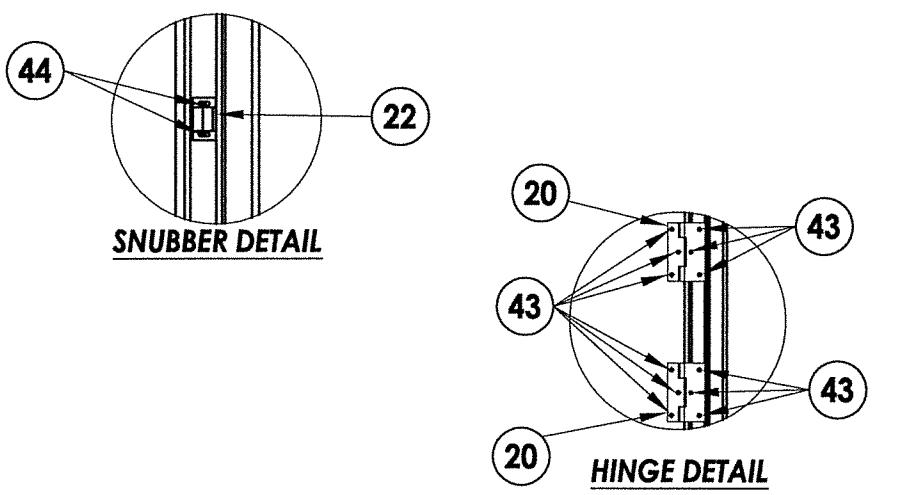
#### CONCRETE ANCHOR NOTES:

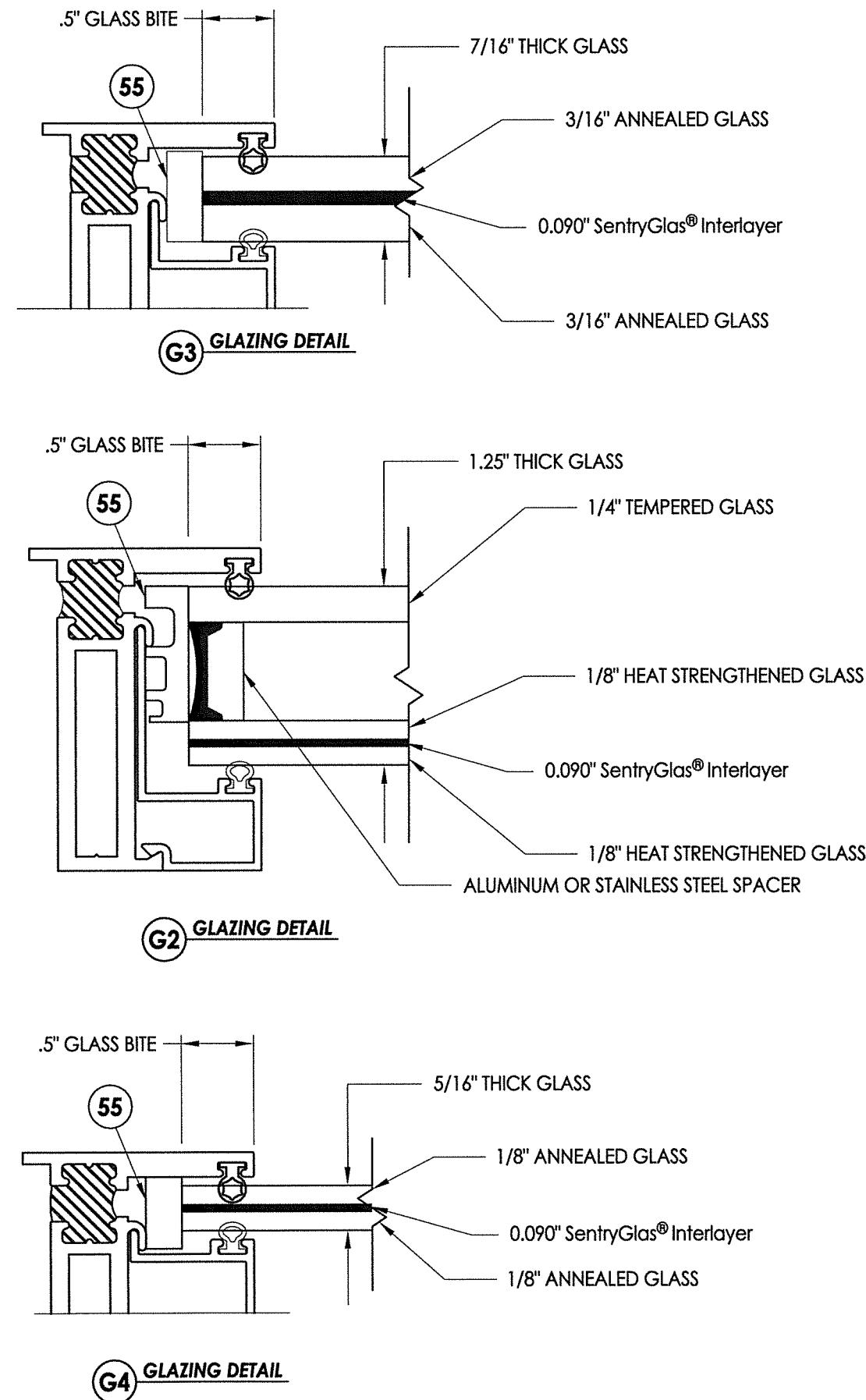
1. Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
  2. Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
  3. Concrete anchor table:

ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-1/4"	2"	4"
ELCO ULTRACON®	1/4"	1-1/4"	1"	4"

#### **WOOD SCREW INSTALLATION NOTES:**

1. Maintain a minimum  $5/8"$  edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.





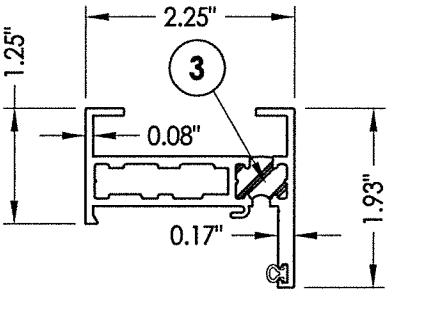
PRODUCT: <u>FLEETWOOD WINDOWS AND DOORS</u>		LFS PART OR ASSEMBLY: <u>GLAZING DETAILS</u>
2	8/22/16 Renumber Drawings UPDATE TO 5TH ED. (2014) FBC NO. DATE	LFS BY REVISIONS
DATE: 10/23/13 SCALE: N.T.S. DWG. BY: JK CHK. BY: LFS DRAWING NO.: FL-14904.9 SHEET <u>7</u> OF <u>8</u>		

**SCHMIDT**  
F. SCHMIDT  
PROFESSIONAL ENGINEER  
No. 43409  
f. 22/16  
R.W. SCHMIDT  
BUILDING CONSULTANTS, INC.  
P.O. Box 230, Valrico, FL 33595  
Phone No.: 813.650.9197  
FBPE C.A. No. 9813

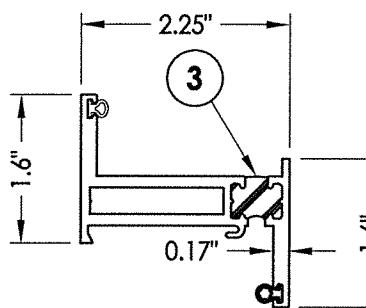
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
LICENSING BOARD  
No. 43409  
R.W. SCHMIDT  
BUILDING CONSULTANTS, INC.  
P.O. Box 230, Valrico, FL 33595  
Phone No.: 813.650.9197  
FBPE C.A. No. 9813

BILL OF MATERIALS

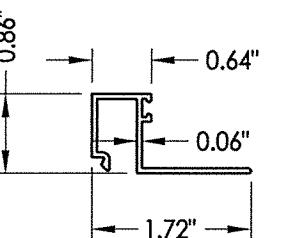
ITEM #	DESCRIPTION	MATERIAL
A	1X BUCK SG >= 0.55	WOOD
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
D	1/4" X 2-3/4" ELCO OR ITW PFH CONCRETE SCREW	STEEL
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
F	#10 X 2" PPH WOOD SCREW (1-1/4" MIN. EMBEDMENT)	STEEL
J	1/4" x 3-1/4" ELCO OR ITW PFH CONCRETE SCREW	STEEL
K	#10 PPH SELF-DRILLING SMS	STEEL
X	STEEL STUD Min. Thk .033" (ASTM A653 GRADE 33 Fy=33 ksi Min, Fu=45 ksi Min)	STEEL
3	THERMAL BREAK ("LIQUID POLYURETHANE" by Azon USA, Inc.)	-
5	WESTWOOD BLOCK FRAME	6063-T6 ALUM
7	WESTWOOD ZEE BAR (PANEL)	6063-T6 ALUM
8	GLASS STOP (1-1/4")	6063-T6 ALUM
10	GLASS STOP (5/16", 7/16")	6063-T6 ALUM
13	CORNER KEY	6063-T6 ALUM
20	SS. BUTT HINGE	SS
21	4 BAR HINGE	SS
22	SNUBBER-COMMERCIAL PULL-IN BLOCK	SS
23	MULTIPOINT LOCK HANDLE (STEVE HAGG)	SS
26	3 POINTS LOCKING BAR (TRUTH)	SS
27	4 POINTS LOCKING BAR (TRUTH)	SS
28	TIE BAR GUIDE (TRUTH)	-
29	KEEPER (TRUTH)	SS
30	CASEMENT ROTOR GEAR 13.5"(TRUTH)	SS
31	CASEMENT ROTOR GEAR 9.5"(TRUTH)	SS
35	CAM HANDLE / STRIKE PLATE (MELRON)	SS
36	CASEMENT SS. TRACK (TRUTH)	SS
40	#10 X 1" PPH SMS	STEEL
42	MACHINING SCREW NO 10-32, FHP .75"	STEEL
43	SCREW NO 10 , UFHP .5"	STEEL
44	SCREW NO 8, PHP, .50"	STEEL
46	SCREW NO 8, FHP, .750"	STEEL
48	BACK UP NUTS	STEEL
50	BULB VINYL (EPDM 70 DUROMETER) - TREMCO	-
51	MINI BULB VINYL (EPDM 70 DUROMETER) - TREMCO	-
55	SETTING BLOCK	-
57	PIVOT SHIM	-



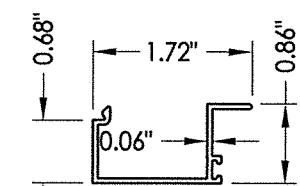
5 BLOCK FRAME



7 ZEE BAR (PANEL)



8 GLASS STOP 1-1/4"



10 GLASS STOP 5/16", 7/16"

PRODUCT:		FLEETWOOD WINDOWS AND DOORS	
PART OR ASSEMBLY:		LFS	
BILL OF MATERIALS AND COMPONENTS		BY	
DATE:	10/23/13		
SCALE:	N.T.S.		
DWG. BY:	JK		
CHK. BY:	LFS		
DRAWING NO.:	FL-14904.9		
SHEET	8	OF	8

Documents Prepared By:  
Lyndon F. Schmidt  
P.E. No. 43409

STATE OF FLORIDA PROFESSIONAL ENGINEERING LICENSE  
No. 43409  
F-22-16

R.W. BUILDING CONSULTANTS, INC.  
P.O. Box 230, Valrico, FL 33595  
Phone No.: 813.659.9197  
FBPE C.A. No. 9813

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# Series 250-T

## Aluminum Casement Window

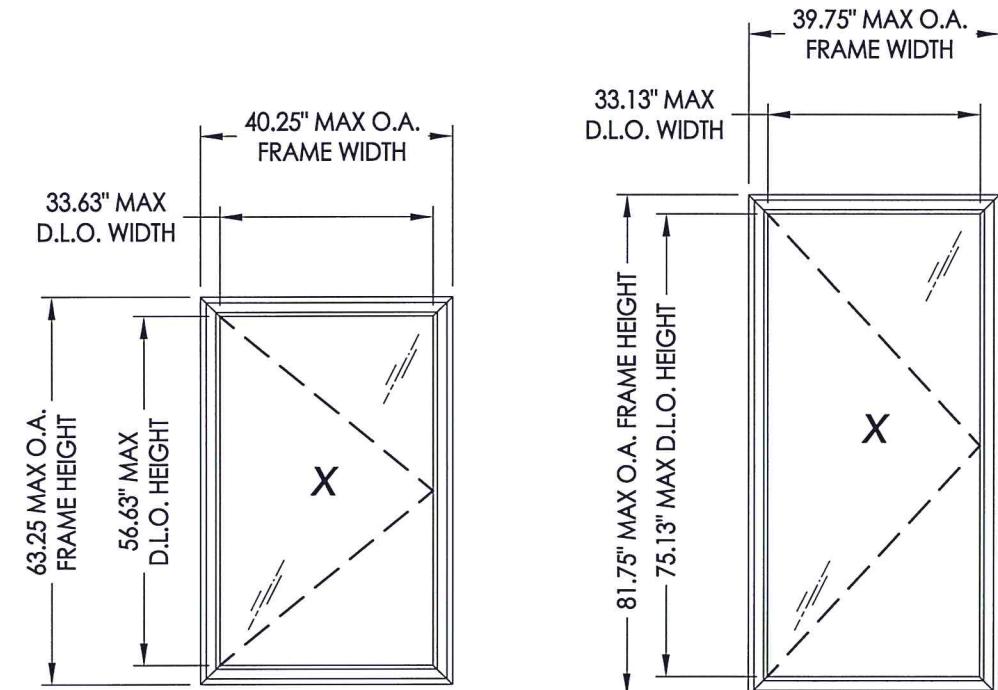
### w/ Thermal Break Frame "IMPACT"

#### GENERAL NOTES

1. This product has been evaluated and is in compliance with the 5th Edition (2014) Florida Building Code (FBC) structural requirements including the "High Velocity Hurricane Zone" (HVHZ).
2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.
3. When used in the "HVHZ" this product complies with Section 1626 of the Florida Building Code and does not require an impact resistant covering.
4. When used in areas outside of the "HVHZ" requiring wind borne debris protection this product complies with Section 1609.1.2 of the FBC and does not require an impact resistant covering. This product meets missile level "D" and includes Wind Zone 4 as defined in ASTM E 1996 and Section 1609.1.2.2 of the FBC.
5. For 2x stud framing construction, anchoring of these units shall be the same as that shown for 2x buck masonry construction.
6. Site conditions that deviate from the details of this drawing require further engineering analysis by a licensed engineer or registered architect.
7. This product meets water infiltration requirements for "HVHZ".
8. Gaskets and setting blocks shall comply with Section 2411.3.4 of the FBC.
9. Aluminum components, including fasteners, shall meet the requirements of FBC Section 2003.

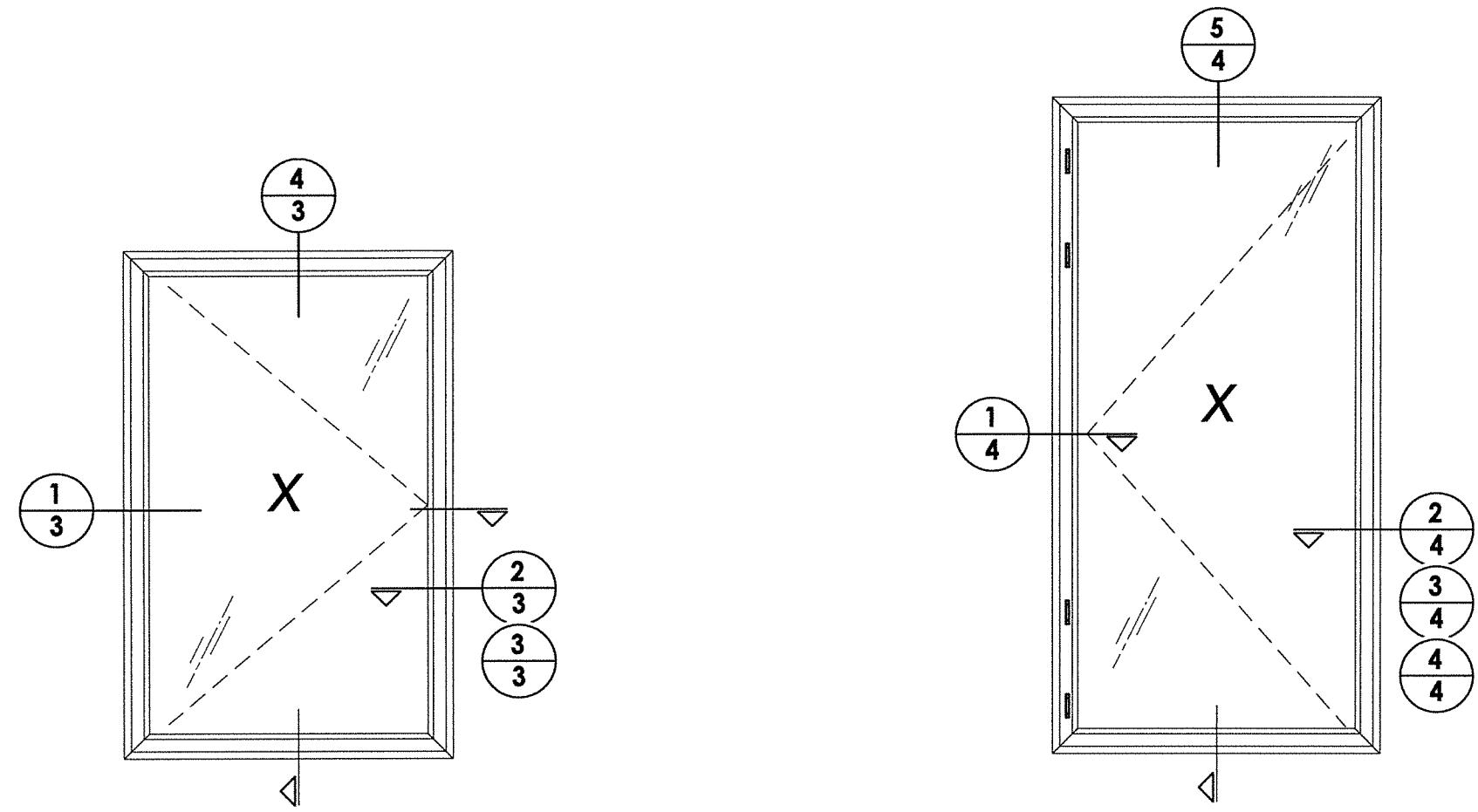
**TABLE OF CONTENTS**

SHEET#	DESCRIPTION
1	Typical elevations, design pressures and general notes
2	Elevations
3	Horizontal and vertical cross sections
4	Horizontal and vertical cross sections
5	Buck and frame anchoring
6	Buck and frame anchoring
7	Glazing details
8	Bill of materials and components



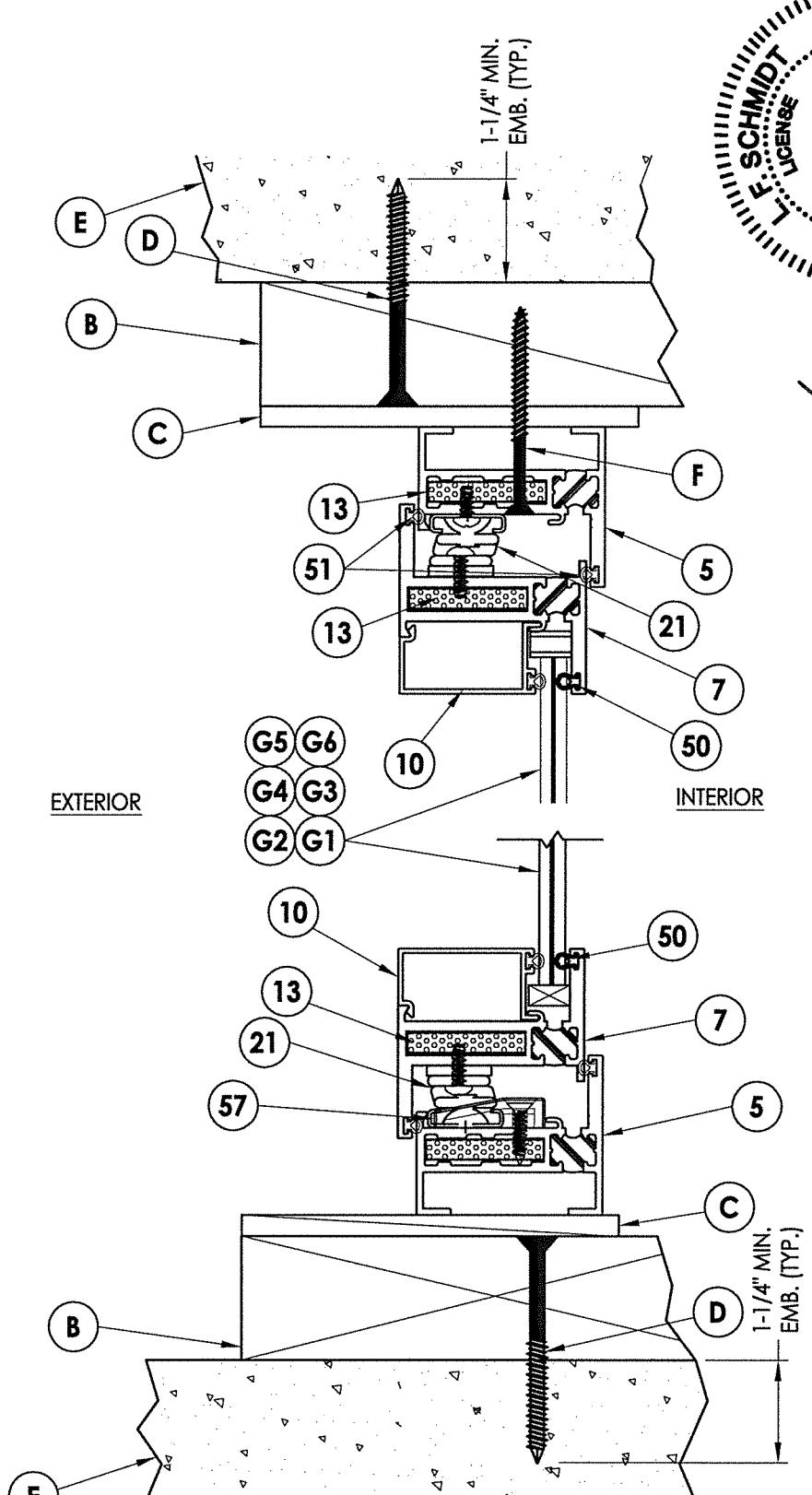
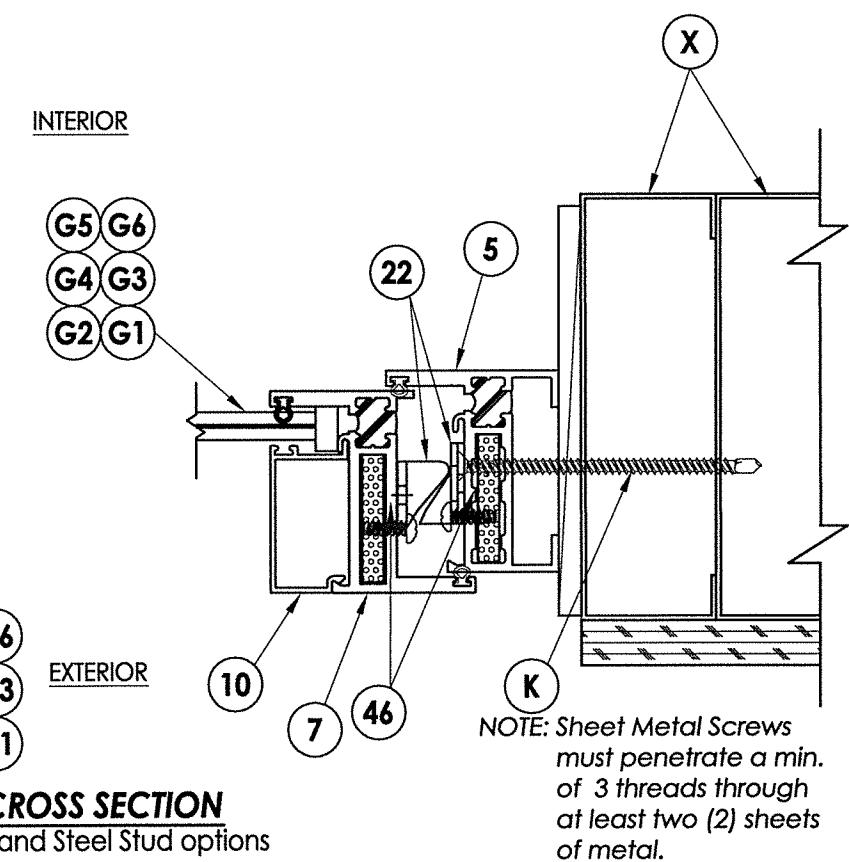
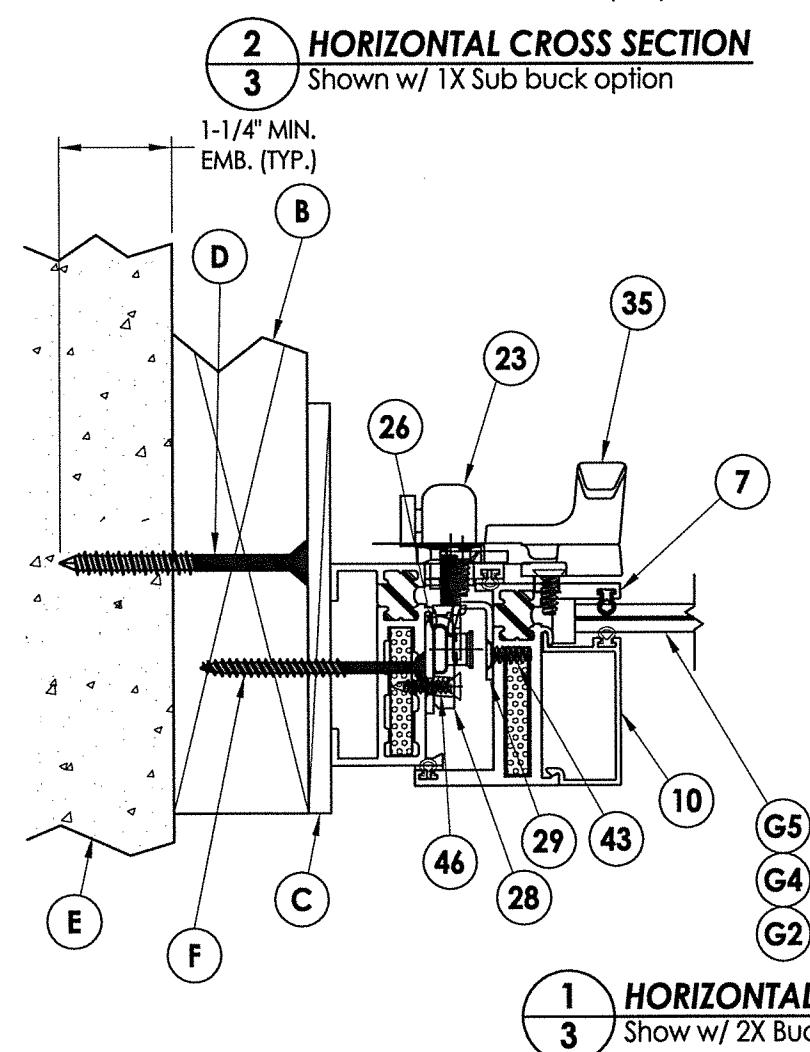
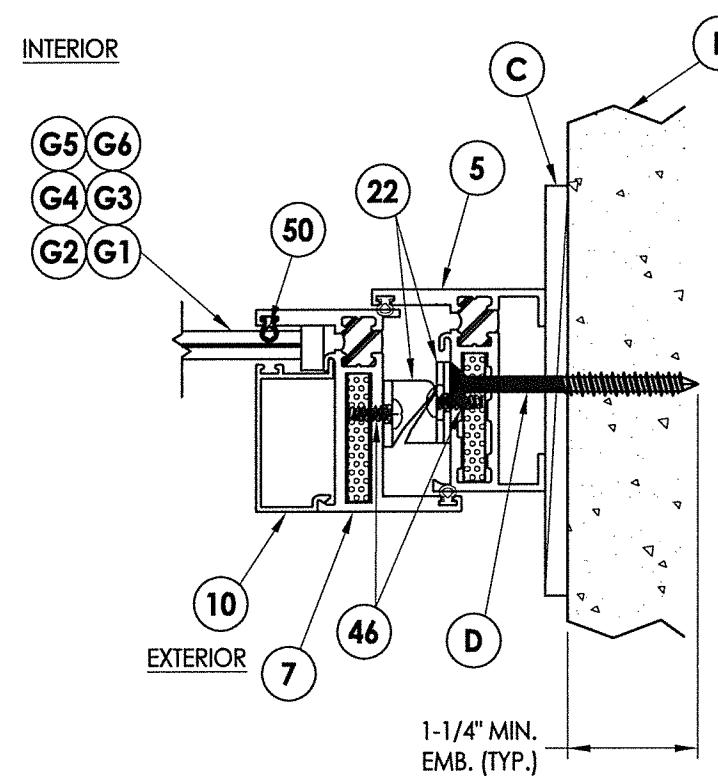
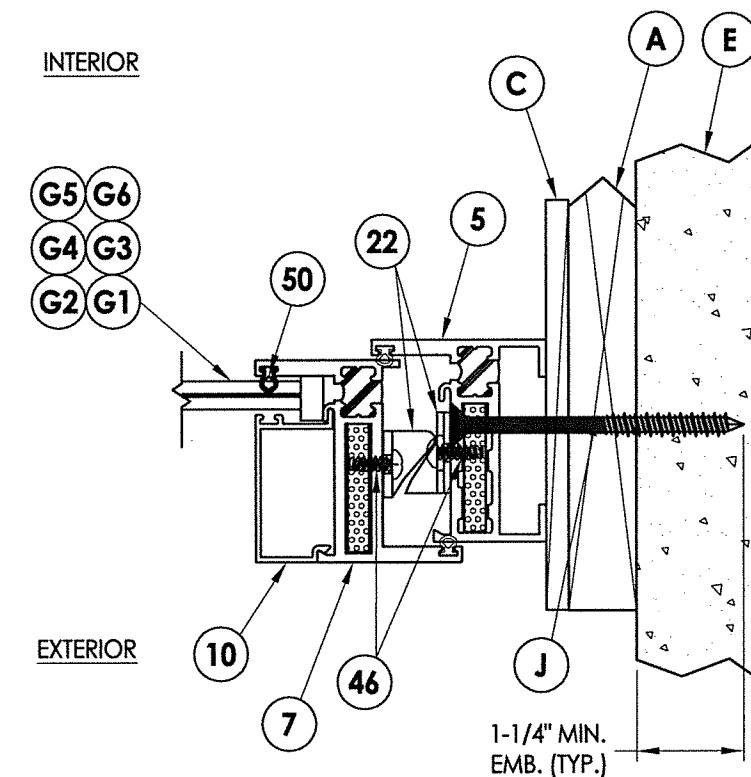
OVERALL FRAME DIMENSION	OVERALL D.L.O. DIMENSION	GLASS TYPE	DESIGN PRESSURE (PSF)	
			POSITIVE	NEGATIVE
40.25" X 63.25"	33.63" X 56.63"	G1, G2, G3, G4, G5, G6	+65.0	-65.0
39.75" X 81.75"	33.13" X 75.13"	G1, G2, G3, G4, G5, G6	+65.0	-65.0

F. SCHMIDT LICENCE NO. 43409 8.22.16		STATE OF FLORIDA PROFESSIONAL ENGINEER BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33599 Phone No.: 813.659.9197 FBPE C.A. No. 9813	
Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409		R.W.	
PRODUCT: FLEETWOOD WINDOWS AND DOORS	PART OR ASSEMBLY: LFS	TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES	
NO. DATE	BY	REVISIONS	
DATE: 10/23/13 SCALE: N.T.S. DWG. BY: JK CHK. BY: LFS DRAWING NO.: FL-14904.10 SHEET 1 OF 8			



HARDWARE TABLE			
HINGE			
Qty.	Description	Height	Snubbers
5	Butt hinge	$\leq 81.75"$	Not Req'd
4	Butt hinge	$\leq 81.75"$	Yes (2)
2	Butt hinge	$\leq 50"$	Yes (2)
2	4 Bar hinge	$\leq 65"$	Yes (3)
HANDLES			
Points	Description	Height	*Cam locks can be used in conjunction with multipoint lock or in lieu of multipoint locks
4	Multipoint	$> 72"$	
3	Multipoint	$\leq 72"$	
Qty.			
3	Cam*	$\leq 65"$	
1	Cam*	$\leq 50"$	

 <i>L7DC</i> <i>8.22.16</i>		DOCUMENTS PREPARED BY: Lyndon F. Schmidt P.E. No. 43409  <i>RW</i> BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813
		PRODUCT: FLEETWOOD WINDOWS AND DOORS  LFS PART OR ASSEMBLY: LFS ELEVATIONS  NO. DATE REVISIONS  DATE: 10/23/13 SCALE: N.T.S. DWG. BY: JK CHK. BY: LFS DRAWING NO.: <b>FL-14904.10</b> SHEET <b>2</b> OF <b>8</b>



PRODUCT:	FLEETWOOD WINDOWS AND DOORS		
PART OR ASSEMBLY:	LFS HORIZONTAL AND VERTICAL CROSS SECTIONS		
BY:	LFS	LFS	JK
REVISIONS			
DATE: 10/23/13			
SCALE: N.T.S.			
DWG. BY: JK			
CHK. BY: LFS			
DRAWING NO.: FL-14904.10			
SHEET 3 OF 8			

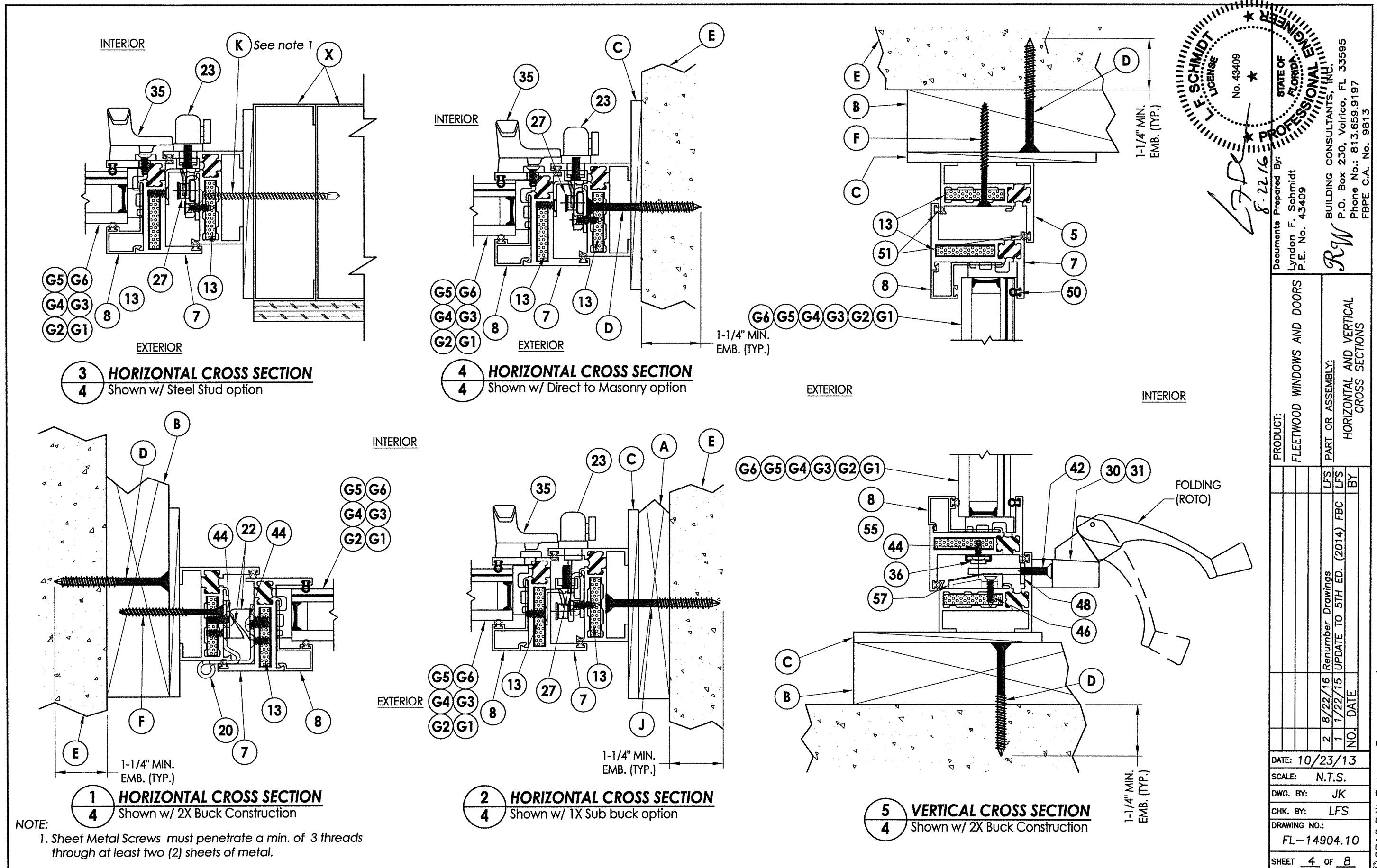
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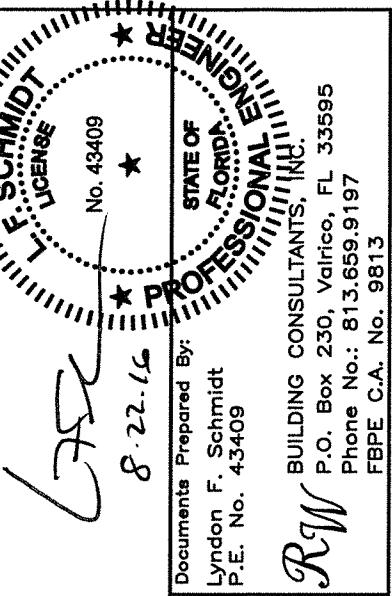
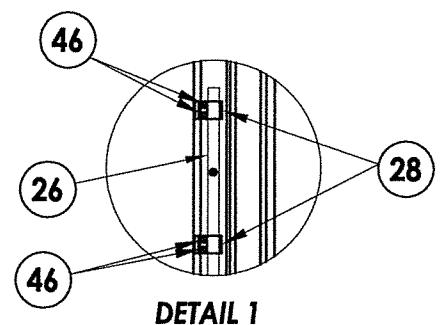
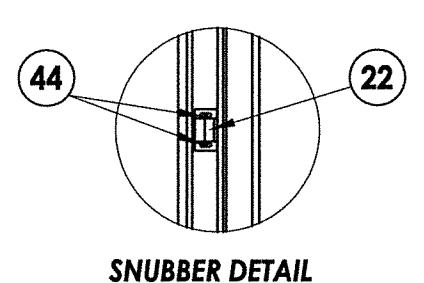
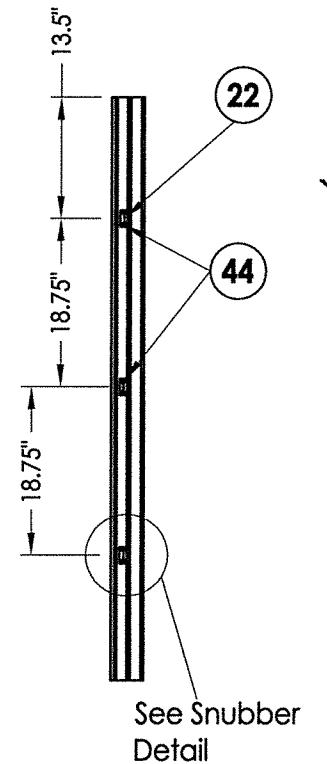
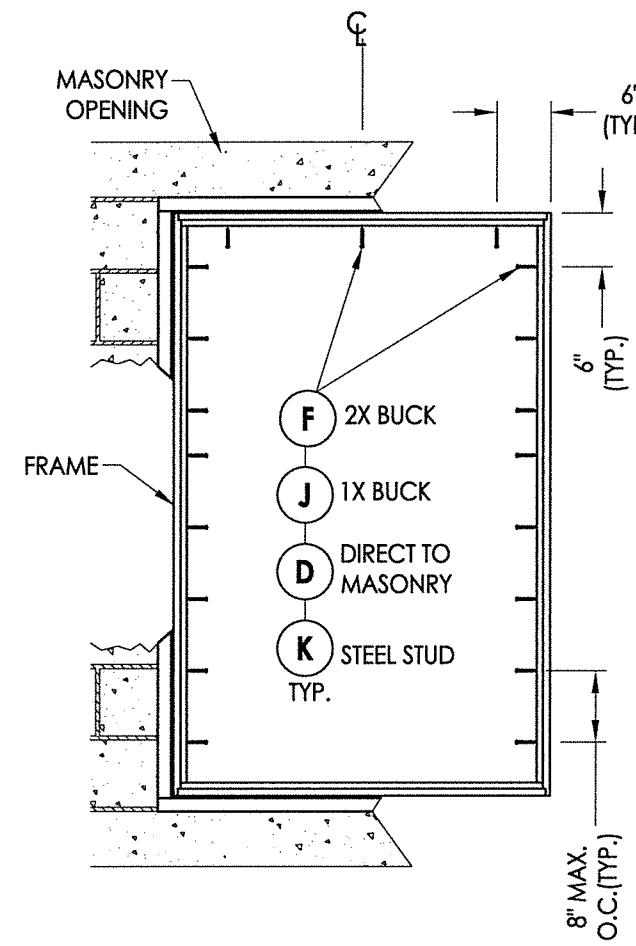
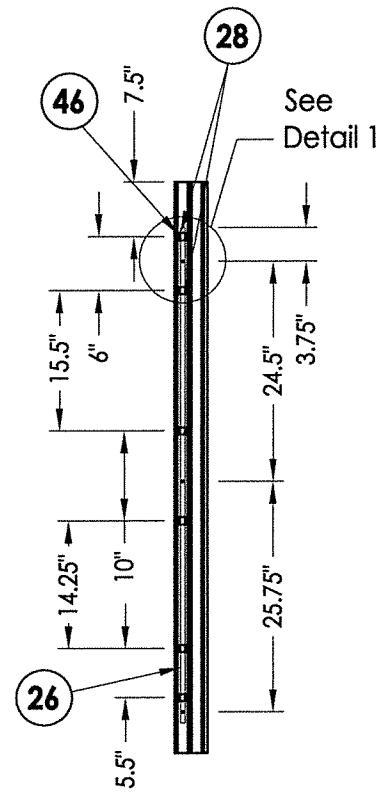
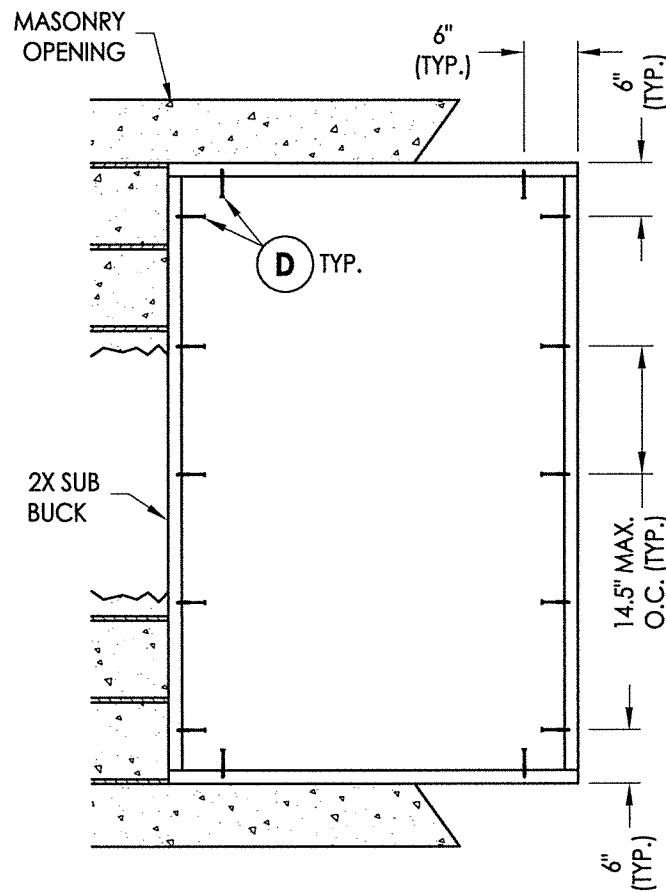
R.W.

L.F.S.

J.K.

L.F.S.

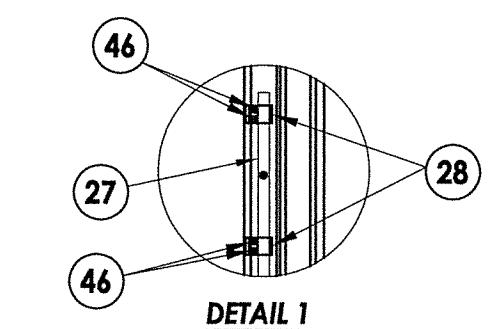
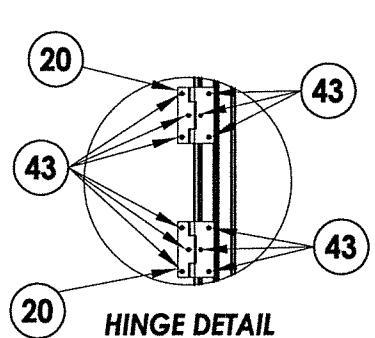
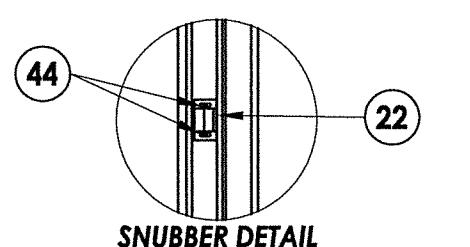
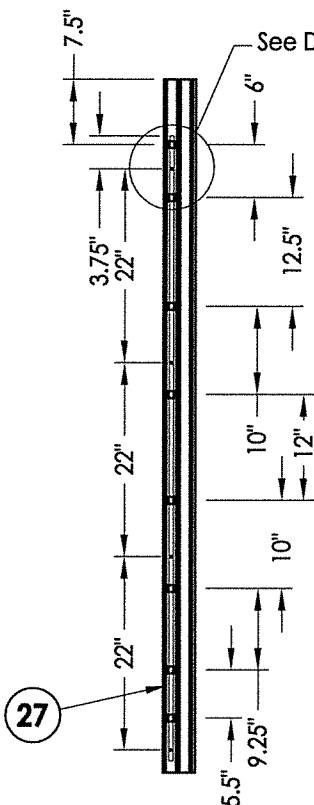
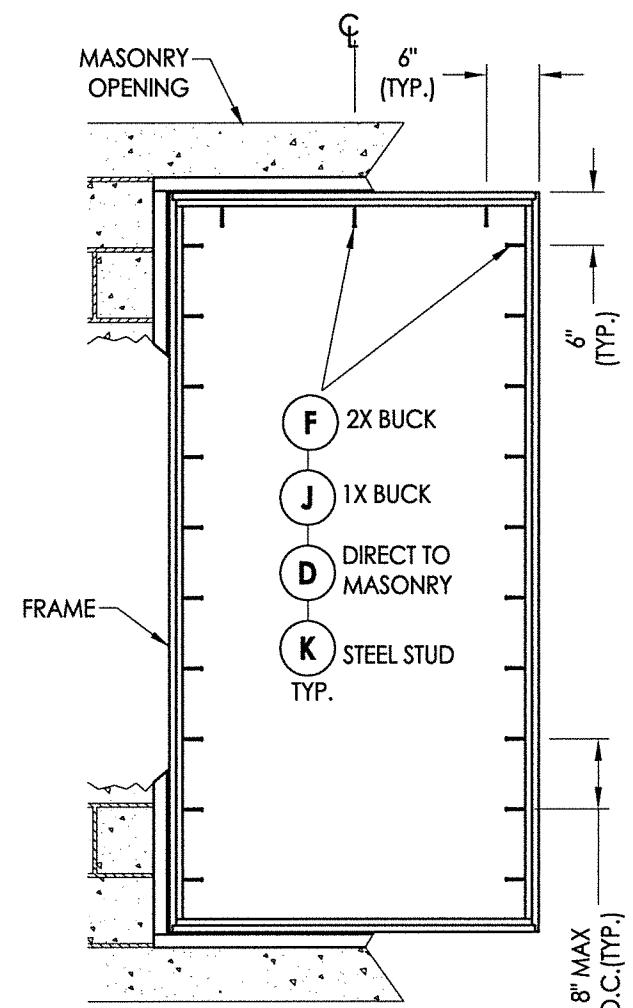
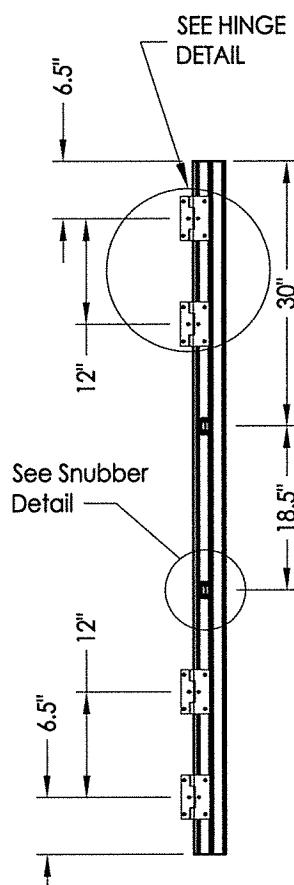
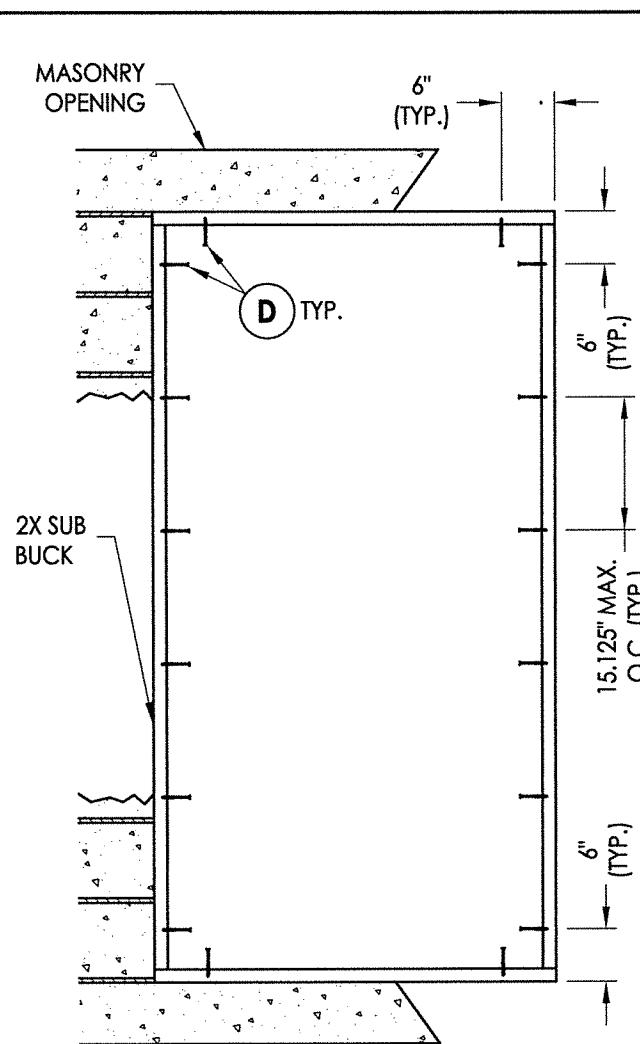




PRODUCT:	FLEETWOOD WINDOWS AND DOORS	
LFS	PART OR ASSEMBLY:	LFS
NO. DATE	BUCK & FRAME ANCHORING BY	
REVISIONS		

DATE: 10/23/13  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: FL-14904.10  
SHEET 5 OF 8

© 2013 R.W. BUILDING CONSULTANTS INC.

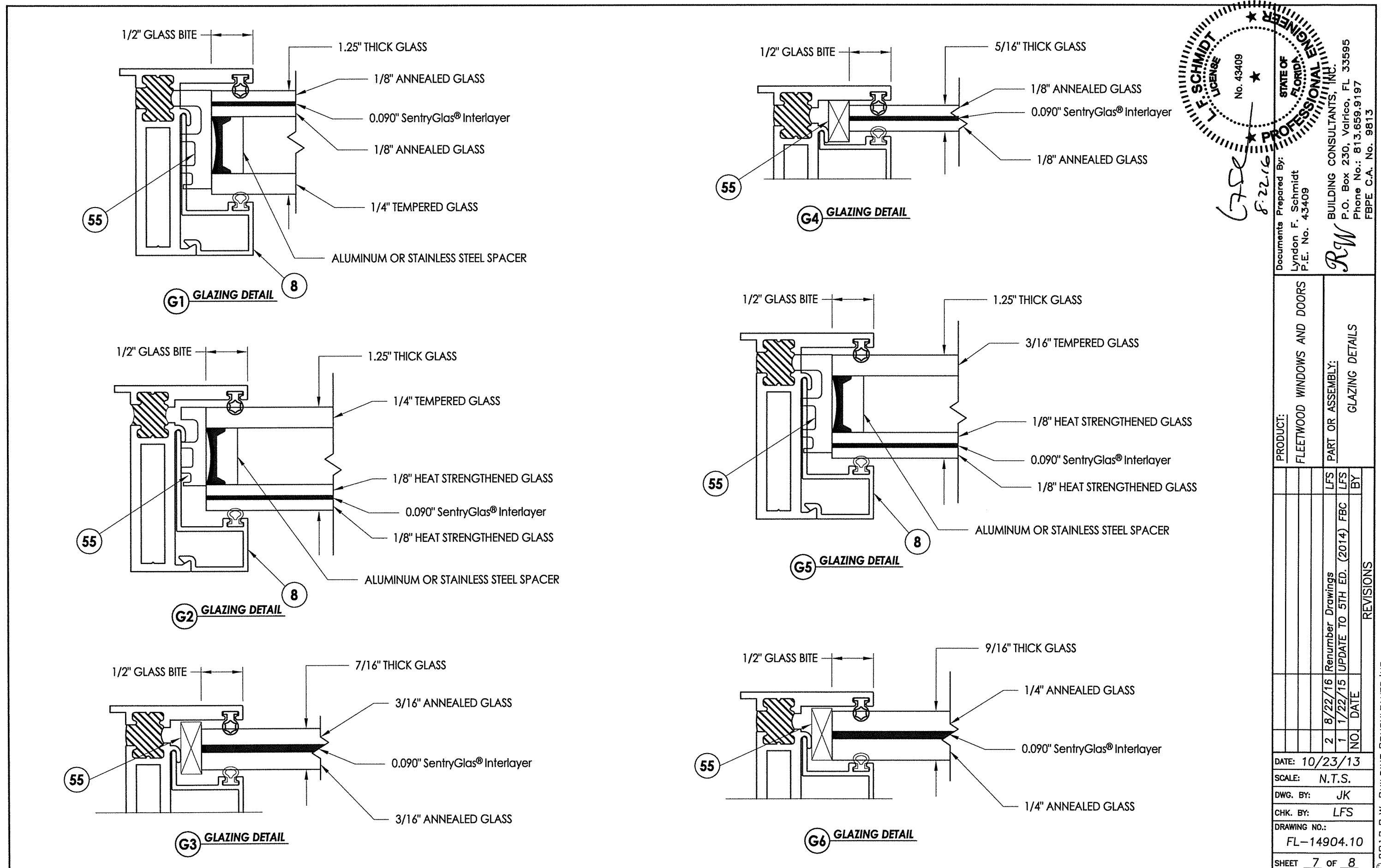


ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-1/4"	2"	4"
ELCO ULTRACON®	1/4"	1-1/4"	1"	4"

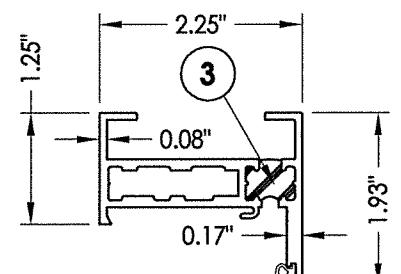
**WOOD SCREW INSTALLATION NOTES:**

- Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.

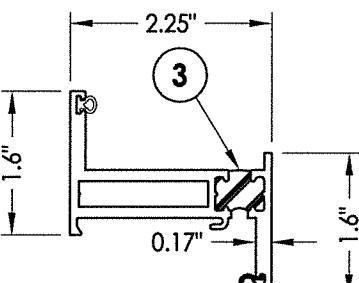
DOCUMENTS PREPARED BY: Lyndon F. Schmidt P.E. No. 43409	
BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813	
F. 22. 16 No. 43409 F. SCHMIDT PROFESSIONAL ENGINEER LICEN\$E	
PRODUCT: FLEETWOOD WINDOWS AND DOORS	LFS
PART OR ASSEMBLY: BUCK & FRAME ANCHORING	LFS BY
REVISIONS	



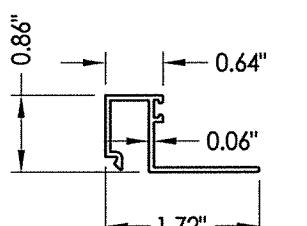
BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
A	1X BUCK SG >= 0.55	WOOD
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
D	1/4" X 2-3/4" ELCO OR ITW PFH CONCRETE SCREW	STEEL
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
F	#10 X 2" PPH WOOD SCREW (1-1/4" MIN. EMBEDMENT)	STEEL
J	1/4" x 3-1/4" ELCO OR ITW PFH CONCRETE SCREW	STEEL
K	#10 PPH SELF-DRILLING SMS	STEEL
X	STEEL STUD Min. Thk .033" (ASTM A653 GRADE 33 Fy=33 ksi Min, Fu=45 ksi Min)	STEEL
3	THERMAL BREAK ("LIQUID POLYURETHANE" by Azon USA, Inc.)	-
5	WESTWOOD BLOCK FRAME	6063-T6 ALUM
7	WESTWOOD ZEE BAR (PANEL)	6063-T6 ALUM
8	GLASS STOP (1-1/4")	6063-T6 ALUM
10	GLASS STOP (5/16", 7/16")	6063-T6 ALUM
13	CORNER KEY	6063-T6 ALUM
20	SS. BUTT HINGE	SS
21	4 BAR HINGE	SS
22	SNUBBER-COMMERCIAL PULL-IN BLOCK	SS
23	MULTIPOINT LOCK HANDLE (STEVE HAGG)	SS
26	3 POINTS LOCKING BAR (TRUTH)	SS
27	4 POINTS LOCKING BAR (TRUTH)	SS
28	TIE BAR GUIDE (TRUTH)	-
29	KEEPER (TRUTH)	SS
30	CASEMENT ROTOR GEAR 13.5"(TRUTH)	SS
31	CASEMENT ROTOR GEAR 9.5"(TRUTH)	SS
35	CAM HANDLE / STRIKE PLATE (MELRON)	SS
36	CASEMENT SS. TRACK (TRUTH)	SS
40	#10 X 1" PPH SMS	STEEL
42	MACHINING SCREW NO 10-32, FHP .75"	STEEL
43	SCREW NO 10 , UFHP .5"	STEEL
44	SCREW NO 8, PHP , .50"	STEEL
46	SCREW NO 8, FHP , .750"	STEEL
48	BACK UP NUTS	STEEL
50	BULB VINYL (EPDM 70 DUROMETER) - TREMCO	-
51	MINI BULB VINYL (EPDM 70 DUROMETER) - TREMCO	-
55	SETTING BLOCK (SANTOPRENE - 86 DUROMETER) - TREMCO	-
57	PIVOT SHIM	-



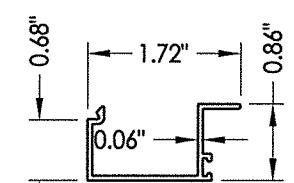
5 BLOCK FRAME



7 ZEE BAR (PANEL)

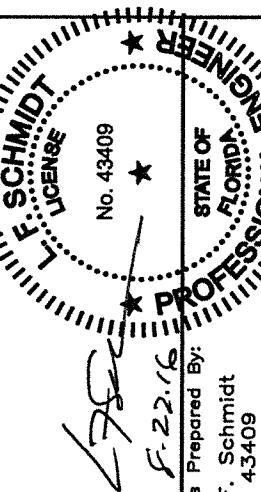


8 GLASS STOP 1-1/4"



10 GLASS STOP 5/16", 7/16", 9/16"

PRODUCT:	FLEETWOOD WINDOWS AND DOORS
PART OR ASSEMBLY:	LFS
BILL OF MATERIALS AND COMPONENTS	BY
NO. DATE	REVISIONS
DATE: 10/23/13	
SCALE: N.T.S.	
DWG. BY: JK	
CHK. BY: LFS	
DRAWING NO.: FL-14904.10	
SHEET 8 OF 8	



F. 22/16  
F. SCHMIDT  
PROFESSIONAL ENGINEER  
No. 43409  
STATE OF FLORIDA  
LICENCE  
BUILDING CONSULTANTS, INC.  
P.O. Box 230, Valrico, FL 33595  
Phone No.: 813.659.9197  
FBPE C.A. No. 9813

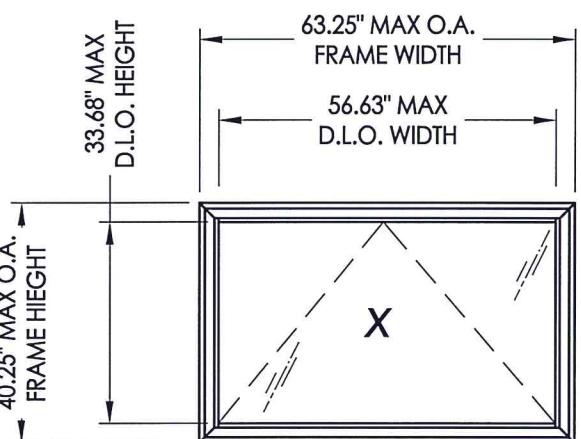
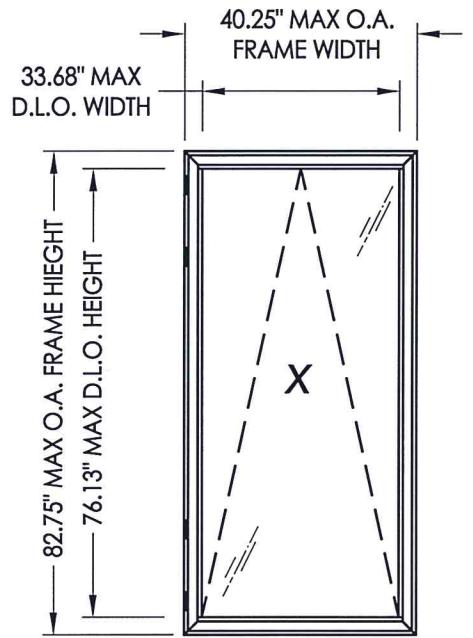
## Series 250-T Aluminum Awning Window w/ Thermal Break Frame "NON-IMPACT"

### GENERAL NOTES

1. This product has been evaluated and is in compliance with the 5th Edition (2014) Florida Building Code (FBC) structural requirements excluding the "High Velocity Hurricane Zone" (HVHZ).
2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.
3. When used in areas requiring wind borne debris protection this product is required to be protected with an impact resistant covering that complies with Section 1609.1.2 of the FBC.
4. For 2x stud framing construction, anchoring of these units shall be the same as that shown for 2x buck masonry construction.
5. Site conditions that deviate from the details of this drawing require further engineering analysis by a licensed engineer or registered architect.

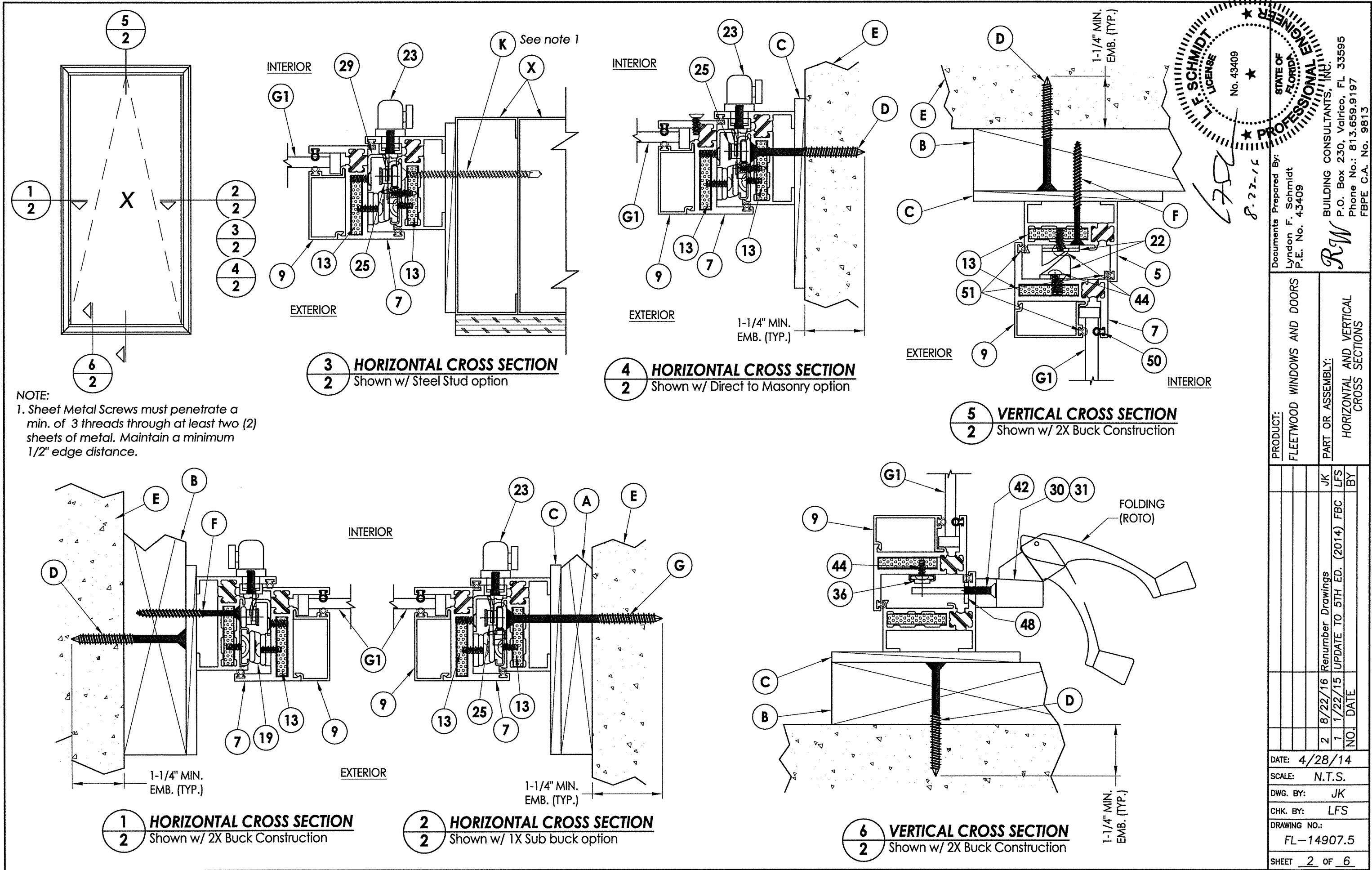
**TABLE OF CONTENTS**

SHEET#	DESCRIPTION
1	Typical elevations, design pressures and general notes
2	Horizontal and vertical cross sections
3	Horizontal and vertical cross sections
4	Buck and frame anchoring
5	Buck and frame anchoring
6	Bill of materials, glazing detail and components

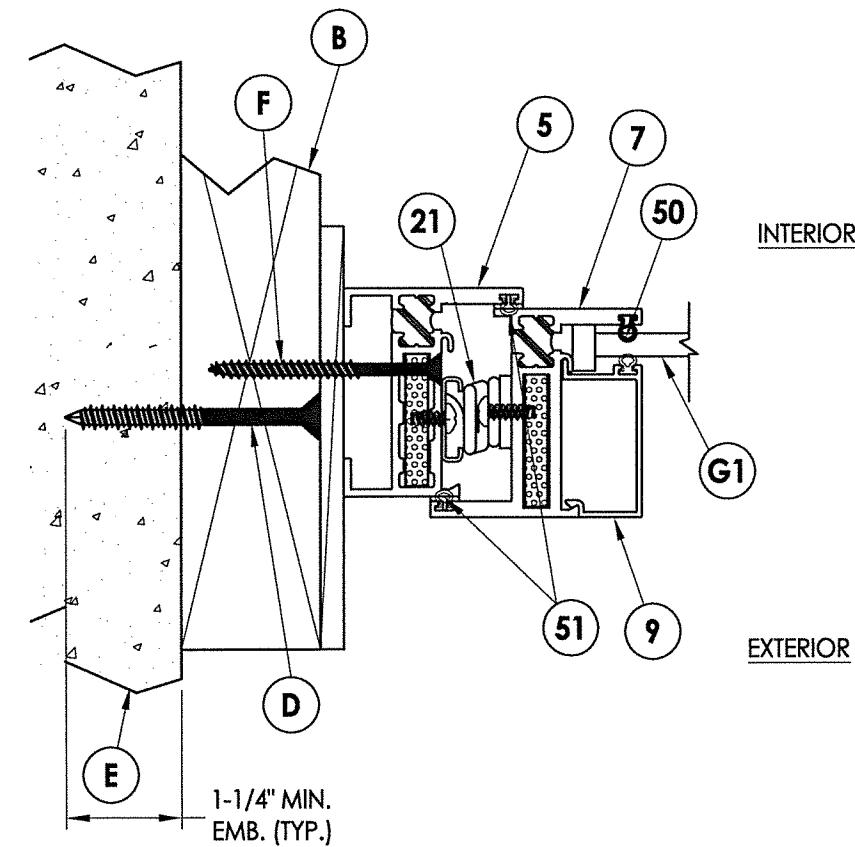
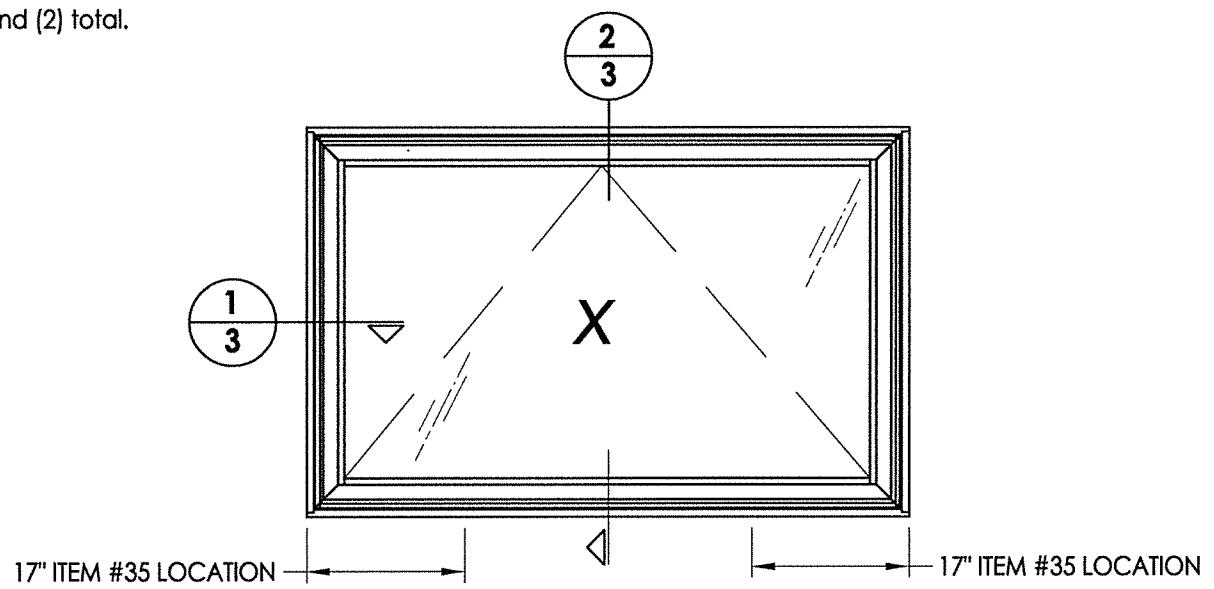


OVERALL FRAME DIMENSION	OVERALL D.L.O. DIMENSION	GLASS TYPE	DESIGN PRESSURE (PSF)	
			POSITIVE	Negative
40.25" X 82.75"	33.68" X 76.13"	G1	+65.0	-65.0
40.25" X 44.5"	33.68" X 37.88"	G1	+65.0	-65.0
63.25" X 40.25"	56.63" X 33.68"	G1	+65.0	-65.0

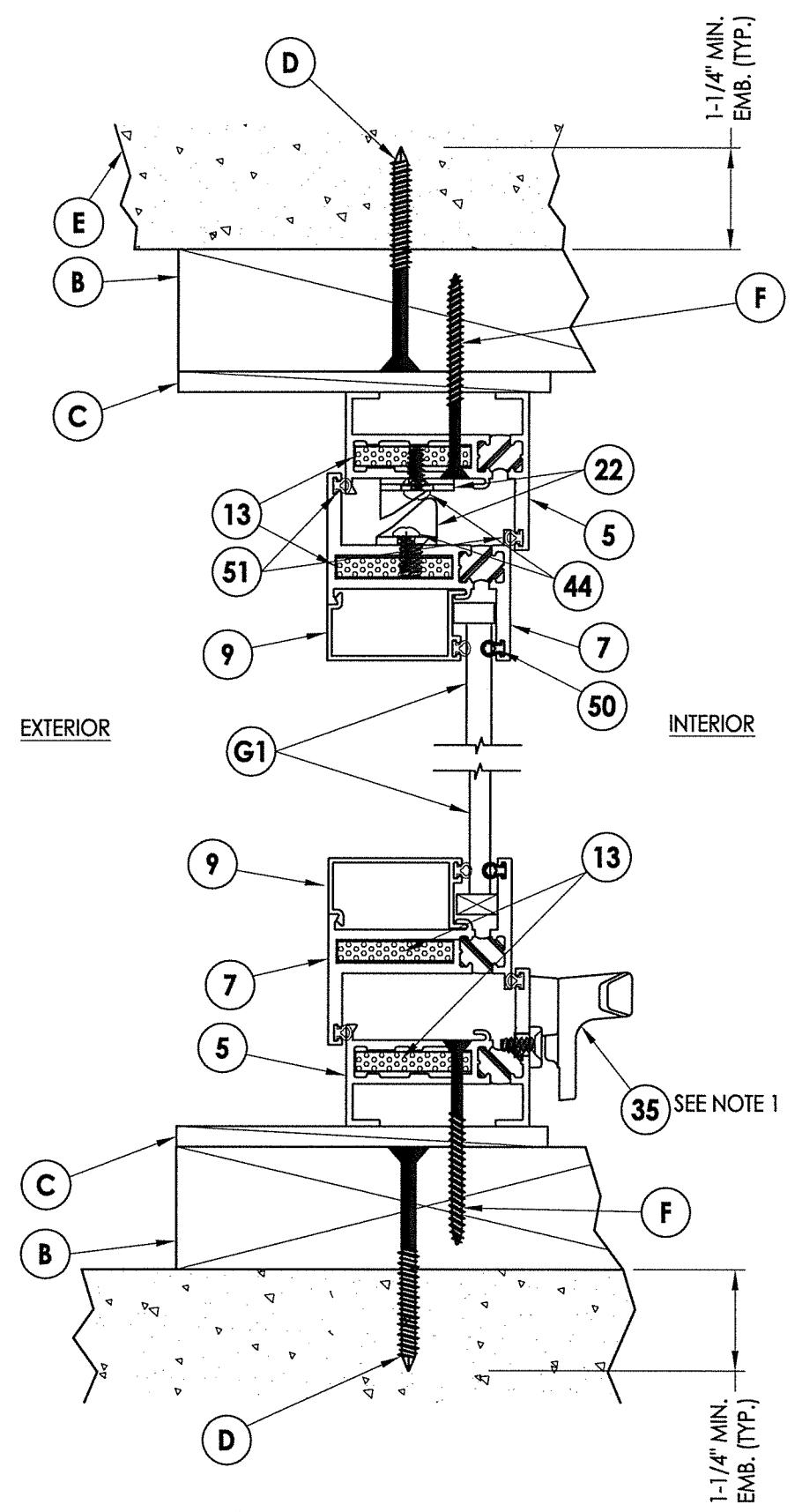
	
<b>RW</b> 8/22/16	
Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409	
BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813	
<b>PRODUCT:</b> FLEETWOOD WINDOWS AND DOORS	<b>PART OR ASSEMBLY:</b> JK TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES
<b>NO. DATE</b> 2 8/22/16	<b>LFS BY</b> 1 1/22/15 UPDATE TO 5TH ED. (2014) FBC
<b>REVISIONS</b>	
DATE: 4/28/14 SCALE: N.T.S. DWG. BY: JK CHK. BY: LFS DRAWING NO.: FL-14907.5 SHEET 1 OF 6	



**NOTE:**  
1. Item #35 located 17" from each end (2) total.

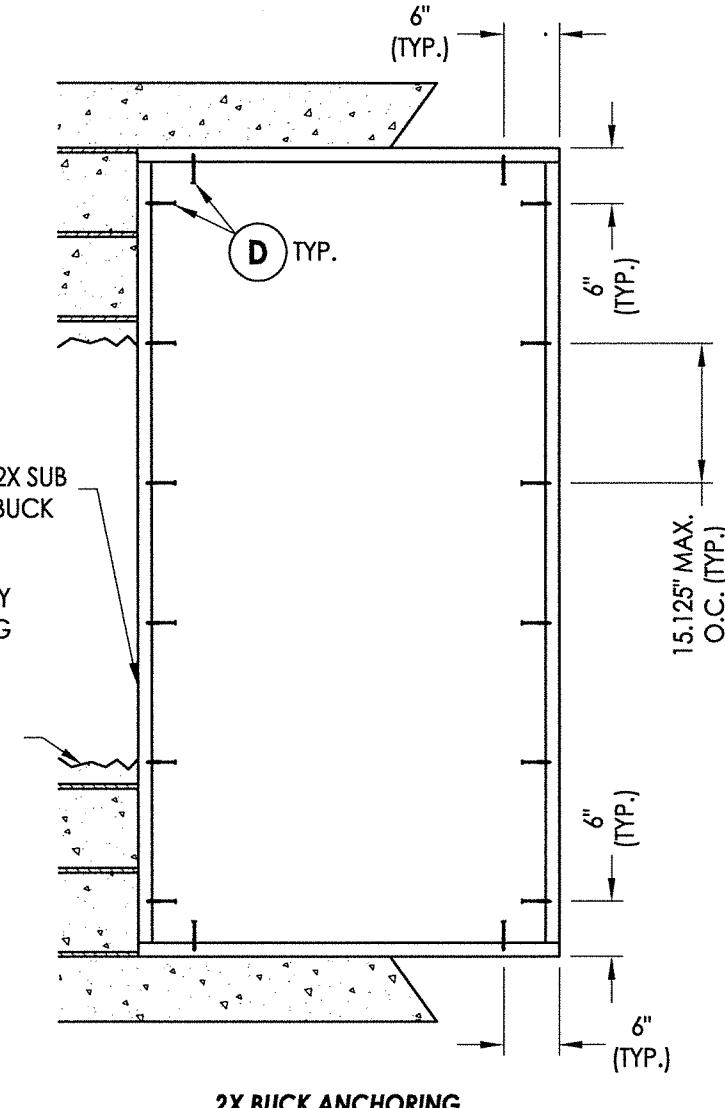


**1 3 HORIZONTAL CROSS SECTION**  
Shown w/ 2X Buck Construction



**2 3 VERTICAL CROSS SECTION**  
Shown w/ 2X Buck Construction

<b>STATE OF FLORIDA PROFESSIONAL ENGINEERING LICENSE</b>		No. 43409	
		Lyndon F. Schmidt P.E. No. 43409	BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813
<i>L.F.Schmidt 8-23-14</i>		<i>RW</i>	Documents Prepared By:
			PRODUCT: FLEETWOOD WINDOWS AND DOORS
			PART OR ASSEMBLY: HORIZONTAL AND VERTICAL CROSS SECTIONS
DATE: 4/28/14	JK	LFS	
SCALE: N.T.S.		BY:	
DWG. BY: JK			
CHK. BY: LFS			
DRAWING NO.: FL-14907.5			
SHEET 3 OF 6			



**CONCRETE ANCHOR NOTES:**

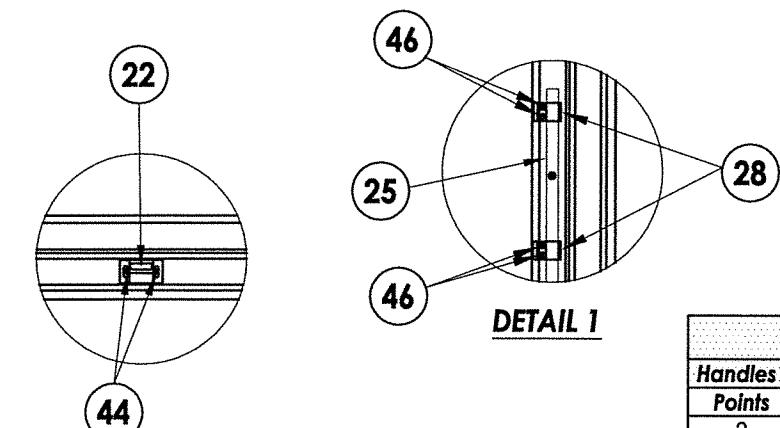
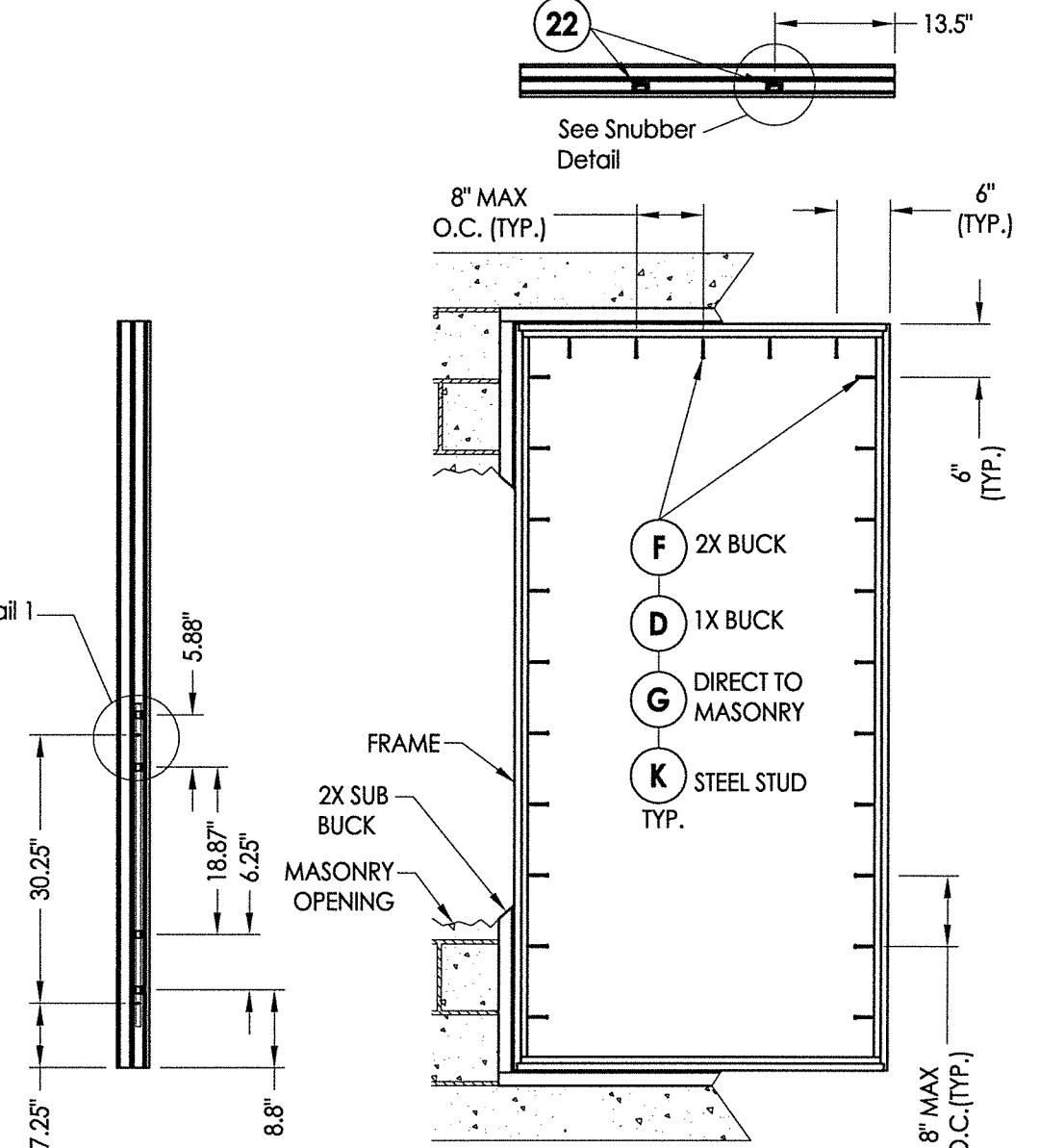
1. Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
2. Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
3. Concrete anchor table:

ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-1/4"	2"	4"
ELCO ULTRACON®	1/4"	1-1/4"	1"	4"

**WOOD SCREW INSTALLATION NOTES:**

1. Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.

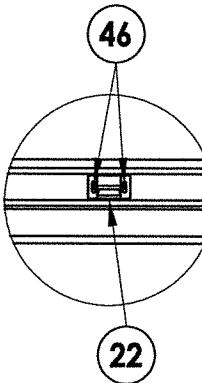
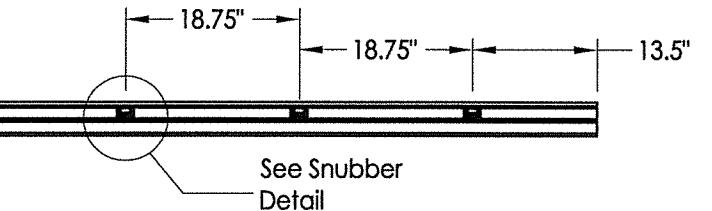
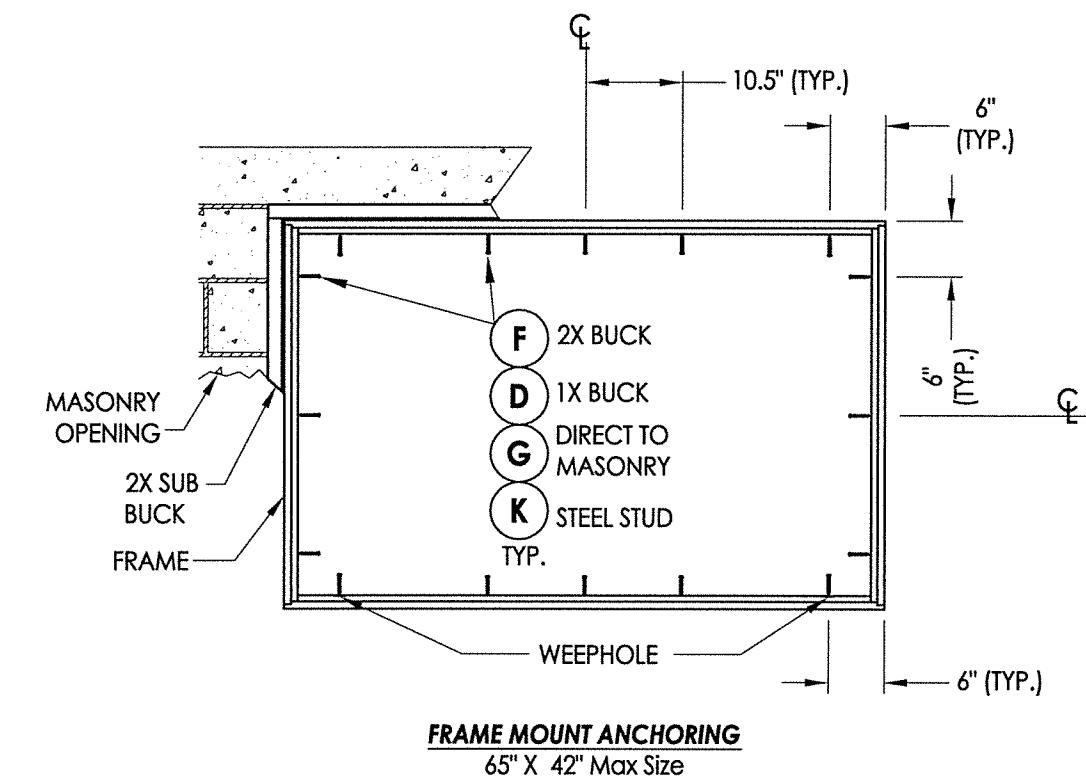
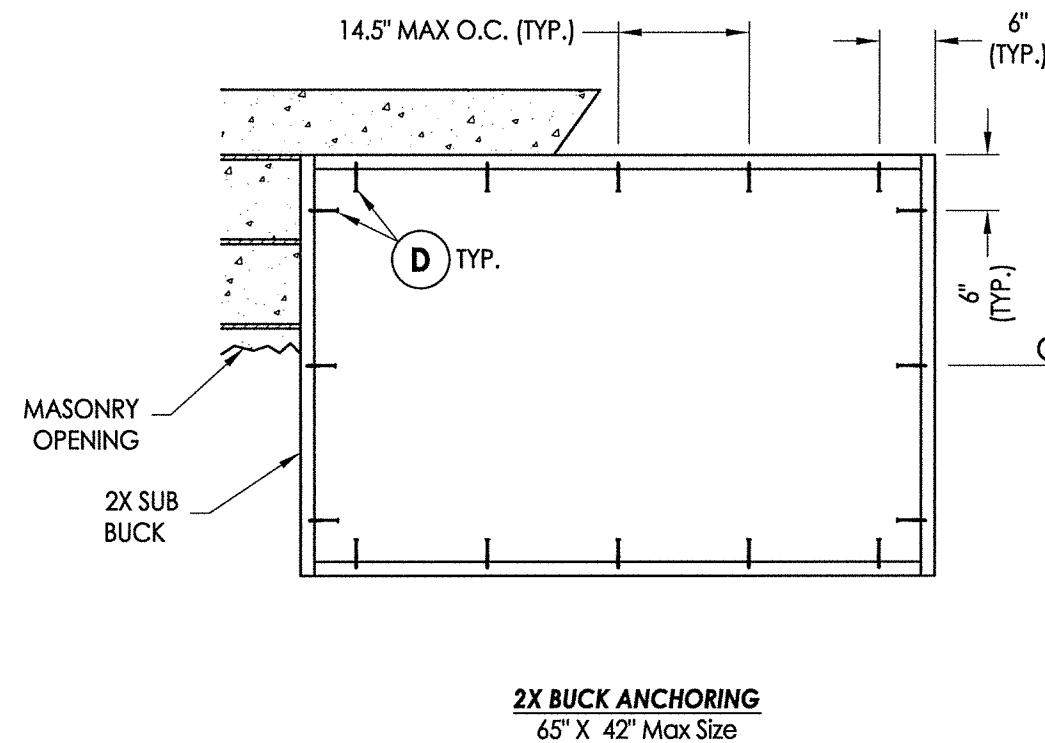
See Detail 1



**SNUBBER DETAIL**

HARDWARE TABLE			
Handles		Height	*Cam locks can be used in conjunction with multipoint lock or in lieu of multipoint locks
Points	Description	> 50"	
2	Multipoint	≤ 50"	
1	Multipoint		
Qty.			
2	Cam*	≤ 50"	

DOCUMENTS PREPARED BY: LYNDON F. SCHMIDT P.E. NO. 43409	
BUILDING CONSULTANTS, INC. P.O. BOX 230, VAIICO, FL 33595 PHONE NO.: 813.659.9197 FBPE C.A. NO. 9813	
<p style="text-align: center;"><i>L.S.</i> JULY 23, 2014</p> <p style="text-align: right;"><i>R.W.</i></p>	
PRODUCT: FLEETWOOD WINDOWS AND DOORS	PART OR ASSEMBLY: BUCK & FRAME ANCHORING
JK	JK
LFS	FBC
BY	BY
REVISIONS	REVISIONS
DATE: 4/28/14	
SCALE: N.T.S.	
DWG. BY: JK	
CHK. BY: LFS	
DRAWING NO.: FL-14907.5	
NO. DATE	



PRODUCT:	FLEETWOOD WINDOWS AND DOORS	PART OR ASSEMBLY:	BUCK & FRAME ANCHORING
DATE:	8/22/16	JK	RENUMBER DRAWINGS
SCALE:	N.T.S.	LFS	UPDATE TO 5TH ED. (2014) FBC
DWG. BY:	JK	BY	NO. DATE
CHK. BY:	LFS		REVISIONS
DRAWING NO.:	FL-14907.5		
SHEET	5	OF	6

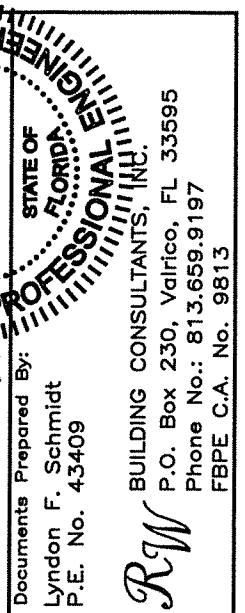
#### CONCRETE ANCHOR NOTES:

- Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
- Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
- Concrete anchor table:

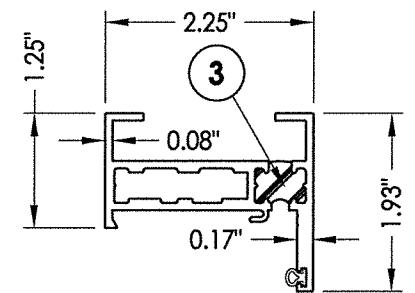
ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-1/4"	2"	4"
ELCO ULTRACON®	1/4"	1-1/4"	1"	4"

#### WOOD SCREW INSTALLATION NOTES:

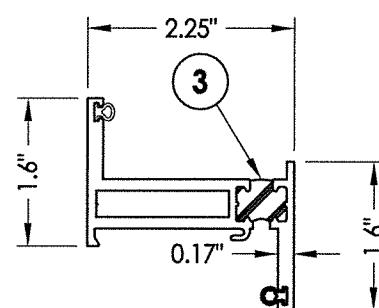
- Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.



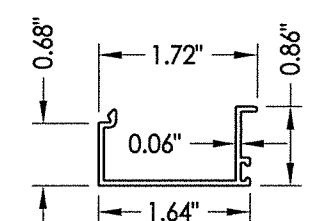
BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
A	1X BUCK SG >= 0.55	WOOD
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
D	1/4" X 2-3/4" ELCO OR ITW PFH CONCRETE SCREW	STEEL
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
F	#10 X 2" PPH WOOD SCREW (1-1/4" MIN. EMBEDMENT)	STEEL
G	1/4" X 3-3/4" ELCO OR ITW PFH CONCRETE SCREW	STEEL
H	#10 X 2-3/4" PPH WOOD SCREW	STEEL
K	#10 PFH SELF-DRILLING SMS	STEEL
X	STEEL STUD Min. Thk .033" (ASTM A653 GRADE 33 Fy=33 ksi Min, Fu=45 ksi Min)	STEEL
3	THERMAL BREAK ("LIQUID POLYURETHANE" by Azon USA, Inc.)	-
5	WESTWOOD BLOCK FRAME	6063-T6 ALUM
7	WESTWOOD ZEE BAR (PANEL)	6063-T6 ALUM
9	GLASS STOP (1/4")	6063-T6 ALUM
12	SHEAR BLOCK	6061-T6 ALUM
13	CORNER KEY	6063-T6 ALUM
19	2 BAR HINGE	SS
21	4 BAR HINGE	SS
22	SNUBBER-COMMERCIAL PULL-IN BLOCK	SS
23	MULTIPOINT LOCK HANDLE (STEVE HAGG)	SS
24	1 POINT LOCKING BAR (TRUTH)	SS
25	2 POINTS LOCKING BAR (TRUTH)	SS
28	TIE BAR GUIDE (TRUTH)	-
29	KEEPER (TRUTH)	SS
30	CASEMENT ROTOR GEAR 13.5" (TRUTH)	SS
31	CASEMENT ROTOR GEAR 9.5" (TRUTH)	SS
35	CAM HANDLE / STRIKE PLATE (MELRON)	SS
36	CASEMENT SS. TRACK (TRUTH)	SS
40	#10 X 1" PPH SMS	STEEL
42	MACHINING SCREW NO 10-32, FHP .75"	STEEL
43	SCREW NO 10 , UFHP .5"	STEEL
44	SCREW NO 8, PHP, .50"	STEEL
46	SCREW NO 8, FHP, .750"	STEEL
48	BACK UP NUTS	STEEL
50	BULB VINYL (EPDM 70 DUROMETER)-TREMCO	-
51	MINI BULB VINYL (EPDM 70 DUROMETER)-TREMCO	-
55	SETTING BLOCK	-



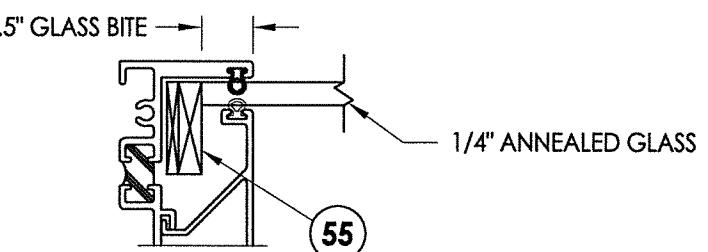
5 BLOCK FRAME



7 ZEE BAR (PANEL)



9 GLASS STOP 1/4"



G1 GLAZING DETAIL

F. SCHMIDT No. 43409		STATE OF FLORIDA PROFESSIONAL ENGINEER Lyndon F. Schmidt P.E. No. 43409	
F-22-14			
Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409		BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813	
PRODUCT: FLEETWOOD WINDOWS AND DOORS		PART OR ASSEMBLY: JK LFS BY	
BILL OF MATERIALS, GLAZING DETAIL AND COMPONENTS		REVISIONS	
DATE:	4/28/14	SCALE:	N.T.S.
DWG. BY:	JK	CHK. BY:	LFS
DRAWING NO.:	FL-14907.5		
SHEET	6	OF	6



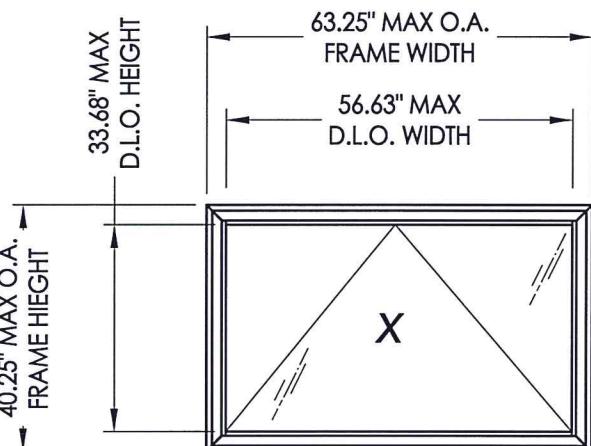
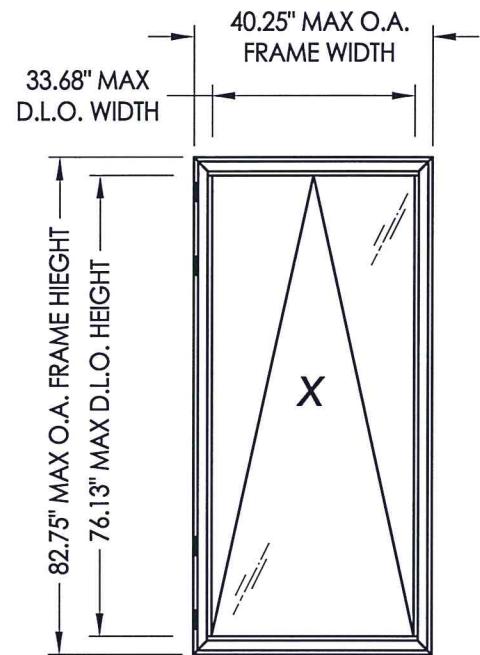
## Series 250-T Aluminum Awning Window w/ Thermal Break Frame "IMPACT"

### GENERAL NOTES

1. This product has been evaluated and is in compliance with the 5th Edition (2014) Florida Building Code (FBC) structural requirements excluding the "High Velocity Hurricane Zone" (HVHZ).
2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.
3. When used in areas requiring wind borne debris protection this product complies with Section 1609.1.2 of the FBC and does not require an impact resistant covering. This product meets missile level "D" and includes Wind Zone 4 as defined in ASTM E1996.
4. For 2x stud framing construction, anchoring of these units shall be the same as that shown for 2x buck masonry construction.
5. Site conditions that deviate from the details of this drawing require further engineering analysis by a licensed engineer or registered architect.

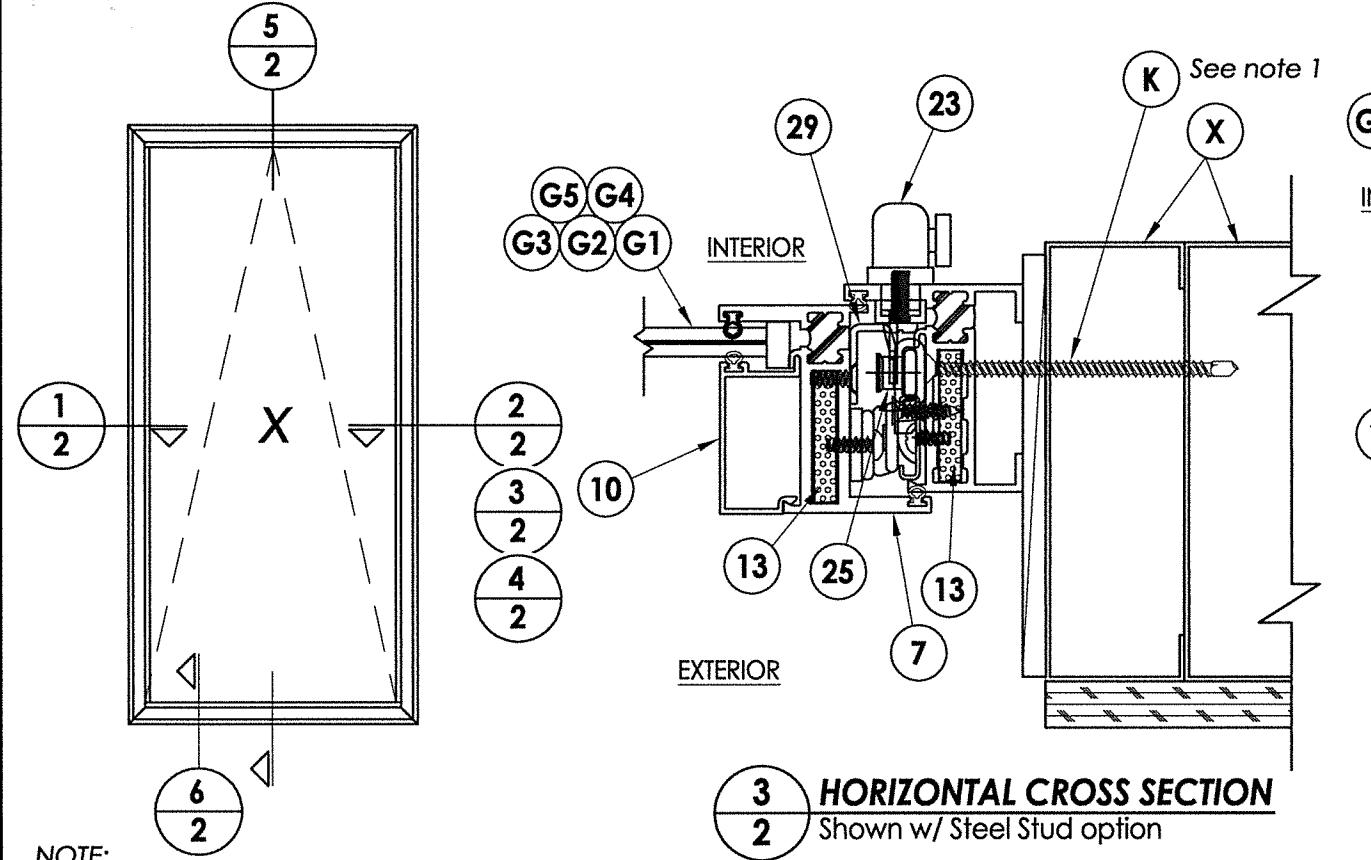
TABLE OF CONTENTS

SHEET#	DESCRIPTION
1	Typical elevations, design pressures and general notes
2	Horizontal and vertical cross sections
3	Horizontal and vertical cross sections
4	Buck and frame anchoring
5	Buck and frame anchoring
6	Glazing details
7	Bill of materials and components

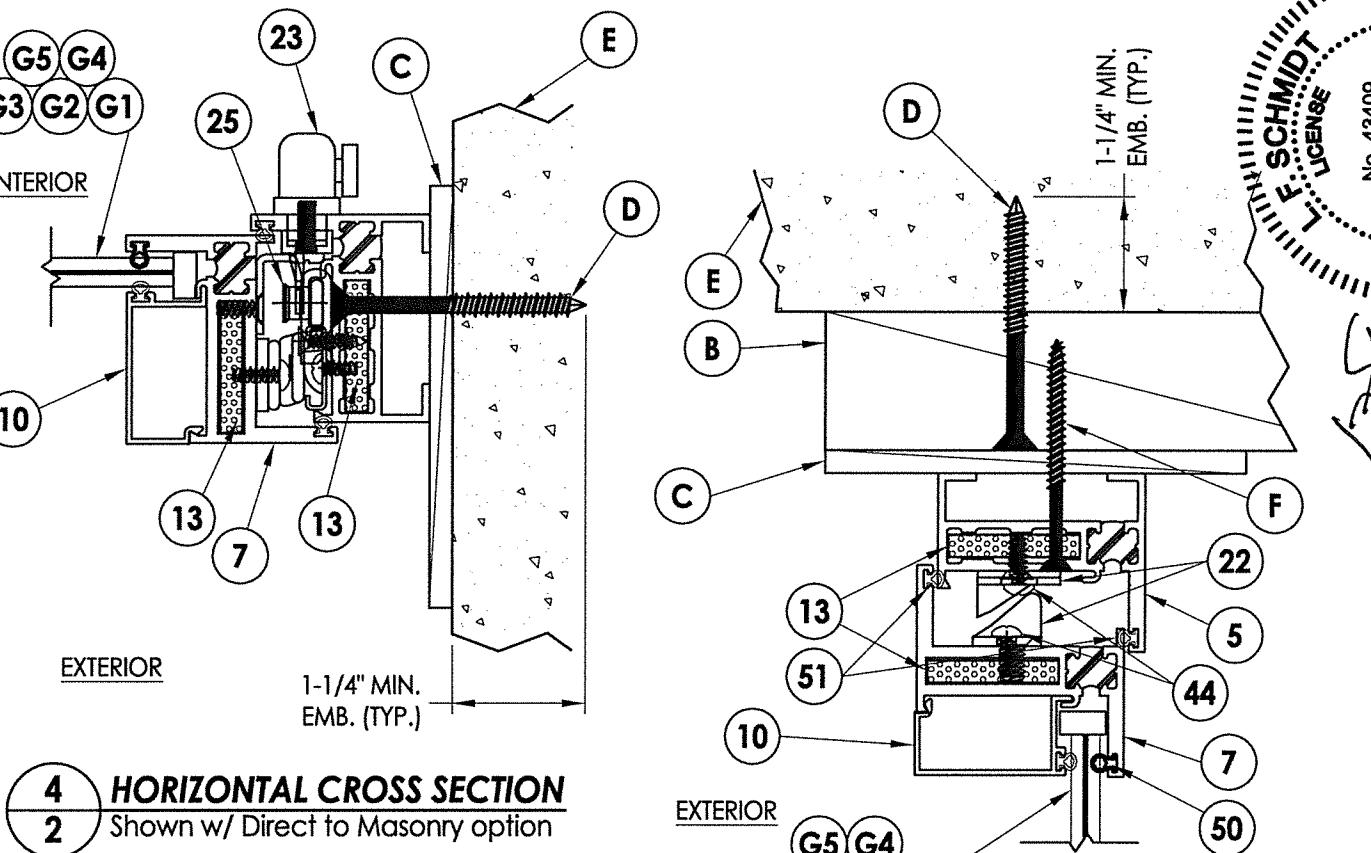


OVERALL FRAME DIMENSION	OVERALL D.L.O. DIMENSION	GLASS TYPE	DESIGN PRESSURE (PSF)	
			POSITIVE	NEGATIVE
40.25" X 82.75"	33.68" X 76.13"	G1, G2, G3, G4, G5	+65.0	-65.0
40.25" X 44.5"	33.68" X 37.88"	G1, G2, G3, G4, G5	+65.0	-65.0
63.25" X 40.25"	56.63" X 33.68"	G1, G2, G3, G4, G5	+65.0	-65.0

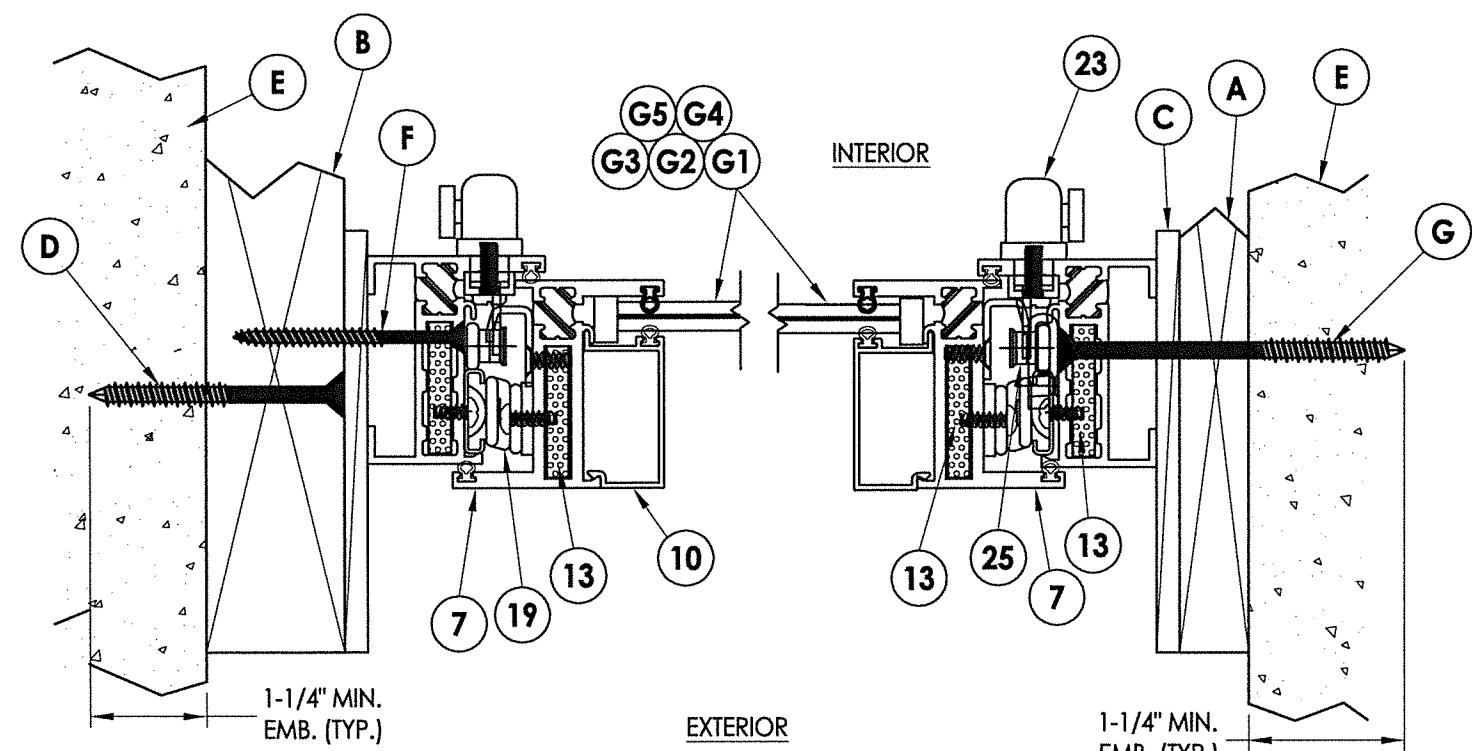
<b>RW</b> BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813-659-9197 FBPE C.A. No. 9813	
Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409	JK LFS BY TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES REVISIONS
DATE: 4/28/14 SCALE: N.T.S. DWG. BY: JK CHK. BY: LFS DRAWING NO.: FL-14907.6 SHEET 1 OF 7	



**NOTE:**  
1. Sheet Metal Screws must penetrate a min. of 3 threads through at least two (2) sheets of metal. Maintain a minimum 1/2" edge distance.

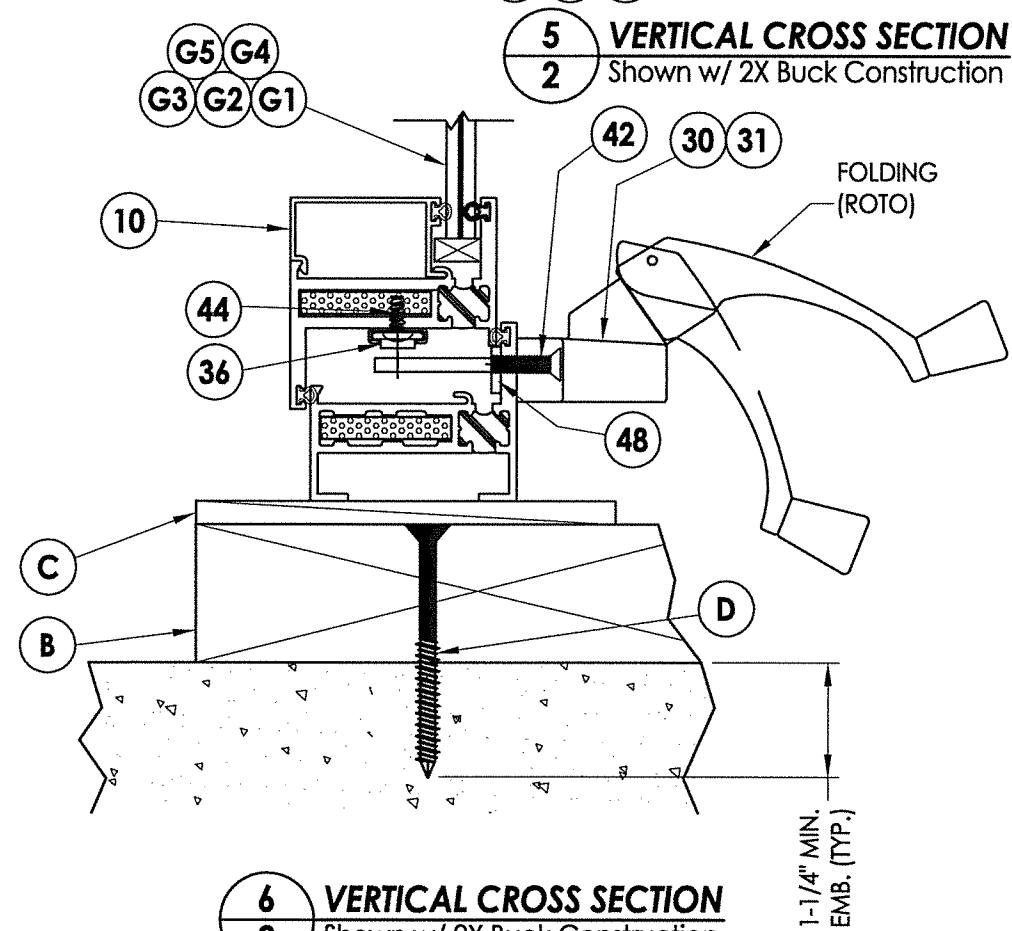


## **4** HORIZONTAL CROSS SECTION **2** Shown w/ Direct to Masonry option



**1 HORIZONTAL CROSS SECTION**  
2 Shown w/ 2X Buck Construction

## **2 HORIZONTAL CROSS SECTION**

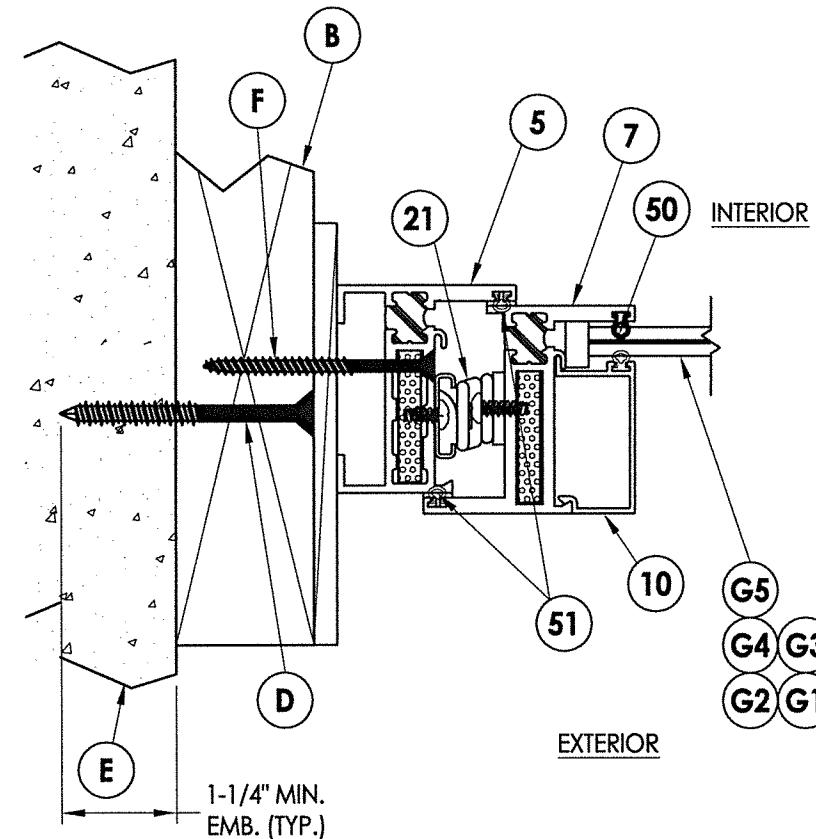
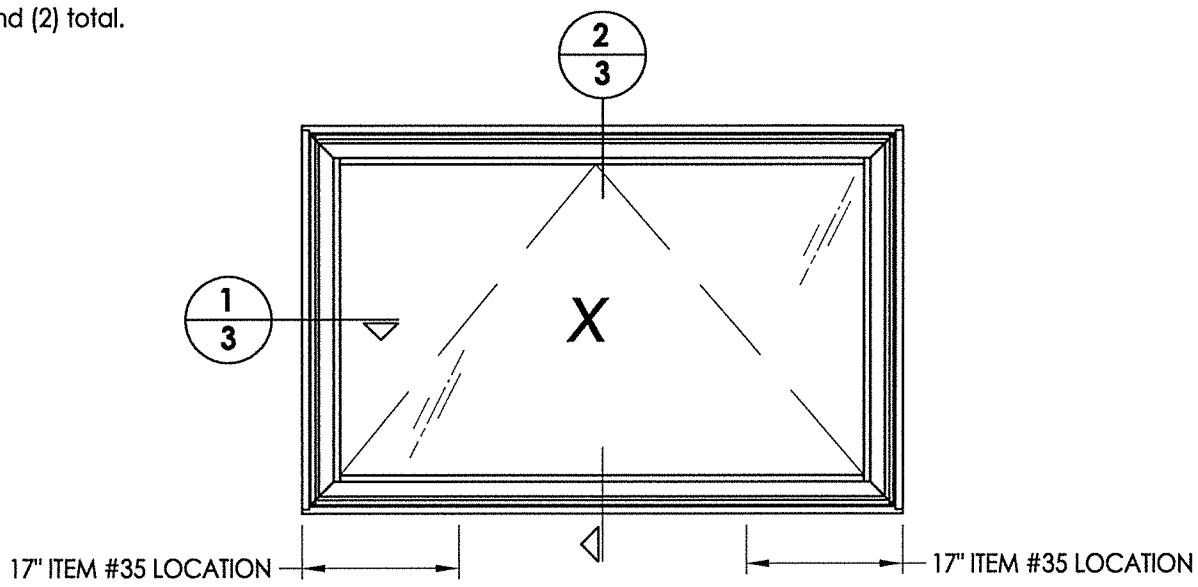


**6** VERTICAL CROSS SECTION  
**2** Shown w/ 2X Buck Construction

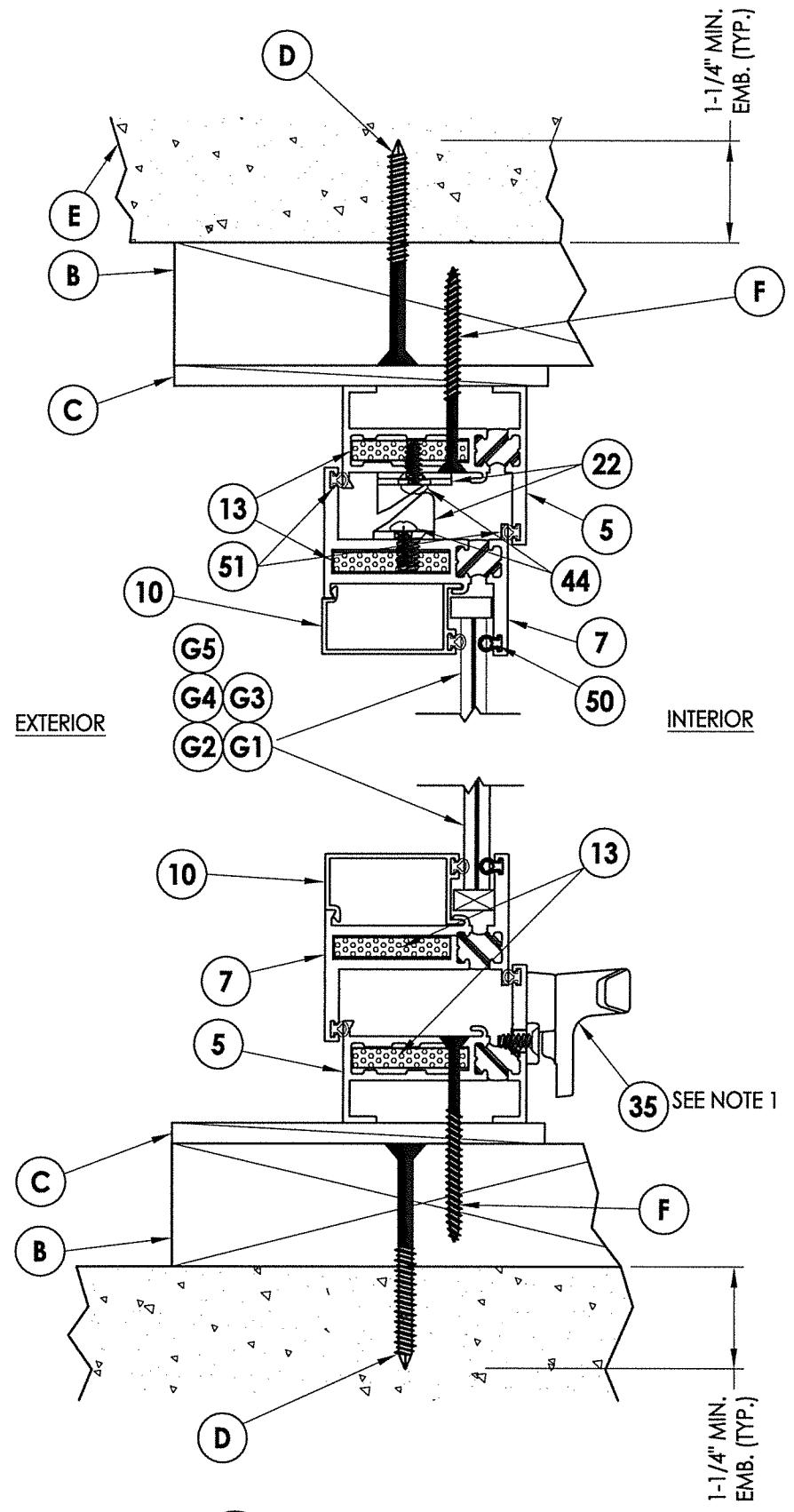
		<u>PRODUCT:</u>	FLEETWOOD WINDOWS AND DOORS
		<u>PART OR ASSEMBLY:</u>	HORIZONTAL AND VERTICAL CROSS SECTIONS
2	8/22/16	Renumber Drawings	JK
1	1/22/15	UPDATE TO 5TH ED. (2014)	FBC
NO.	DATE		LFS
			BY
DATE: 4/28/14			
SCALE: N.T.S.			
DWG. BY: JK			
CHK. BY: LFS			
DRAWING NO.: FL-14907.6			
SHEET <u>2</u> OF <u>7</u>			

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NOTE:  
1. Item #35 located 17" from each end (2) total.



**1 HORIZONTAL CROSS SECTION**  
Shown w/ 2X Buck Construction



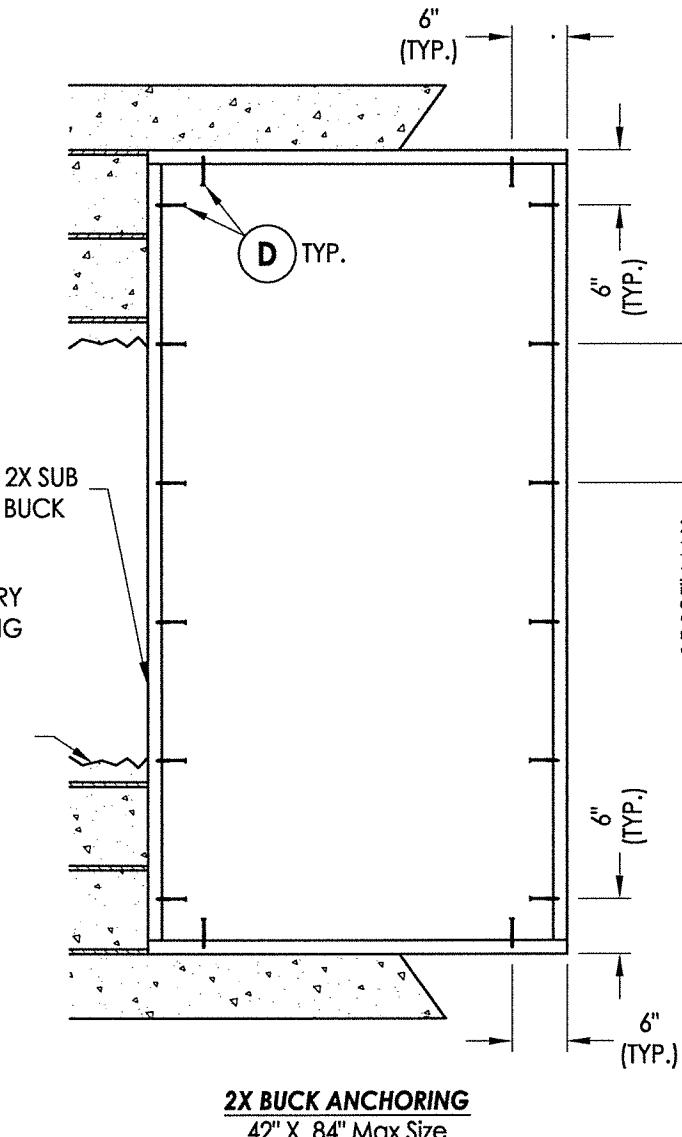
**2 VERTICAL CROSS SECTION**  
Shown w/ 2X Buck Construction

PRODUCT:	FLEETWOOD WINDOWS AND DOORS		
	PART OR ASSEMBLY:		
	HORIZONTAL AND VERTICAL CROSS SECTIONS		
DATE:	4/28/14		
SCALE:	N.T.S.		
DWG. BY:	JK		
CHK. BY:	LFS		
DRAWING NO.:	FL-14907.6		
SHEET	3	OF	7

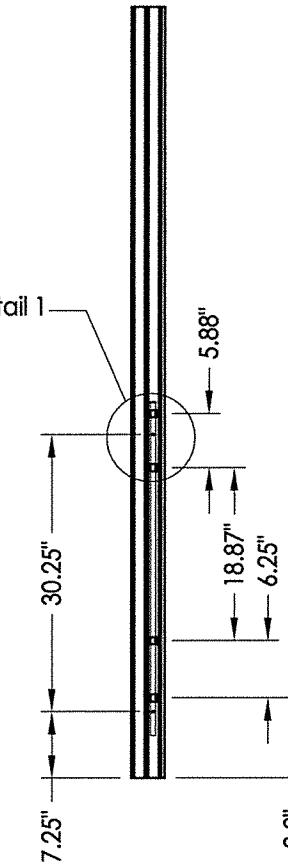
Documents Prepared By:  
Lyndon F. Schmidt  
P.E. No. 43409

BUILDING CONSULTANTS, INC.  
P.O. Box 230, Valrico, FL 33595  
Phone No.: 813.659.9197  
FBPE C.A. No. 9813

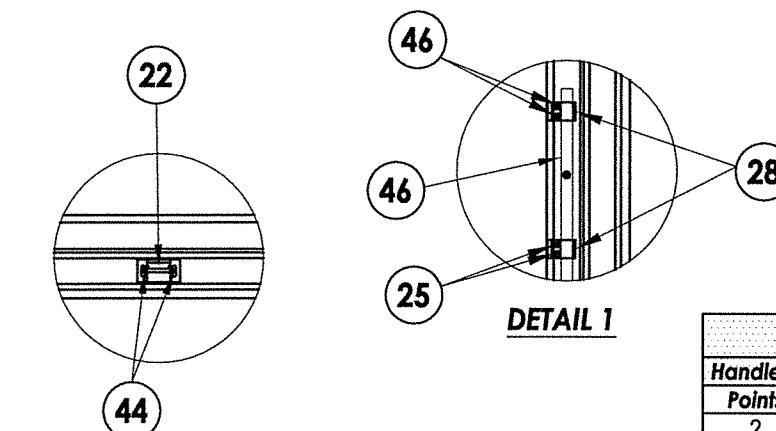
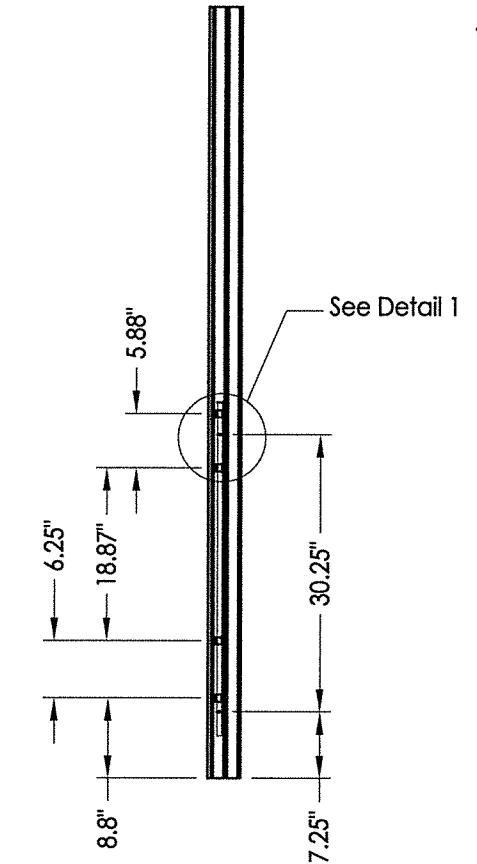
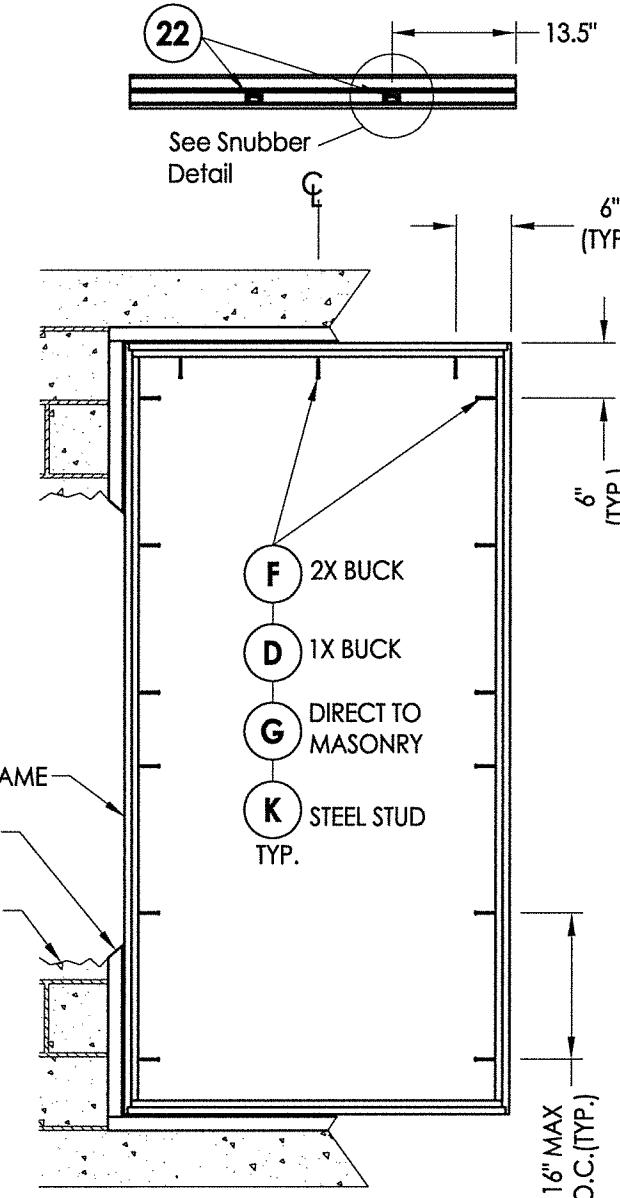
F. 23-1 ✓ PROFESSIONAL ENGINEER  
No. 43409  
F. SCHMIDT  
STATE OF FLORIDA LICENSE  
S. 23-1 ✓ PROFESSIONAL ENGINEER  
No. 43409  
R.W. BUILDING CONSULTANTS INC.



See Detail 1



See Detail 1



HARDWARE TABLE			
Handles		Description	
Points	Description	Height	*Cam locks can be used in conjunction with multipoint lock or in lieu of multipoint locks
2	Multipoint	> 50"	
1	Multipoint	≤ 50"	
Qty.			
2	Cam*	≤ 50"	

#### CONCRETE ANCHOR NOTES:

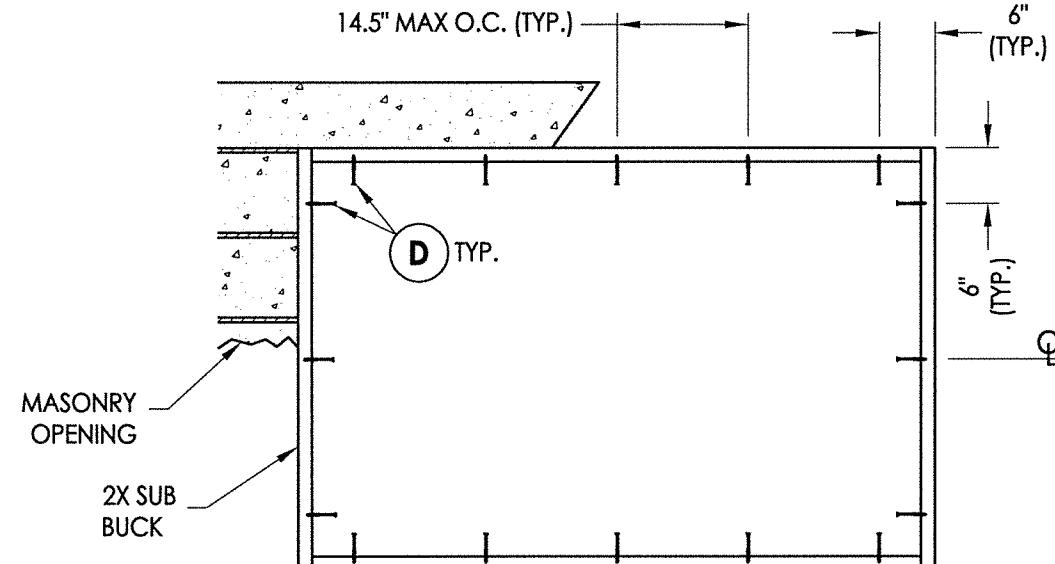
- Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
- Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
- Concrete anchor table:

ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-1/4"	2"	4"
ELCO ULTRACON®	1/4"	1-1/4"	1"	4"

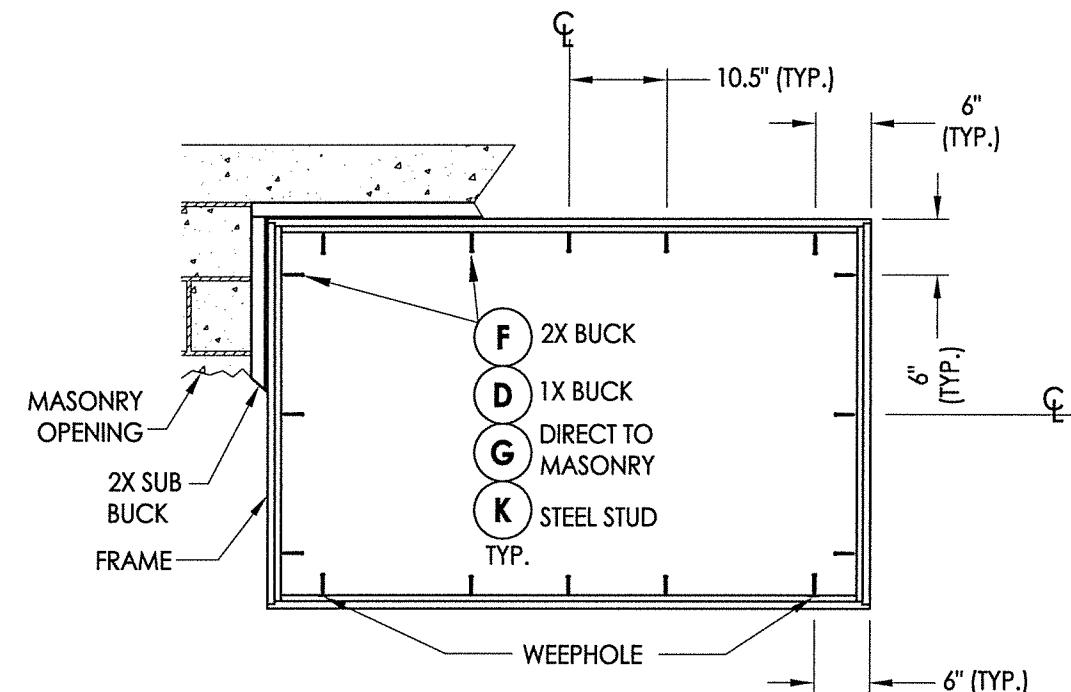
#### WOOD SCREW INSTALLATION NOTES:

- Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.

PRODUCT: FLEETWOOD WINDOWS AND DOORS	JK PART OR ASSEMBLY: BUCK & FRAME ANCHORING	Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409	STATE OF FLORIDA PROFESSIONAL ENGINEER LICENSE No. 43409
1	2	3	4
NO. DATE	1 1/22/15	2 8/22/16	3 1/22/15
REVISIONS	1	2	3
DATE: 4/28/14	SCALE: N.T.S.	DWG. BY: JK	CHK. BY: LFS
SCALE: N.T.S.	DWG. BY: JK	CHK. BY: LFS	DRAWING NO.: FL-14907.6
SHEET 4 OF 7			© 2014 R.W. BUILDING CONSULTANTS INC.



**2X BUCK ANCHORING**  
65" X 42" Max Size



**FRAME MOUNT ANCHORING**  
65" X 42" Max Size

**CONCRETE ANCHOR NOTES:**

1. Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
2. Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
3. Concrete anchor table:

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ELCO ULTRA CON®	1/4"	1-1/4"	1"	4"

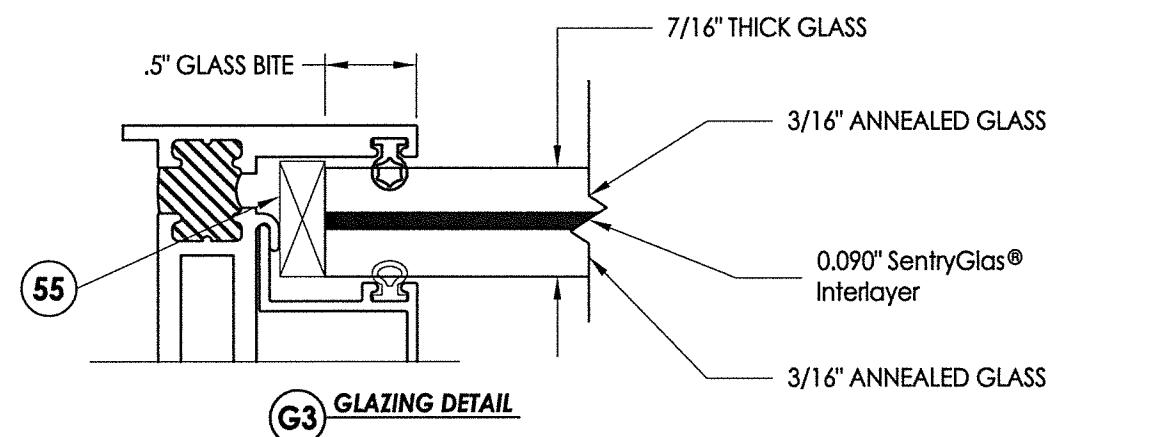
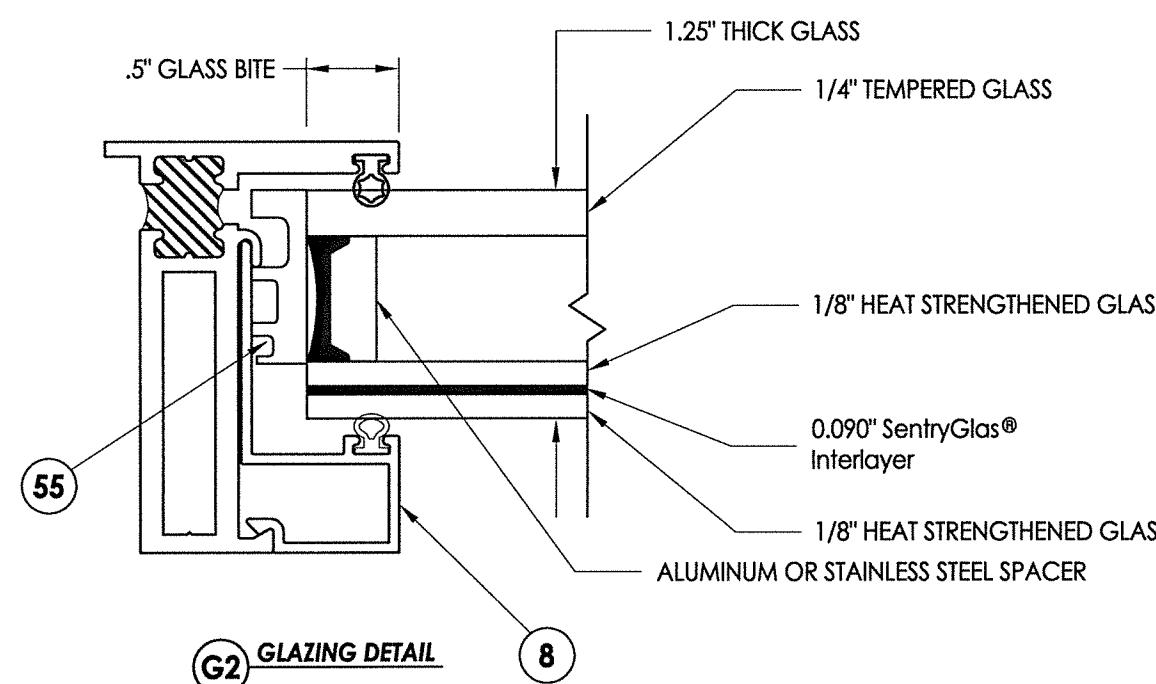
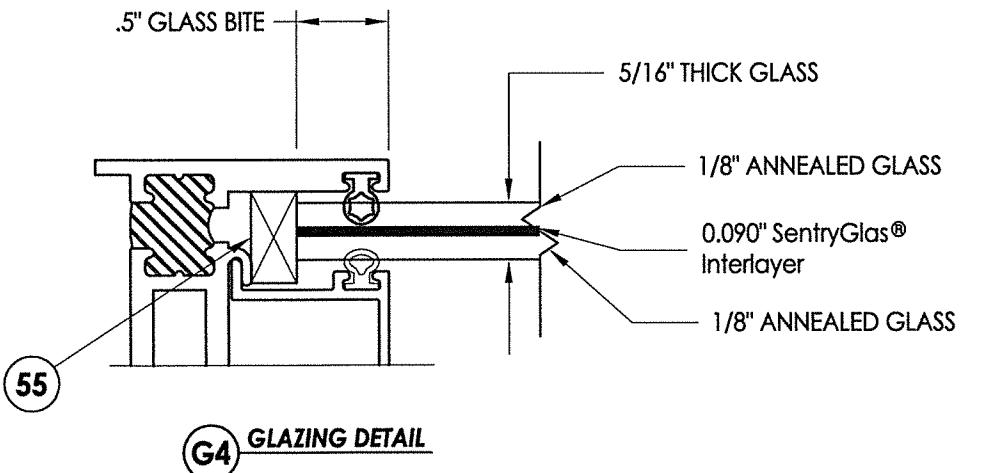
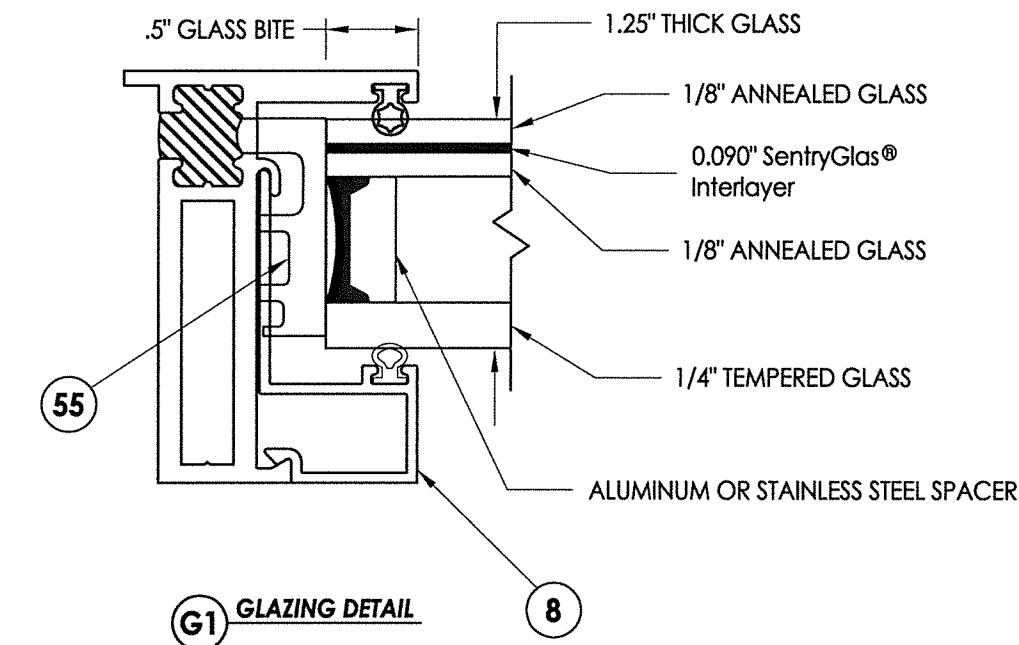
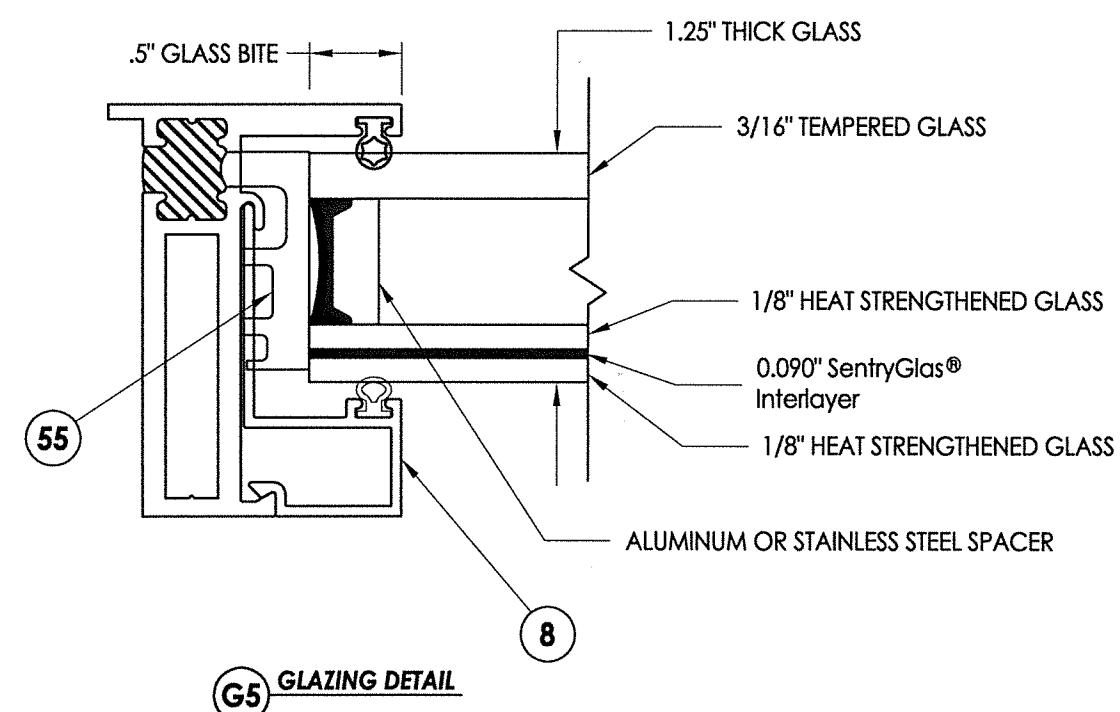
**WOOD SCREW INSTALLATION NOTES:**

1. Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.

PRODUCT: FLEETWOOD WINDOWS AND DOORS		PART OR ASSEMBLY: BUCK & FRAME ANCHORING	
2	8/22/16 Renumber Drawings	JK	LFS
1	1/22/15 UPDATE TO 5TH ED. (2014) FBC	FBC	BY
NO. DATE			
REVISIONS			
DATE: 4/28/14			
SCALE: N.T.S.			
DWG. BY: JK			
CHK. BY: LFS			
DRAWING NO.: FL-14907.6			
SHEET 5 OF 7			

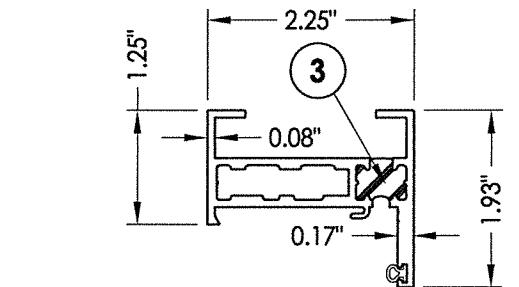
Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409  
STATE OF FLORIDA PROFESSIONAL ENGINEER LICENSE No. 43409  
BUILDING CONSULTANTS, INC.  
P.O. Box 230, Valrico, FL 33595  
Phone No.: 813.659.9197  
FBPE C.A. No. 9813  
R.W. 22-16  
S. 22-16  
46  
22  
**SNUBBER DETAIL**

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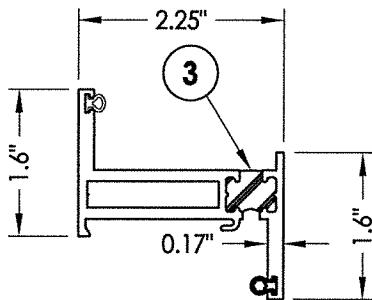
**G3 GLAZING DETAIL****G2 GLAZING DETAIL****G4 GLAZING DETAIL****G1 GLAZING DETAIL****G5 GLAZING DETAIL**

F. SCHMIDT No. 43409		STATE OF FLORIDA PROFESSIONAL ENGINEERING LICENSURE No. 23-1C	
R.W. BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813		Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409	
PRODUCT: FLEETWOOD WINDOWS AND DOORS		JK PART OR ASSEMBLY: LFS BY	
DATE: 4/28/14		SCALE: N.T.S.	
NO. 2 8/22/16 Renumber Drawings		DWG. BY: JK	
1 1/22/15 UPDATE TO 5TH ED. (2014) FBC		CHK. BY: LFS	
REVISIONS		DRAWING NO.: FL-14907.6	
SHEET <b>6</b> OF <b>7</b>			

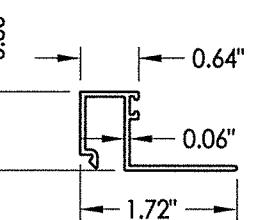
BILL OF MATERIALS		MATERIAL
ITEM #	DESCRIPTION	
A	1X BUCK SG >= 0.55	WOOD
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
D	1/4" X 2-3/4" ELCO OR ITW PFH CONCRETE SCREW	STEEL
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
F	#10 X 2" PPH WOOD SCREW (1-1/4" MIN. EMBEDMENT)	STEEL
G	1/4" x 3-3/4" ELCO OR ITW PFH CONCRETE SCREW	STEEL
K	#10 PFH SELF-DRILLING SMS	STEEL
X	STEEL STUD Min. Thk .033" (ASTM A653 GRADE 33 Fy=33 ksi Min, Fu=45 ksi Min)	STEEL
3	THERMAL BREAK ("LIQUID POLYURETHANE" by Azon USA, Inc.)	-
5	WESTWOOD BLOCK FRAME	6063-T6 ALUM
7	WESTWOOD ZEE BAR (PANEL)	6063-T6 ALUM
8	GLASS STOP (1-1/4")	6063-T6 ALUM
10	GLASS STOP (5/16", 7/16")	6063-T6 ALUM
12	SHEAR BLOCK	6061-T6 ALUM
13	CORNER KEY	6063-T6 ALUM
14	INSERT STOP	6063-T6 ALUM
19	2 BAR HINGE	SS
21	4 BAR HINGE	SS
22	SNUBBER-COMMERCIAL PULL-IN BLOCK	SS
23	MULTIPOINT LOCK HANDLE (STEVE HAGG)	SS
24	1 POINT LOCKING BAR (TRUTH)	SS
25	2 POINTS LOCKING BAR (TRUTH)	SS
28	TIE BAR GUIDE (TRUTH)	-
29	KEEPER (TRUTH)	SS
30	CASEMENT ROTOR GEAR 13.5" (TRUTH)	SS
31	CASEMENT ROTOR GEAR 9.5" (TRUTH)	SS
35	CAM HANDLE / STRIKE PLATE (MELRON)	SS
36	CASEMENT SS. TRACK (TRUTH)	SS
40	#10 X 1" PPH SMS	STEEL
42	MACHINING SCREW NO 10-32, FHP .75"	STEEL
44	SCREW NO 8, PHP, .50"	STEEL
46	SCREW NO 8, FHP, .750"	STEEL
48	BACK UP NUTS	STEEL
50	BULB VINYL (EPDM 70 DUROMETER)-TREMCO	-
51	MINI BULB VINYL (EPDM 70 DUROMETER)-TREMCO	-
55	SETTING BLOCK	-



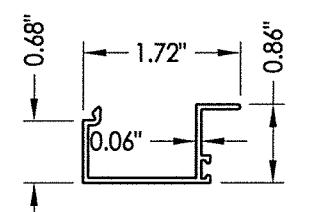
5 BLOCK FRAME



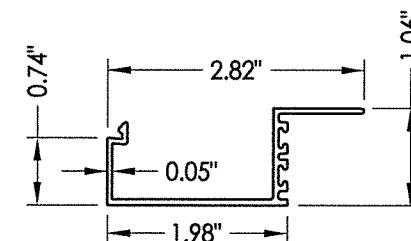
7 ZEE BAR (PANEL)



8 GLASS STOP 1-1/4"



10 GLASS STOP 5/16", 7/16"



14 INSERT STOP

F-23-16

*R.W.*

PRODUCT:		FLEETWOOD WINDOWS AND DOORS	
PART OR ASSEMBLY:		JK	LFS
BILL OF MATERIALS		BY	BY
AND COMPONENTS		REVISIONS	REVISIONS
DATE:	4/28/14		
SCALE:	N.T.S.		
DWG. BY:	JK		
CHK. BY:	LFS		
DRAWING NO.:	FL-14907.6		
SHEET	7 OF 7		

STATE OF FLORIDA  
PROFESSIONAL ENGINEERING  
LICENSE No. 43409  
By: Lyndon F. Schmidt  
P.E. No. 43409  
BUILDING CONSULTANTS, INC.  
P.O. Box 230, Vero Beach, FL 34395  
Phone No.: 813.659.9197  
FBPE C.A. No. 9813

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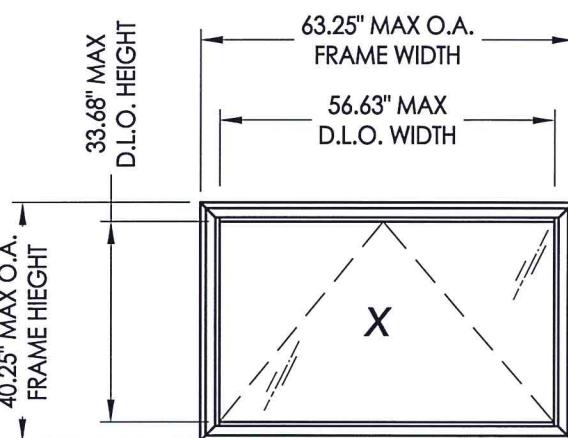
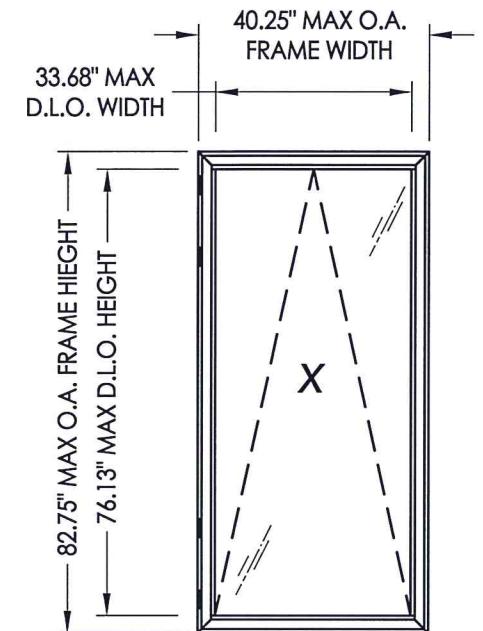
## Series 250-T Aluminum Awning Window w/ Thermal Break Frame "IMPACT"

### GENERAL NOTES

1. This product has been evaluated and is in compliance with the 5th Edition (2014) Florida Building Code (FBC) structural requirements including the "High Velocity Hurricane Zone" (HVHZ).
2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.
3. When used in the "HVHZ" this product complies with Section 1626 of the Florida Building Code and does not require an impact resistant covering.
4. When used in areas outside of the "HVHZ" requiring wind borne debris protection this product complies with Section 1609.1.2 of the FBC and does not require an impact resistant covering. This product meets missile level "D" and includes Wind Zone 4 as defined in ASTM E 1996 and Section 1609.1.2.2 of the FBC.
5. For 2x stud framing construction, anchoring of these units shall be the same as that shown for 2x buck masonry construction.
6. Site conditions that deviate from the details of this drawing require further engineering analysis by a licensed engineer or registered architect.
7. This product meets water infiltration requirements for "HVHZ".
8. Gaskets and setting blocks shall comply with Section 2411.3.4 of the FBC.
9. Aluminum components, including fasteners, shall meet the requirements of FBC Section 2003.

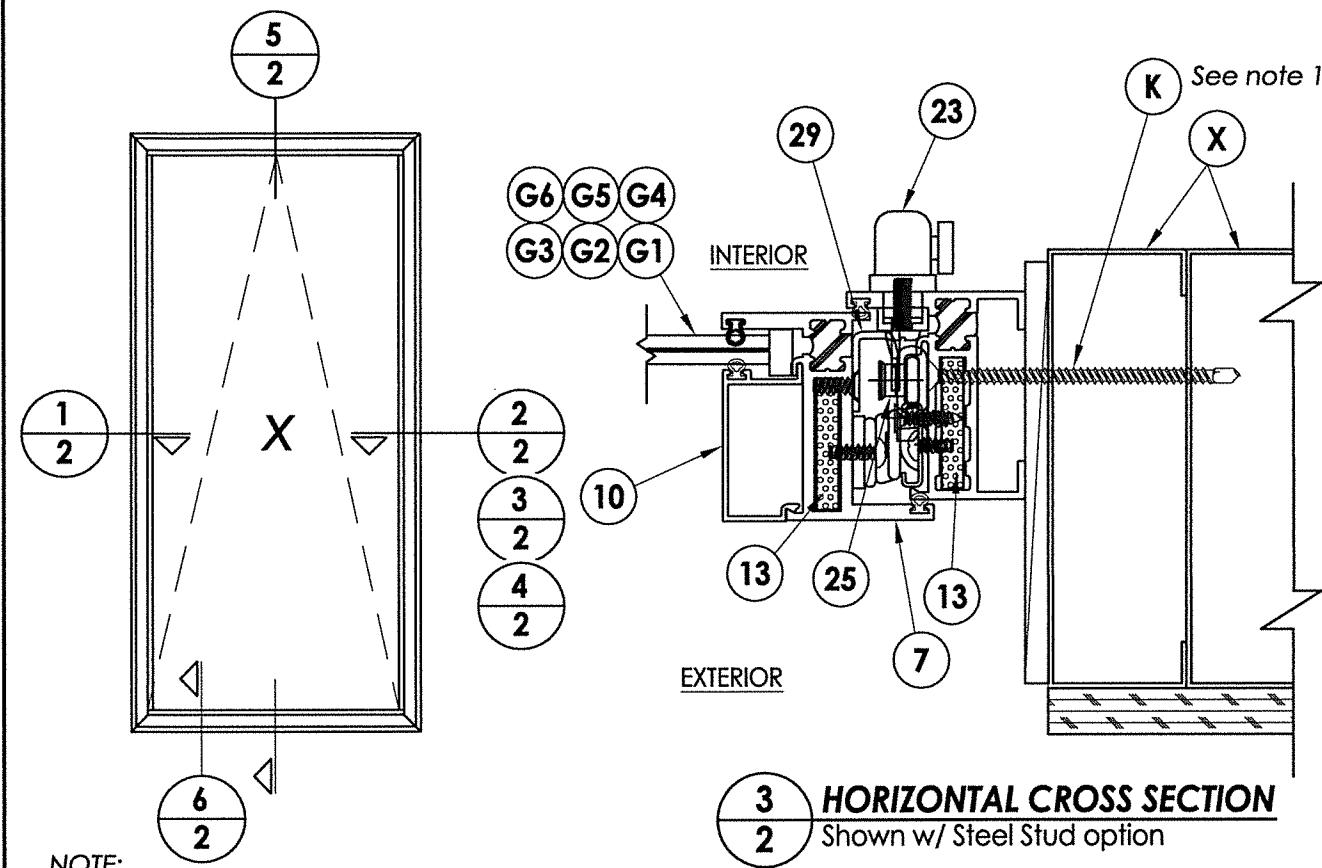
TABLE OF CONTENTS

SHEET#	DESCRIPTION
1	Typical elevations, design pressures and general notes
2	Horizontal and vertical cross sections
3	Horizontal and vertical cross sections
4	Buck and frame anchoring
5	Buck and frame anchoring
6	Glazing details
7	Bill of materials and components

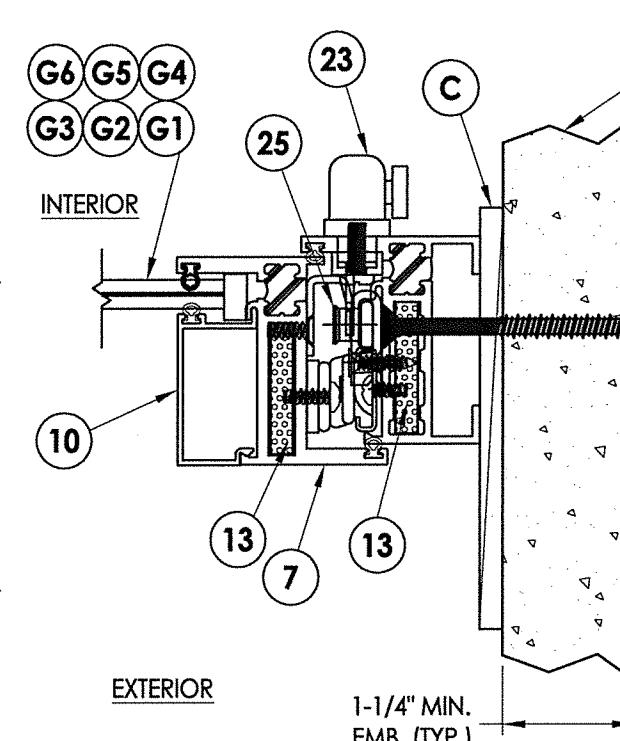


OVERALL FRAME DIMENSION	OVERALL D.L.O. DIMENSION	GLASS TYPE	DESIGN PRESSURE (PSF)	
			POSITIVE	NEGATIVE
40.25" X 82.75"	33.68" X 76.13"	G1, G2, G3, G4, G5, G6	+65.0	-65.0
40.25" X 44.5"	33.68" X 37.88"	G1, G2, G3, G4, G5, G6	+65.0	-65.0
63.25" X 40.25"	56.63" X 33.68"	G1, G2, G3, G4, G5, G6	+65.0	-65.0

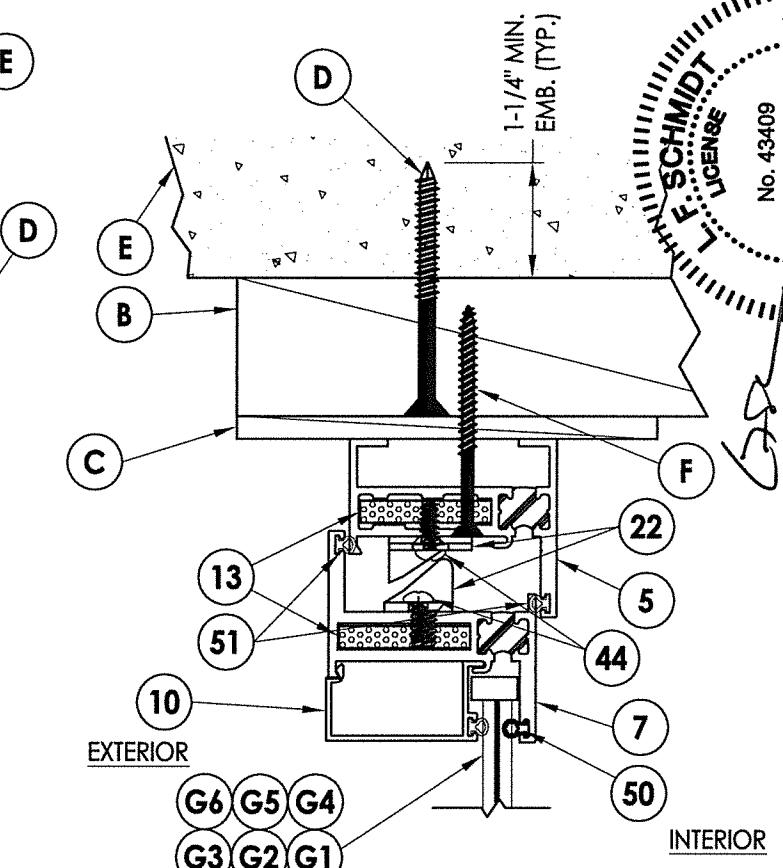
Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409	
BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813	
<b>PRODUCT:</b> FLEETWOOD WINDOWS AND DOORS	<b>PART OR ASSEMBLY:</b> JK LFS BY
<b>TYPICAL ELEVATION, DESIGN PRESSURES &amp; GENERAL NOTES</b>	
REVISIONS NO. DATE	SHEET <u>1</u> OF <u>7</u>



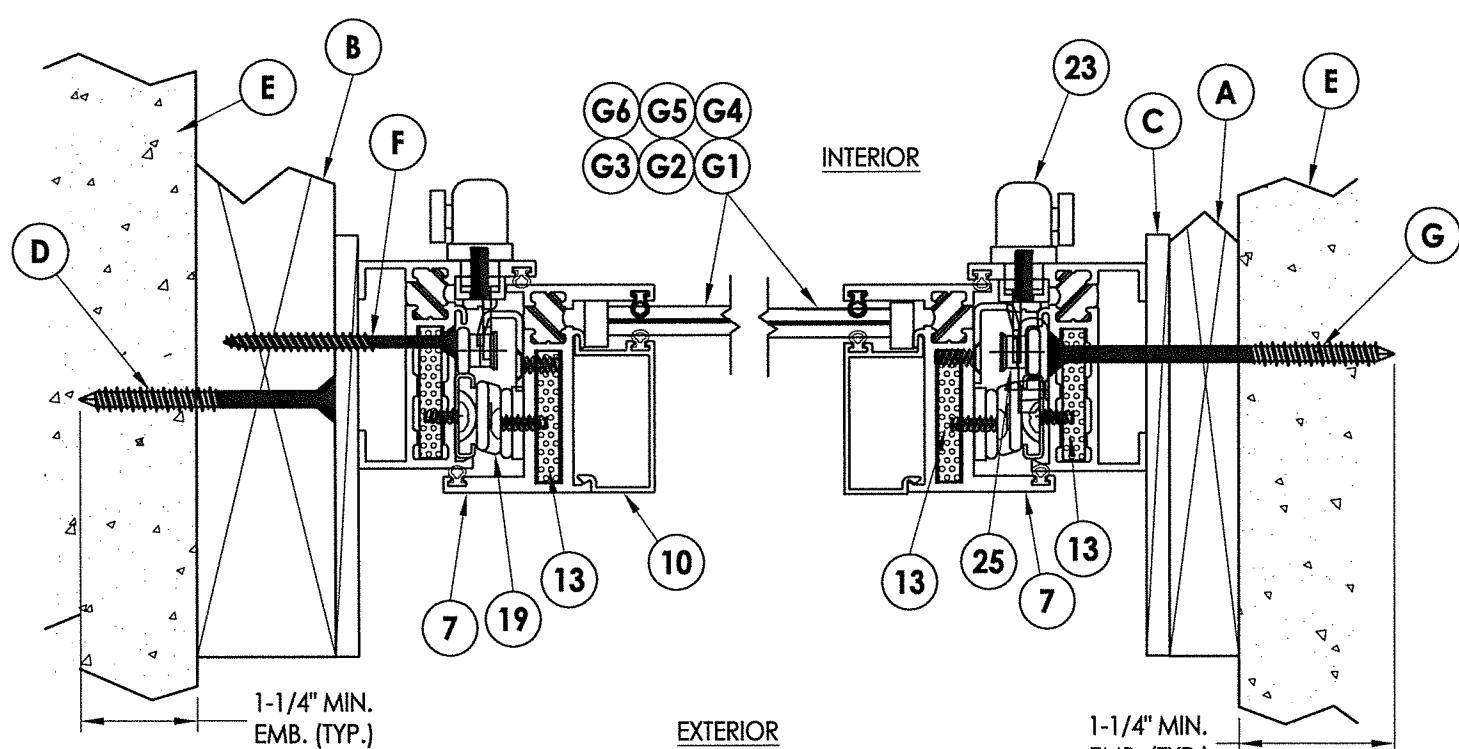
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1. Sheet Metal Screws must penetrate a min. of 3 threads through at least two (2) sheets of metal. Maintain a minimum 1/2" edge distance.



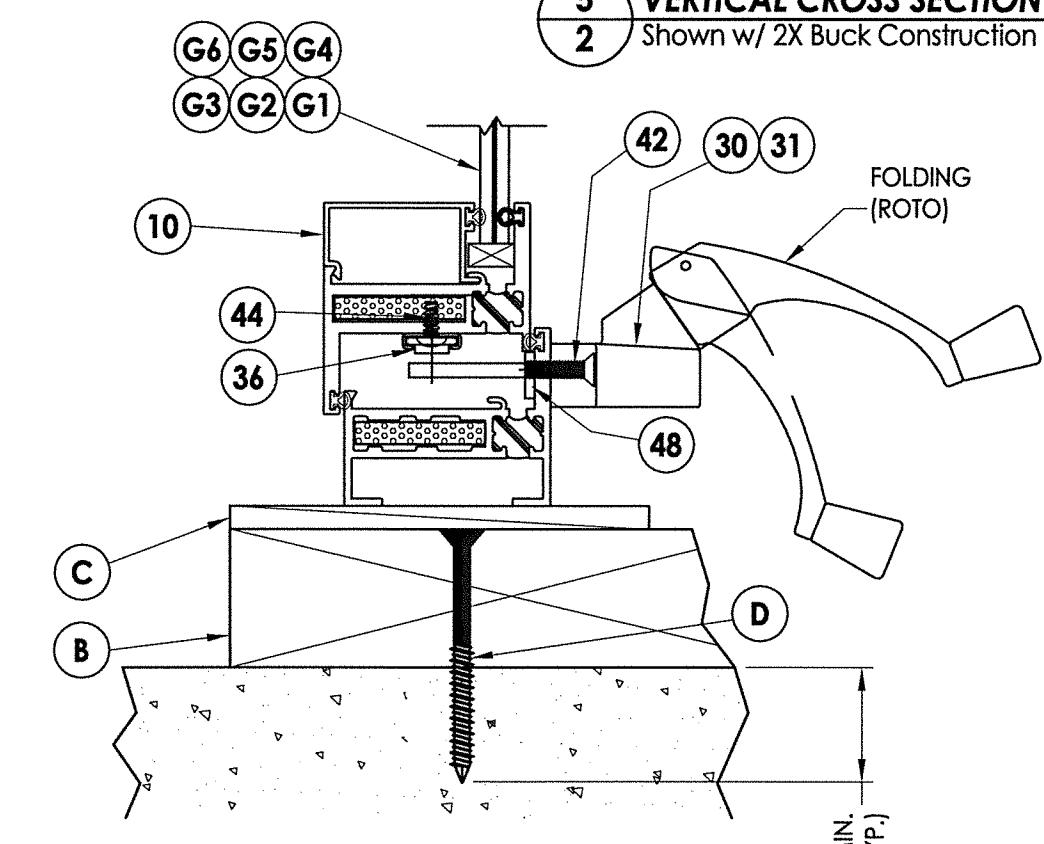
## **4** HORIZONTAL CROSS SECTION **2** Shown w/ Direct to Masonry option



## **5** VERTICAL CROSS SECTION **2** Shown w/ 2X Buck Construction



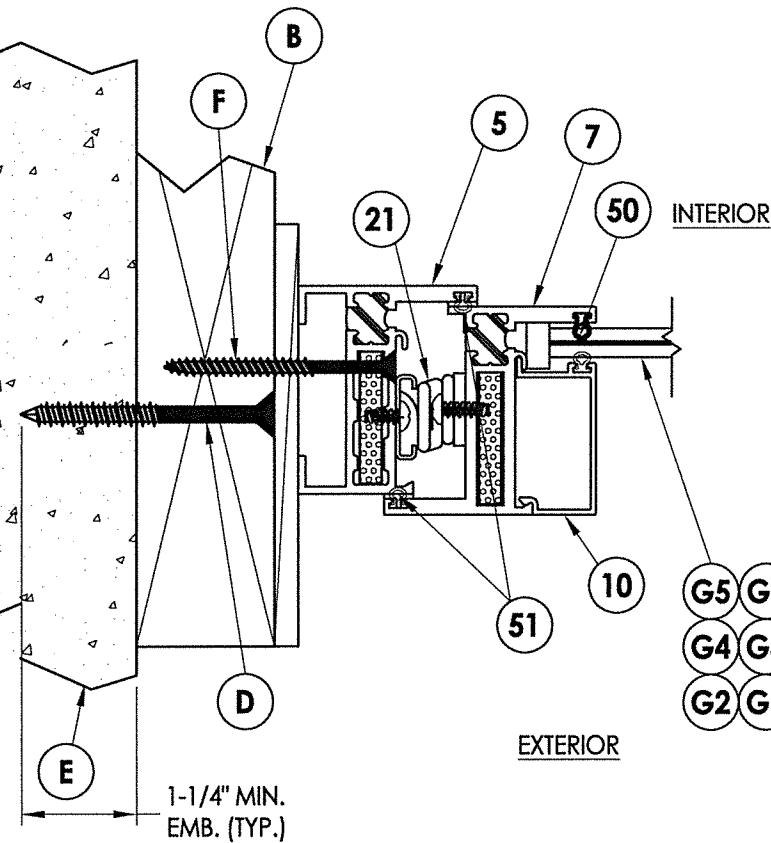
**1** **HORIZONTAL CROSS SECTION**  
**2** Shown w/ 2X Buck Construction



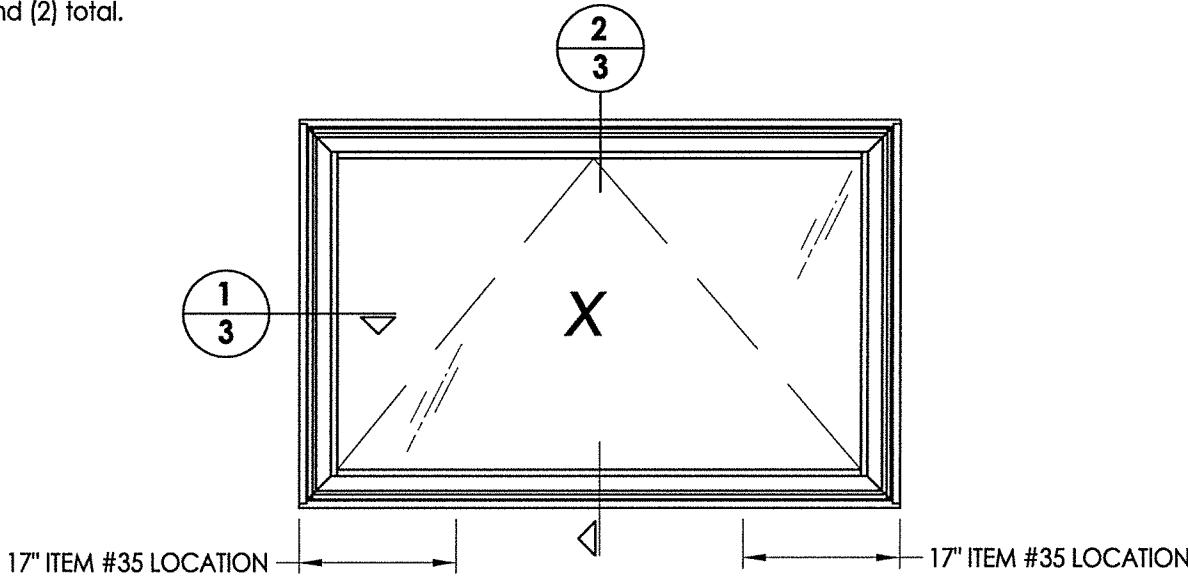
**6** VERTICAL CROSS SECTION  
**2** Shown w/ 2X Buck Construction

		STATE OF FLORIDA	
		PROFESSIONAL ENGINEERING	
		Documents Prepared By:	
		Lyndon F. Schmidt	
		P.E. No. 43409	
		<i>RW</i>	
PRODUCT: <b>FLEETWOOD WINDOWS AND DOORS</b>		PART OR ASSEMBLY: <b>HORIZONTAL AND VERTICAL CROSS SECTIONS</b>	
2	8/22/16	JK	
1	1/22/15	LFS	
NO.	DATE	BY	
DATE: 4/28/14			
SCALE: N.T.S.			
DWG. BY: JK			
CHK. BY: LFS			
DRAWING NO.: FL-14907.7			
SHEET 2 OF 7			

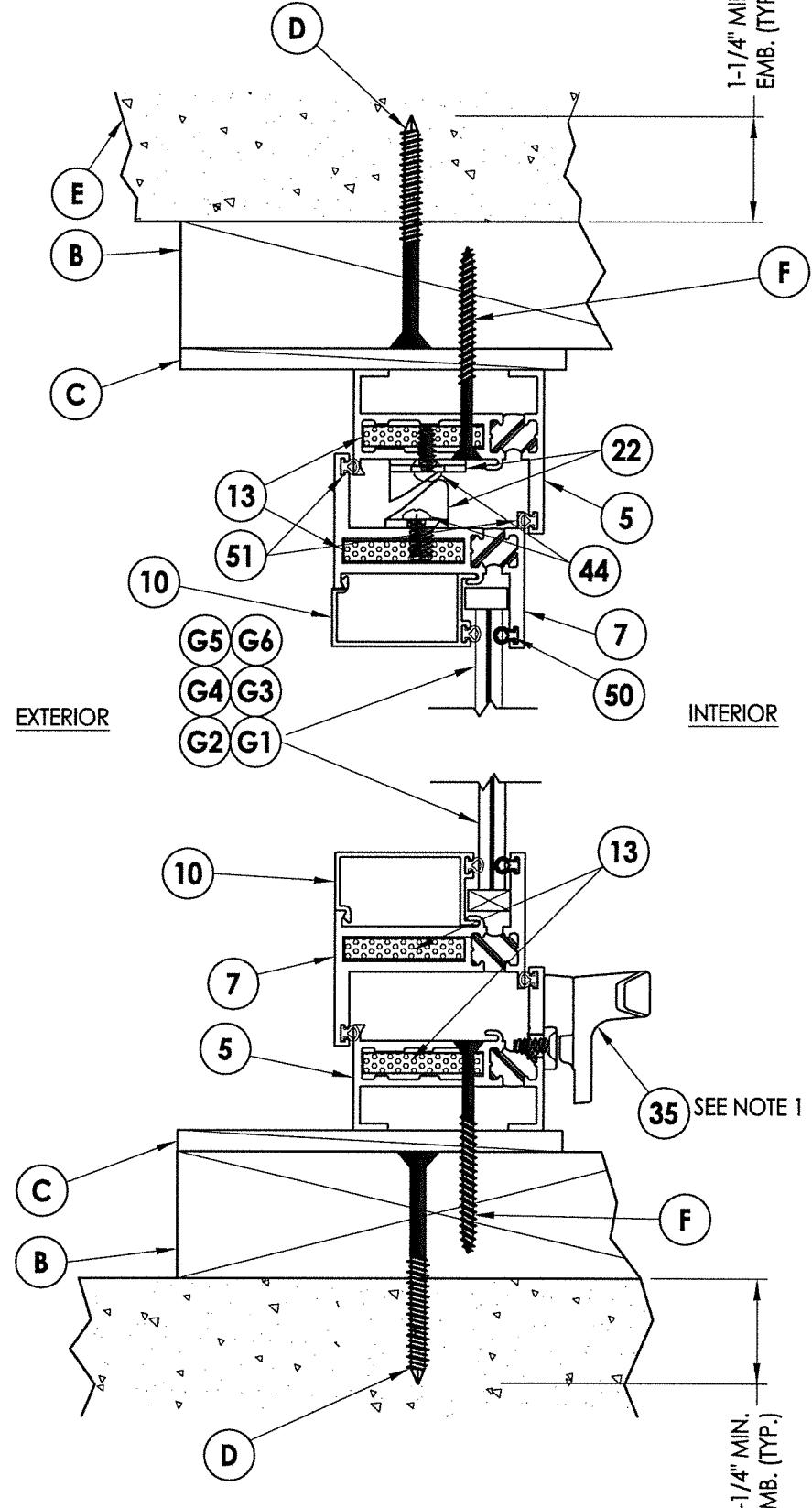
NOTE:  
1. Item #35 located 17" from each end (2) total.



**1 3 HORIZONTAL CROSS SECTION**  
Shown w/ 2X Buck Construction

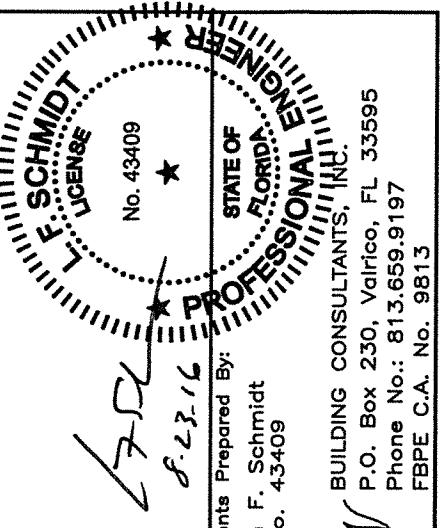


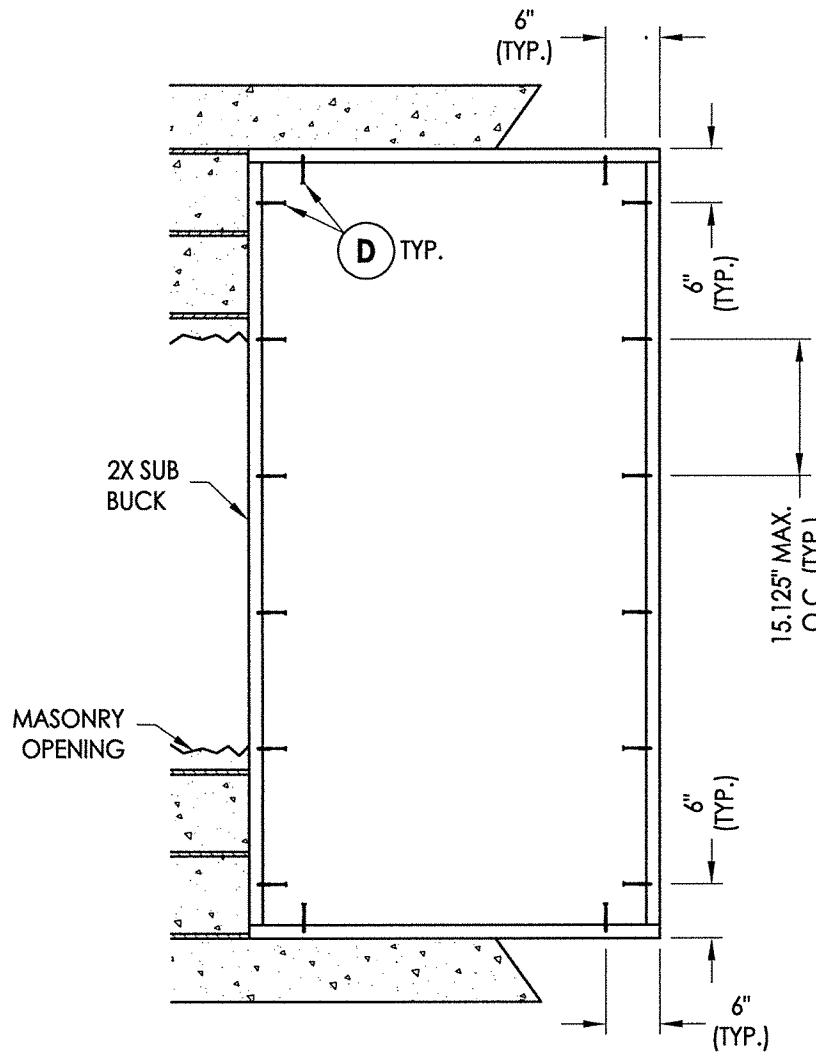
17" ITEM #35 LOCATION      17" ITEM #35 LOCATION



**2 3 VERTICAL CROSS SECTION**  
Shown w/ 2X Buck Construction

PRODUCT:	FLEETWOOD WINDOWS AND DOORS	JK
REVISION:	8/22/16 Renumber Drawings	LFS
DATE:	1/22/15 UPDATE TO 5TH ED. (2014) FBC	JK
SCALE:	N.T.S.	LFS
DWG. BY:	NO. DATE	JK
CHK. BY:		LFS
DRAWING NO.:		FL-14907.7
SHEET	3	OF 7





**2X BUCK ANCHORING**  
42" X 84" Max Size

**CONCRETE ANCHOR NOTES:**

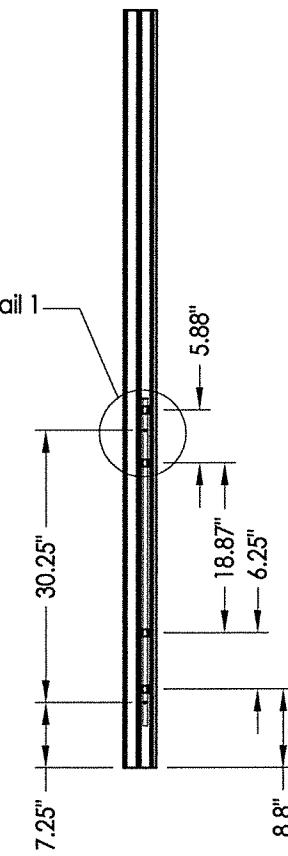
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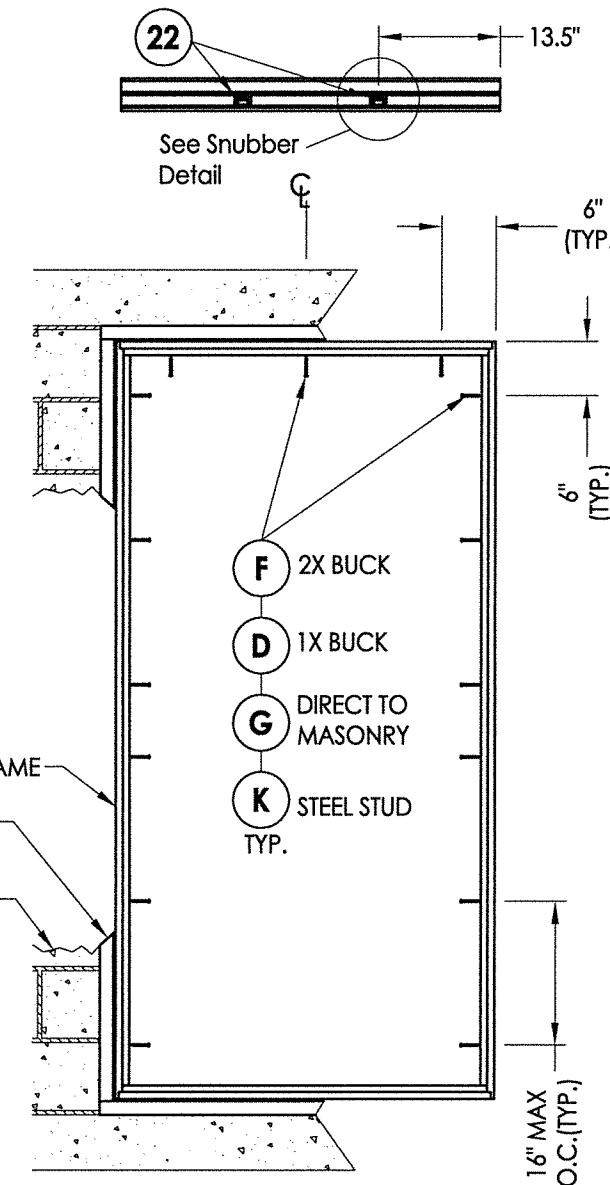
**WOOD SCREW INSTALLATION NOTES:**

- Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.

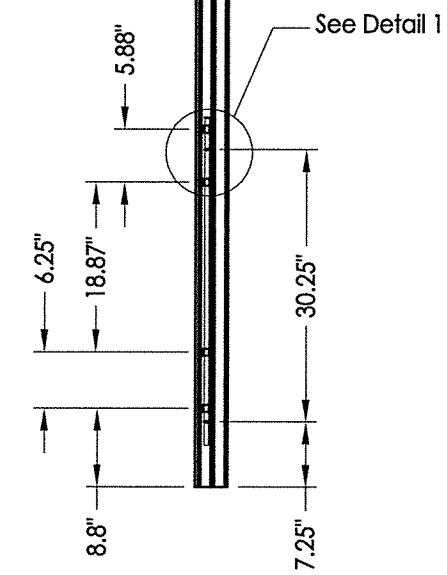
See Detail 1



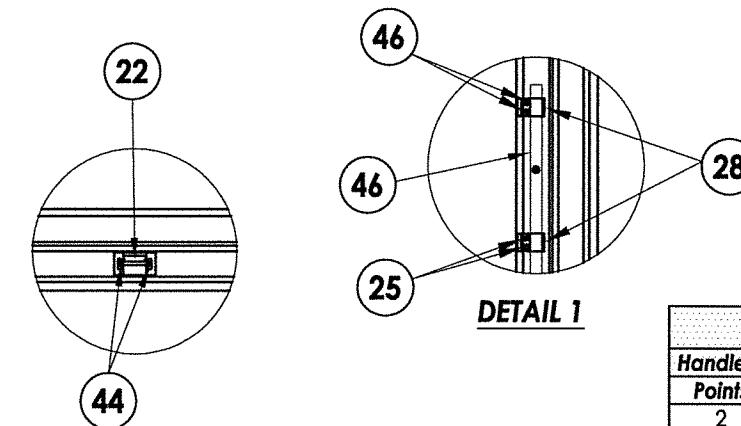
**LOCK JAMB**  
2 Point Lock



**FRAME MOUNT ANCHORING**  
42" X 84" Max Size



**LOCK JAMB**  
2 Point Lock



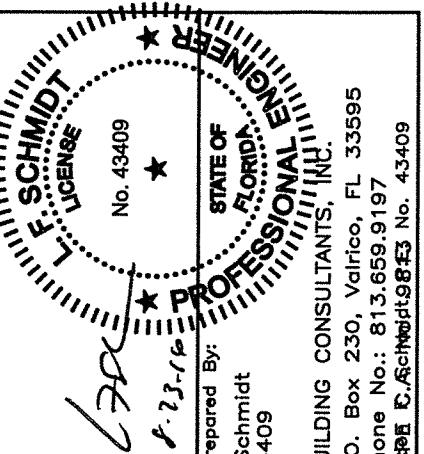
**SNUBBER DETAIL**

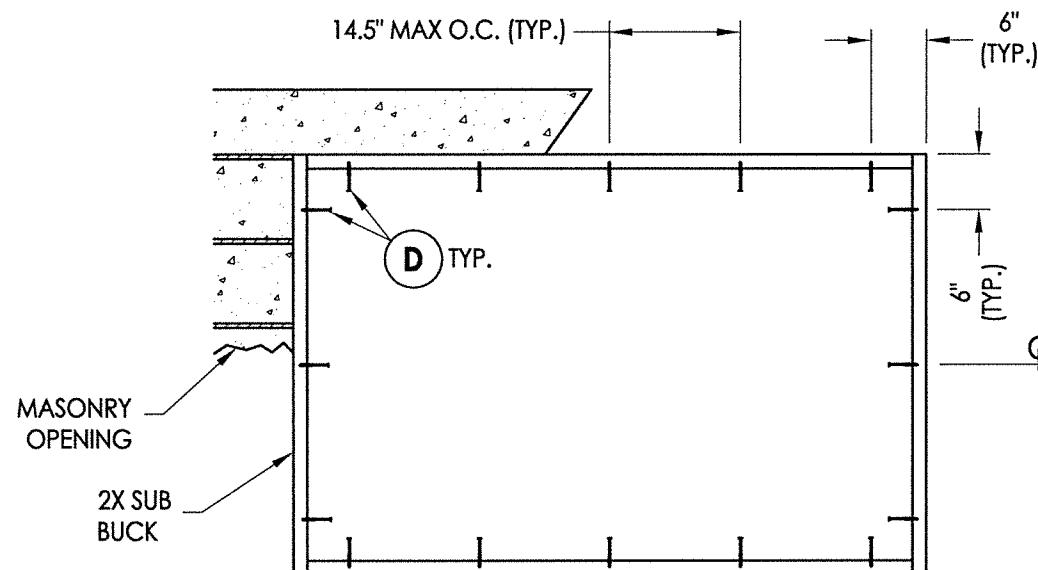
HARDWARE TABLE		
Handles		
Points	Description	Height
2	Multipoint	> 50"
1	Multipoint	≤ 50"
Qty.		
2	Cam*	≤ 50"

\*Cam locks can be used in conjunction with multipoint lock or in lieu of multipoint locks

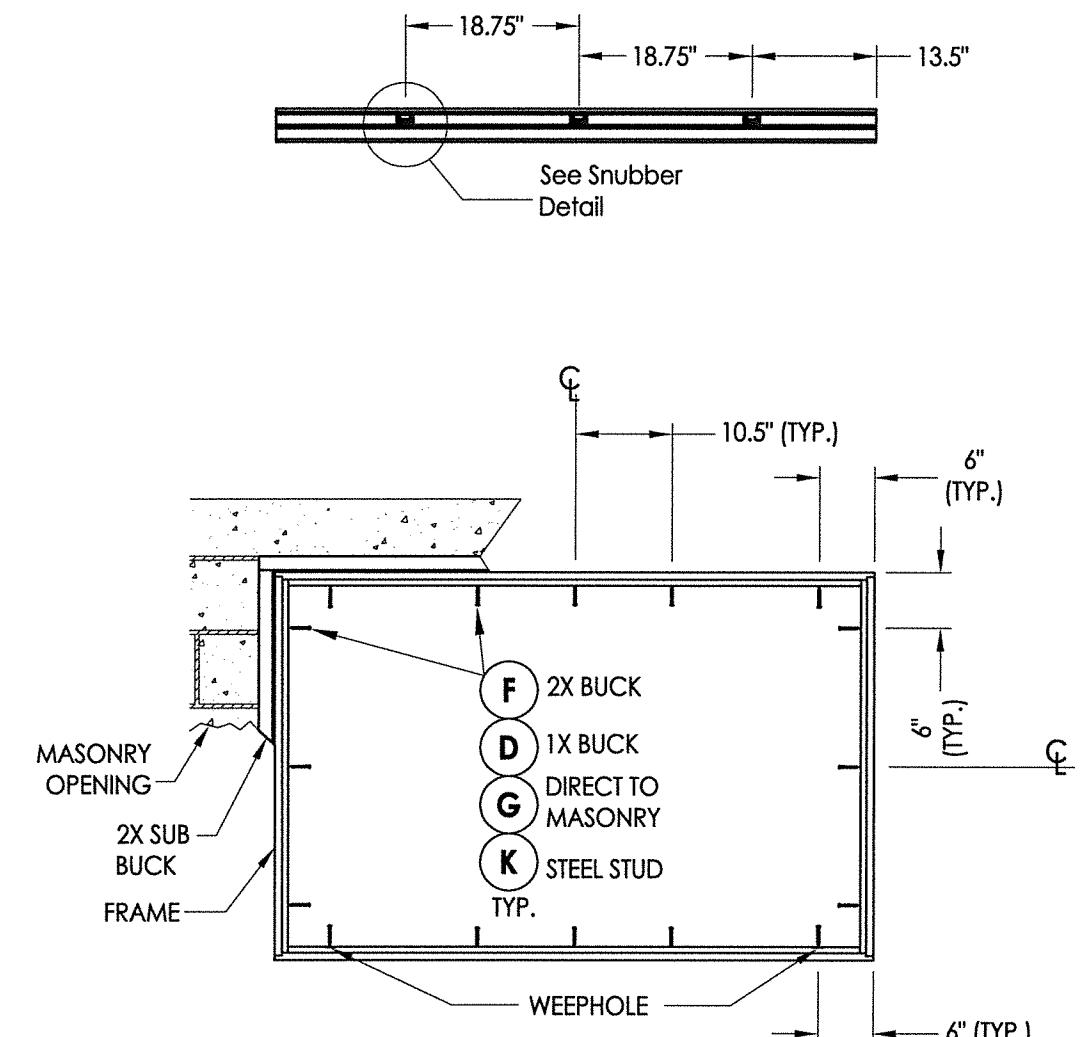
PRODUCT: FLEETWOOD WINDOWS AND DOORS	JK PART OR ASSEMBLY: BUCK & FRAME BUCK ANCHORING
Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409	BUILDING CONSULTANTS, INC. P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 LFB#985 E.Schmidt#9843 No. 43409
NO. DATE	REVISIONS
DATE: 4/28/14	
SCALE: N.T.S.	
DWG. BY: JK	
CHK. BY: LFS	
DRAWING NO.: FL-14907.7	
SHEET 4 OF 7	

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**2X BUCK ANCHORING**  
65" X 42" Max Size



**FRAME MOUNT ANCHORING**  
65" X 42" Max Size

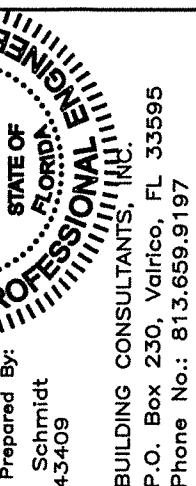
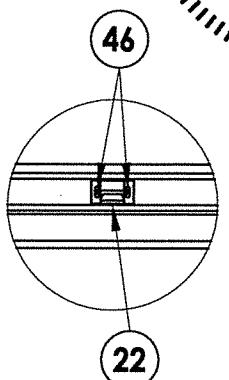
**CONCRETE ANCHOR NOTES:**

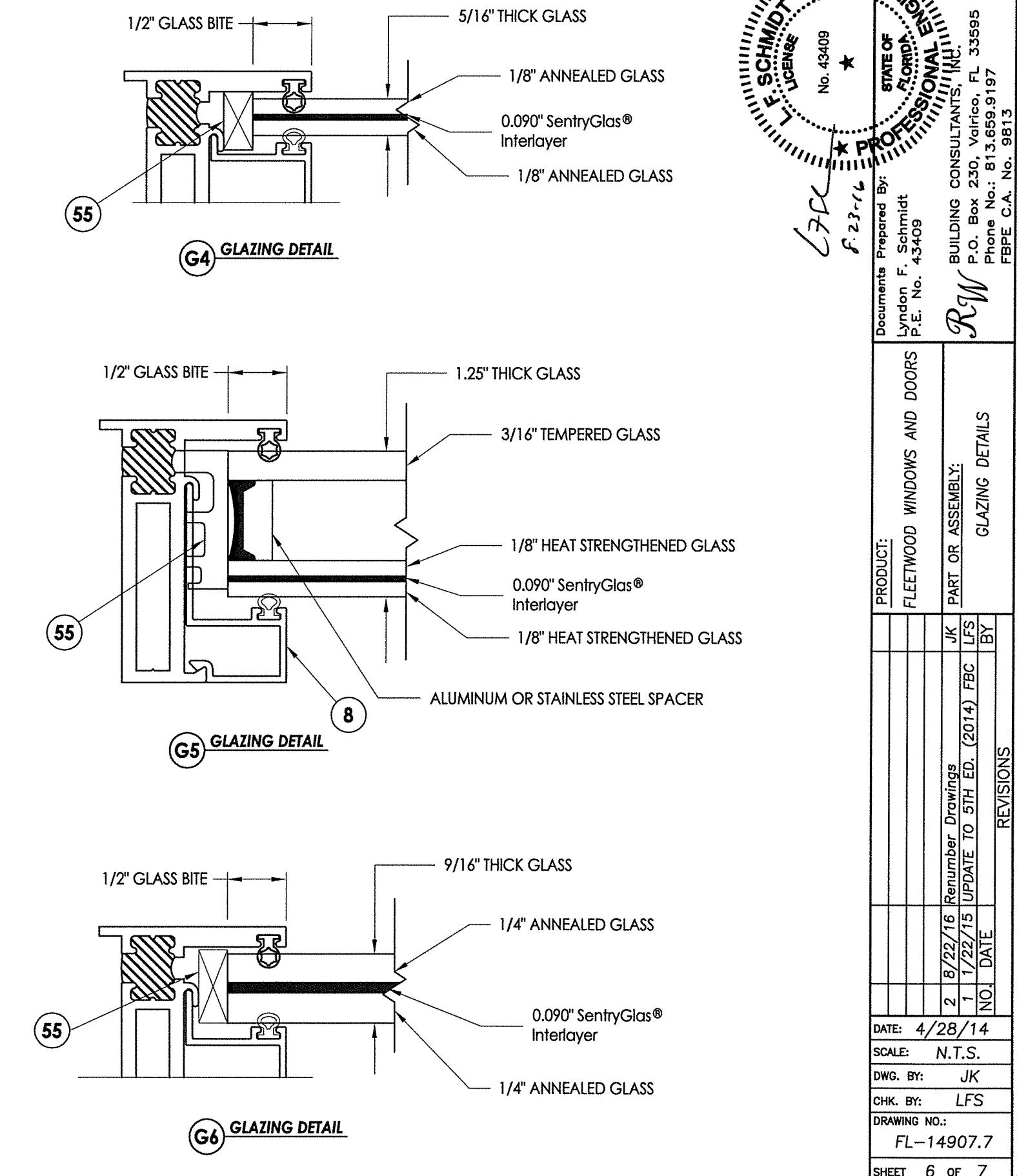
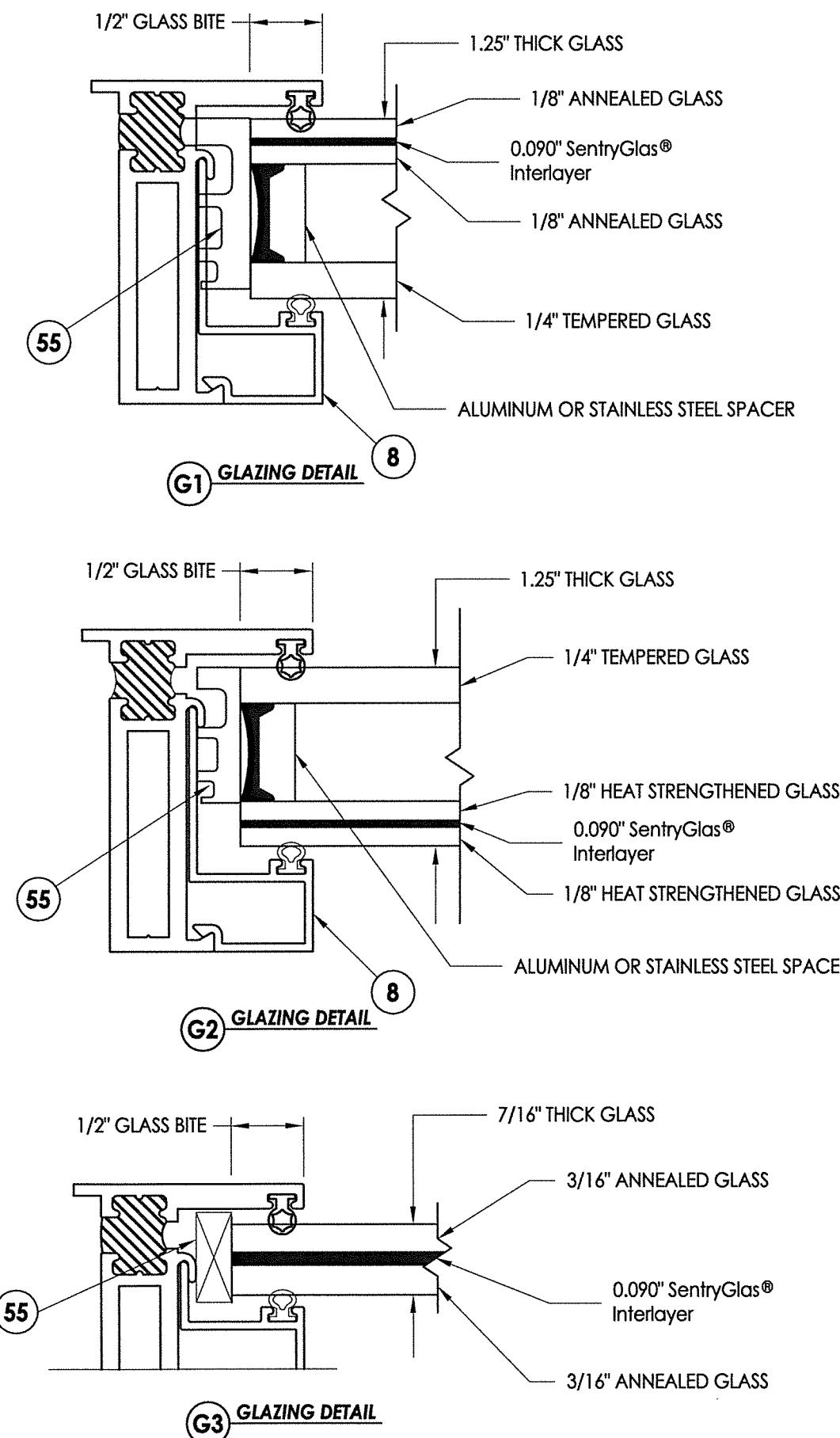
- Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
- Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
- Concrete anchor table:

ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-1/4"	2"	4"
ELCO ULTRACON®	1/4"	1-1/4"	1"	4"

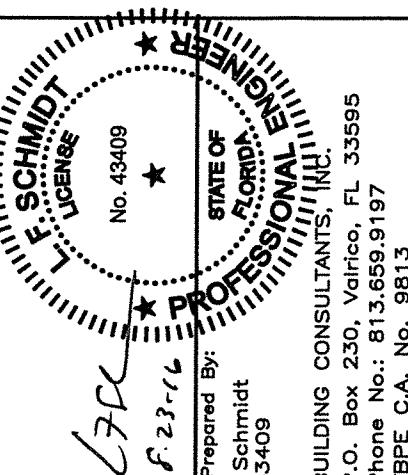
**WOOD SCREW INSTALLATION NOTES:**

- Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.

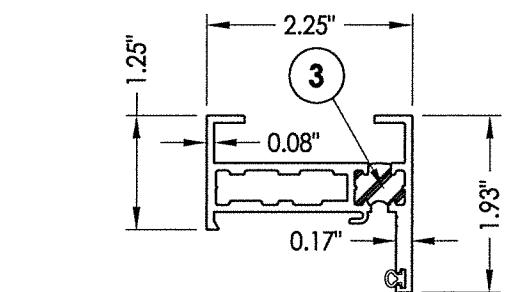
STATE OF FLORIDA PROFESSIONAL ENGINEER F. SCHIMDT LICENSE No. 43409	
P.O. Box 230, Valrico, FL 33595 Phone No.: 813.659.9197 FBPE C.A. No. 9813	
Documents Prepared By: Lyndon F. Schmidt P.E. No. 43409	Building Consultants, Inc.
 <b>JK</b> P. 23-14	
 <b>46</b>  <b>22</b>	
<b>SNUBBER DETAIL</b>	
PRODUCT: FLEETWOOD WINDOWS AND DOORS	PART OR ASSEMBLY: JK LFS BY
2 8/22/16 Renumber Drawings	1 1/22/15 UPDATE TO 5TH ED. (2014) FBC
NO. DATE	REVISIONS
DATE: 4/28/14	SCALE: N.T.S.
SCALE: N.T.S.	DWG. BY: JK
DWG. BY: JK	CHK. BY: LFS
CHK. BY: LFS	DRAWING NO.: FL-14907.7
SHEET 5 OF 7	© 2014 R.W. BUILDING CONSULTANTS INC.



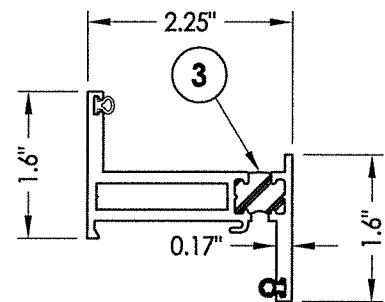
PRODUCT:	FLEETWOOD WINDOWS AND DOORS		
PART OR ASSEMBLY:	JK LFS BY		
DATE: 4/28/14	2 8/22/16 Renumber Drawings	JK	GLAZING DETAILS
SCALE: N.T.S.	1 1/22/15 UPDATE TO 5TH ED. (2014) FBC	LFS	
DWG. BY: JK	NO. DATE	BY	REVISIONS
CHK. BY: LFS			
DRAWING NO.:	FL-14907.7		
SHEET 6 OF 7			



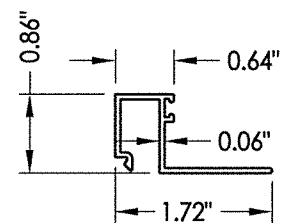
BILL OF MATERIALS		MATERIAL
ITEM #	DESCRIPTION	MATERIAL
A	1X BUCK SG >= 0.55	WOOD
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
D	1/4" X 2-3/4" ELCO OR ITW PFH CONCRETE SCREW	STEEL
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
F	#10 X 2" PPH WOOD SCREW (1-1/4" MIN. EMBEDMENT)	STEEL
G	1/4" x 3-3/4" ELCO OR ITW PFH CONCRETE SCREW	STEEL
K	#10 PFH SELF-DRILLING SMS	STEEL
X	STEEL STUD Min. Thk .033" (ASTM A653 GRADE 33 Fy=33 ksi Min, Fu=45 ksi Min)	STEEL
3	THERMAL BREAK ("LIQUID POLYURETHANE" by Azon USA, Inc.)	-
5	WESTWOOD BLOCK FRAME	6063-T6 ALUM
7	WESTWOOD ZEE BAR (PANEL)	6063-T6 ALUM
8	GLASS STOP (1-1/4")	6063-T6 ALUM
10	GLASS STOP (5/16", 7/16")	6063-T6 ALUM
12	SHEAR BLOCK	6061-T6 ALUM
13	CORNER KEY	6063-T6 ALUM
14	INSERT STOP	6063-T6 ALUM
19	2 BAR HINGE	SS
21	4 BAR HINGE	SS
22	SNUBBER-COMMERCIAL PULL-IN BLOCK	SS
23	MULTIPOINT LOCK HANDLE (STEVE HAGG)	SS
24	1 POINT LOCKING BAR (TRUTH)	SS
25	2 POINTS LOCKING BAR (TRUTH)	SS
28	TIE BAR GUIDE (TRUTH)	-
29	KEEPER (TRUTH)	SS
30	CASEMENT ROTOR GEAR 13.5" (TRUTH)	SS
31	CASEMENT ROTOR GEAR 9.5" (TRUTH)	SS
35	CAM HANDLE / STRIKE PLATE (MELRON)	SS
36	CASEMENT SS. TRACK (TRUTH)	SS
40	#10 X 1" PPH SMS	STEEL
42	MACHINING SCREW NO 10-32, FHP .75"	STEEL
44	SCREW NO 8, PHP, .50"	STEEL
46	SCREW NO 8, FHP, .750"	STEEL
48	BACK UP NUTS	STEEL
50	BULB VINYL (EPDM 70 DUROMETER)-TREMCO	-
51	MINI BULB VINYL (EPDM 70 DUROMETER)-TREMCO	-
55	SETTING BLOCK (SANTOPRENE - 86 DUROMETER) - TREMCO	-



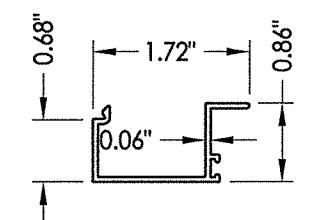
5 BLOCK FRAME



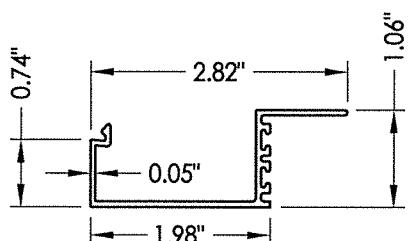
7 ZEE BAR (PANEL)



8 GLASS STOP 1-1/4"



10 GLASS STOP 5/16", 7/16", 9/16"



14 INSERT STOP

F-23-16

**R.F. SCHMIDT**  
PROFESSIONAL ENGINEER  
STATE OF FLORIDA LICENSE No. 43409

DOCUMENTS PREPARED BY:	Lyndon F. Schmidt P.E. No. 43409
P.O. BOX:	230, Vairico, FL 33595
PHONE NO.:	813.659.9197
FBPE C.A. NO.	9813

**JK** PRODUCT: FLEETWOOD WINDOWS AND DOORS  
**LFS** PART OR ASSEMBLY:  
**BY** BILL OF MATERIALS AND COMPONENTS

DATE: 4/28/14  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: FL-14907.7  
SHEET 7 OF 7

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## Series 250-T / Series 2000

### Screen Clip Installation Instructions

**Installation:**

**Step #1** – Insert the clip into the t-slot groove as shown in Figure #1 (weather stripping was not shown in t-slot to improve clarity).

**Step #2** – Rotate screen clip as shown in Figure #2.

**Step #3** – As you continue rotating the screen clip it will snap into place as shown in Figure #3.

DO NOT SLIDE SCREEN CLIP ON THE EXTRUSION! Sliding of the screen clip may damage the finish of the window.

**Recommended Locations (locations may need to be adjusted per screen configuration and size):**

**Awning Windows** – 1 clip centered on each jamb and 2 clips at head 6" from the ends.

**Casement Windows** – 1 clip centered on each jamb and 2 clips at head 6" from the ends.

**Hopper Windows** – 2 clips at head 6" from the ends and 2 clips at sill 6" from the ends.

(2 additional screen clips provided for large screen configurations)

**Figure #1**



**Figure #2**



**Figure #3**



Screen Clip Installation Instructions Rev: A

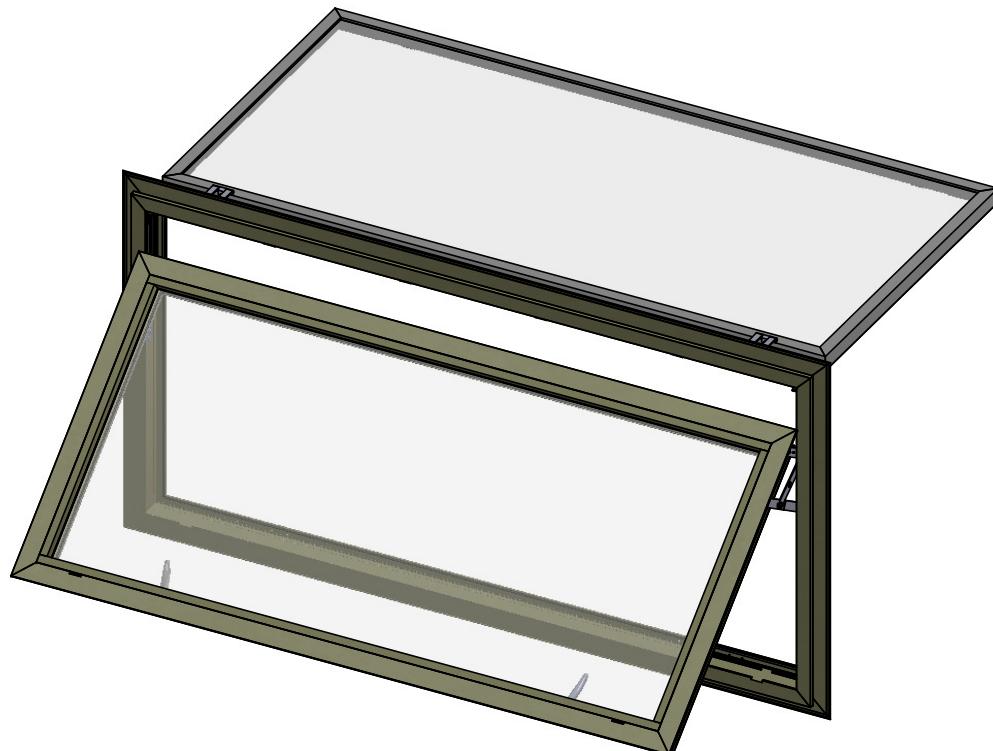
Date: 4/14/16

# ASSEMBLY / PARTS LIST (B.O.M.)

**Series: 250-T**

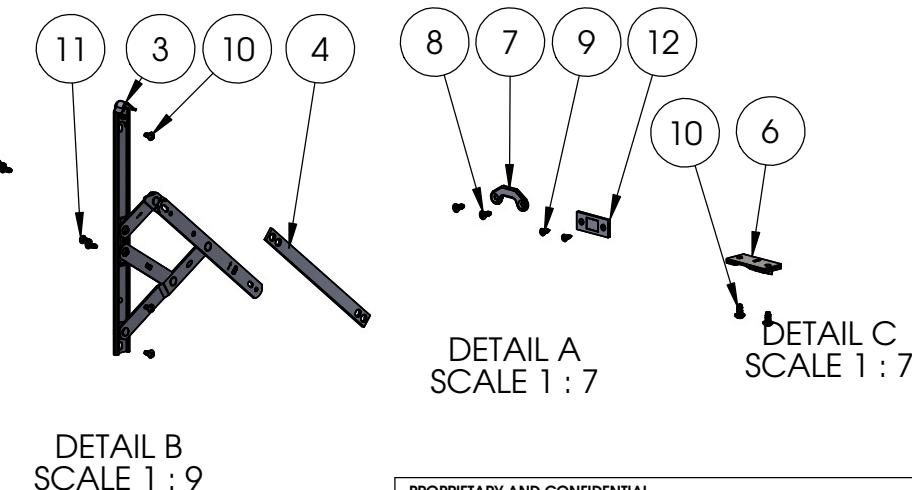
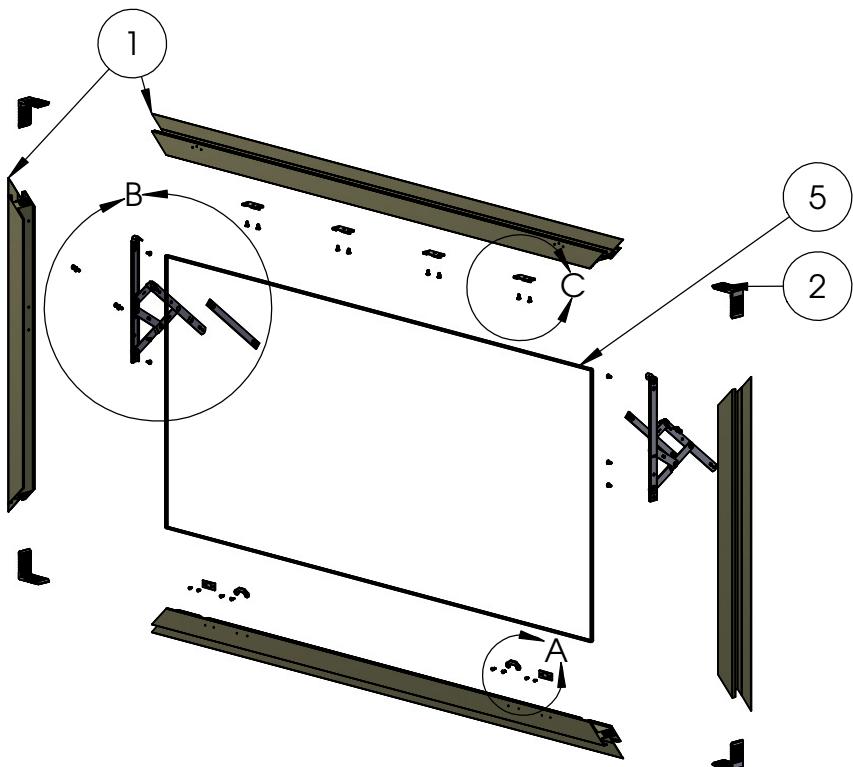
**Type: Awning (A) with 4 Bar Hinges and 2 Cam Handles**

ITEM NO.	DESCRIPTION	QTY.	PAGE #
1	FRAME ASSEMBLY	1	2
2	PANEL ASSEMBLY	1	3
3	HINGED SCREEN ASSEMBLY	1	4



Description Table of Contents	
File Name 250-T A Awning Assembly with 4 Bar Hinges and Cam Handles	REV
Released 11/28/2016	SHEET 1 OF 4

# ASSEMBLY / PARTS LIST (B.O.M.)



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EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P88, 05P19	Perimeter - OG (Nail-on, Block)	4
HARDWARE			
2	20596	Corner Key, Vent	4
3	24932, 22865, 24654, 24655, 18811, 22868	4 Bar Hinge (8", 10", 12", 16", 22")	2
4	23368, 23369, 23370, 23371	4 Bar Shim 7 3/4", 8 3/4", 10 3/4", 13 1/2" length	2
5	25199	Mini Bulb Vinyl	1
6	See Table A	Snubber, Frame Portion (HVHZ only)	4
7	24983	Cam Strike Plate	2
8	20937, 20268	#8 FHP - B - UC, 3/8", SS, (Clear, Black)	4
9	20901	#6 X 3/8" UC FHSM	4
10	20337	#10 PHP - B, 3/8", SS, Clear	14
11	20338	#10 PHP - B, 1/2", SS, Clear	8
12	25405	Hinge Screen Magnet	2

Table A: Snubber Option (HVHZ only)

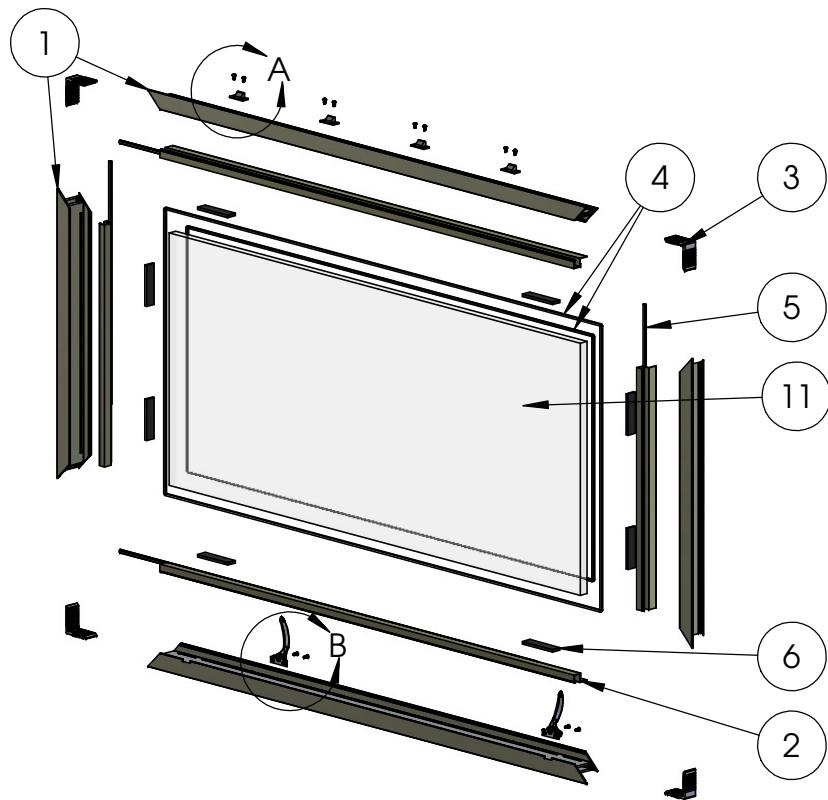
Frame Width	25245 Snubber	20337 Screw
>24"	1	4
>36"	2	8
>48"	3	12
>60"	4	16
>72"	5	20
>84"	6	24
>96"	7	28

Description  
Frame Assembly

File Name  
250-T A Awning Assembly  
with 4 Bar Hinges and  
Cam Handles

REV

# ASSEMBLY / PARTS LIST (B.O.M.)



DETAIL A  
SCALE 1 : 7

DETAIL B  
SCALE 1 : 7

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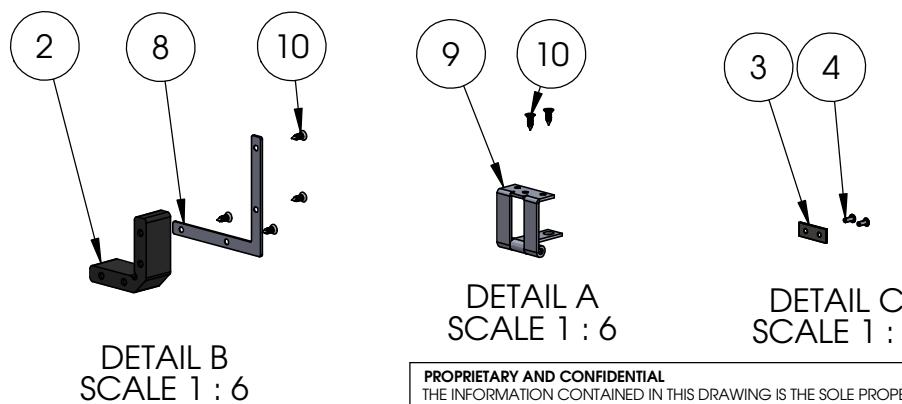
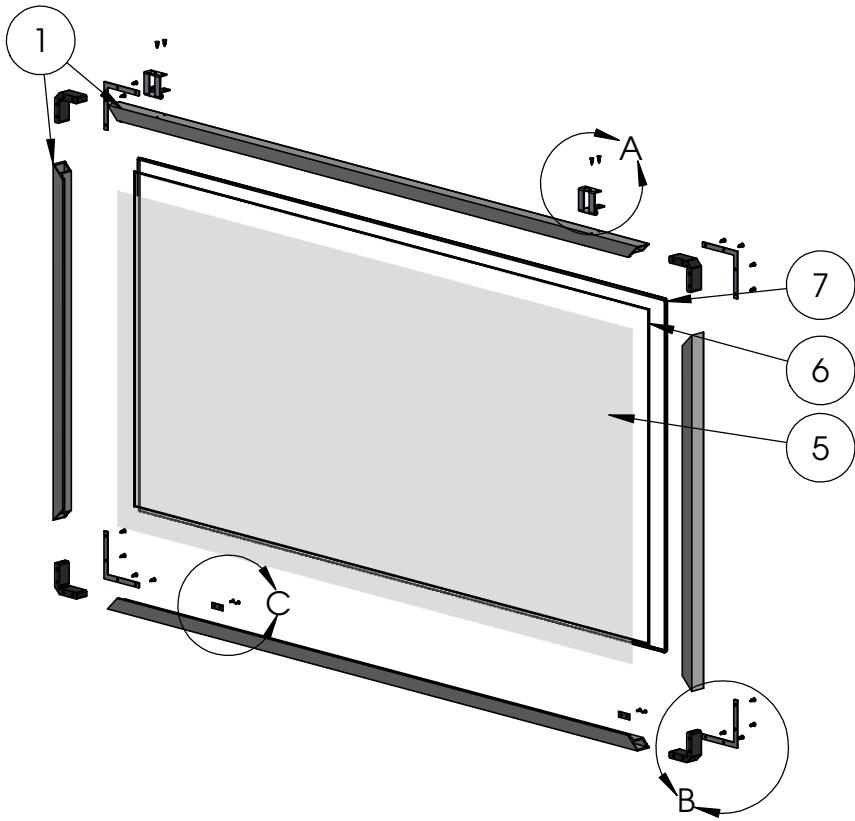
EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P11	Zee Bar	4
2	05P09, 05P12, 05P10, 05P06, 05P05	Glass Stop (1"), (1-1/4"), (1-1/2"), (5/8", 9/16" and 1/2"), (1/4")	4
HARDWARE			
3	20596	Corner Key, Vent	4
4	25199	Mini Bulb Vinyl	2
5	25031	Bulb Vinyl-Large	4
6	18620	Setting Block 4" x 1/4"x1"	8
7	See Table A	Snubber (HVHZ only)	4
8	25735, 25740, 25739, 25736, 25737	Cam Handle (PO) (Gray, Black, Stainless Steel), (LH & RH)	2
9	20272	# 10 FHP - A - UC, 1/2" SS, Clear	4
10	20337	# 10 PHP - B, 3/8", SS, Clear	8
11	-	Glass	1

Description Panel Assembly
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File Name 250-T A Awning Assembly with 4 Bar Hinges and Cam Handles	REV
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Released	11/28/2016	SHEET 3 OF 4
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# ASSEMBLY / PARTS LIST (B.O.M.)



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## EXTRUSIONS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	958	Extruded Hinged Screen Frame (V2)	4

## HARDWARE

2	25258	Corner Key (Hinge Screen-V2)	4
3	25406	Hinge Screen Strike w/ Screws	2
4	AD43ABS200	Rivet	4
5	-	Screen Mesh	1
6	19127	Screen Rubber Spline .150	1
7	25189	Q-Lon Foam Seal	1
8	25400	90° Corner Hinge Screen Brace	4
9	25216	Screen Hinge V 2, Clear, Black	2
10	20240, 20241	#8 FHP - A - UC, 1/2", SS, Clear, Black	20

Description  
Hinged Screen Assembly

File Name  
250-T A Awning Assembly  
with 4 Bar Hinges and  
Cam Handles

REV

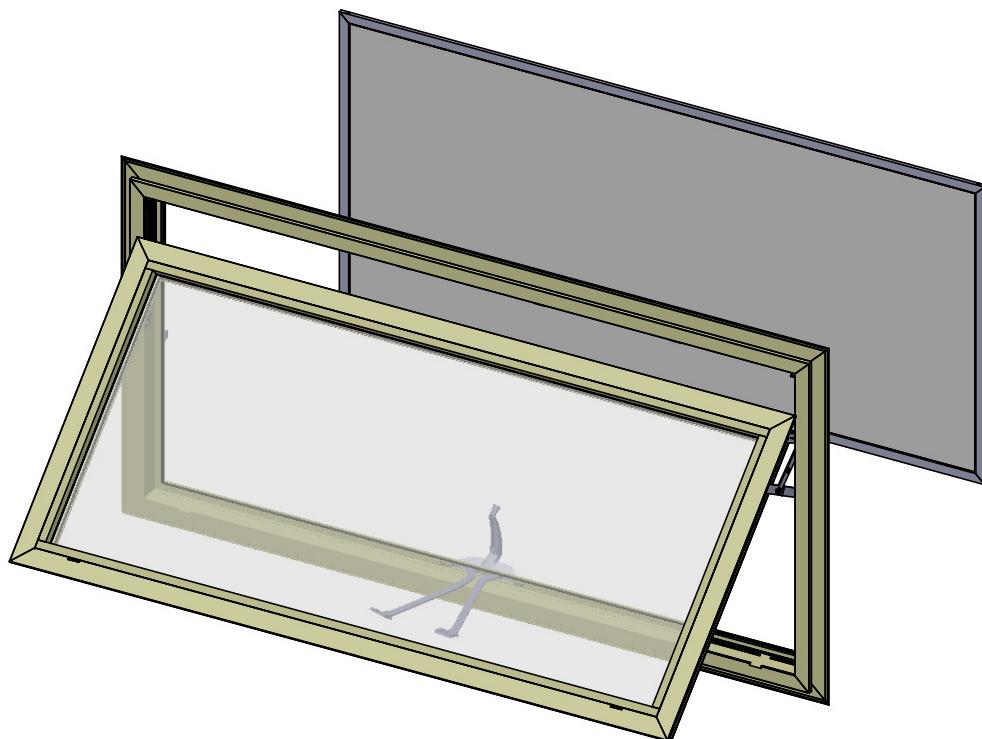
Released 11/28/2016 SHEET 4 OF 4

# ASSEMBLY / PARTS LIST (B.O.M.)

**Series: 250-T**

**Type: Awning (A) with 4 Bar Hinges & Roto Operator**

ITEM NO.	DESCRIPTION	QTY.	PAGE #
1	FRAME ASSEMBLY	1	2
2	PANEL ASSEMBLY	1	3
3	FLAT SCREEN ASSEMBLY	1	4
4	TABLES	1	5



Description Table of Contents
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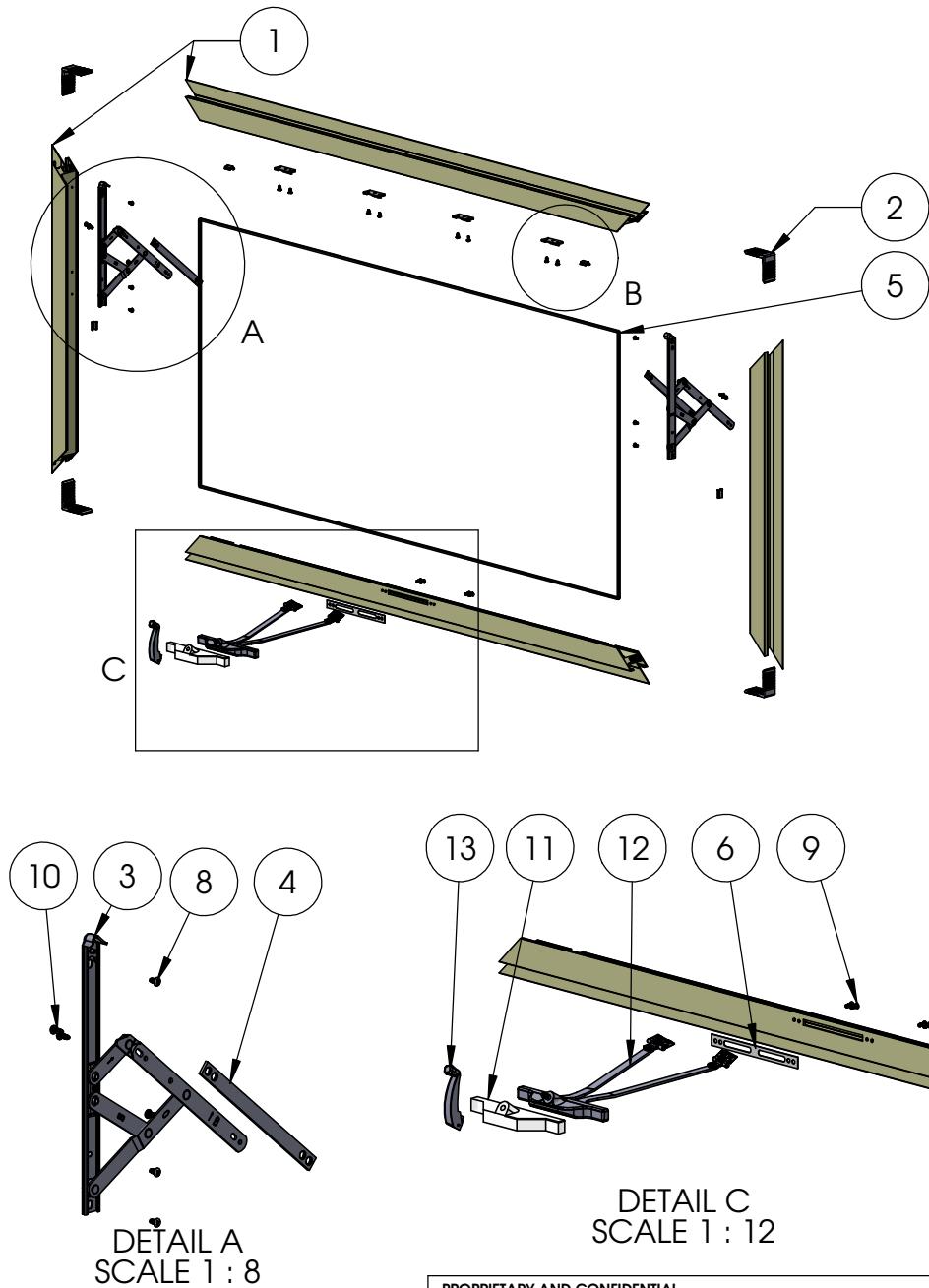
File Name Series 250-T A Awning Assembly with 4 Bar Hinges and Roto Assembly	REV
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Released	10/26/2016	SHEET 1 OF 5
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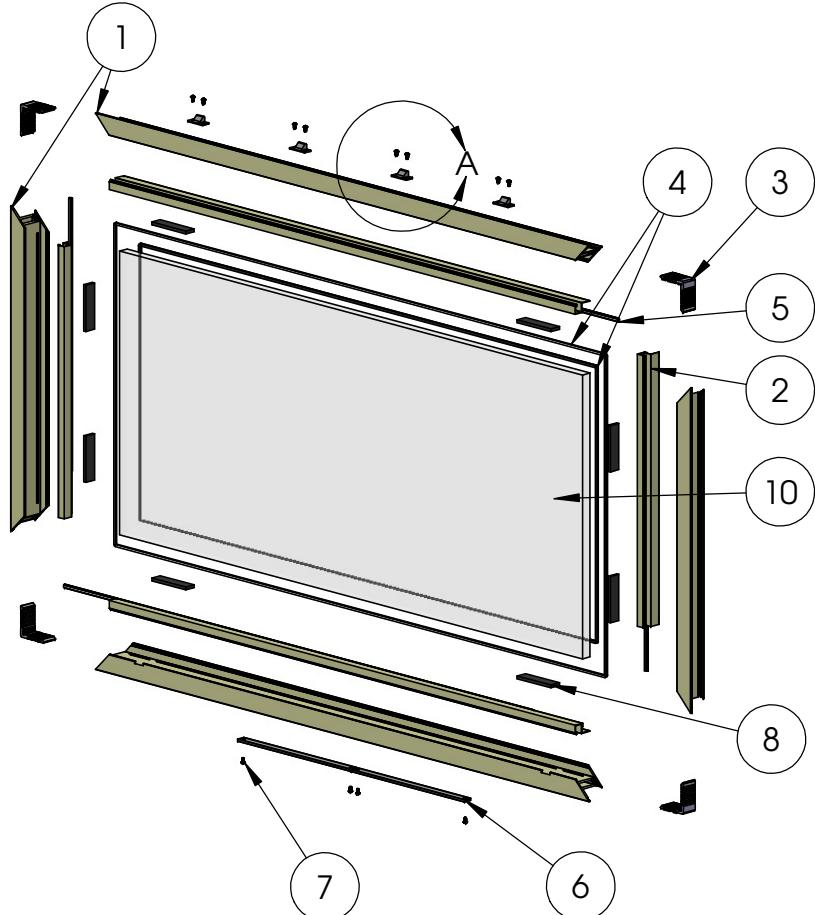
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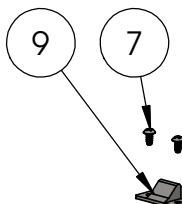
EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P88, 05P19	Perimeter - OG (Nail-on, Block)	4
HARDWARE			
2	20596	Corner Key, Vent	4
3	24932, 22865, 24654, 24655, 18811, 22868	4 Bar Hinge (8", 10", 12", 16", 16" Egress, 22")	2
4	23368, 23369, 23370, 23371	4 Bar Shim 7 3/4", 8 3/4", 10 3/4", 13 1/2" length	2
5	25199	Mini Bulb Vinyl	1
6	18743	Gasket (PSRO)	1
7	25173, 25753	Screen Clip SS, Clear, Black	4
8	20337	# 10 PHP - B, 3/8", SS, Clear	14
9	25574	# 10-32 Torx-Drive Button-Head, 1/2", SS, Clear	4
10	20338	# 10 PHP - B, 1/2", SS, Clear	8
11	25636	Awning Oper. Cover	1
12	See Table A	PSRO (2 ARM Operator) Options	1
13	See Table B	Handle Options	1
14	See Table C	Snubber, Frame Portion (HVHZ only)	4

Description Frame Assembly	File Name Series 250-T A Awning Assembly with 4 Bar Hinges and Roto Assembly	REV
Released 10/26/2016	SHEET 2 OF 5	

# ASSEMBLY / PARTS LIST (B.O.M.)



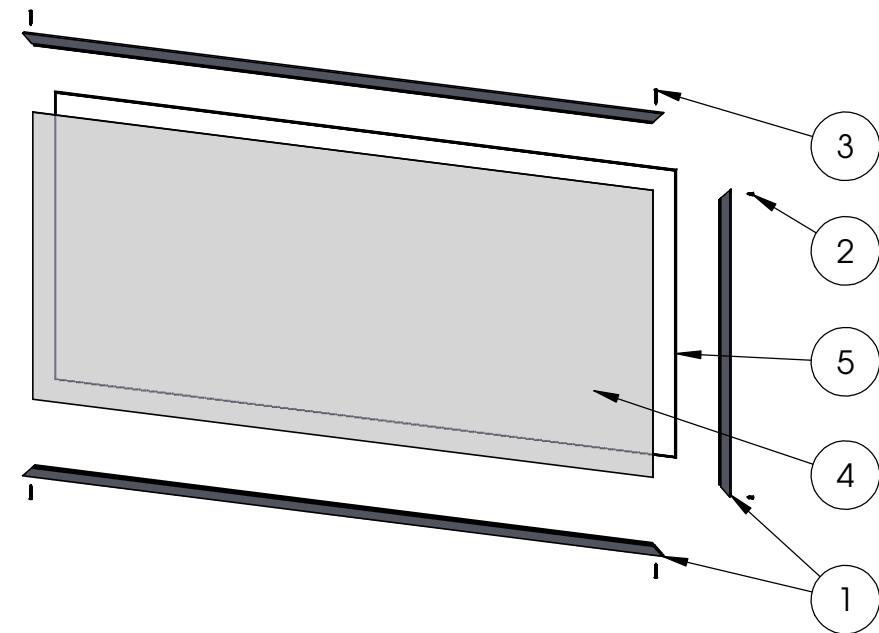
EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P11	Zee Bar	4
2	05P09, 05P12, 05P10, 05P06, 05P05	Glass Stop (1"), (1-1/4"), (1-1/2"), (5/8", 9/16" and 1/2"), (1/4")	4
HARDWARE			
3	20596	Corner Key, Vent	4
4	25199	Mini Bulb Vinyl	2
5	25031	Bulb Vinyl-Large	4
6	20767, 25568	Track, PSRO (9.125", 13.75")	2
7	20337	# 10 PHP - B, 3/8", SS, Clear	12
8	18620	Setting Block 4" x 1/4"x1"	8
9	See Table C	Snubber (HVHZ only)	4
10	-	Glass	1



DETAIL A  
SCALE 1 : 6

Description Panel Assembly	File Name Series 250-T A Awning Assembly with 4 Bar Hinges and Roto Assembly	REV
Released 10/26/2016	SHEET 3 OF 5	

# ASSEMBLY / PARTS LIST (B.O.M.)



EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	114	.3125 Screen Frame	4
HARDWARE			
2	25752	#6 FHP-A, 1/2", SS, Clear	4
3	25751	#6 FHP-A, 1-1/4", SS, Clear	4
4	-	Screen Mesh	1
5	19127	SCREEN RUBBER SPLINE .150	1

Description	Flat Screen Assembly	
File Name	Series 250-T A Awning Assembly with 4 Bar Hinges and Roto Assembly	REV
Released	10/26/2016	SHEET 4 OF 5

# ASSEMBLY / PARTS LIST (B.O.M.)

Table A: Operator Option

Operator Size	Arm Material	Color	ID #
27.75"	Steel	Black	18876
27.75"	S.S.	Black	23307
27.75"	Steel	BCN	18879
27.75"	S.S.	BCN	23308
16.75"	Steel	Black	18868
16.75"	S.S.	Black	23304
16.75"	Steel	BCN	18871
16.75"	S.S.	BCN	23305

Table C: Snubber Option (HVHZ only)

Frame Width	25245 Snubber	20337 Screw
>24"	1	4
>36"	2	8
>48"	3	12
>60"	4	16
>72"	5	20
>84"	6	24
>96"	7	28

Table B: Handle Option

Type	Color	ID #
Folding (PS Roto)	Black	18789
Folding (PS Roto)	BCN	18792
Knob (PS Roto)	Black	18748
Knob (PS Roto)	BCN	18751

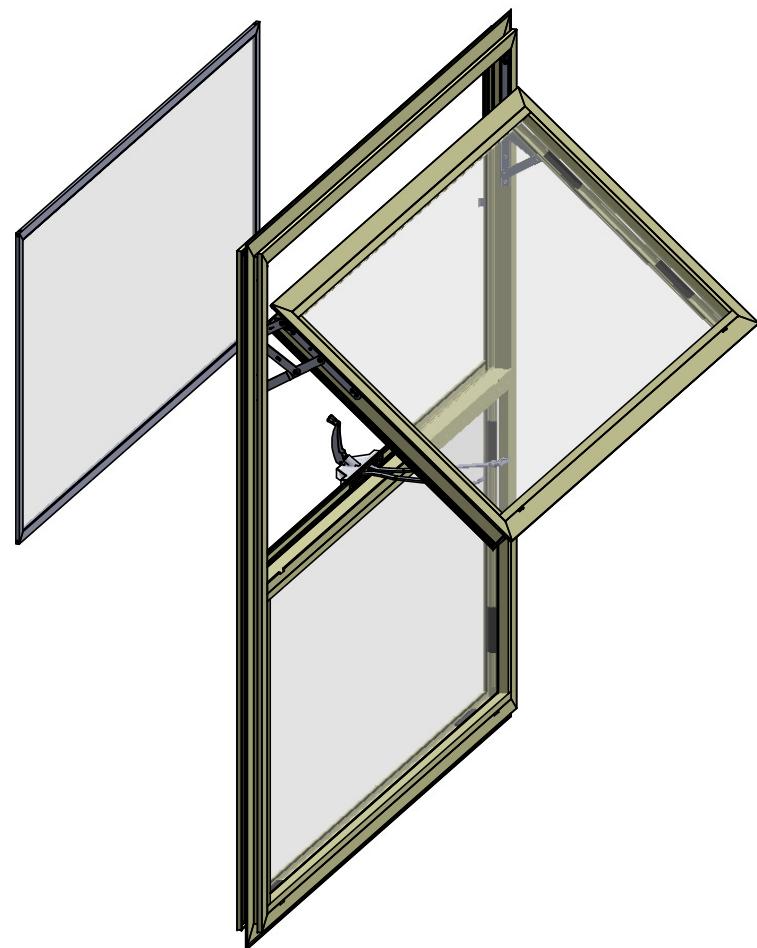
Description	Tables	
File Name	Series 250-T A Awning Assembly with 4 Bar Hinges and Roto Assembly	REV
Released	10/26/2016	SHEET 5 OF 5

# ASSEMBLY / PARTS LIST (B.O.M.)

**Series: 250-T**

**Type: Awning (A/O) with 4 Bar Hinges and Roto Operator**

ITEM NO.	DESCRIPTION	QTY.	PAGE #
1	FRAME ASSEMBLY	1	2
2	PANEL ASSEMBLY	1	3
3	FLAT SCREEN ASSEMBLY	1	4
4	TABLES	1	5

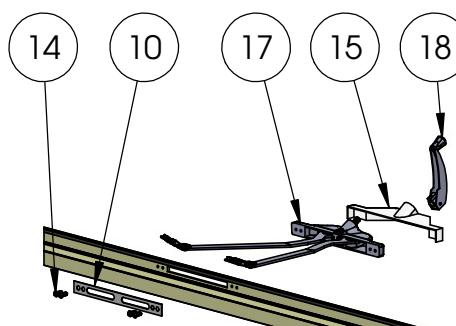
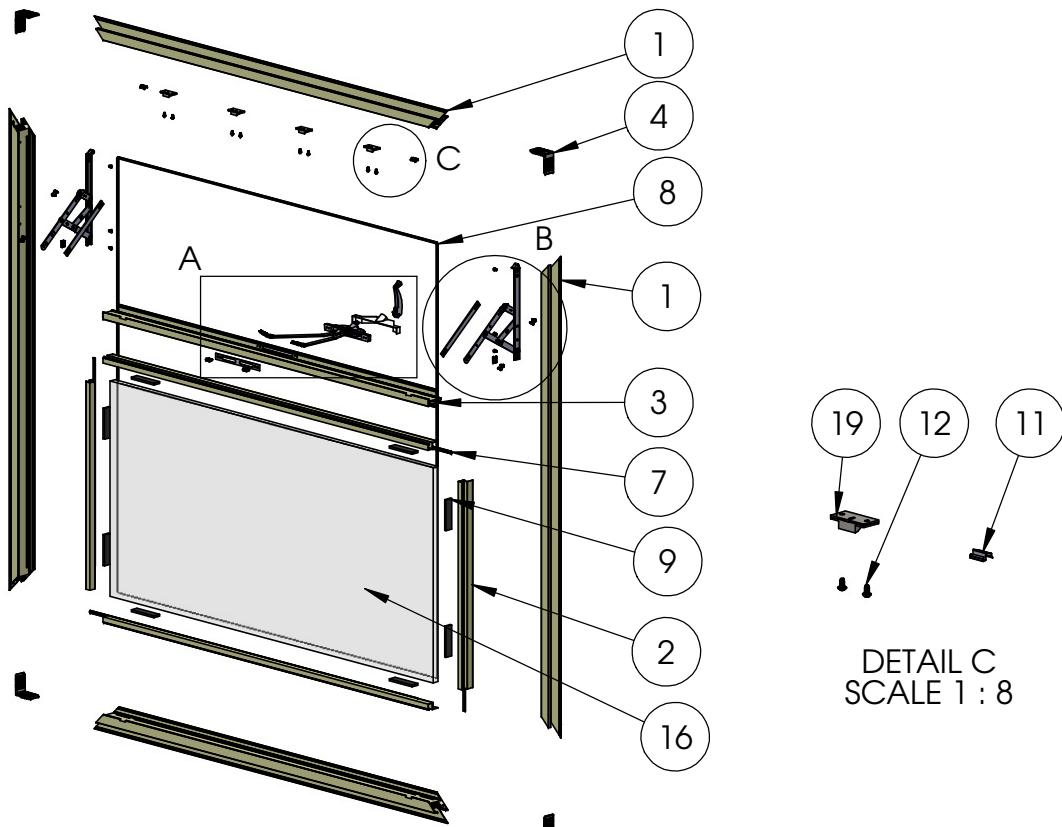


Description Table of Contents
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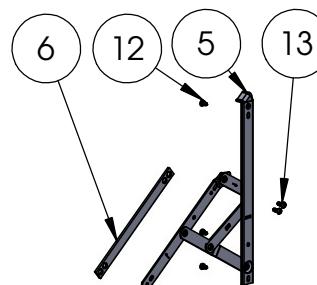
File Name Series 250-T A over O Awning Assembly with 4 Bar Hinges and Roto Operator	REV
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Released	10/24/2016	SHEET 1 OF 5
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# ASSEMBLY / PARTS LIST (B.O.M.)



DETAIL A  
SCALE 1 : 12



DETAIL B  
SCALE 1 : 12

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EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P88, 05P19	Perimeter -OG (Nail-on, Block)	4
2	05P09, 02P12, 05P10, 05P06, 05P05	Glass Stop (1"), (1-1/4"), (1-1/2"), (5/8" and 1/2"), (1/4")	4
3	05P01	Tee Bar (Muntin)	1

HARDWARE			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
4	20596	Corner Key, Vent	4
5	24932, 22865, 24654, 24655, 18811, 22868	4 Bar Hinge (8", 10", 12", 16", 16" Egress, 22")	2
6	23368, 23369, 23370, 23371	4 Bar Shim (7 3/4", 8 3/4", 10 3/4", 13 1/2" length)	2
7	25031	Bulb Vinyl-Large	4
8	25199	Mini Bulb Vinyl	3
9	18620	Setting Block 4" x 1/4"x1"	8
10	18743	Gasket (PSRO)	1
11	25173, 25753	Screen Clip, SS, Clear, Black	4
12	20337	# 10 PHP - B, 3/8", SS, Clear	14
13	20338	# 10 PHP - B, 1/2", SS, Clear	8
14	25574	# 10-32 Torx-Drive Button-Head, 1/2", SS, Clear	4
15	25636	Awning Oper. Cover	1
16	-	Glass	1
17	See Table A	PSRO (2 ARM Operator) Options	1
18	see Table B	Handle Options	1
19	See Table C	Snubber, Frame Portion (HVHZ only)	4

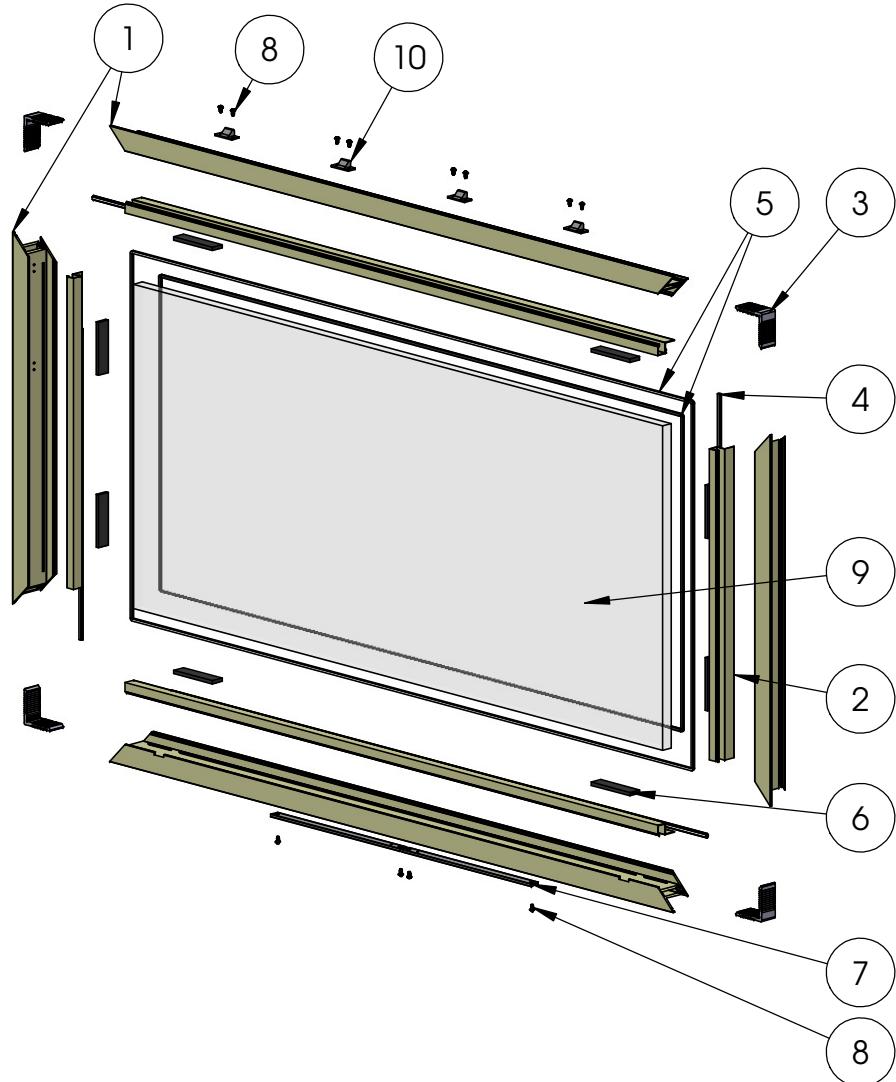
Description  
Frame Assembly

File Name  
Series 250-T A over O Awning  
Assembly with 4 Bar Hinges and  
Roto Operator

REV

Released 10/24/2016 SHEET 2 OF 5

# ASSEMBLY / PARTS LIST (B.O.M.)



## EXTRUSIONS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P11	Zee Bar	4
2	05P09, 05P12, 05P10, 05P06, 05P05	Glass Stop (1"), (1-1/4"), (1-1/2"), (5/8", 9/16" and 1/2"), (1/4")	4

## HARDWARE

3	20596	Corner Key, Vent	4
4	25031	Bulb Vinyl-Large	4
5	25199	Mini Bulb Vinyl	2
6	18620	Setting Block 4" x 1/4"x1"	8
7	20767, 25568	Track, PSRO (9.125", 13.75")	2
8	20337	# 10 PHP - B, 3/8", SS, Clear	12
9	-	Glass	1
10	See Table C	Snubber (HVHZ only)	4

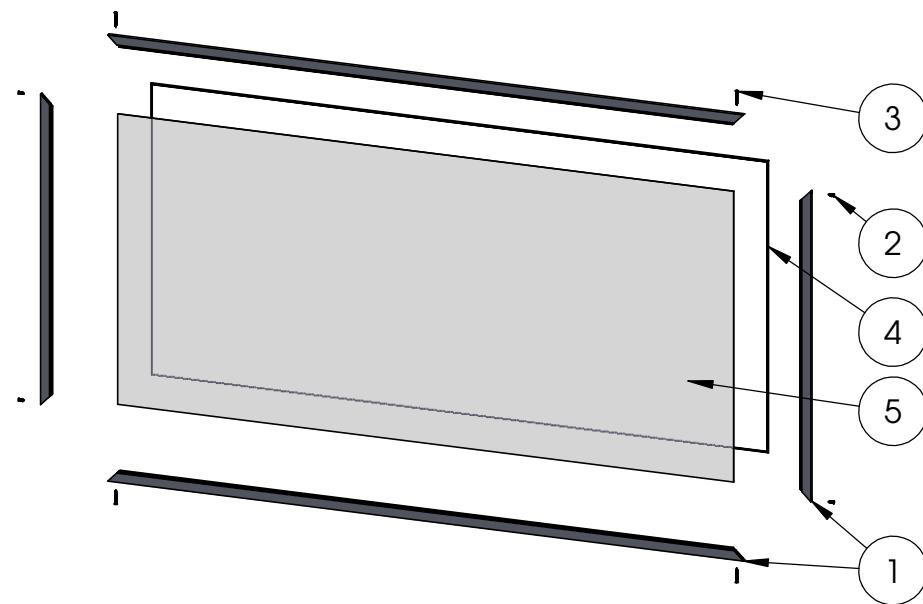
Description  
Panel Assembly

File Name  
Series 250-T A over O Awning  
Assembly with 4 Bar Hinges and  
Roto Operator

REV

# ASSEMBLY / PARTS LIST (B.O.M.)

EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	114	.3125 Screen Frame	4
HARDWARE			
2	25752	#6 FHP - A, 1/2", SS Clear	4
3	25751	#6 FHP - A, 1 1/4", SS Clear	4
4	19127	Screen Rubber Spline .150	1
5	-	Screen Mesh	1



Description	Flat Screen Assembly	
File Name	Series 250-T A over O Awning Assembly with 4 Bar Hinges and Roto Operator	REV
Released	10/24/2016	SHEET 4 OF 5

# ASSEMBLY / PARTS LIST (B.O.M.)

Table A: Operator Option

Operator Size	Arm Material	Color	ID #
27.75"	Steel	Black	18876
27.75"	S.S.	Black	23307
27.75"	Steel	BCN	18879
27.75"	S.S.	BCN	23308
16.75"	Steel	Black	18868
16.75"	S.S.	Black	23304
16.75"	Steel	BCN	18871
16.75"	S.S.	BCN	23305

Table B: Handle Option

Type	Color	ID #
Folding (PS Roto)	Black	18789
Folding (PS Roto)	BCN	18792
Knob (PS Roto)	Black	18748
Knob (PS Roto)	BCN	18751

Table C: Snubber Option (HVHZ only)

Frame Width	25245 Snubber	20337 Screw
>24"	1	4
>36"	2	8
>48"	3	12
>60"	4	16
>72"	5	20
>84"	6	24
>96"	7	28

Description	Tables	
File Name	Series 250-T A over O Awning Assembly with 4 Bar Hinges and Roto Operator	REV
Released	10/24/2016	SHEET 5 OF 5

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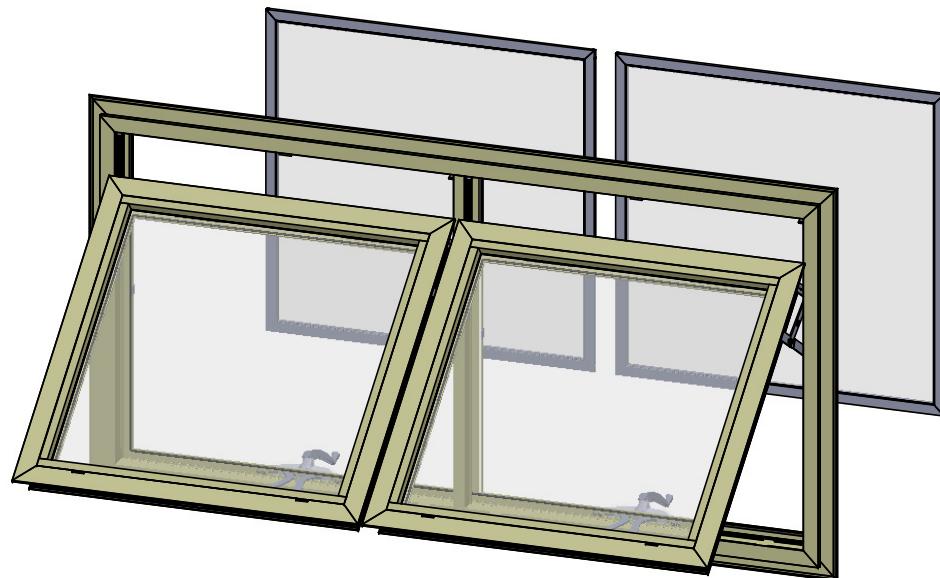
# ASSEMBLY / PARTS LIST (B.O.M.)

**Series: 250-T**

**Type: Awning (AA) with 4 Bar Hinges & Roto Operator**

## TABLE OF CONTENTS

ITEM NO.	DESCRIPTION	QTY.	PAGE #
1	FRAME ASSEMBLY	1	2
2	PANEL ASSEMBLY	2	3
3	FLAT SCREEN ASSEMBLY	2	4
4	TABLES	1	5

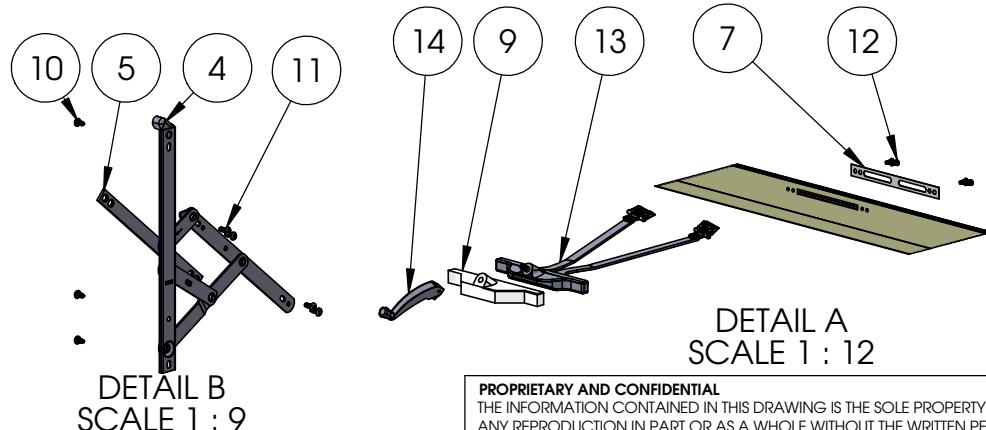
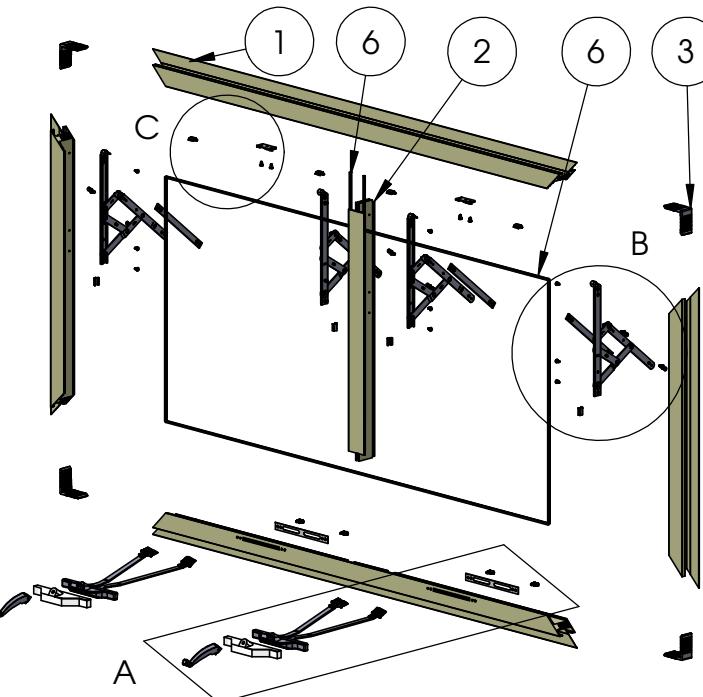


Description Table of Contents
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File Name Series 250-T Awning (AA) with 4 Bar Hinges and Roto Operator	REV
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Released	10/26/2016	SHEET 1 OF 5
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# ASSEMBLY / PARTS LIST (B.O.M.)



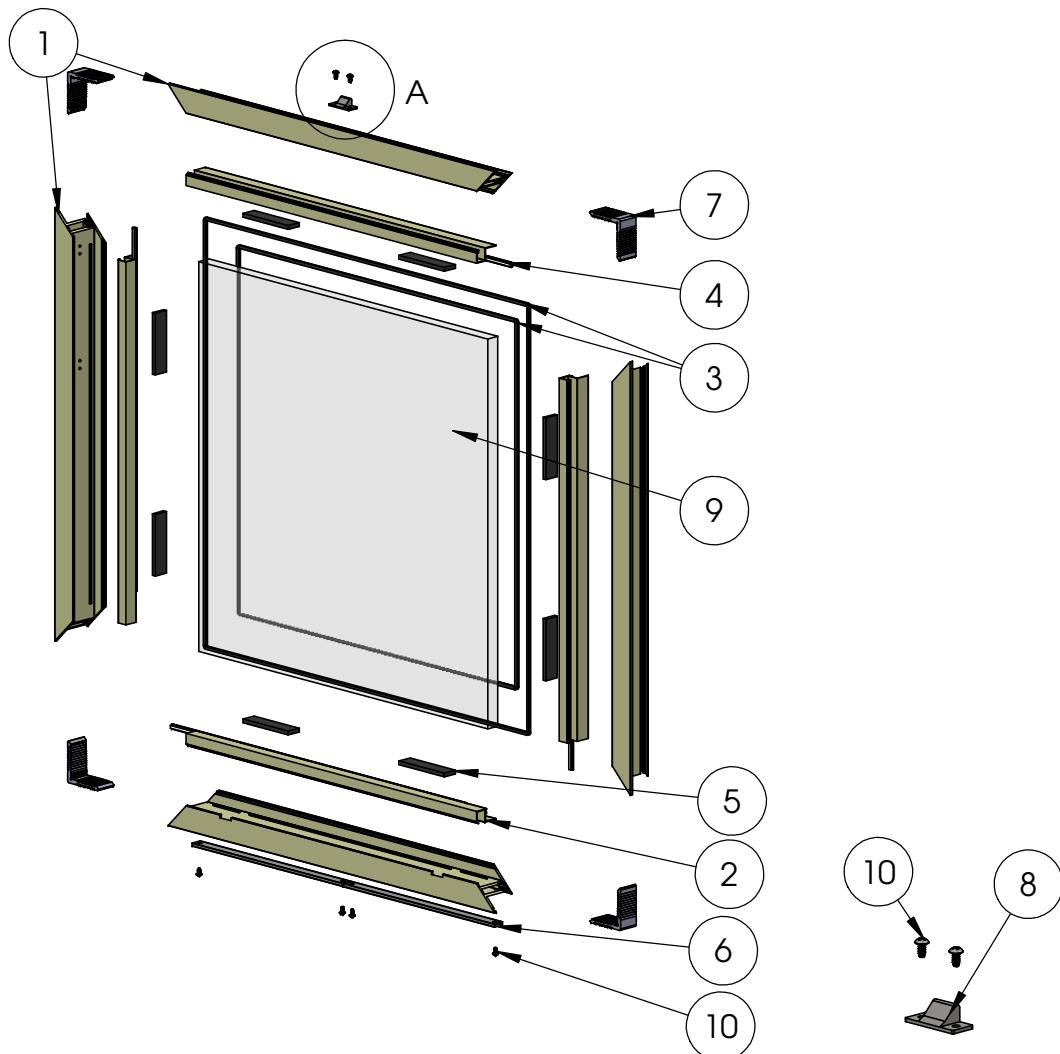
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EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P88, 05P19	Perimeter - OG (Nail-on, Block)	4
2	05P01	250-T Tee Bar (Muntin)	1
HARDWARE			
3	20596	Corner Key, Vent	4
4	24932, 22865, 24654, 24655, 18811, 22868	4 Bar Hinge (8", 10", 12", 16", 16" Egress, 22")	4
5	23368, 23369, 23370, 23371	4 Bar Shim (7 3/4", 8 3/4", 10 3/4", 13 1/2" length)	4
6	25199	Mini Bulb Vinyl	3
7	18743	Gasket (PSRO)	2
8	25173, 25753	Screen Clip, SS, Clear, Black	8
9	25636	Awning Oper. Cover	2
10	20337	# 10 PHP - B, 3/8", SS, Clear	16
11	20338	# 10 PHP - B, 1/2", SS, Clear	16
12	25574	# 10-32 Torx-Drive Button-Head, 1/2", SS, Clear	8
13	See Table A	PSRO (2 ARM Operator) Options	2
14	See Table B	Handle Options	2
15	See Table C	Snubber, Frame Portion (HVHZ only)	2

Description Frame Assembly	File Name Series 250-T Awning (AA) with 4 Bar Hinges and Roto Operator	REV
Released 10/26/2016	SHEET 2 OF 5	

# ASSEMBLY / PARTS LIST (B.O.M.)



## EXTRUSIONS

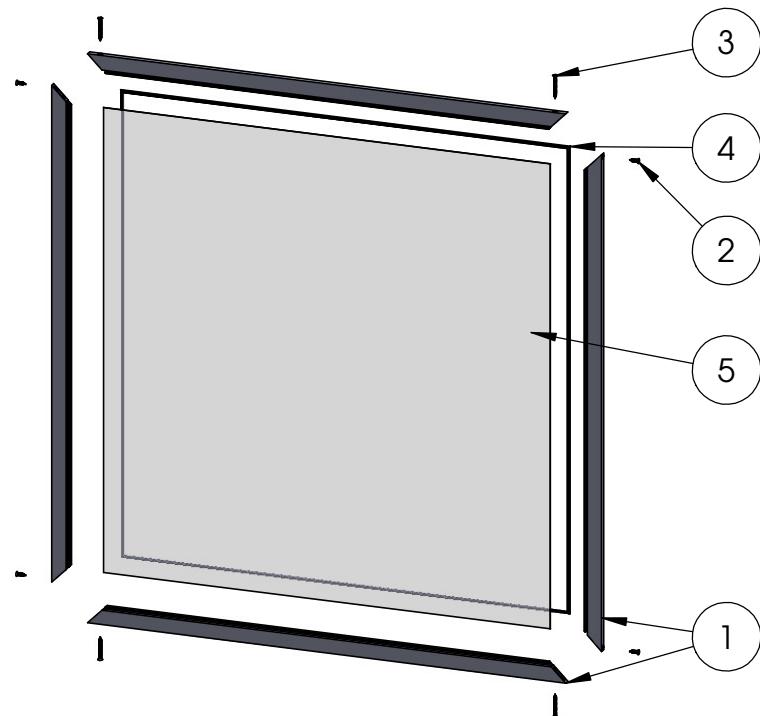
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P11	Zee Bar	4
2	50P09, 05P12, 05P10, 05P06, 05P05	Glass Stop (1"), (1-1/4"), (1-1/2"), (5/8" and 1/2"), (1/4")	4

## HARDWARE

3	25199	Mini Bulb Vinyl	2
4	25031	Bulb Vinyl-Large	4
5	18620	Setting Block 4" x 1/4"x1"	8
6	20767, 25568	Track, PSRO (9.125", 13.75")	2
7	20596	Corner Key, Vent	4
8	See Table C	Snubber (HVHZ only)	1
9	-	Glass	1
10	20337	# 10 PHP - B, 3/8", SS, Clear	6

Description	Panel Assembly	
File Name	Series 250-T Awning (AA) with 4 Bar Hinges and Roto Operator	REV
Released	10/26/2016	SHEET 3 OF 5

# ASSEMBLY / PARTS LIST (B.O.M.)



## EXTRUSIONS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	114	Screen Frame	4

## HARDWARE

2	25752	#6 FHP - A, 1/2", SS Clear	4
3	25751	#6 FHP - A, 1 1/4", SS Clear	4
4	19127	Screen Rubber Spline 0.150"	1
5	-	Screen Mesh	1

Description  
Flat Screen Assembly

File Name  
Series 250-T Awning (AA)  
with 4 Bar Hinges and Roto Operator

REV

# ASSEMBLY / PARTS LIST (B.O.M.)

Table A: Operator Option

Operator Size	Arm Material	Color	ID #
27.75"	Steel	Black	18876
27.75"	S.S.	Black	23307
27.75"	Steel	BCN	18879
27.75"	S.S.	BCN	23308
16.75"	Steel	Black	18868
16.75"	S.S.	Black	23304
16.75"	Steel	BCN	18871
16.75"	S.S.	BCN	23305

Table B: Handle Option

Type	Color	ID #
Folding (PS Roto)	Black	18789
Folding (PS Roto)	BCN	18792
Knob (PS Roto)	Black	18748
Knob (PS Roto)	BCN	18751

Table C: Snubber Option (HVHZ only)

Frame Width	25245 Snubber	20337 Screw
>24"	1	4
>36"	2	8
>48"	3	12
>60"	4	16
>72"	5	20
>84"	6	24
>96"	7	28

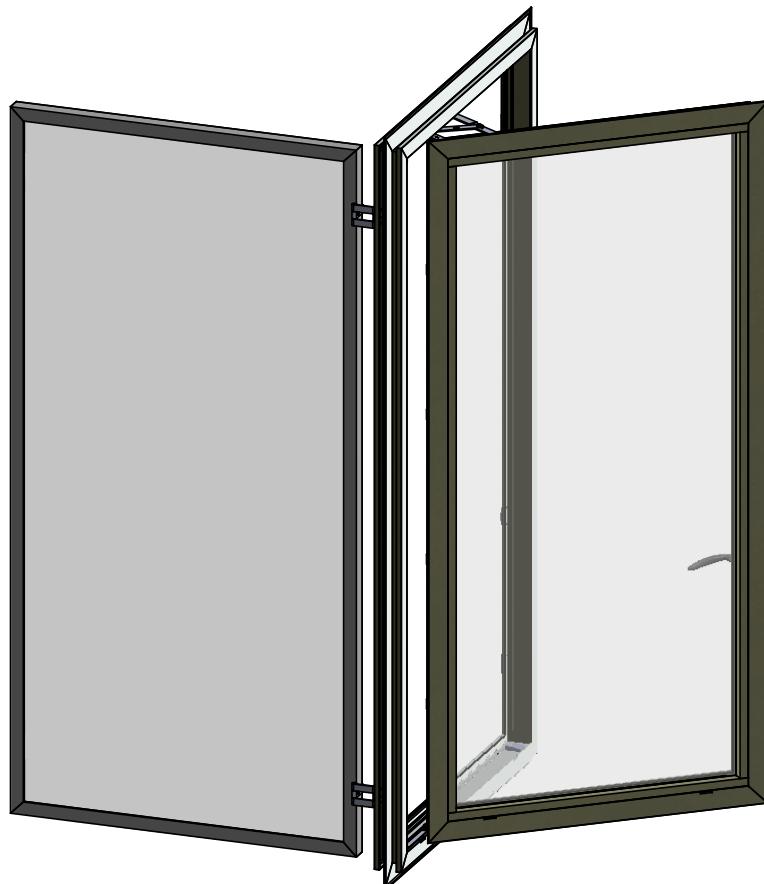
<b>Description</b> <b>Tables</b>	<b>File Name</b> Series 250-T Awning (AA) with 4 Bar Hinges and Roto Operator	<b>REV</b>
Released	10/26/2016	SHEET 5 OF 5

# ASSEMBLY / PARTS LIST (B.O.M.)

**Series: 250-T**

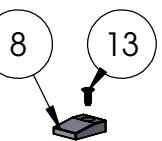
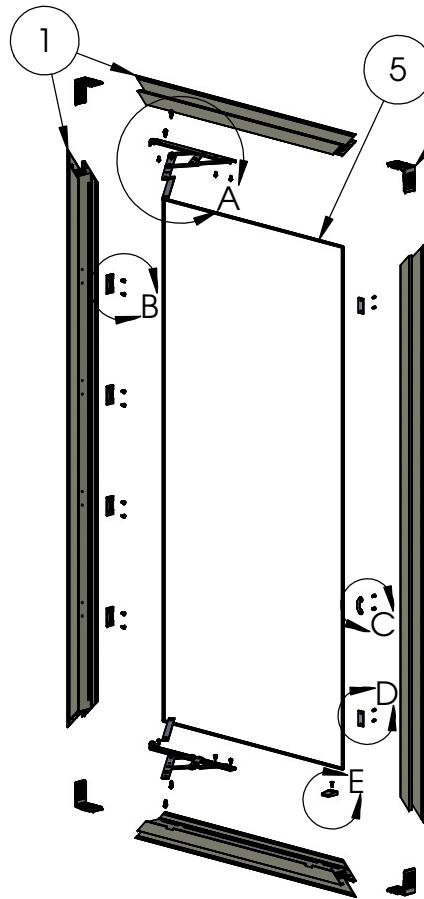
**Type: Casement (C) with 4 Bar Hinges & Cam Handle**

ITEM NO.	DESCRIPTION	QTY.	PAGE #
1	FRAME ASSEMBLY	1	2
2	PANEL ASSEMBLY	1	3
3	HINGE SCREEN ASSEMBLY	1	4

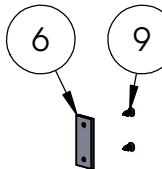


Description Table of Contents	
File Name Series 250-T C Casement Assembly with 4 Bar Hinges and Cam Handle	REV
Released 11/28/2016	SHEET 1 OF 4

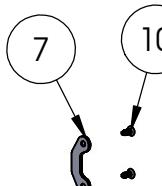
# ASSEMBLY / PARTS LIST (B.O.M.)



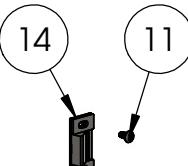
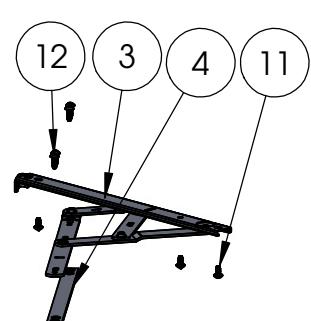
DETAIL E  
SCALE 1 : 6



DETAIL D  
SCALE 1 : 6



DETAIL C  
SCALE 1 : 6



DETAIL B  
SCALE 1 : 6

DETAIL A  
SCALE 1 : 8

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EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P88, 05P19	Perimeter -OG (Nail-on, Block)	4
HARDWARE			
2	20596	Corner Key, Vent	4
3	24932, 22865, 24654, 24655, 18811, 22868	4 Bar Hinge (8", 10", 12", 16", 22")	2
4	23368, 23369, 23370, 23371	4 Bar Shim (7 3/4", 8 3/4", 10 3/4", 13 1/2" length)	2
5	25199	Mini Bulb Vinyl	1
6	25405	Hinge Screen Magnet	2
7	24983	Cam Strike Plate	1
8	18770	Large Pivot Shim	1
9	20901	#6 X 3/8" UC FHSM	4
10	20937, 20268	#8 FHP - B - UC, 3/8", SS, (Clear, Black)	2
11	20337	#10 PHP - B, 3/8", SS, Clear	14
12	20338	#10 PHP - B, 1/2", SS, Clear	8
13	20272	#10 FHP - A - UC, 1/2" SS, Clear	1
14	See Table A	Snubber, Frame Portion (HVHZ only)	4

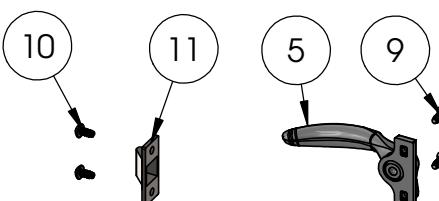
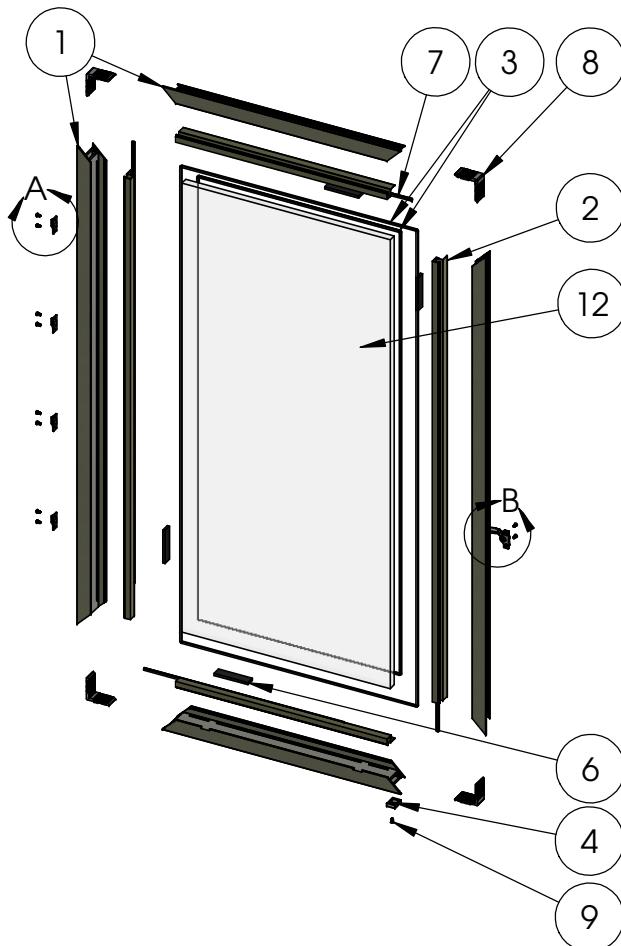
Table A: Snubber Option (HVHZ only)

Frame Width	25245 Snubber	20337 Screw
>24"	1	4
>36"	2	8
>48"	3	12
>60"	4	16
>72"	5	20
>84"	6	24
>96"	7	28

Description  
Frame Assembly

File Name Series 250-T C Casement Assembly with 4 Bar Hinges and Cam Handle	REV
Released 11/28/2016	SHEET 2 OF 4

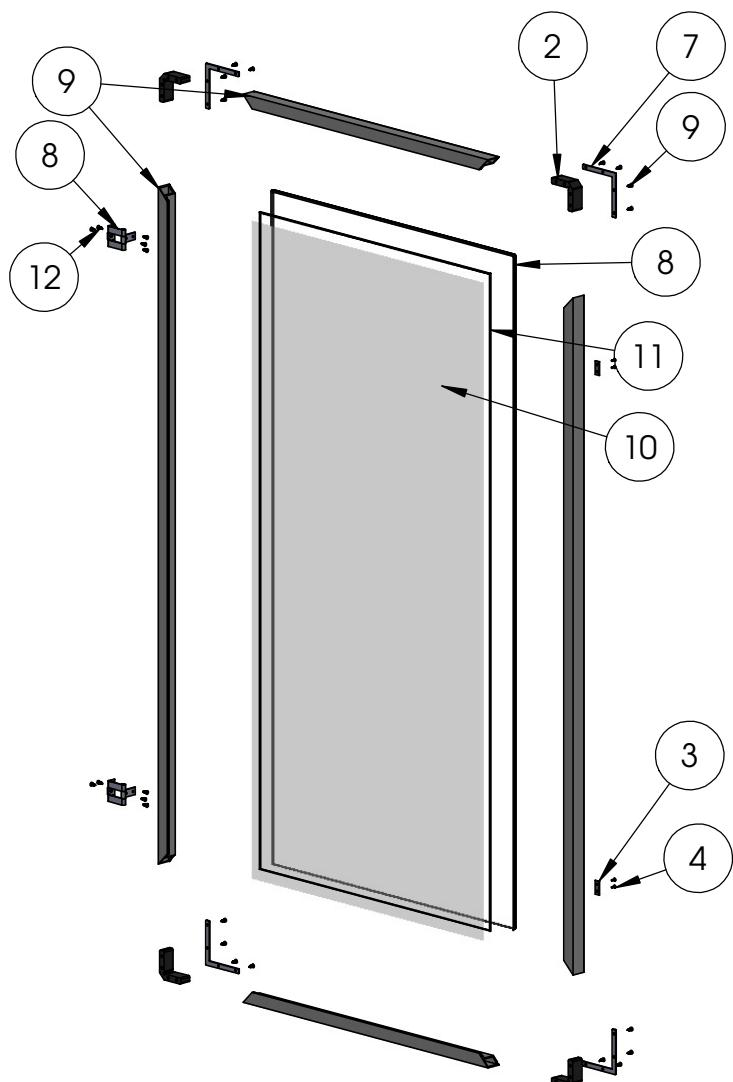
# ASSEMBLY / PARTS LIST (B.O.M.)



EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P11	Zee Bar	4
2	05P09, 05P12, 05P10, 05P06, 05P05	Glass Stop (1"), (1-1/4"), (1-1/2"), (5/8", 9/16" and 1/2"), (1/4")	4
HARDWARE			
3	25199	Mini Bulb Vinyl	2
4	18770	Large Pivot Shim	1
5	25735, 25740, 25739, 25736, 25737	Cam Handle (PO) (Gray, Black, Stainless Steel), (LH & RH)	1
6	18620	Setting Block 4" x 1/4"x1"	4
7	25031	Bulk Vinyl-Large	4
8	20596	Corner Key, Vent	4
9	20272	# 10 FHP - A - UC, 1/2" SS, Clear	3
10	20337	# 10 PHP - B, 3/8", SS, Clear	8
11	See Table A	Snubber (HVHZ only)	4
12	-	Glass	1

Description Panel Assembly	File Name Series 250-T C Casement Assembly with 4 Bar Hinges and Cam Handle	REV
Released 11/28/2016	SHEET 3 OF 4	

# ASSEMBLY / PARTS LIST (B.O.M.)



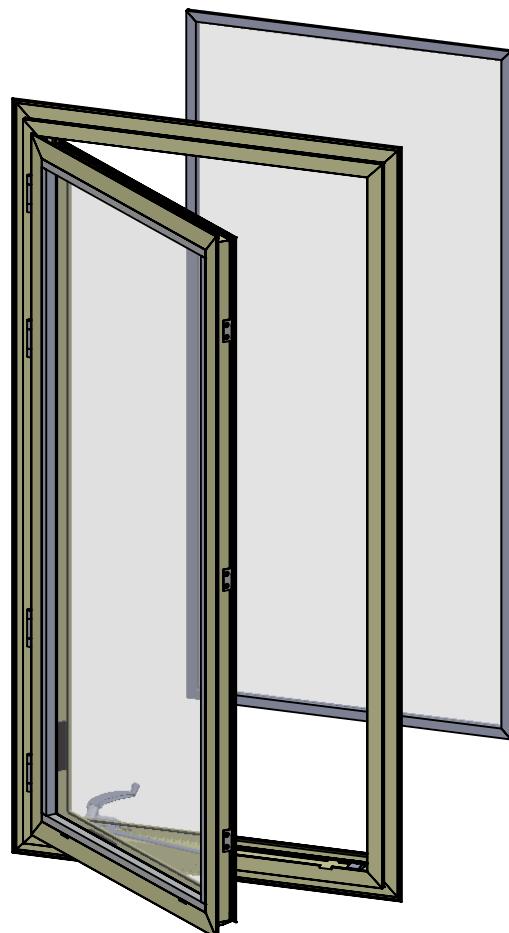
EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
<b>HARDWARE</b>			
2	25258	Corner Key (Hinge Screen-V2)	4
3	25406	Hinge Screen Strike w/ Screws	2
4	AD43ABS200	Rivet	4
7	25400	90° Corner Hinge Screen Brace	4
8	25216, 25756	Screen Hinge V 2, Black	2
9	20240	# 8 FHP - A - UC, 1/2", SS, Clear	16
8	25189	Q-Lon Foam Seal	1
9	958	Extruded Hinged Screen Frame (V2)	4
10	-	Screen Mesh	1
11	19127	Screen Rubber Spline .150	1
12	20240, 20241	# 8 FHP - A - UC, 1/2", SS, Clear, Black	10

Description Hinge Screen Assembly	REV
File Name Series 250-T C Casement Assembly with 4 Bar Hinges and Cam Handle	
Released 11/28/2016	SHEET 4 OF 4

# ASSEMBLY / PARTS LIST (B.O.M.)

**Series: 250-T**

**Type: Casement with Butt Hinges, Roto Operator, and Multi-Point Lock**



## TABLE OF CONTENTS

ITEM NO.	DESCRIPTION	QTY.	PAGE #
1	FRAME ASSEMBLY	1	2
2	PANEL ASSEMBLY	1	3
3	FLAT SCREEN ASSEMBLY	1	4
4	TABLES	1	5

Description  
Table of Contents

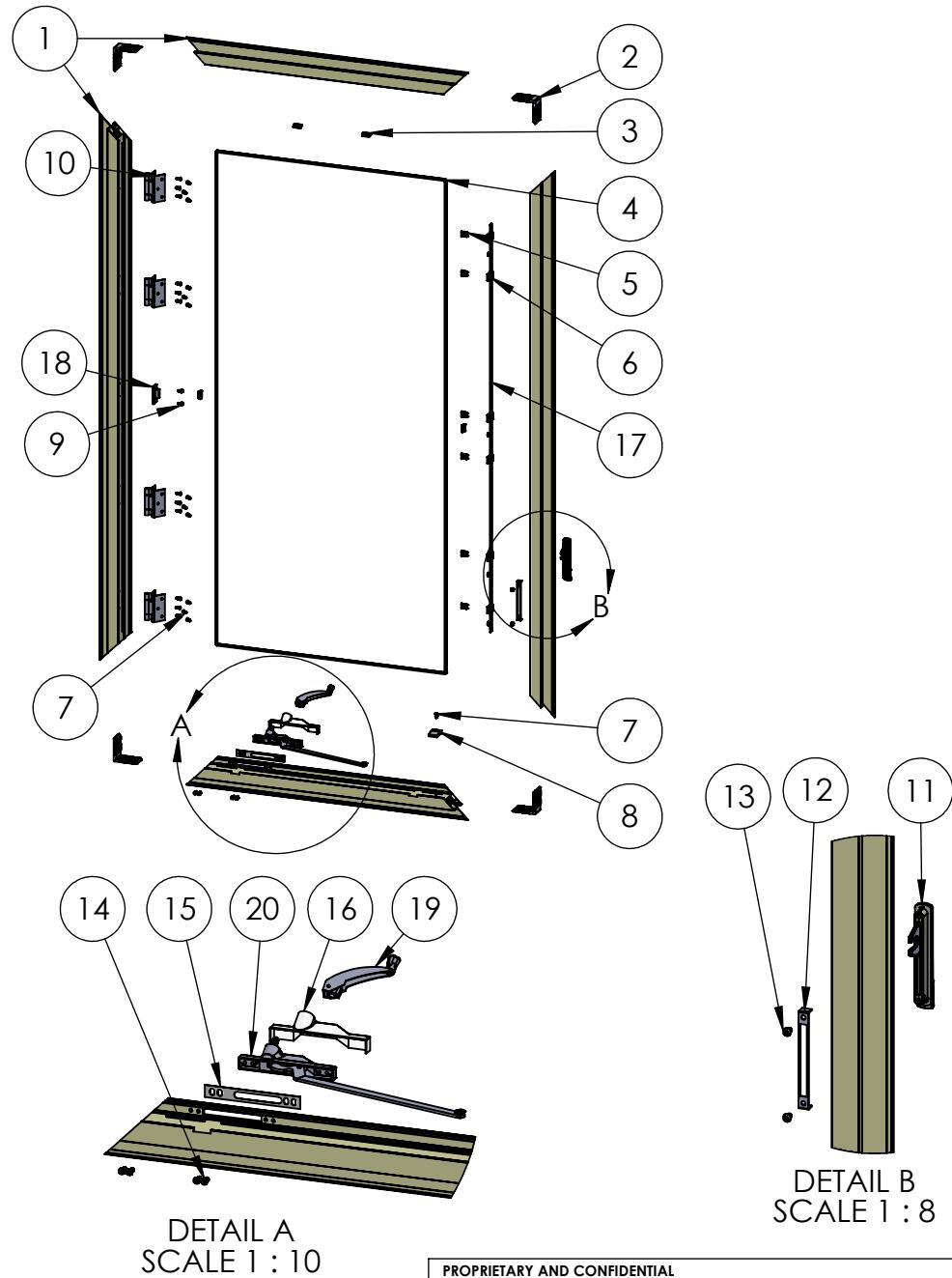
File Name Series 250-T C Casement Assembly with Butt Hinges, Roto Operator, and Multi-Point Lock	REV
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Released	7/19/2018	SHEET 1 OF 5
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# ASSEMBLY / PARTS LIST (B.O.M.)



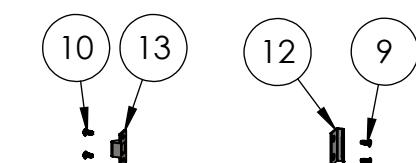
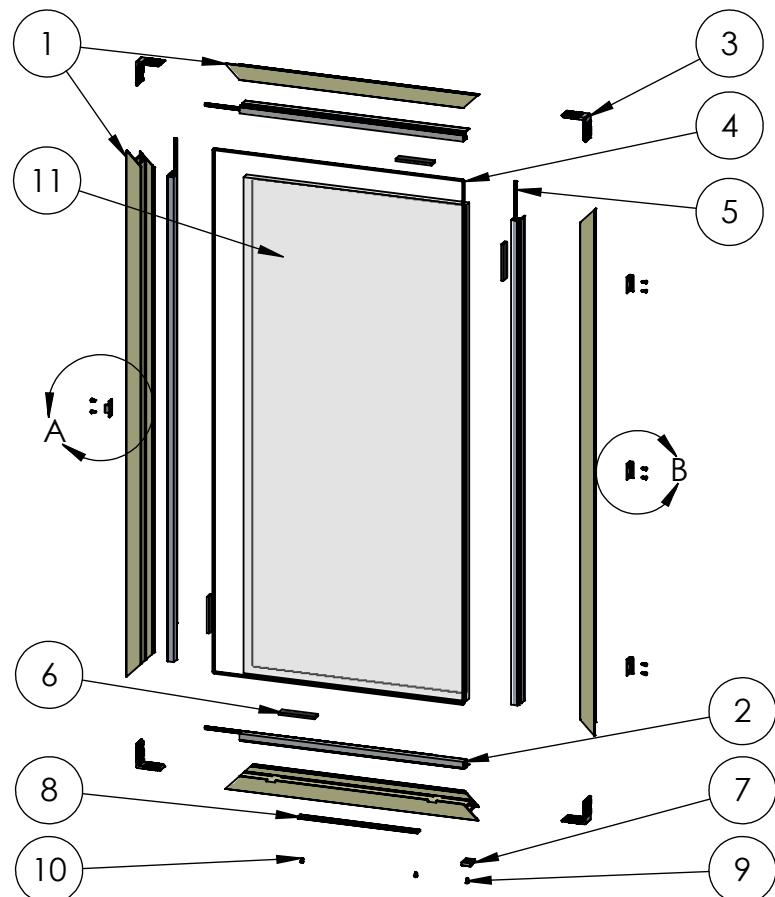
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EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P88, 05P19	Perimeter - OG (Nail-on, Block)	4
HARDWARE			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
2	20596	Corner Key, Vent	4
3	25173, 25753	Screen Clip, SS, Clear, Black	4
4	25199	Mini Bulb Vinyl	1
5	20244	#8 FHP - A, 3/4", SS, Clear	12
6	24731	24731, Tie Bar Guide	6
7	20272	#10 FHP - A - UC, 1/2" SS, Clear	25
8	18770	Large Pivot Shim	1
9	20337	#10 PHP - B, 3/8", SS, Clear	2
10	18820, 18818, 25179, 25178	Butt Hinge Assembly, Alum, Alum Blk, SS, SS Blk	4
11	26139, 26140	Multi-Point Lock Handle (Black, Brushed Copper Nickel)	1
12	26141	Multi-Point Support Plate	1
13	26142	#10-24 Torx Screw, 0.375", SS, Clear, Driver Size T25	2
14	25574	#10-32 Torx-Drive Button-Head Socket Cap Machine Screw, 0.5", SS, Clear, Driver Size T25	4
15	18742	Gasket (PSRO)	1
16	25634, 25635	Casement Oper. Cover - (LH, RH)	1
17	See Table A	Tie Bar MP	1
18	See Table A	Snubber, Frame Portion (HVHZ only)	1
19	See Table B	Handle Options	1
20	See Table D	CSMT Roto S.S. Arm (13.5)	1

Description Frame Assembly	REV
File Name Series 250-T C Casement Assembly with Butt Hinges, Roto Operator, and Multi-Point Lock	
Released 7/19/2018	SHEET 2 OF 5

# ASSEMBLY / PARTS LIST (B.O.M.)



DETAIL A  
SCALE 1 : 10

DETAIL B  
SCALE 1 : 10

## EXTRUSIONS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P11	Zee Bar	4
2	05P09, 05P12, 05P10, 05P06, 05P05	Glass Stop (1"), (1-1/4"), (1-1/2"), (5/8" and 1/2"), (1/4" or 1")	4

## HARDWARE

3	20596	Corner Key, Vent	4
4	25199	Mini Bulb Vinyl	2
5	25031	Bulb Vinyl-Large	4
6	18620	Setting Block 4" x 1/4"x1"	4
7	18770	Large Pivot Shim	1
8	25567, 25468	Track, PSRO (9.125", 13.75")	1
9	20272	#10 FHP - A - UC, 1/2" SS, Clear	7
10	20337	#10 PHP - B, 3/8", SS, Clear	4
11	-	Glass	1
12	See Table A	Strike (multi point)	3
13	See Table A	Snubber (HVHZ only)	1

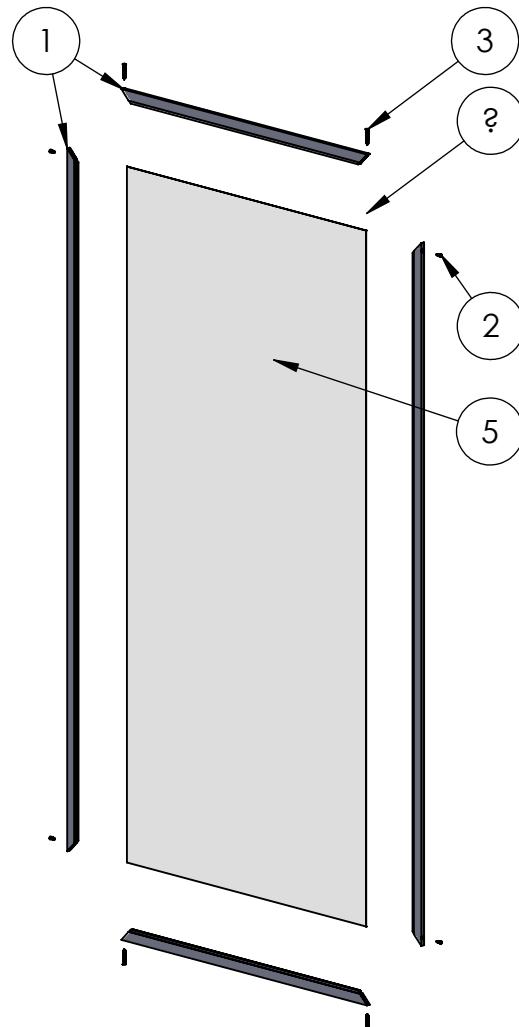
Description	Panel Assembly	
File Name	Series 250-T C Casement Assembly with Butt Hinges, Roto Operator, and Multi-Point Lock	REV

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Released 7/19/2018 | SHEET 3 OF 5

# ASSEMBLY / PARTS LIST (B.O.M.)



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	114	.3125 Screen Frame	4
2	25752	Flat Head Phillips Screw for Sheet Metal, 316 Stainless Steel, Number 6 Size, 1/2" Length	4
3	25751	Flat Head Phillips Screw for Sheet Metal, 316 Stainless Steel, Number 6 Size, 1-1/4" Length	4
4	19127	SCREEN RUBBER SPLINE .150	1
5	-		1

Description Flat Screen Assembly	
File Name Series 250-T C Casement Assembly with Butt Hinges, Roto Operator, and Multi-Point Lock	REV
Released 7/19/2018	SHEET 4 OF 5



# ASSEMBLY / PARTS LIST (B.O.M.)

Table A: Multi-Point Option for Casement > 26"

Frame Height	Tie Bar ID #	24732 Strike	20272 Strike Screw	24731 Tie Bar Guide	20244 Guide Screw
26"<30"	19005	2	4	4	8
30"<34"	19006	2	4	4	8
34"<38"	19007	2	4	4	8
38"<42"	18960	2	4	4	8
42"<46"	18959	2	4	4	8
46"<50"	18961	2	4	4	8
50"<54"	18969	3	6	6	12
54"<58"	18946	3	6	6	12
58"<62"	18956	3	6	6	12
62"<66"	18955	3	6	6	12
66"<70"	18954	3	6	6	12
70"<74"	23296	3	6	6	12
74"<78"	24671	4	8	8	16
78"<82"	24670	4	8	8	16
82"-101"	23385	4	8	8	16

Table B: Handle Option

Type	Color	ID #
Folding (PS Roto)	Black	18789
Folding (PS Roto)	BCN	18792
Knob (PS Roto)	Black	18748
Knob (PS Roto)	BCN	18751

Table C: Snubber Option (HVHZ only)

Frame Height	25245 Snubber	20337 Screw
>24"	1	4
>36"	2	8
>48"	3	12
>60"	1	4
>72"	2	8
>84"	3	12
>96"	4	16

Table D: Operator Option

Operator Size	Arm Material	Color	ID #
27.75"	Steel	Black	18876
27.75"	S.S.	Black	23307
27.75"	Steel	BCN	18879
27.75"	S.S.	BCN	23308
16.75"	Steel	Black	18868
16.75"	S.S.	Black	23304
16.75"	Steel	BCN	18871
16.75"	S.S.	BCN	23305

Description	
Tables	
File Name Series 250-T C Casement Assembly with Butt Hinges, Roto Operator, and Multi-Point Lock	REV
Released 7/19/2018	SHEET 5 OF 5

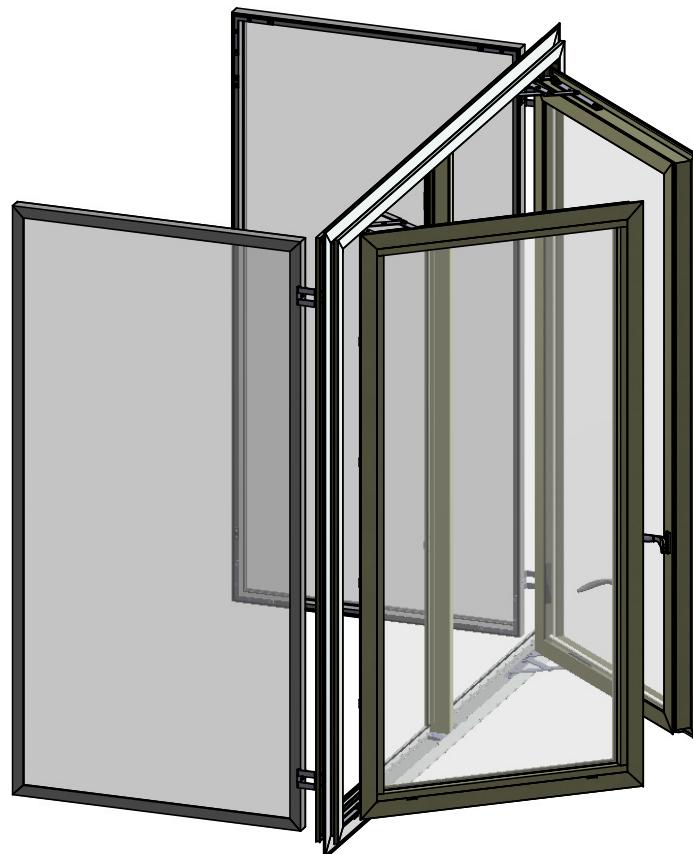
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# ASSEMBLY / PARTS LIST (B.O.M.)

**Series: 250-T**

**Type: Casement (CC) with 4 Bar Hinges & Cam Handles**



## TABLE OF CONTENTS

ITEM NO.	DESCRIPTION	QTY.	PAGE #
1	FRAME ASSEMBLY	1	2
2	PANEL ASSEMBLY	2	3
3	HINGE SCREEN ASSEMBLY	2	4

Description Table of Contents
----------------------------------

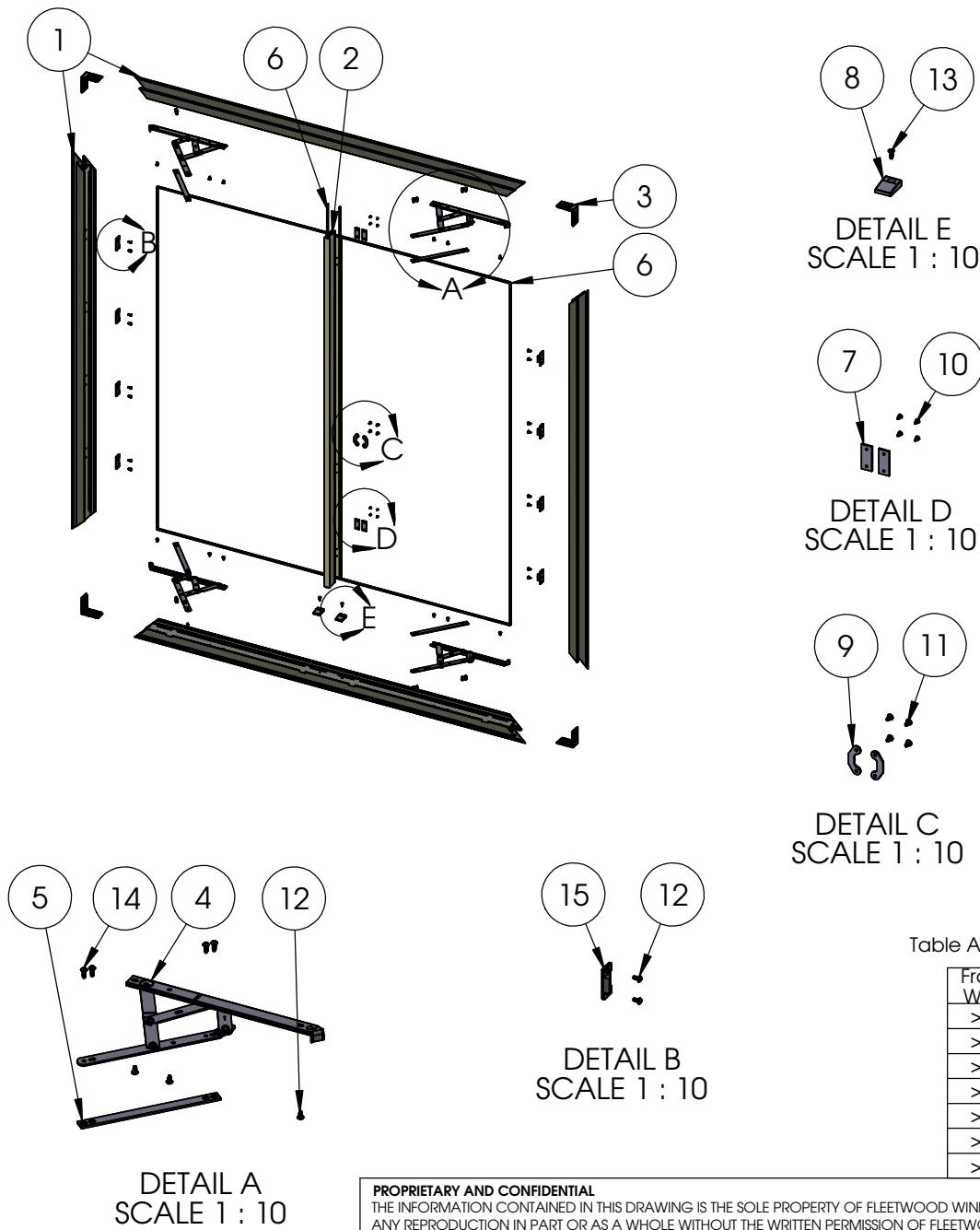
File Name Series 250-T CC Casement Assembly with 4 Bar Hinges and Cam Handles	REV
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Released	11/28/2016	SHEET 1 OF 4
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# ASSEMBLY / PARTS LIST (B.O.M.)



EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P88, 05P19	Perimeter - OG (Nail-on, Block)	4
2	05P01	Tee Bar (Muntin)	1
HARDWARE			
3	20596	Corner Key, Vent	4
4	24932, 22865, 24654, 24655, 18811, 22868	4 Bar Hinge (8", 10", 12", 16", 22")	2
5	23368, 23369, 23370, 23371	4 Bar Shim (7 3/4", 8 3/4", 10 3/4", 13 1/2" length)	4
6	25199	Mini Bulb Vinyl	3
7	25405	Hinge Screen Magnet	4
8	18770	Large Pivot Shim	2
9	24983	Cam Strike Plate	2
10	20901	#6 X 3/8" UC FHS	8
11	20937, 20268	#8 FHP - B - UC, 3/8", SS, (Clear, Black)	4
12	20337	#10 PHP - B, 3/8", SS, Clear	28
13	20272	#10 FHP - A - UC, 1/2" SS, Clear	2
14	20338	#10 PHP - B, 1/2", SS, Clear	16
15	See Table A	Snubber, Frame Portion (HVHZ only)	8

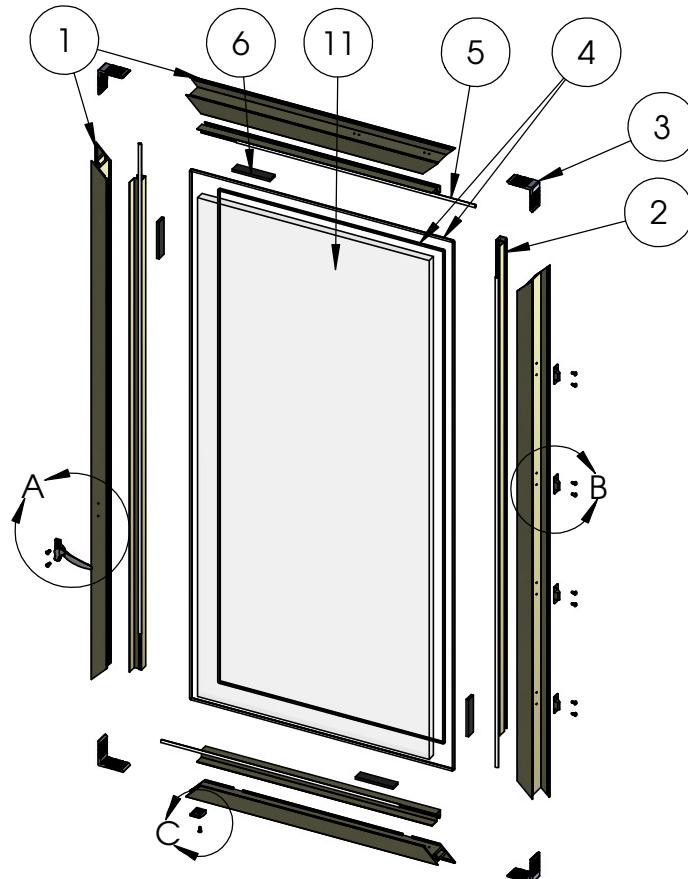
Table A: Snubber Option (HVHZ only)

Frame Width	25245 Snubber	20337 Screw
>24"	1	4
>36"	2	8
>48"	3	12
>60"	4	16
>72"	5	20
>84"	6	24
>96"	7	28

Description  
Frame Assembly

File Name Series 250-T CC Casement Assembly with 4 Bar Hinges and Cam Handles	REV
Released 11/28/2016	SHEET 2 OF 4

# ASSEMBLY / PARTS LIST (B.O.M.)



DETAIL A  
SCALE 1 : 8

DETAIL B  
SCALE 1 : 8

DETAIL C  
SCALE 1 : 8

**PROPRIETARY AND CONFIDENTIAL**

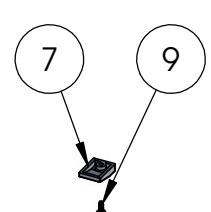
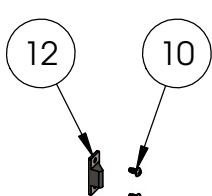
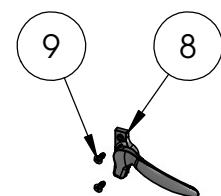
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## EXTRUSIONS

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	02P11	Zee Bar	4
2	04P09, 04P05, 04P06	Glass Stop (1"), (1/4"), (5/8", 9/16", and 1/2")	4

## HARDWARE

3	20596	Corner Key, Vent	4
4	25199	Mini Bulb Vinyl	2
5	25031	Bulb Vinyl-Large	4
6	18620	Setting Block 4" x 1/4"x1"	4
7	18770	Large Pivot Shim	1
8	25735, 25740, 25739, 25736, 25737	Cam Handle (PO) (Gray, Black, Stainless Steel), (LH & RH)	1
9	20272	# 10 FHP - A - UC, 1/2" SS, Clear	3
10	20337	# 10 PHP - B, 3/8", SS, Clear	8
11	-	Glass	1
12	See Table A	Snubber (HVHZ only)	4

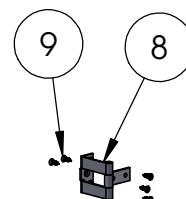
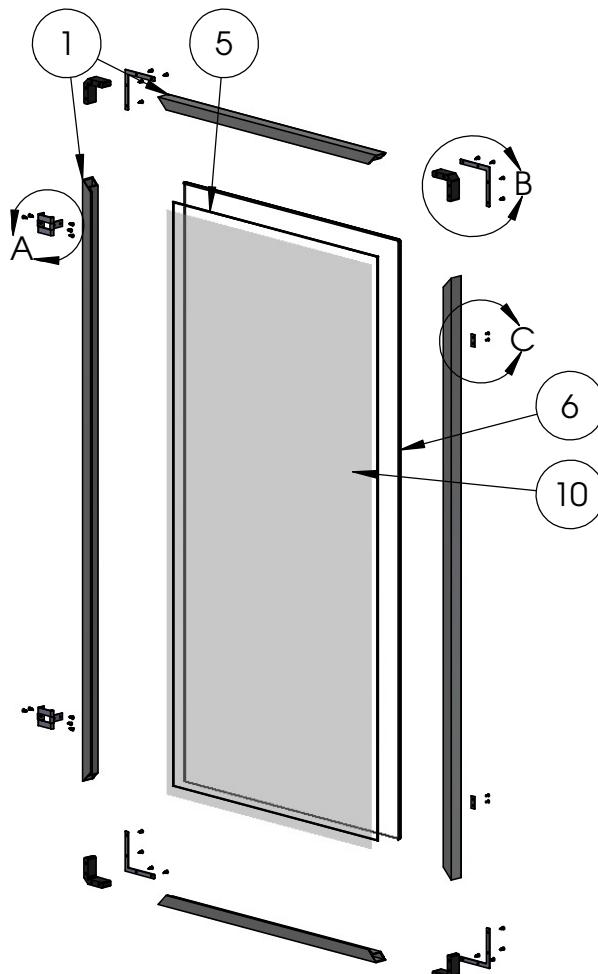


Description  
Panel Assembly

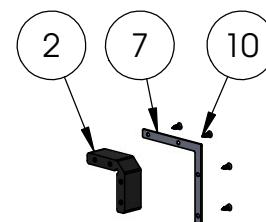
File Name Series 250-T CC Casement Assembly with 4 Bar Hinges and Cam Handles	REV
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Released 11/28/2016 | SHEET 3 OF 4

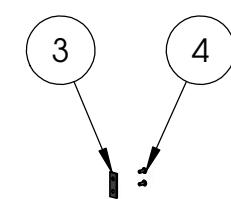
# ASSEMBLY / PARTS LIST (B.O.M.)



DETAIL A  
SCALE 1 : 9



DETAIL B  
SCALE 1 : 9



DETAIL C  
SCALE 1 : 9

EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	958	Extruded Hinged Screen Frame (V2)	4
HARDWARE			
2	25258	Corner Key (Hinge Screen-V2)	4
3	25406	Hinge Screen Strike w/ Screws	2
4	AD43ABS200	Rivet	4
5	19127	Screen Rubber Spline .150	1
6	25189	Q-Lon Foam Seal	1
7	25400	90° Corner Hinge Screen Brace	4
8	25216, 25756	Screen Hinge V 2, Black	2
9	20240, 20241	#8 FHP - A - UC, 1/2", SS, Clear, Black	26
10	-	Screen Mesh	1

# ASSEMBLY / PARTS LIST (B.O.M.)

**Series: 250-T**

**Type: Casement (CO) with 4 Bar Hinges & Cam Handle**

ITEM NO.	DESCRIPTION	QTY.
1	FRAME ASSEMBLY	1
2	PANEL ASSEMBLY	1
3	HINGE SCREEN ASSEMBLY	1



Description Table of Contents
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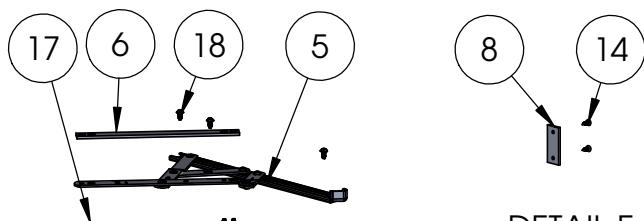
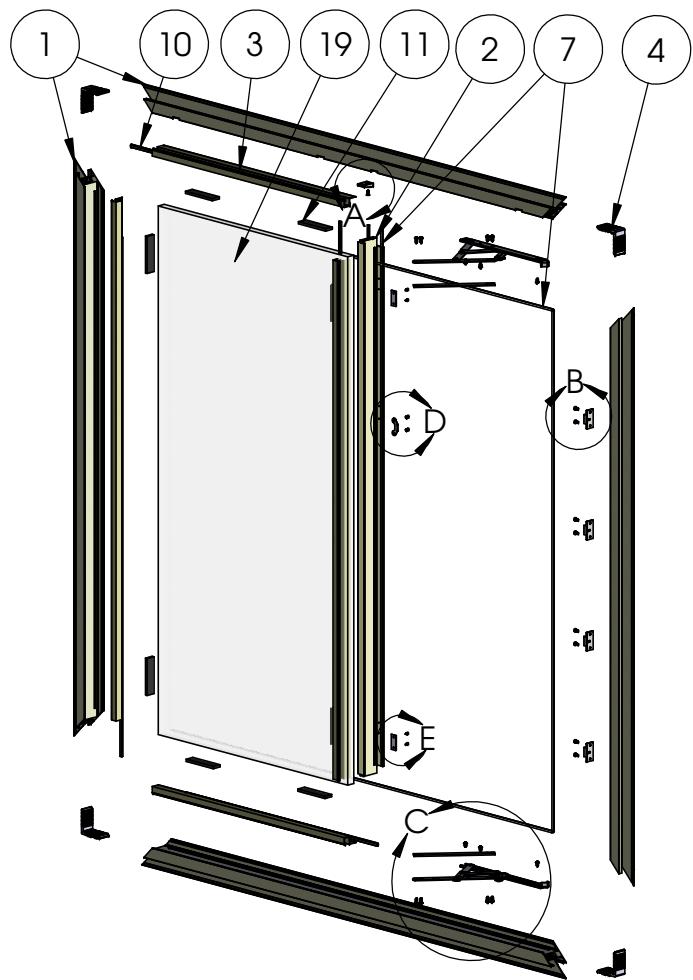
File Name Series 250-T CO Casement with 4 Bar Hinges and Cam Handle	REV
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Released	11/28/2016	SHEET 1 OF 4
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# ASSEMBLY / PARTS LIST (B.O.M.)



DETAIL C  
SCALE 1 : 10

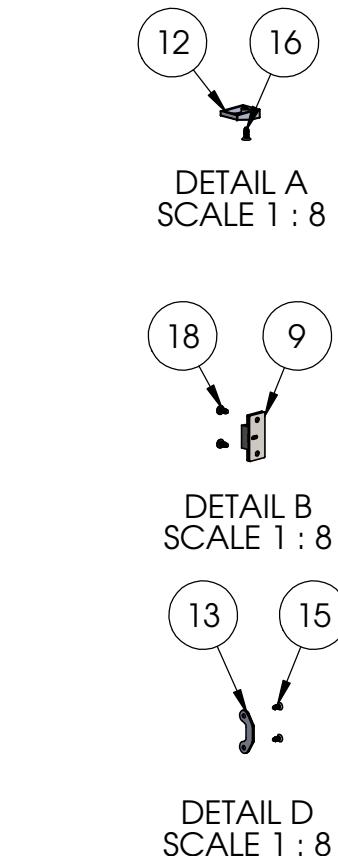


Table A: Snubber Option (HVHZ only)

Frame Width	25245 Snubber	20337 Screw
>24"	1	4
>36"	2	8
>48"	3	12
>60"	4	16
>72"	5	20
>84"	6	24
>96"	7	28

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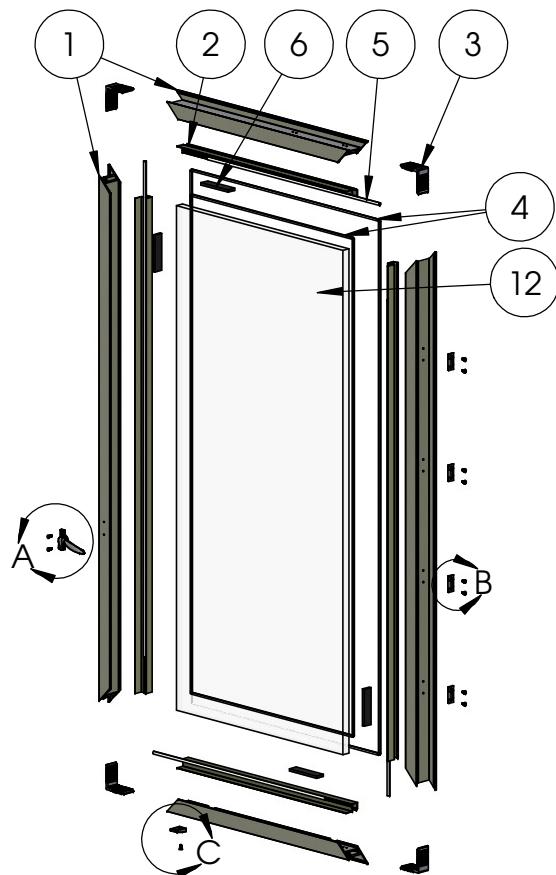
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EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P88, 05P19	Perimeter - OG (Nail-on Block)	4
2	05P01	250-T Tee Bar (Muntin)	1
3	05P09, 02P12, 05P10, 05P06, 05P05	Glass Stop (1"), (1-1/4"), (1-1/2"), (5/8" and 1/2"), (1/4" or 1")	4

HARDWARE			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
4	20596	Corner Key, Vent	4
5	24932, 22865, 24654, 24655, 18811, 22868	4 Bar Hinge (8", 10", 12", 16", 22")	2
6	23368, 23369, 23370, 23371	4 Bar Shim (7 3/4", 8 3/4", 10 3/4", 13 1/2" length)	2
7	25199	Mini Bulb Vinyl	3
8	25405	Hinge Screen Magnet	2
9	See Table A	Snubber, Frame Portion (HVHZ only)	4
10	25031	Bulb Vinyl-Large	4
11	18620	Setting Block 4" x 1/4"x1"	8
12	18770	Large Pivot Shim	1
13	24983	Cam Strike Plate	1
14	20901	#6 X 3/8" UC FHSM	4
15	20937, 20268	#8 FHP - B - UC, 3/8", SS, (Clear, Black)	2
16	20272	#10 FHP - A - UC, 1/2" SS, Clear	1
17	20338	#10 PHP - B, 1/2", SS, Clear	8
18	20337	#10 PHP - B, 3/8", SS, Clear	14
19	-	Glass	1

Description	
Frame Assembly	
File Name	REV
Series 250-T CO Casement with 4 Bar Hinges and Cam Handle	
Released 11/28/2016	SHEET 2 OF 4

# ASSEMBLY / PARTS LIST (B.O.M.)



DETAIL A  
SCALE 1 : 8

DETAIL B  
SCALE 1 : 8

DETAIL C  
SCALE 1 : 8

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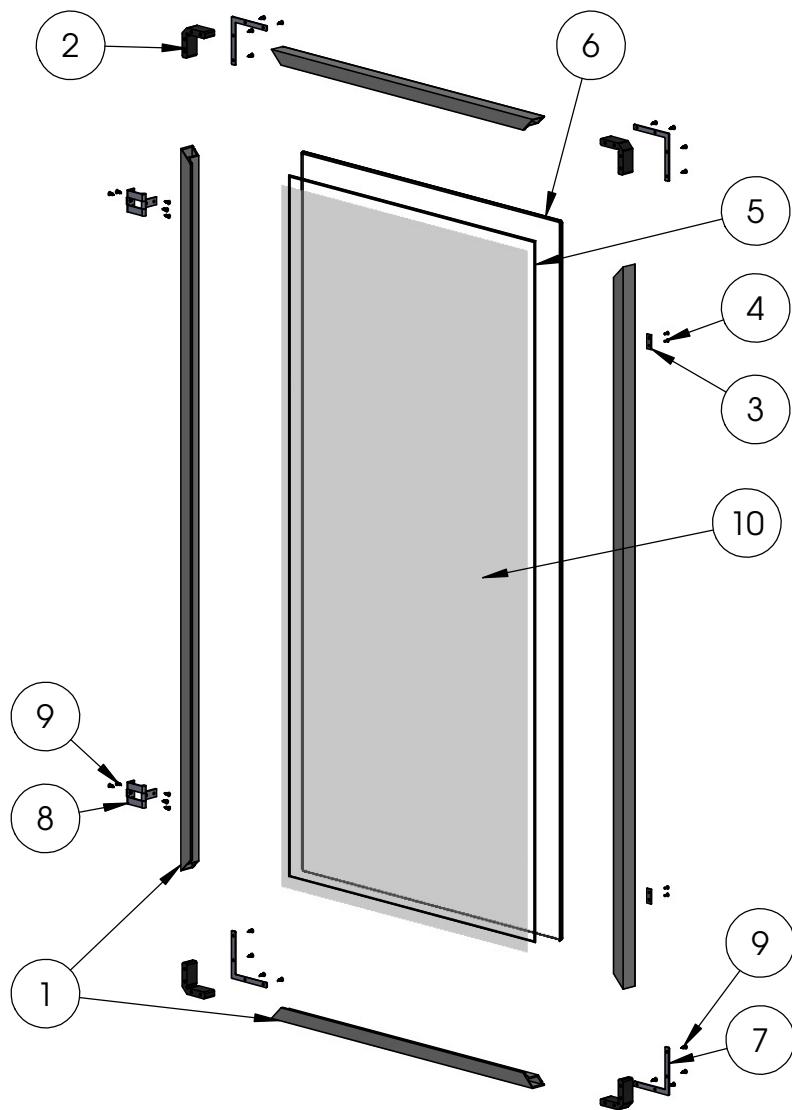
EXTENSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P11	Zee Bar	4
2	05P09, 02P12, 05P10, 05P06, 05P05	Glass Stop (1"), (1-1/4"), (1-1/2"), (5/8" and 1/2"), (1/4" or 1")	4
HARDWARE			
3	20596	Corner Key, Vent	4
4	25199	Mini Bulb Vinyl	2
5	25031	Bulb Vinyl-Large	4
6	18620	Setting Block 4" x 1/4"x1"	4
7	18770	Large Pivot Shim	1
8	25735, 25740, 25739, 25736, 25737	Cam Handle (PO) (Gray, Black, Stainless Steel), (LH & RH)	1
9	See Table A	Snubber (HVHZ only)	4
10	20272	# 10 FHP - A - UC, 1/2" SS, Clear	3
11	20337	# 10 PHP - B, 3/8", SS, Clear	8
12	-	Glass	1

Description  
Panel Assembly

File Name Series 250-T CO Casement with 4 Bar Hinges and Cam Handle	REV
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Released 11/28/2016 SHEET 3 OF 4

# ASSEMBLY / PARTS LIST (B.O.M.)



EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	958	Extruded Hinged Screen Frame (V2)	4
HARDWARE			
2	25258	Corner Key (Hinge Screen-V2)	4
3	25406	Hinge Screen Strike w / Screws	2
4	AD43ABS200	Rivet	4
5	19127	Screen Rubber Spline .150	1
6	25189	Q-Lon Foam Seal	1
7	25400	90° Corner Hinge Screen Brace	4
8	25216, 25756	Screen Hinge V 2, Black	2
9	20240, 20241	#8 FHP - A - UC, 1/2", SS, Clear, Black	26
10	-	Screen Mesh	1

Description  
Hinge Screen Assembly

File Name Series 250-T CO Casement with 4 Bar Hinges and Cam Handle	REV
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Released 11/28/2016 SHEET 4 OF 4

## Table of Contents

I. Care and Maintenance .....	2
II. Tools / Materials, & Requirements .....	2
III. Structure Verification & Sillpan Installation .....	3
1. Opening Verification .....	3
2. Pre-Fit and Leveling .....	3
3. Sill-pan Installation .....	4
IV. Window Installation.....	4
1. Nail-fin Frames .....	4
2. Block Frames.....	5
3. Uneven Leg Frame .....	6
V. Corner Window Installation .....	9
1. Corner Post Installation.....	9
2. Corner Butt Glazing .....	10
VI. Glazing Instructions.....	12
Dry Glazing Procedure.....	12
Additional Glazing Procedure (Optional).....	12
VII. Flashing after Installation.....	13
Appendix A: Joining Sill-pans.....	14

## I. Care and Maintenance

This product is factory finished. Please handle with extreme care. Protect all exposed surfaces from contact with caustics, corrosives, solvents, abrasions, impacts, wet packing material etc.

**FAILURE TO DO SO WILL NULLIFY THE WARRANTY.** Before **ANY CLEANING**, review the Care & Maintenance Instructions (go to [www.fleetwoodusa.com](http://www.fleetwoodusa.com) for more information).

**Contact the local dealer with any questions or concerns.** Fleetwood strongly recommends that all products be cleaned after installation and totally protected from construction debris and equipment.

## II. Tools / Materials, & Requirements

**Tool Requirements:** Tape measure, level, shims, nails, hammer, putty knife, screws, Sealant, caulk gun, backer Rod, 6mm hex wrench, scissors or utility knife, drill bit, drive bit and powered drill.

### Sealant Requirements

1. The sealant referred to within this document for seals associated with the assembly of the product should conform to **AAMA 800-92**. It is recommended that all other sealants should also conform to **AAMA 802-92** but may be a sealant recommended and approved by the sealant manufacturer that is compatible with the door framing, finish and surrounding materials.
2. The size of all sealant beads must meet or exceed the sealant manufacturers' minimum size requirements.
3. Some exterior wall finishes require additional sealing between the perimeter of the door frame and adjacent finish wall material. The Owner / General Contractor is responsible for identifying the need for any additional sealant which will be applied by others. Such sealant shall be elastomeric material, and compatible with the door framing, finish and surrounding materials.

### Anchor Requirements (Block Frame Only)

Frame may be either direct mounted to the opening, mounted onto a continuous wood spacer, anchored to a min. 18 ga. 33 ksi metal stud or anchored to a min. 2x4 no. 3 southern pine wood buck. When anchored to a 2x\_buck or metal stud, no. 10 screws shall be used. When direct mounted or mounted with spacer to block/concrete, 1/4" concrete screws shall be used. Proper material shall be used between all dissimilar materials (block/concrete & aluminum).

### III. Structure Verification & Sillpan Installation

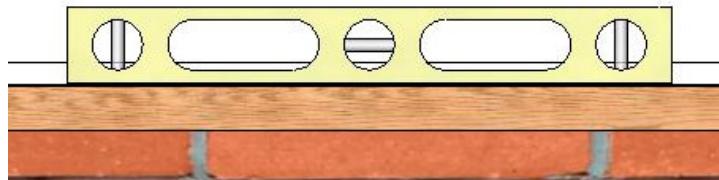
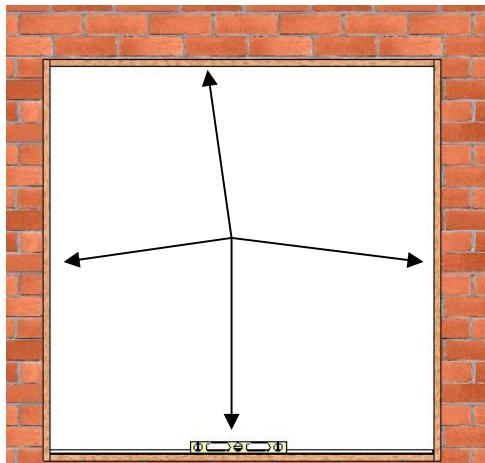
**Note:** Sillpan Substitution- If the factory provided pan is not desired, the product warranty will remain intact if the substitute panning system emulates the essential design of the factory pan.

#### 1. Opening Verification

- Check the measurements of the opening and verify that the product will fit into the opening. Measure all four sides of the opening to make sure there is a clearance of 1/2" in width and 1/4" in height.
- Remove the product(s) from the packaging and lay it in front of the opening. Check width and height dimensions.
- Verify the opening is plumb and level.

#### 2. Pre-Fit and Leveling

- Place sill-pan into the opening and determine any leveling that must be done prior to installation
- Shim as necessary to stabilize the entire depth and length of the pan. No unsupported width of more than 8" is allowed. Shim to be load bearing, non-porous, non-absorbent and inorganic.
- If more than 1/8" shim height is required, it is recommended that pouring self-leveling "Rock Hard" (or equal) to achieve level and stable surface.

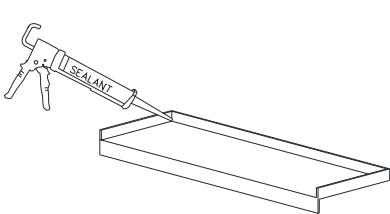


**Figure 1:**  
Use level to determine if the opening is plumb and level

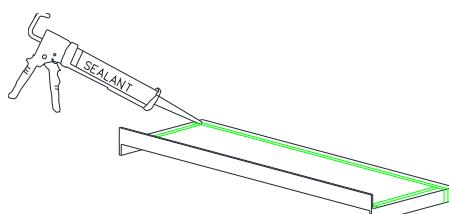
### 3. Sill-pan Installation

**Note:** For splicing and multiple piece Sill-pans – (See Appendix A)

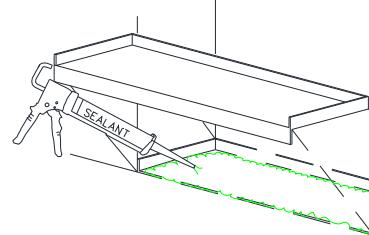
- Apply bituminous paint to raw masonry or concrete at the sill to eliminate electrolytic and chemical reactions. We recommend a PVC liner be placed to ensure separation of the metal frame with the substrate. In balcony situations flash the sill with aluminum or galvanized brake metal (Sill-pan is provided).
- Apply sealant in all corners and seams of the sill-pan (Figure 2).
- With bottom side of sill-pan up, apply a 3/8" bead of compatible sealant 1/2" in from interior leg. Sealant bead to run across the bottom as well as up each vertical leg of the sill pan. Also apply sealant beads near the sides and across the front (Figure 3).
- Secure the sill-pan to the floor with sealant. Position sill pan as necessary to allow for proper installation of frame assembly (Figure 4).



**Figure 2:**  
Seal corners and seams



**Figure 3:**  
Seal underside of Sill-pan



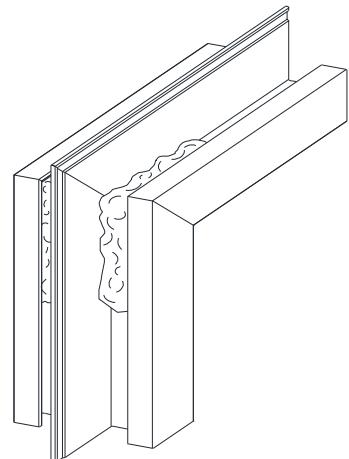
**Figure 4:**  
Set pan in full bed of sealant

## IV. Window Installation

**Note:** All windows come pre-assembled and glazed unless specified otherwise. For Awnings and Hoppers where a limit device is requested, reference the *Series 250-T Limit Devices Installation Instructions*.

### 1. Nail-fin Frames

- Prepare the opening to accept the frame ensuring that the weep-screed flashing at the sill is adjusted to maintain a weatherboard style flashing.
- Flashing paper must be applied with galvanized nails or corrosion resistant staples. Flashing paper shall be applied in a weatherboard fashion around the full perimeter of the framed opening.
- Seal frame and vent joints completely with compatible sealant. Apply a heavy bead of sealant to the interior side of the mounting flange (nail-on) where the frame jamb and sill join. Sealant must cover the entire joint (from the flange to the inside leg) and extend 1 1/2" up the jamb and along the sill (Figure 5).



**Note:** Inside glazed products-see inside glazed product procedure for frame orientation, page 11.

**Figure 5:**  
Nail-fin sealant location

- Apply a continuous bead of sealant along the back and side legs between the sill and sill pan (Figure 8, page 7) and insert the frame into the opening. Cross-measure and adjust as necessary to achieve a plumb square and level condition, as well as an even reveal around the framed opening. Shim with non-porous, non-absorbent, inorganic shims where needed. Seal all fastener heads with compatible sealant. (Only drill holes through Sill as required for design load)

**Note:** Frame installation anchors furnished by installer, not by Fleetwood. Stainless steel screws are recommended. (See Installation Instructions-Anchor Schedule) It is the manufacturers design for the installer to not pierce the sill. In some cases the code or specifications require such. In these cases the installer is responsible to seal these breaches.

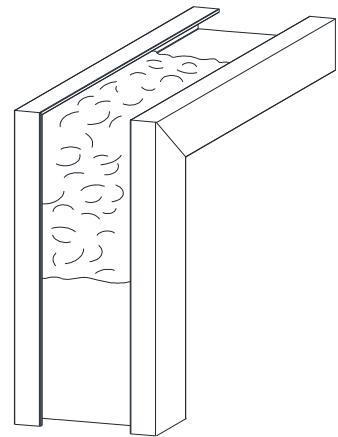
## 2. Block Frames

- Prepare the opening to accept the frame ensuring that the weep-screed flashing at the sill is adjusted to maintain a weatherboard style flashing.
- Seal frame and vent joints completely with compatible sealant. Apply a heavy bead of sealant to the interior side where the frame jamb and sill join. Sealant must cover the entire joint (from the flange to the inside leg) and extend 1 1/2" up the jamb and along the sill (Figure 6).

**Note:** Inside glazed products-see inside glazed product procedure for frame orientation, page 12.

- Apply a continuous bead of sealant along the back and side legs between the sill and sill pan (Figure 9, page 7) and insert the frame into the opening. Cross-measure and adjust as necessary to achieve a plumb square and level condition, as well as an even reveal around the framed opening. Shim with non-porous, non-absorbent, inorganic shims where needed. Seal all fastener heads with compatible sealant. (Only drill holes through Sill as required for design load)

**Note:** Installer responsible to ensure anchors maintain edge distance. For fixed panels, remove glass stops to install anchor screws.



**Figure 6:**  
Block frame sealant location

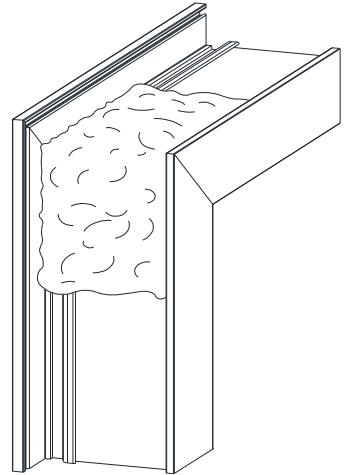
### 3. Uneven Leg Frame

- Prepare the opening to accept the frame ensuring that the weep-screed flashing at the sill is adjusted to maintain a weatherboard style flashing.
- Seal frame and vent joints completely with compatible sealant. Apply a heavy bead of sealant to the interior side where the frame jamb and sill join. Sealant must cover the entire joint (from the flange to the inside leg) and extend 1 1/2" up the jamb and along the sill (Figure 7).

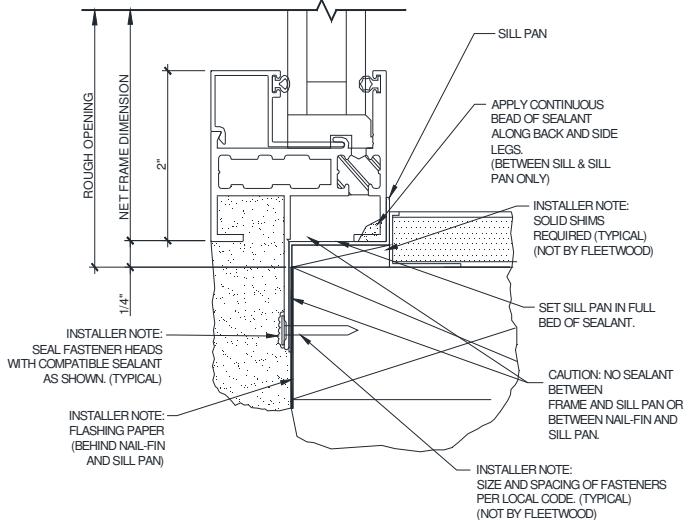
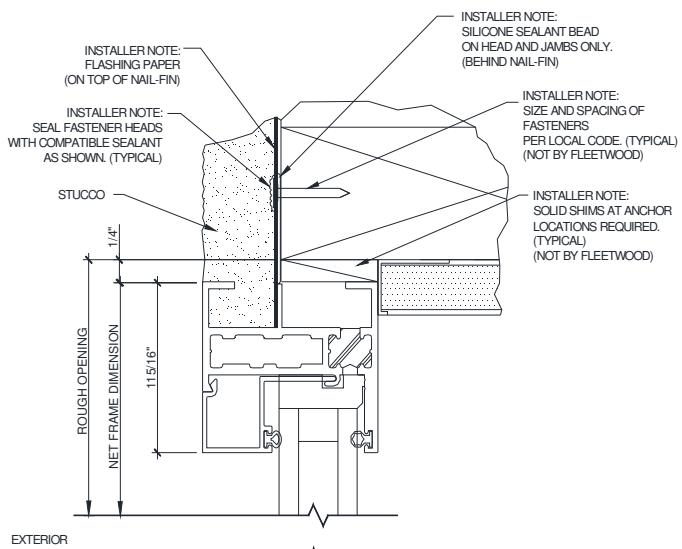
**Note:** Inside glazed products-see inside glazed product procedure for frame orientation, page 12.

- Apply a continuous bead of sealant along the back and short leg between the sill and sill pan, and around the entire window frame along the long leg (Figure 10, page 8). Then insert the frame into the opening. Cross-measure and adjust as necessary to achieve a plumb square and level condition, as well as an even reveal around the framed opening. Shim with non-porous, non-absorbent, inorganic shims where needed. Seal all fastener heads with compatible sealant. (Only drill holes through Sill as required for design load)

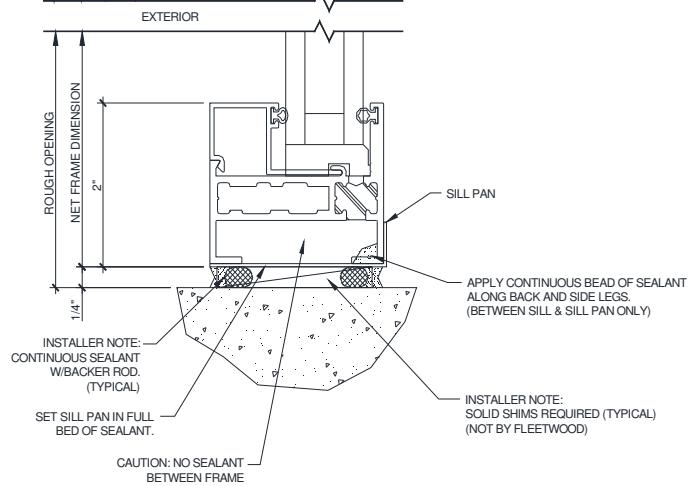
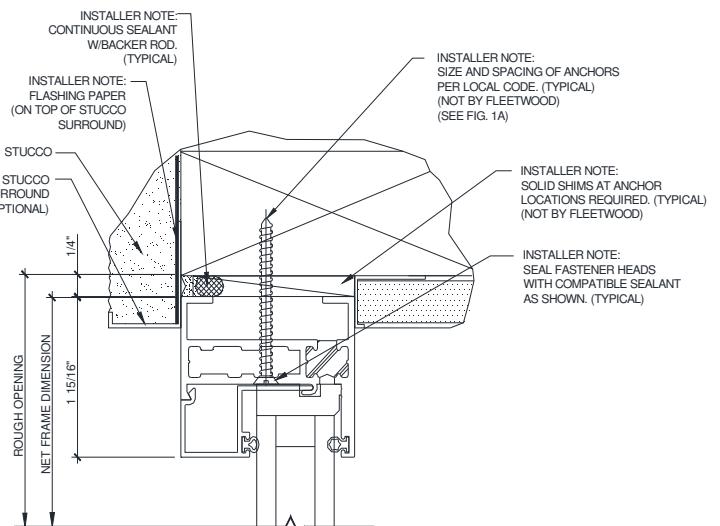
**Note:** Installer responsible to ensure anchors maintain edge distance. For fixed panels, remove glass stops to install anchor screws.



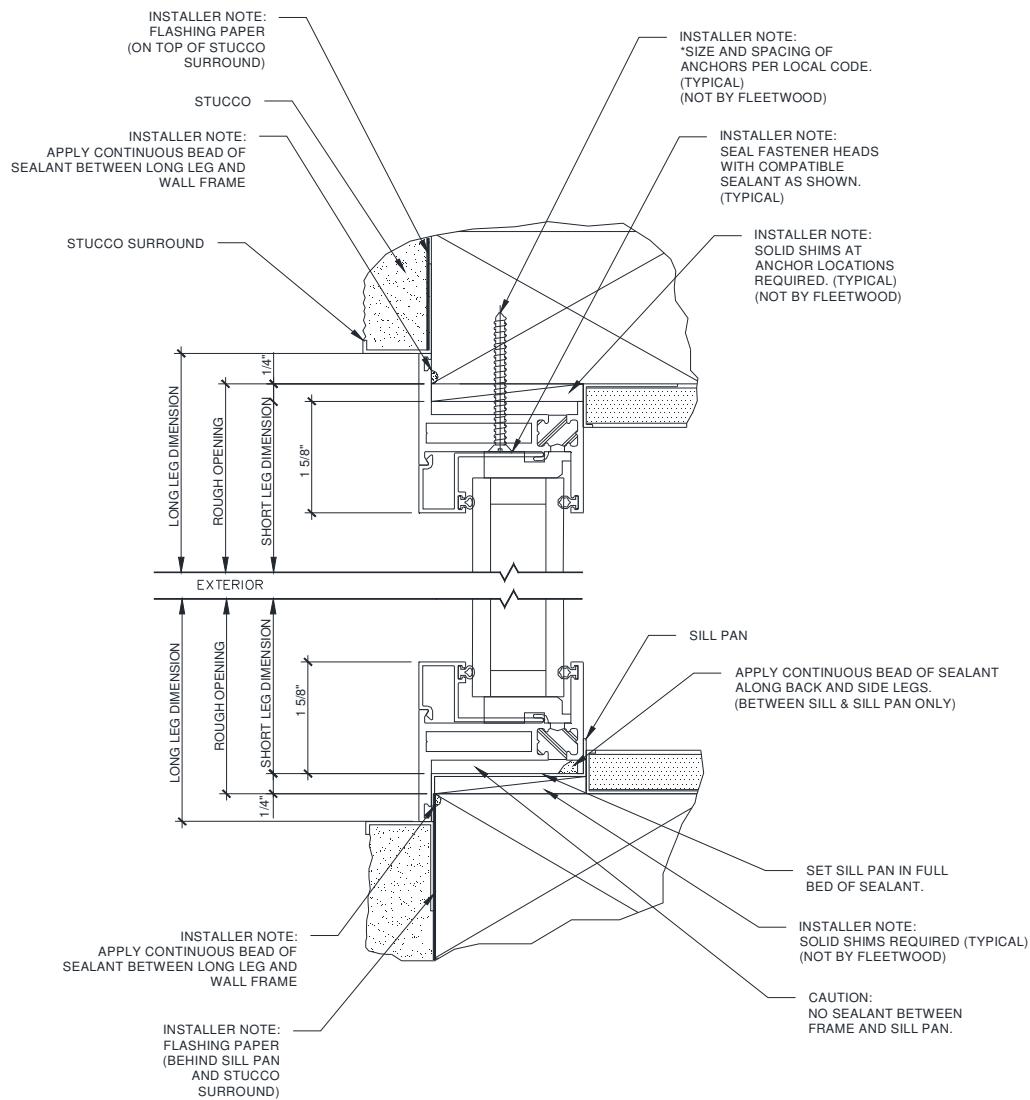
**Figure 7:**  
 Block frame sealant location



**Figure 8:**  
Nail-Fin Window Installation.



**Figure 9:**  
Block Frame Window Installation.

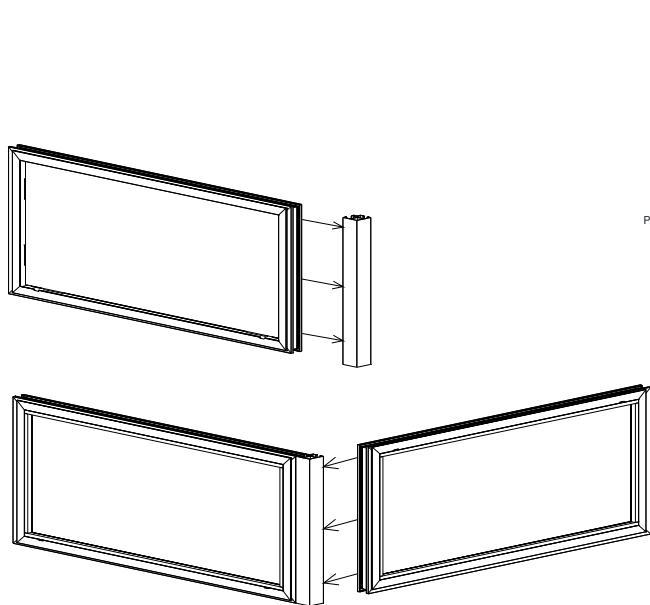


**Figure 10:**  
 Uneven Leg Frame Window  
 Installation.

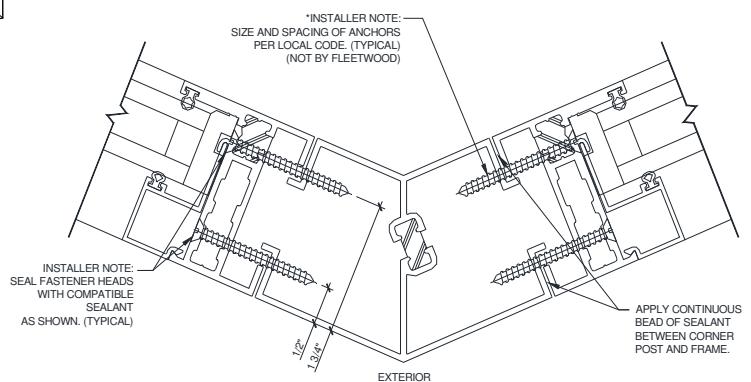
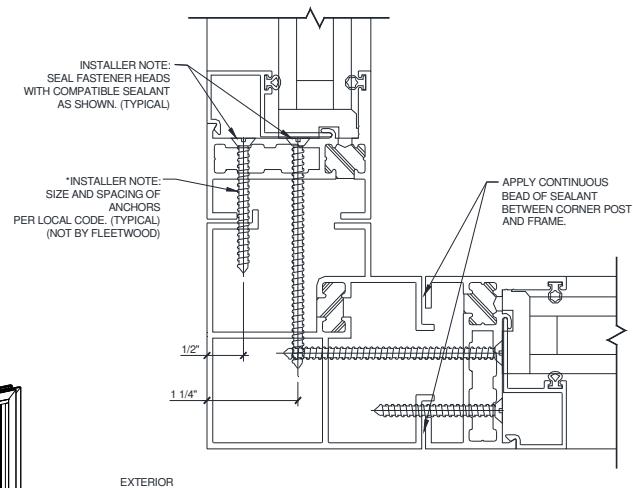
## V. Corner Window Installation

### 1. Corner Post Installation

- Install the first window into the structure per the instructions in Section IV.
- Align the corner post with the installed window as shown in Figure 9. Apply a continuous bead of sealant between the corner post and the frame.
- Anchor to the first window according to Figure 10.
- Align the second window with the corner post and the remaining opening as shown in Figure 9. Fix window to the structure per the instructions in Section IV. Apply a continuous bead of sealant between the corner post and the frame of the second window.
- Anchor the second window to the corner post as shown in Figure 10.



**Figure 11:**  
Corner Post Alignment

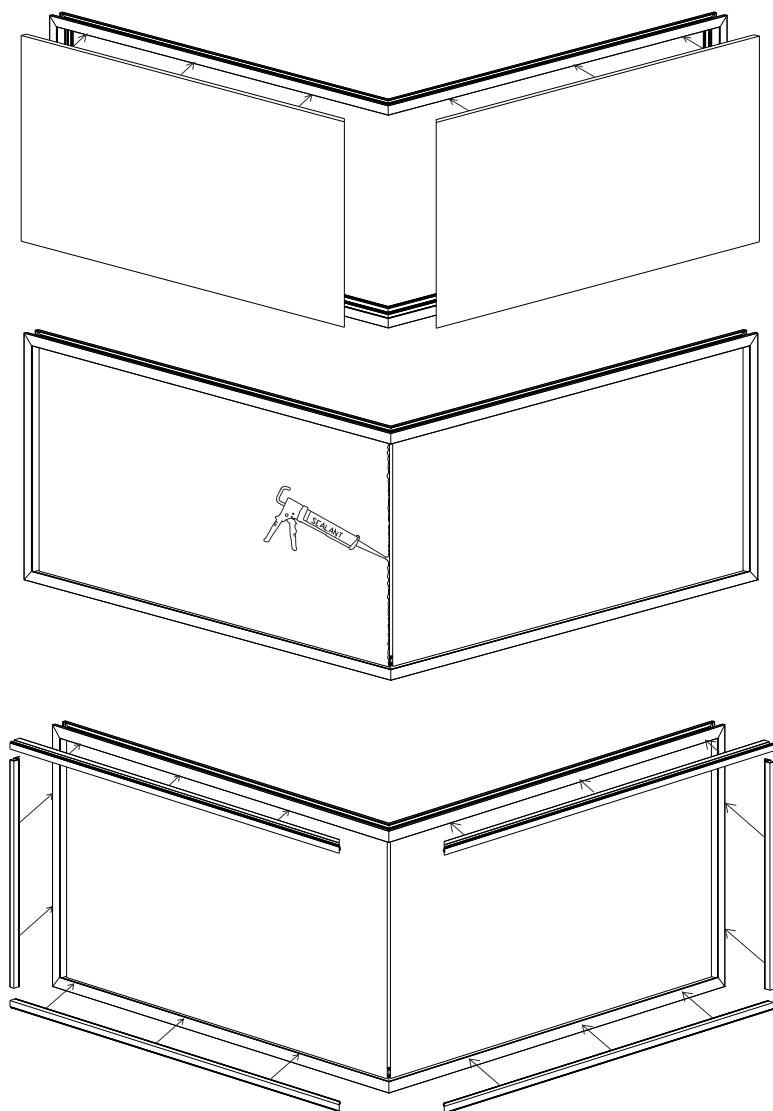


**Figure 12:**  
Typical Corner Post Installation

## 2. Corner Butt Glazing

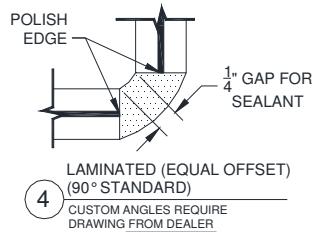
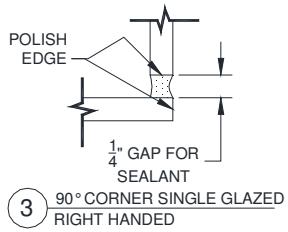
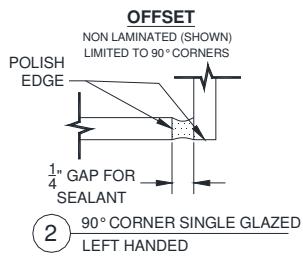
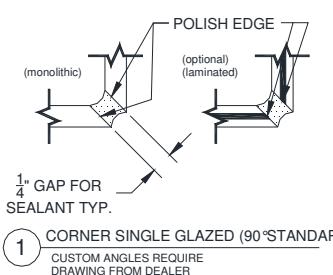
**Note:** Corner windows without posts must have glass butt glazed on sight.

- Install window frame per instruction in Section IV.
- Align corner glass panels in frame. Leave a 1/4" gap between glass for sealant. Orientation and sealant requirement options shown in Figures 12-14.
- Install glass stops following dry glazing procedure in Section VI.



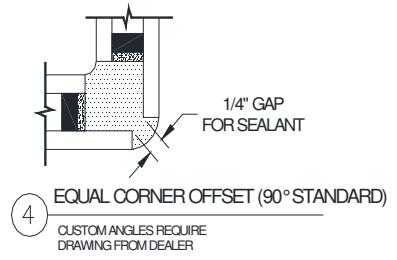
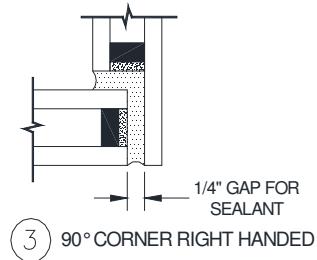
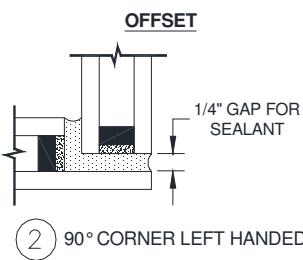
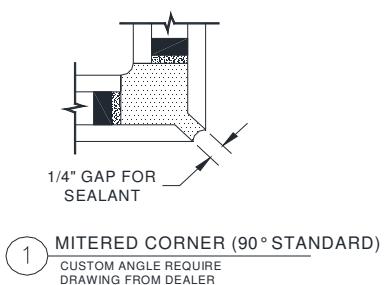
**Figure 13:**  
Corner Butt Glazing

**MITERED**  
 MITERED GLASS EDGES NOT ALLOWED  
 ON SOFT COAT LOW-E GLASS; HOWEVER,  
 IT IS AVAILABLE ON HARD COAT LOW-E GLASS.



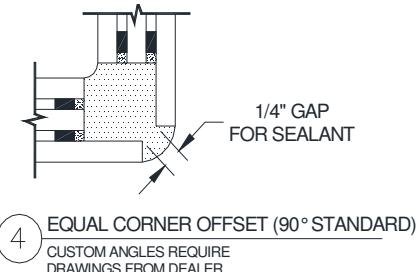
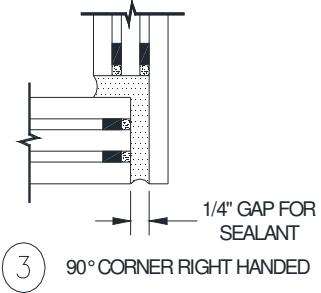
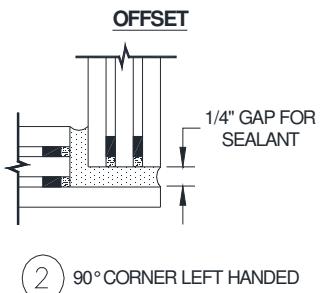
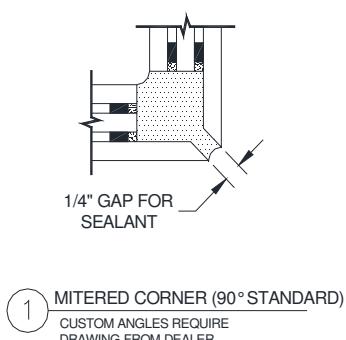
**Figure 14:**  
 Single Glaze Butt Glazing Options

**MITERED**



**Figure 15:**  
 Dual Glaze Butt Glazing Options

**MITERED**



**Figure 16:**  
 Triple Glaze Butt Glazing Options

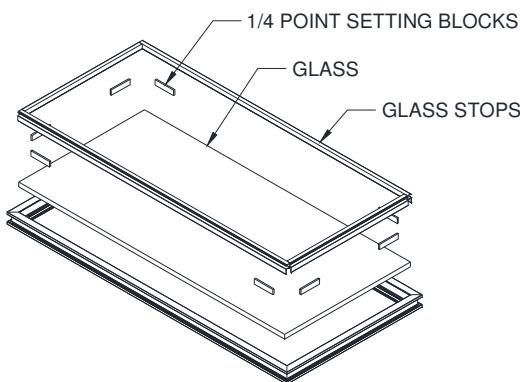
**Note:** Sealant not provided by Fleetwood.

## VI. Glazing Instructions

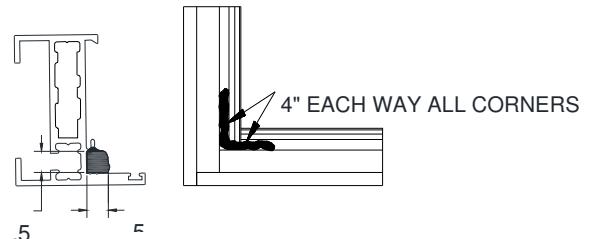
**Note:** Glass stops must be removed before continuing.

### Dry Glazing Procedure

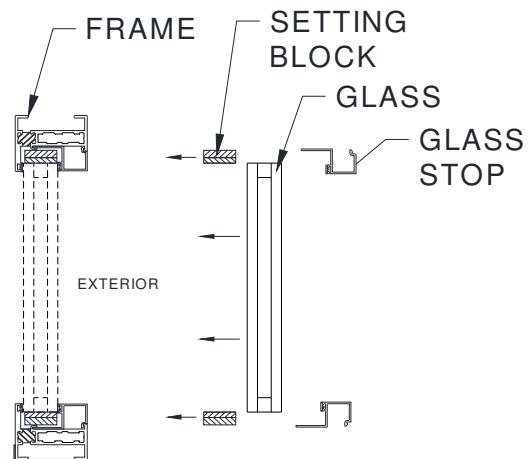
- Apply a  $1/2'' \times 1/2'' \times 4''$  bead of compatible sealant from each corner on inner flange of panel (Figure 18).
- Install glass setting blocks at  $1/4$  points into the top, bottom, and sides of the frame (Figure 19).
- Install glass to rest on the inner flange of panel then install glass stops (Figure 20).



**Figure 18:**  
Glass Installation



**Figure 17:**  
Sealant Location and Sizes

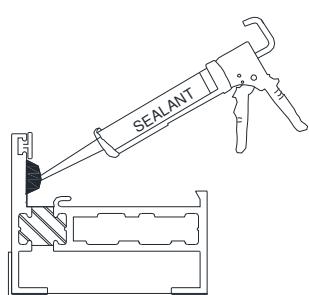


**Figure 19:**  
Setting Block Location

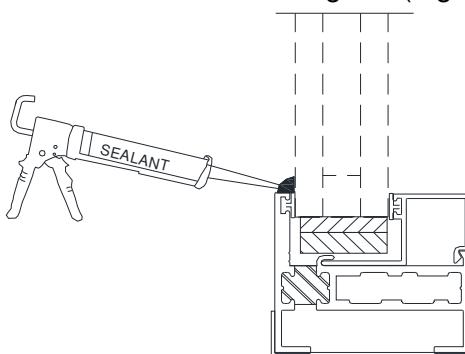
### Additional Glazing Procedure (Optional)

**Note:** Applies to products where additional water protection is required.

1. Before glazing, apply a continuous bead of sealant to the inner frame (Figure 20).
2. After glazing, apply a continuous bead of sealant to the frame and glass (Figure 21).



**Figure 20:**  
Before Glazing Locations



**Figure 21:**  
After Glazing Locations

## VII. Flashing after Installation

The flashing paper referred to in this document is Moistop or other code compliant flashing material that conforms to **Federal Specification UU-B-790a, Type 1, Grade A, Style 4**. The strips of flashing paper are to be no less than 9 inches wide (or wider as required by local codes). Flashing paper must be applied with galvanized nails or corrosion resistant staples. Flashing paper shall be applied in a weatherboard fashion around the full perimeter of the framed opening.

**Important Note:** The flashing paper referred to in this document is Moistop or other code compliant flashing material that conforms to Federal Specification UU-B-790a, Type 1, Grade A, Style 4. The strips of flashing paper are to be no less than 9 inches wide (or wider as required by local codes).

1. Once satisfied that the frame is watertight, and immediately prior to application of the flashing paper at the head and jambs, apply a continuous bead of sealant to the exposed mounting flange (nail-fin) at the top (head) and sides (jambs) of the installed frame. Also, apply sealant at corners of the frame and the full length of the seams where the nail fin flashing is mounted.
2. At each jamb, embed the flashing paper into the sealant onto mounting flange and fasten into place. The flashing paper should be cut sufficiently long enough to extend at least 3 in. past the weep-screed flashing and at least 6 inches above the head of the product (Figure 22).
3. Finally, at the head, embed the flashing into the sealant on the mounting flange and fasten into place. The flashing paper should be cut sufficiently long enough to extend past the flashing paper at each jamb by at least 3 in (Figure 23).
4. Weather resistant building paper should be applied in a weatherboard fashion to complete the installation (Figure 24).

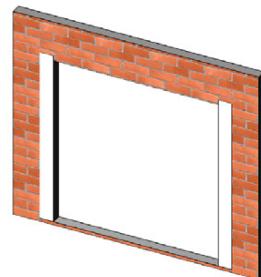


Figure 22:  
Jamb flashing

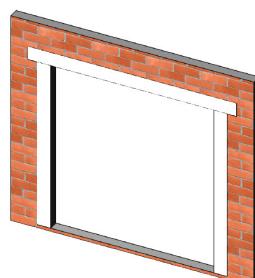


Figure 23:  
Head Flashing

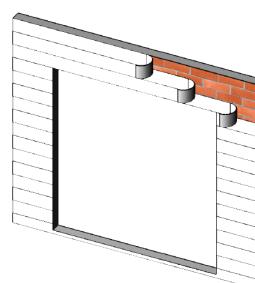


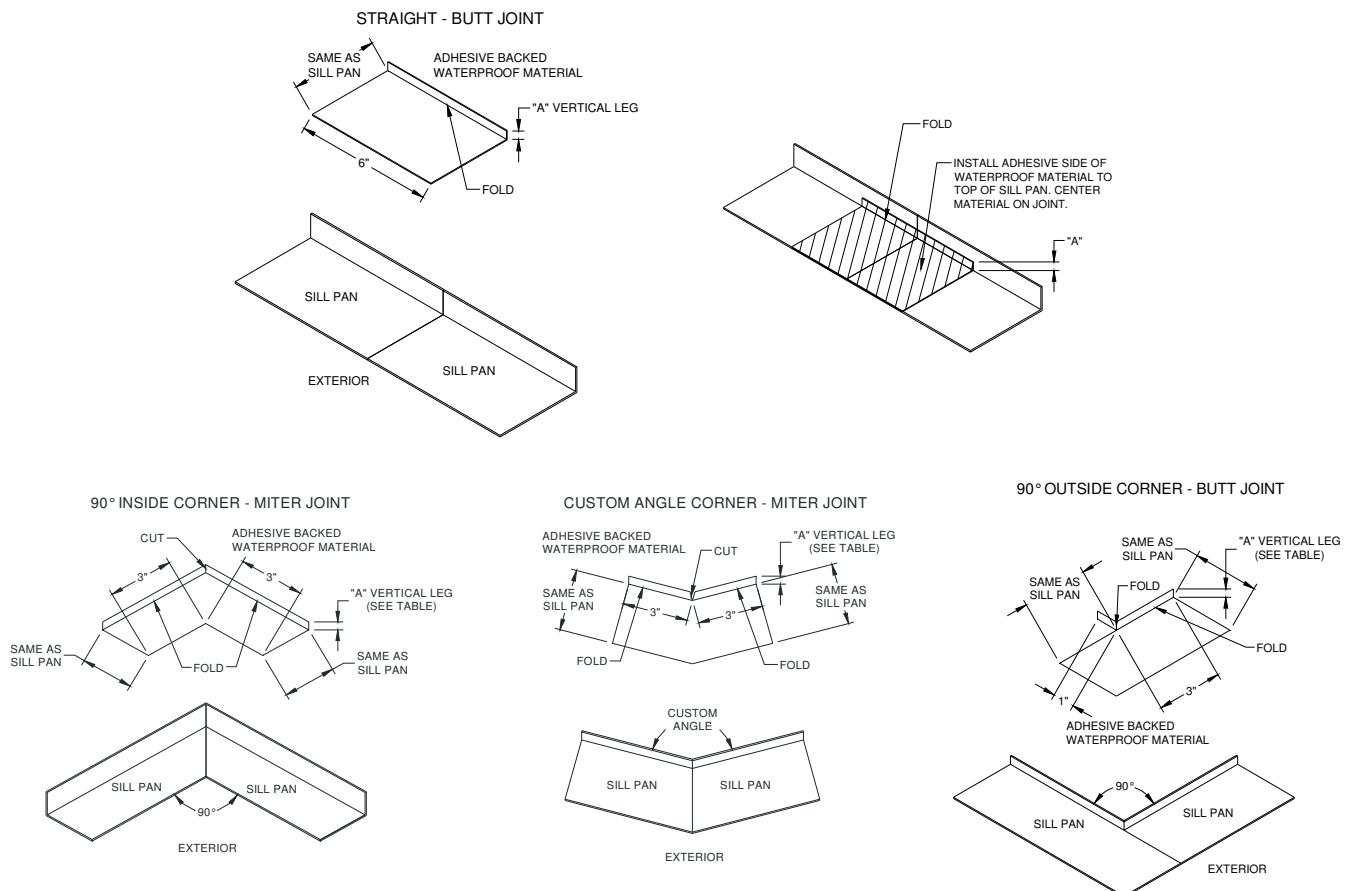
Figure 24:  
Building Flashing

**Note:** Where weather resistant building paper, insulating board, or other materials by other trades may constitute the primary weather barrier behind the exterior wall finish (i.e. stucco, masonry, siding, etc.), the owner / General Contractor are responsible to ensure that the weather barrier is continuous by effectively sealing the material to the product frame.

## Appendix A: Joining Sill-pans

Follow the instructions below for joining multiple piece Sill-pans. Multiple piece Sill-pans are required on products with net frame widths greater than 14 feet (168 inches) and corner units.

1. Install Sill-pans per product installation instructions. *Caution: Apply a compatible sealant to the underside of the sill-pan at the seam joint.*
2. Cut a piece of adhesive backed waterproof material to fit the joint as specified in drawing below, A= 3/8". *Caution: Select waterproofing material that is compatible for your application. Waterproofing material must have an adhesive backing and be capable of withstanding the temperature ranges for your region.*
3. Remove excess sealant at joint on top of the sill-pan that may have migrated in during installation.
4. Remove the adhesive backing from the waterproof material and apply to the sill-pan. Waterproof material shall contain a fold on the interior water leg and attach to the sill-pan as shown.



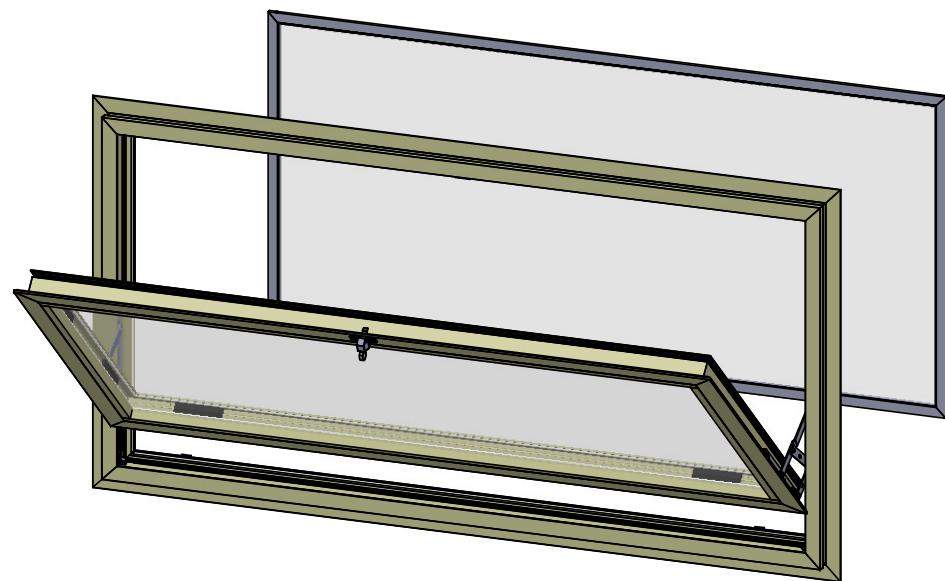
**Figure A1:**  
 Showing multiple piece sill-pans joining

# ASSEMBLY / PARTS LIST (B.O.M.)

**Series: 250-T**

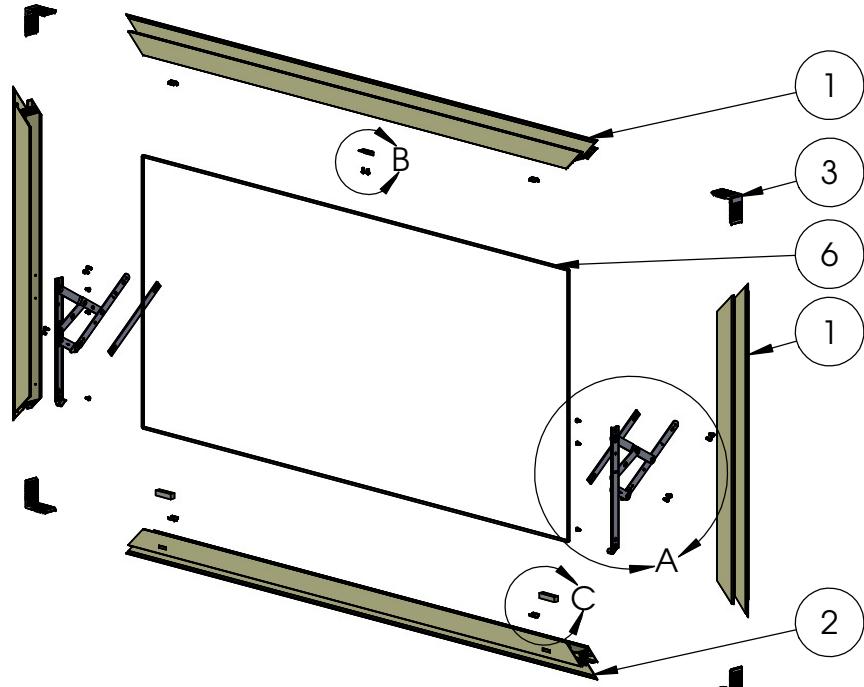
**Type: Hopper (H) with 4 Bar Hinges & Spring Latch**

ITEM NO.	DESCRIPTION	QTY.	Page #
1	FRAME ASSEMBLY	1	2
2	PANEL ASSEMBLY	1	3
3	FLAT SCREEN ASSEMBLY	1	4



Description	Table of Content	
File Name	REV	
Series 250-T H Hopper Assembly with 4 Bar Hinges and Spring Latch		
Released 5/24/2017	SHEET 1 OF 4	

# ASSEMBLY / PARTS LIST (B.O.M.)



DETAIL A  
SCALE 1 : 9

DETAIL B  
SCALE 1 : 7      DETAIL C  
SCALE 1 : 7

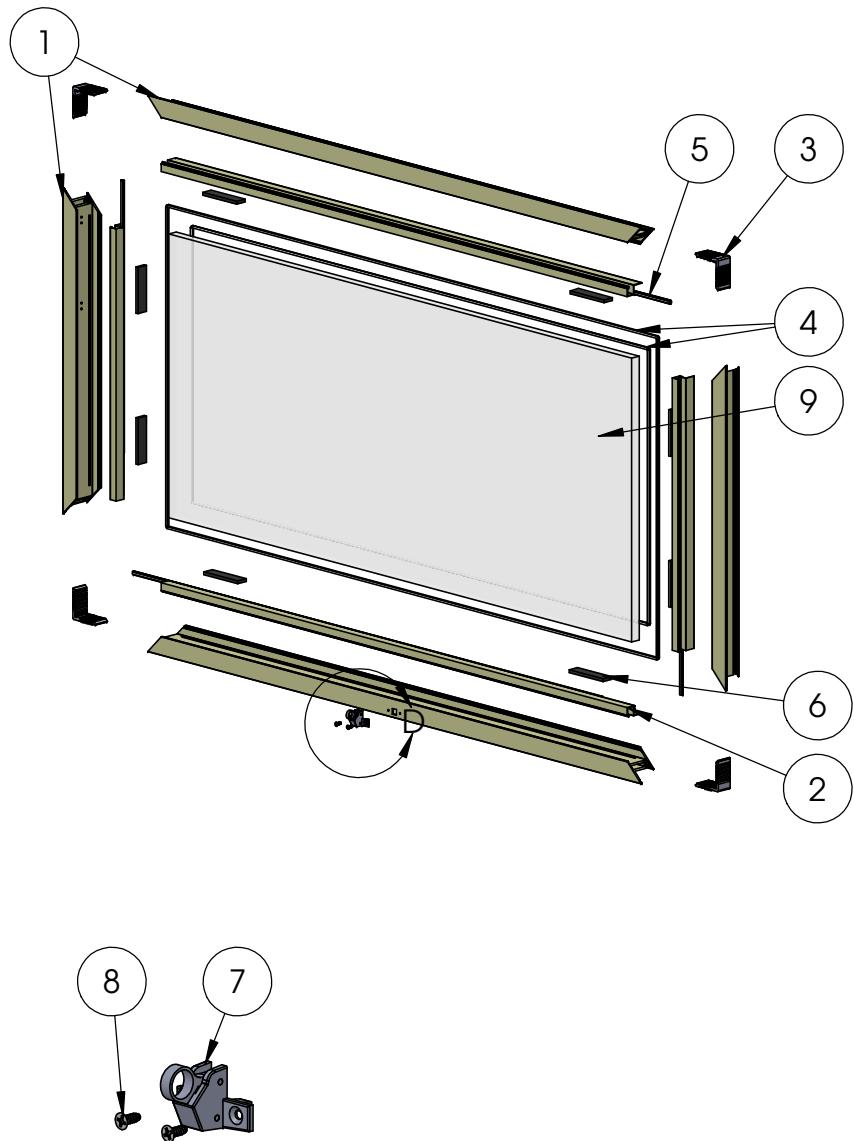
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EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P86	Perimeter (head/jamb) - IG	3
2	05P72	Sill (PI)	1
HARDWARE			
3	20596	Corner Key, Vent	4
4	24932, 22865, 24654, 24655, 18811, 22868	4 Bar Hinge (8", 10", 12", 16", 22")	2
5	23368, 23369, 23370, 23371	4 Bar Shim (7 3/4", 8 3/4", 10 3/4", 13 1/2" length)	2
6	25199	Mini Bulb Vinyl	1
7	25173, 25753	Screen Clip, SS, Clear, Black	4
8	25482	Strike for Spring Ring Latch	1
9	23022	1/2 X 1/2 X 2 Weep Baffle	2
10	20337	# 10 PHP - B, 3/8", SS, Clear	8
11	20338	# 10 PHP - B, 1/2", SS, Clear	8

Description Frame Assembly	File Name Series 250-T H Hopper Assembly with 4 Bar Hinges and Spring Latch	REV
Released 5/24/2017	SHEET 2 OF 4	

# ASSEMBLY / PARTS LIST (B.O.M.)



DETAIL D  
SCALE 1 : 4

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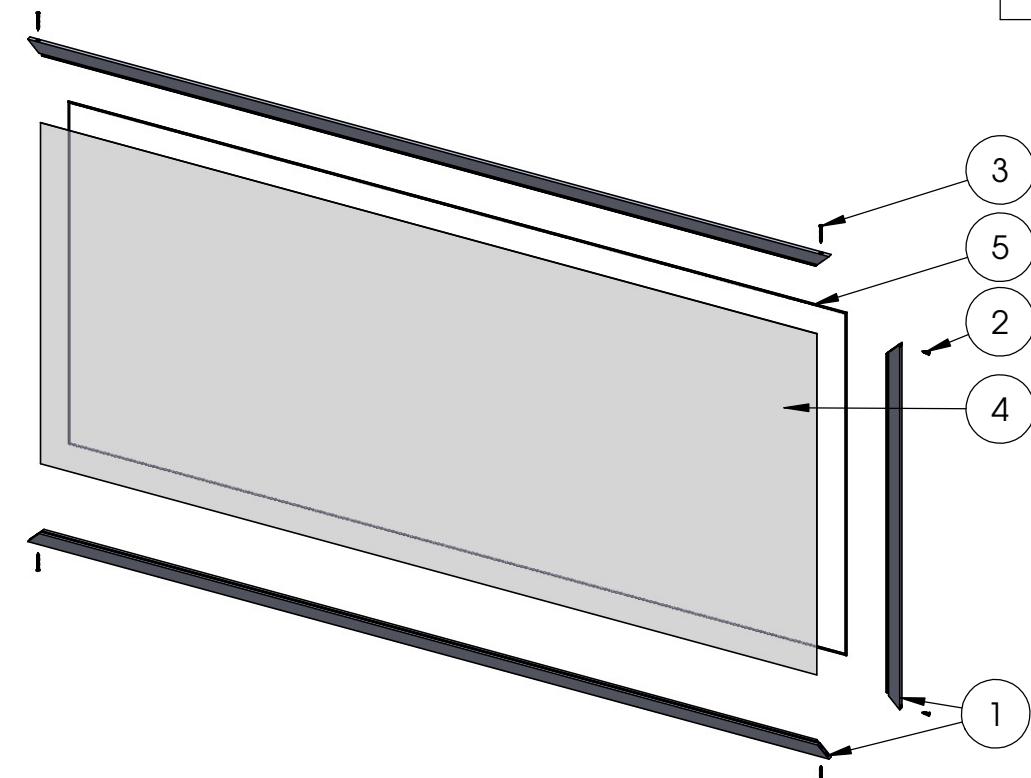
EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P11	Zee Bar	4
2	05P09, 05P12, 05P10, 05P06, 05P05	Glass Stop (1"), (1-1/4"), (1-1/2"), (5/8", 9/16" and 1/2"), (1/4")	4

HARDWARE			
3	20596	Corner Key, Vent	4
4	25199	Mini Bulb Vinyl	2
5	25031	Bulb Vinyl-Large	4
6	18620	Setting Block 4" x 1/4"x1"	8
7	18788	Spring Latch (Pull Ring)	1
8	20272	# 10 FHP - A - UC, 1/2" SS, Clear	2
9	-	Glass	1

Description	Panel Assembly	
File Name	Series 250-T H Hopper Assembly with 4 Bar Hinges and Spring Latch	REV
Released	5/24/2017	SHEET 3 OF 4

# ASSEMBLY / PARTS LIST (B.O.M.)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	114	.3125 Screen Frame	4
2	25752	#6 FHP-A 1/2", SS, Clear	4
3	25751	#6 FHP-A 1-1/4", SS, Clear	4
4	-	Screen Mesh	1
5	19127	Screen Rubber Spline .150	1



Description  
Flat Screen Assembly

File Name  
Series 250-T H Hopper  
Assembly with 4 Bar Hinges  
and Spring Latch

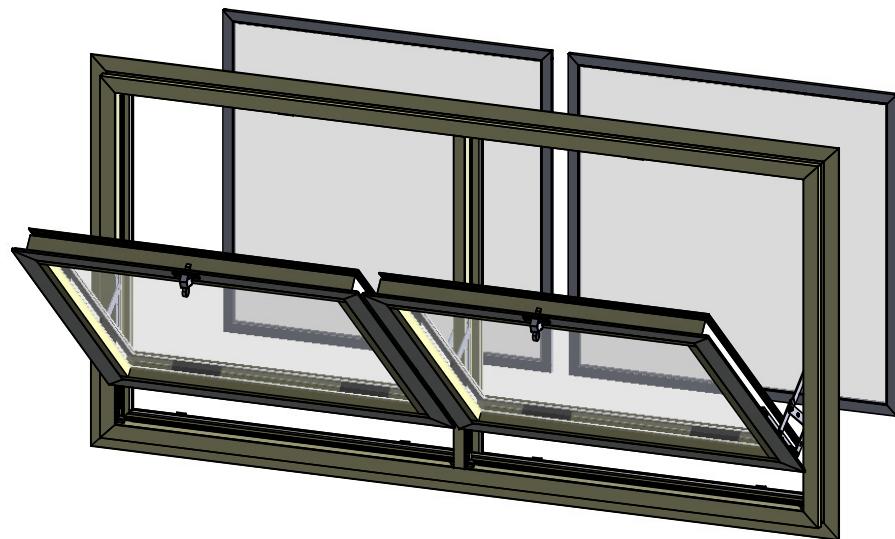
REV

# ASSEMBLY / PARTS LIST (B.O.M.)

**Series: 250-T**

**Type: Hopper (HH) with 4 Bar Hinges and Spring Latches**

ITEM NO.	DESCRIPTION	QTY.	PAGE #
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2	PANEL ASSEMBLY	2	3
3	FLAT SCREEN ASSEMBLY	2	4



Description Table of Contents
----------------------------------

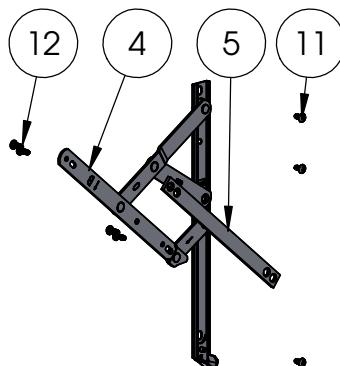
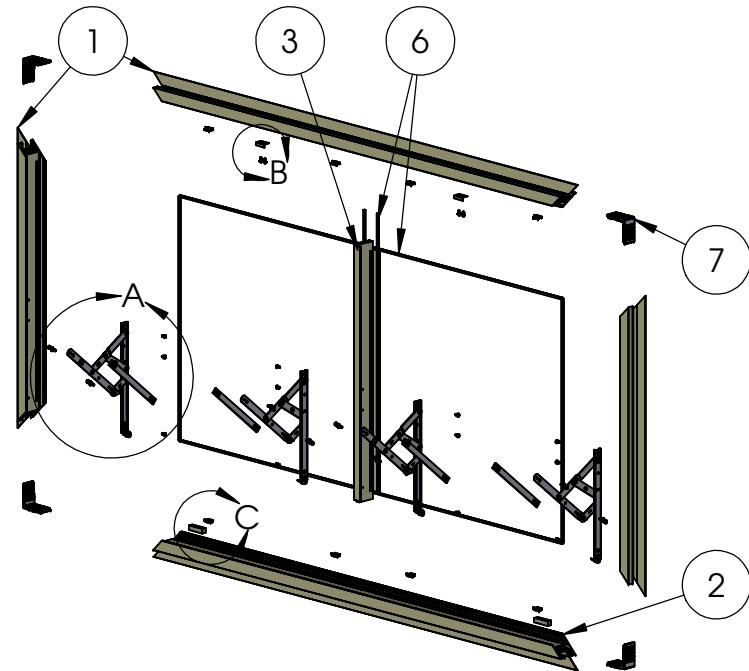
File Name Series 250-T HH Hopper Assembly with 4 Bar Hinges and Spring Latches	REV
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Released	11/4/2016	SHEET 1 OF 4
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# ASSEMBLY / PARTS LIST (B.O.M.)



DETAIL A  
SCALE 1 : 8

DETAIL B  
SCALE 1 : 6

DETAIL C  
SCALE 1 : 6

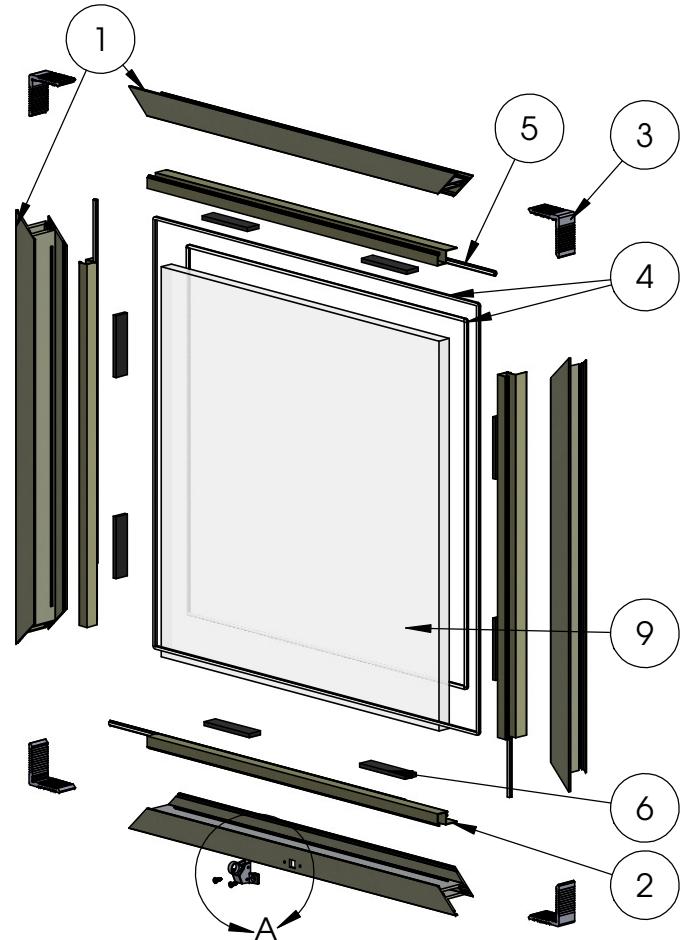
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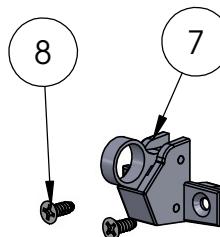
EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P86	Perimeter (Head / Jamb) - IG	3
2	05P72	Sill (PI)	1
3	05P01	250-T Tee Bar (Muntin)	1
HARDWARE			
4	24932, 22865, 24654, 24655, 18811, 22868	4 Bar Hinge (8", 10", 12", 16", 22")	4
5	23368, 23369, 23370, 23371	4 Bar Shim (7 3/4", 8 3/4", 10 3/4", 13 1/2" length)	4
6	25199	Mini Bulb Vinyl	3
7	20596	Corner Key, Vent	4
8	25173, 25753	Screen Clip, SS, Clear, Black	8
9	25482	Strike for Spring Ring Latch	2
10	23022	1/2 X 1/2 X 2 Weep Baffle	2
11	20337	# 10 PHP - B, 3/8", SS, Clear	16
12	20338	# 10 PHP - B, 1/2", SS, Clear	16

Description Frame Assembly	REV
File Name Series 250-T HH Hopper Assembly with 4 Bar Hinges and Spring Latches	
Released 11/4/2016	SHEET 2 OF 4

# ASSEMBLY / PARTS LIST (B.O.M.)



EXTRUSIONS			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	05P11	Zee Bar	4
2	05P09, 05P12, 05P10, 05P06, 05P05	Glass Stop (1"), (1-1/4"), (1-1/2"), (5/8", 9/16" and 1/2"), (1/4")	4
HARDWARE			
3	20596	Corner Key, Vent	4
4	25199	Mini Bulb Vinyl	2
5	25031	Bulb Vinyl-Large	4
6	18620	Setting Block 4" x 1/4"x1"	8
7	18788	Spring Latch (Pull Ring)	1
8	20272	# 10 FHP - A - UC, 1/2" SS, Clear	2
9	-	Glass	1

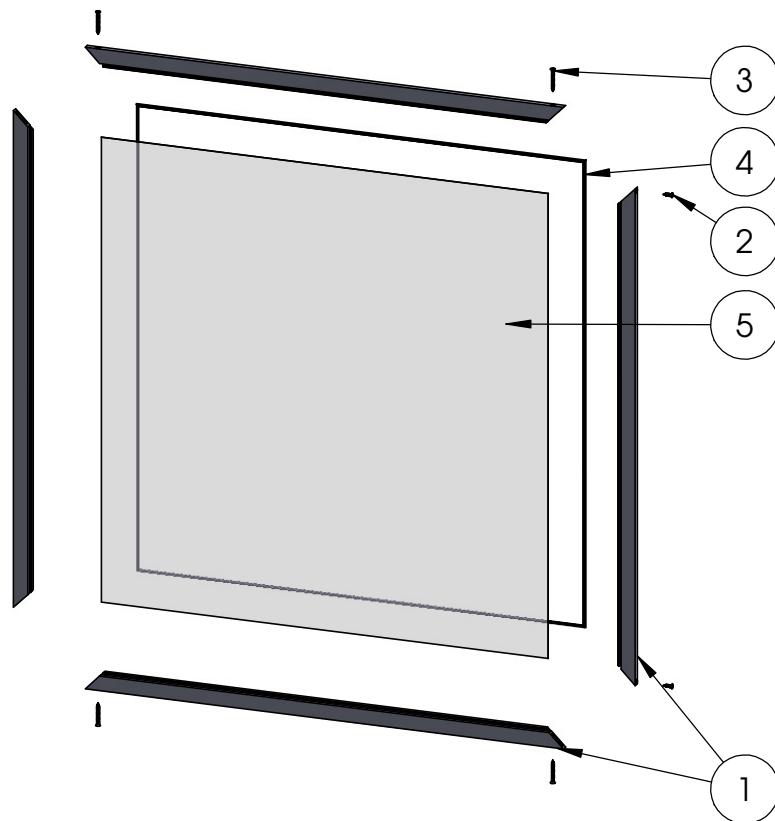


DETAIL A  
SCALE 1 : 3

Description Panel Assembly	File Name Series 250-T HH Hopper Assembly with 4 Bar Hinges and Spring Latches	REV
Released 11/4/2016	SHEET 3 OF 4	

# ASSEMBLY / PARTS LIST (B.O.M.)

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	114	.3125 Screen Frame-HH	4
2	25752	#6 FHP-A, 1/2", SS, Clear	4
3	25751	#6 FHP-A, 1-1/4", SS, Clear	4
4	19127	SCREEN RUBBER SPLINE .150	1
5	-	Screen Mesh	1



Description	Flat Screen Assembly	
File Name	Series 250-T HH Hopper Assembly with 4 Bar Hinges and Spring Latches	REV
Released	11/4/2016	SHEET 4 OF 4

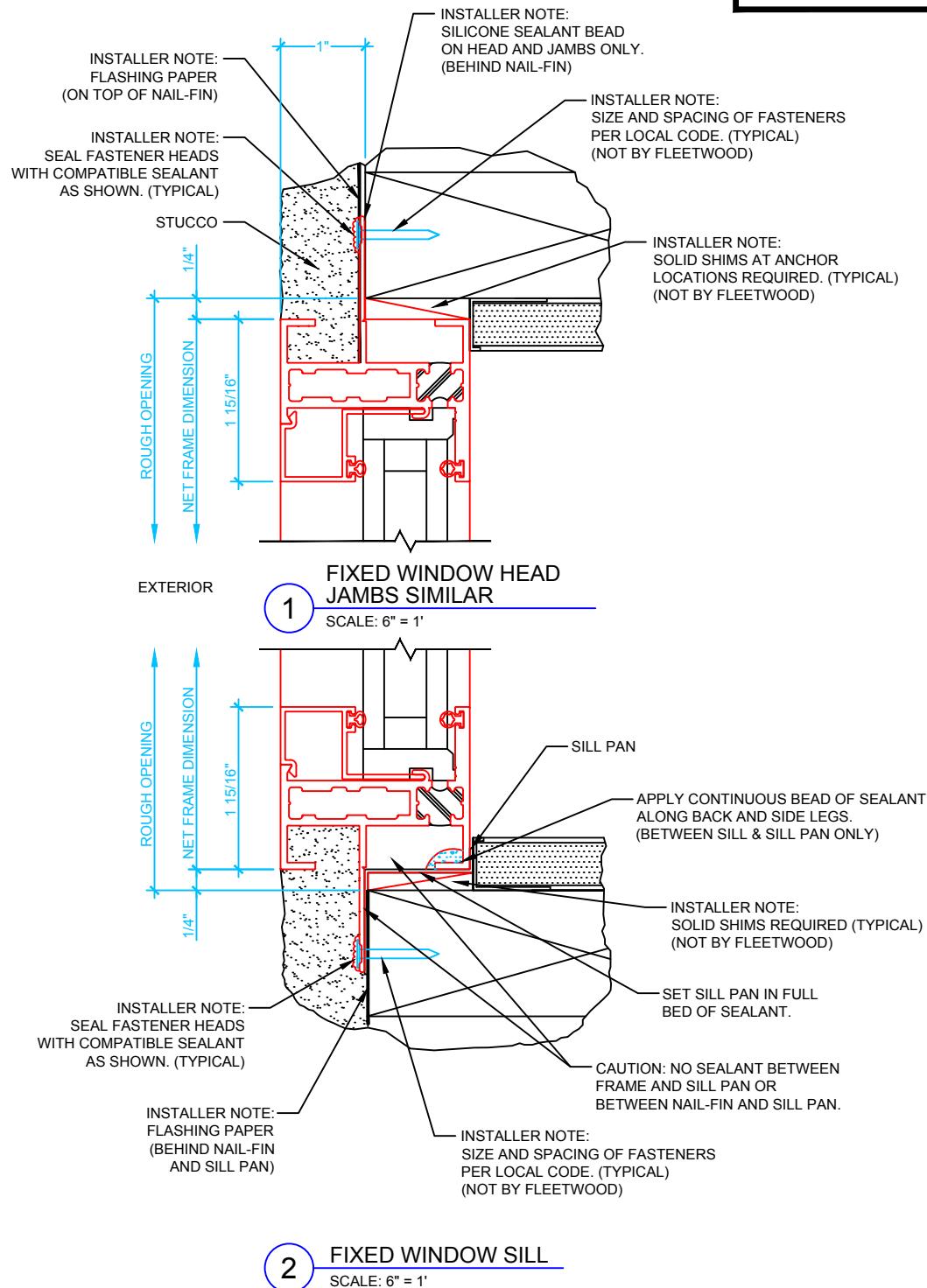
# SERIES 250-T

## ANCHOR LOCATION WORKSHEET

### NAIL-ON FRAME

#### FRAME ANCHOR CHECKLIST

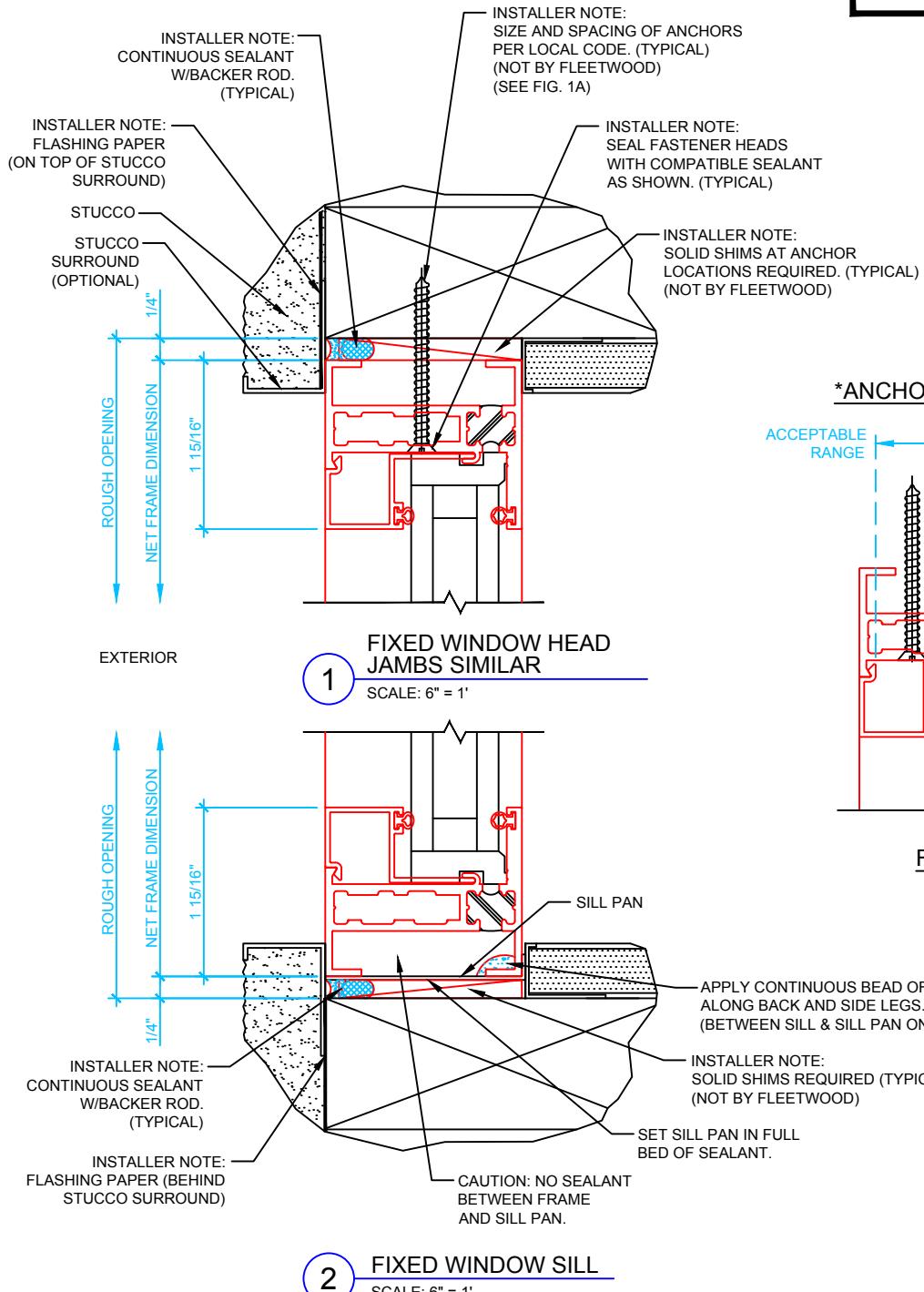
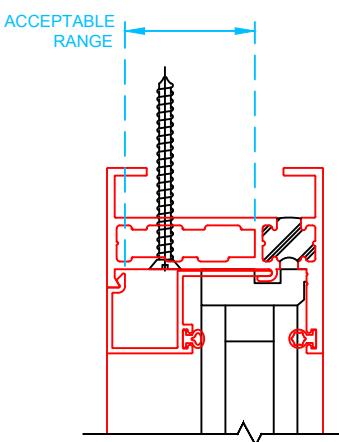
FASTENER TYPE	
MINIMUM EMBEDMENT	
MINIMUM EDGE DISTANCE	
<b>ANCHOR LOCATIONS</b>	
FROM ENDS	
ON CENTER	



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FRAME ANCHOR CHECKLIST

FASTENER TYPE	
MINIMUM EMBEDMENT	
MINIMUM EDGE DISTANCE	
ANCHOR LOCATIONS	
FROM ENDS	
ON CENTER	


**\*ANCHOR LOCATION**

**FIG. 1A**

NOTES: 1. \*ANCHOR LOCATION: INSTALLER RESPONSIBLE TO ENSURE ANCHORS MAINTAIN EDGE DISTANCE ON STRUCTURE.  
 2. **SILL DISCLAIMER:** IT IS THE MANUFACTURERS DESIRE FOR THE INSTALLER TO **NOT** PIERCE THE SILL. IN SOME CASES THE CODE OR SPECIFICATIONS REQUIRE SUCH. IN THESE CASES THE INSTALLER IS RESPONSIBLE TO SEAL THESE BREACHES.

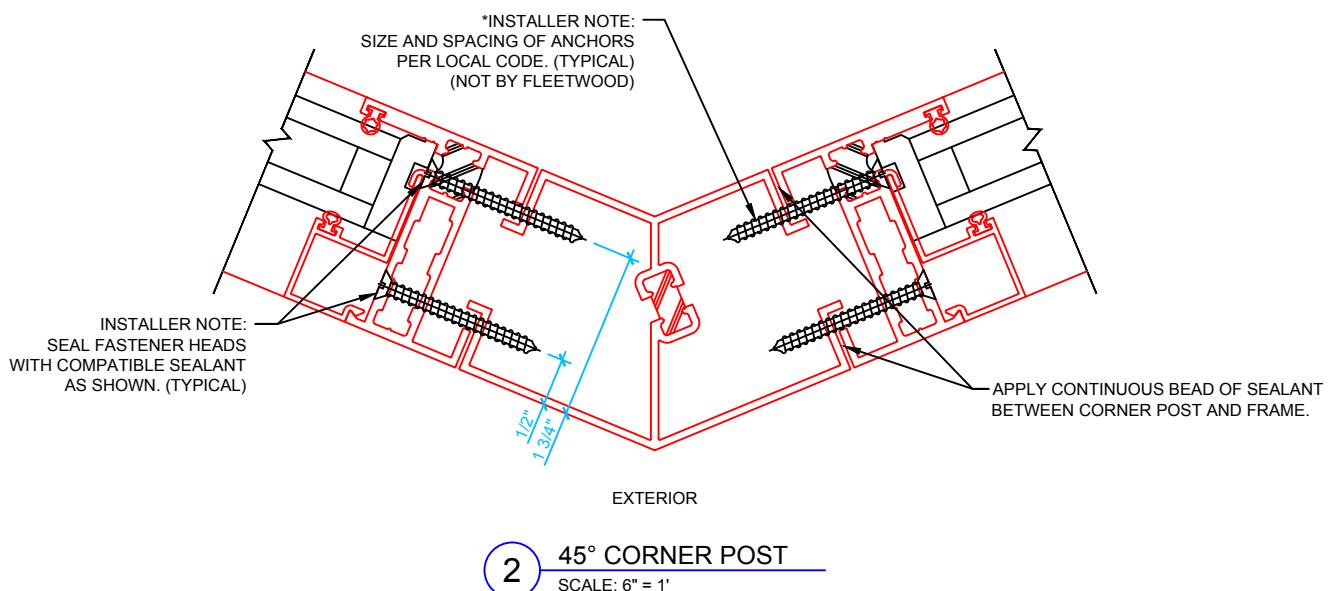
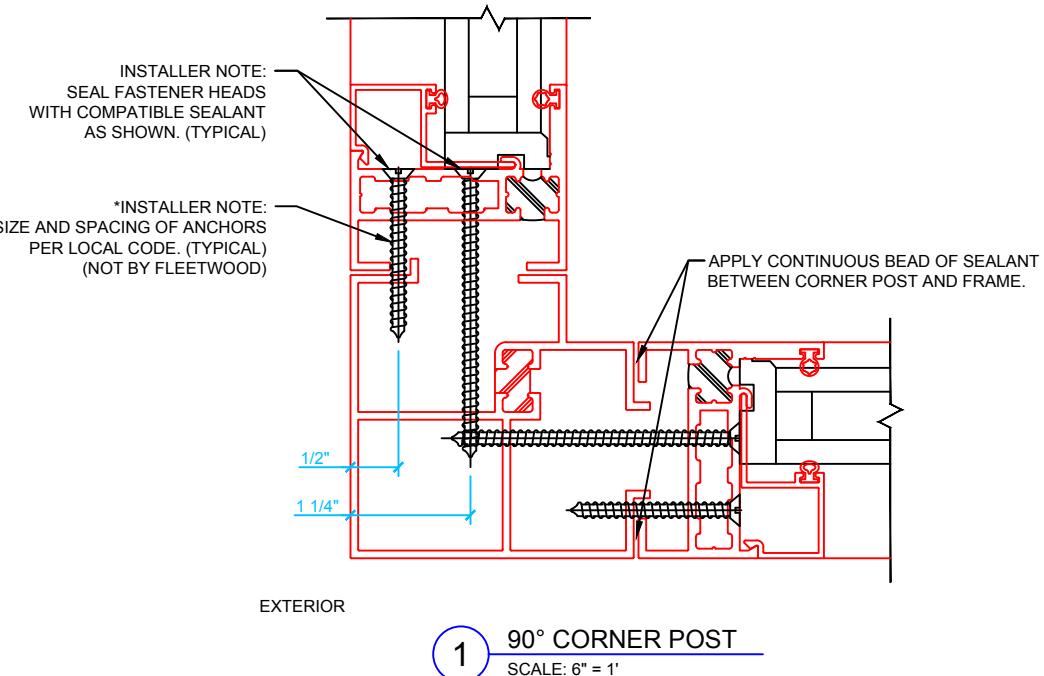
# SERIES 250-T

## ANCHOR LOCATION WORKSHEET

### CORNER POST

#### FRAME ANCHOR CHECKLIST

FASTENER TYPE	
MINIMUM EMBEDMENT	
MINIMUM EDGE DISTANCE	
<b>ANCHOR LOCATIONS</b>	
FROM ENDS	
ON CENTER	


**\*NOTES:**

1. 90° CORNER POST FASTENER LENGTHS: APPROX. 1.75" AND 3".
2. 45° CORNER POST FASTENER LENGTHS: APPROX. 1.75".

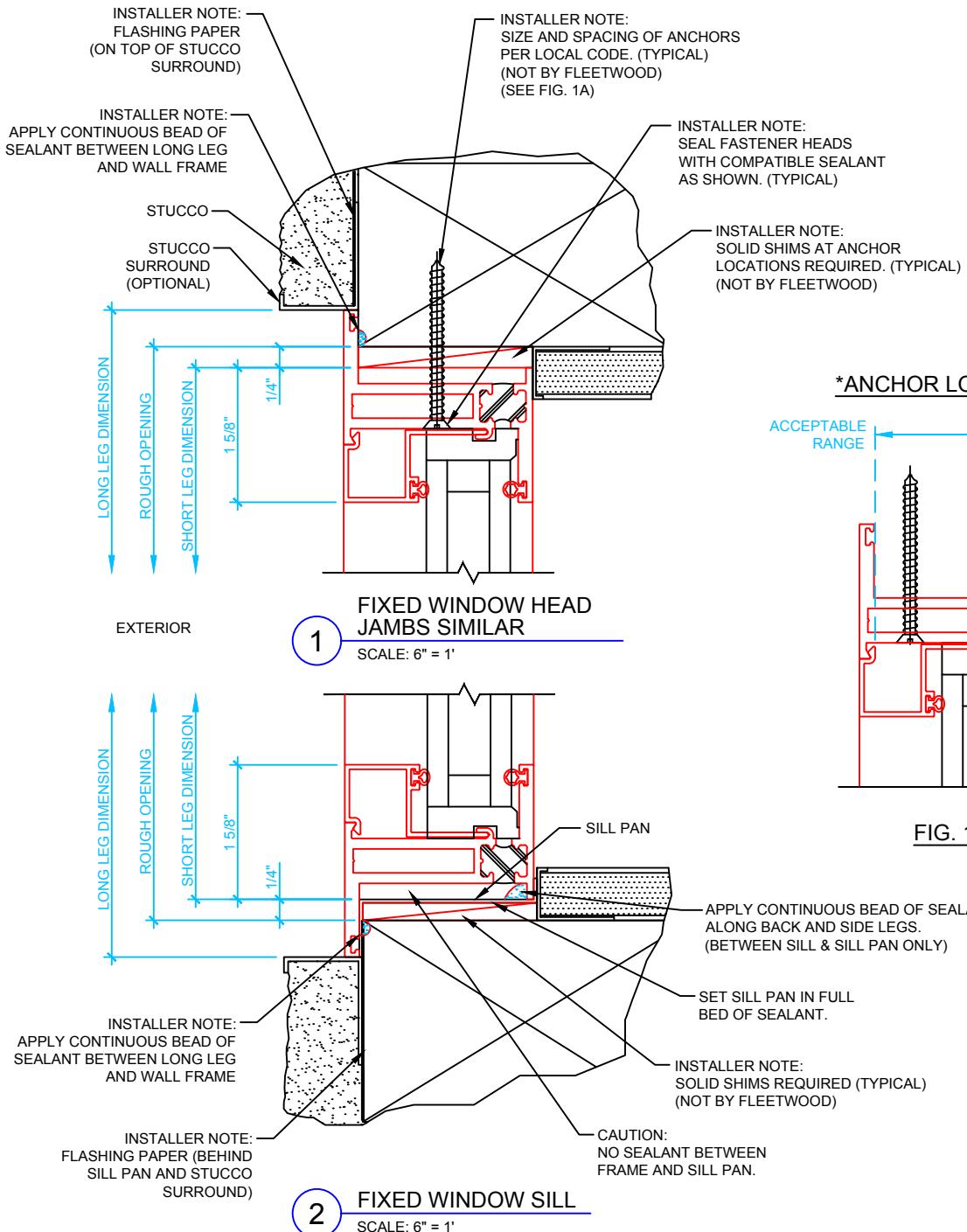
# SERIES 250-T

## ANCHOR LOCATION WORKSHEET

### UNEQUAL FRAME

#### FRAME ANCHOR CHECKLIST

FASTENER TYPE	
MINIMUM EMBEDMENT	
MINIMUM EDGE DISTANCE	
ANCHOR LOCATIONS	
FROM ENDS	
ON CENTER	


**FIG. 1A**

NOTES: 1. \*ANCHOR LOCATION: INSTALLER RESPONSIBLE TO ENSURE ANCHORS MAINTAIN EDGE DISTANCE ON STRUCTURE.  
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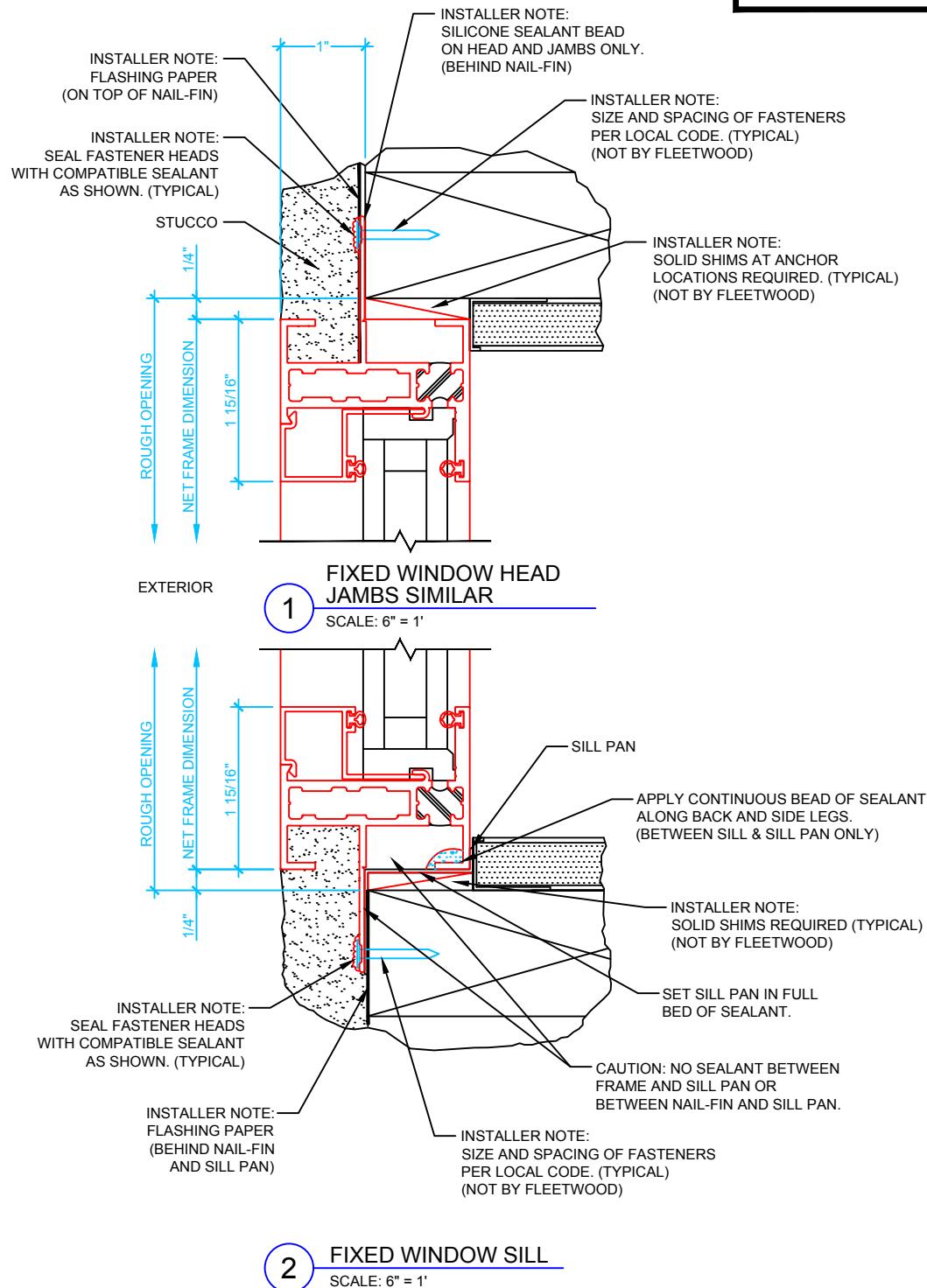
# SERIES 250-T

## ANCHOR LOCATION WORKSHEET

### NAIL-ON FRAME

#### FRAME ANCHOR CHECKLIST

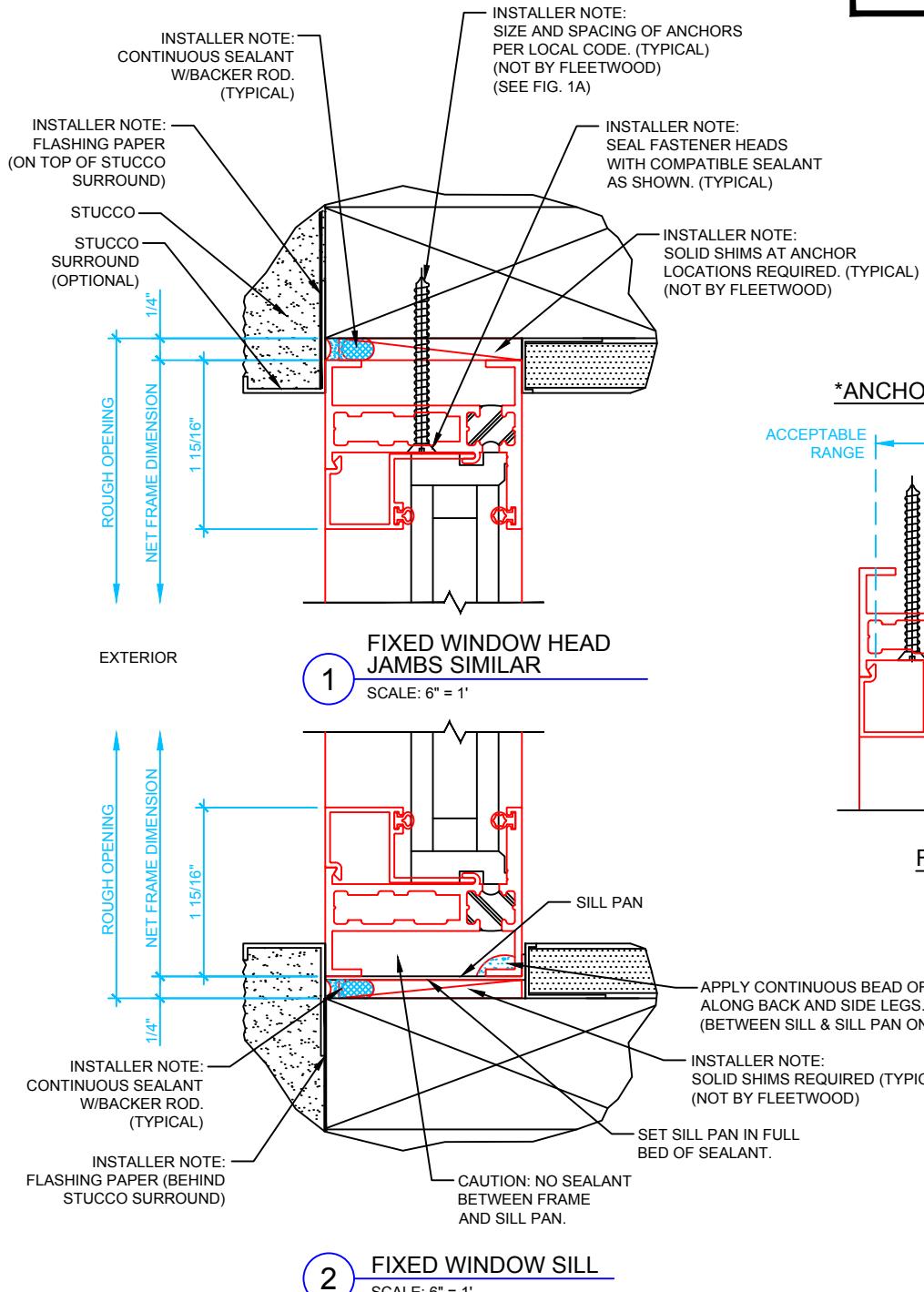
FASTENER TYPE	
MINIMUM EMBEDMENT	
MINIMUM EDGE DISTANCE	
<b>ANCHOR LOCATIONS</b>	
FROM ENDS	
ON CENTER	



**SILL DISCLAIMER:** IT IS THE MANUFACTURERS DESIRE FOR THE INSTALLER TO **NOT** PIERCE THE SILL. IN SOME CASES THE CODE OR SPECIFICATIONS REQUIRE SUCH. IN THESE CASES THE INSTALLER IS RESPONSIBLE TO SEAL THESE BREACHES.

FRAME ANCHOR CHECKLIST

FASTENER TYPE	
MINIMUM EMBEDMENT	
MINIMUM EDGE DISTANCE	
ANCHOR LOCATIONS	
FROM ENDS	
ON CENTER	



\*ANCHOR LOCATION

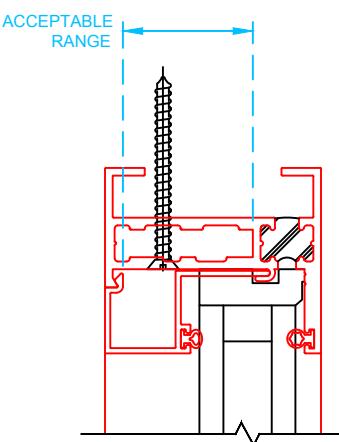


FIG. 1A

NOTES: 1. \*ANCHOR LOCATION: INSTALLER RESPONSIBLE TO ENSURE ANCHORS MAINTAIN EDGE DISTANCE ON STRUCTURE.  
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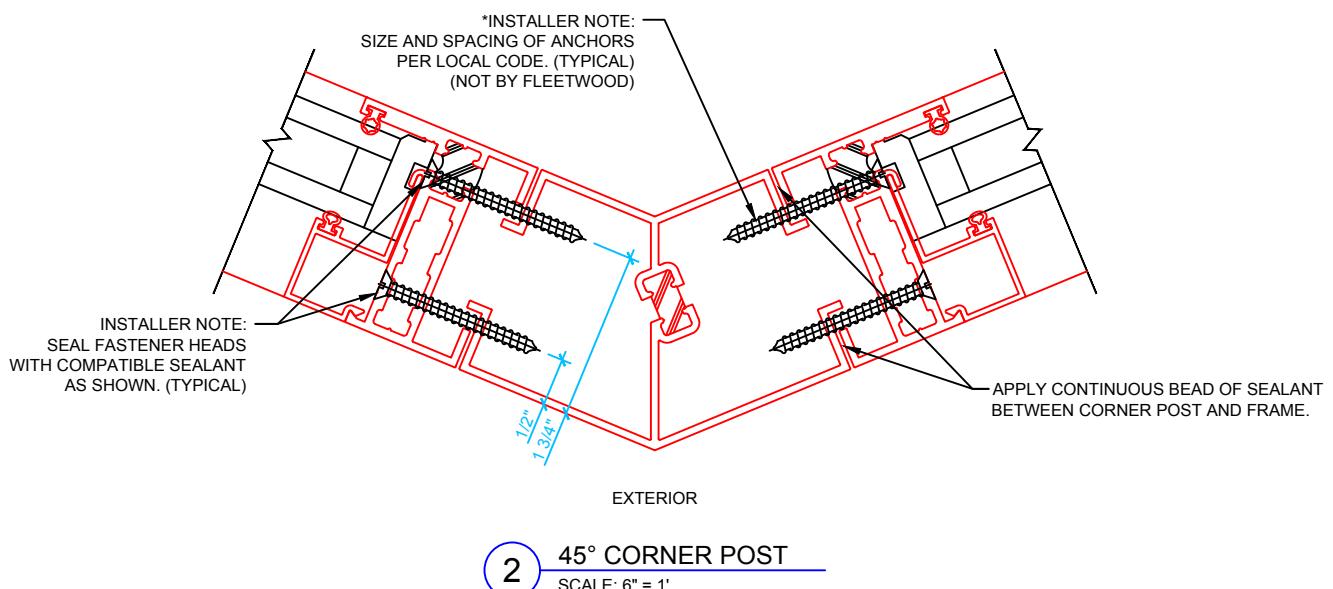
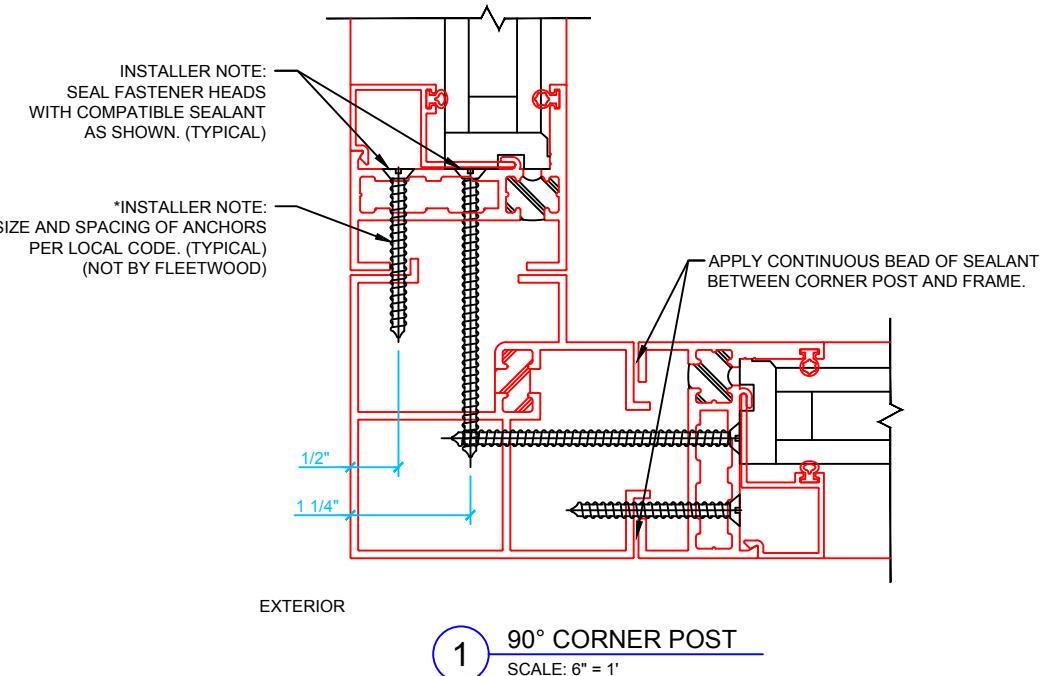
# SERIES 250-T

## ANCHOR LOCATION WORKSHEET

### CORNER POST

FRAME ANCHOR CHECKLIST

FASTENER TYPE	
MINIMUM EMBEDMENT	
MINIMUM EDGE DISTANCE	
ANCHOR LOCATIONS	
FROM ENDS	
ON CENTER	



## \*NOTES:

1. 90° CORNER POST FASTENER LENGTHS: APPROX. 1.75" AND 3".
2. 45° CORNER POST FASTENER LENGTHS: APPROX. 1.75".

# SERIES 250-T

## ANCHOR LOCATION WORKSHEET

### UNEQUAL FRAME

#### FRAME ANCHOR CHECKLIST

FASTENER TYPE	
MINIMUM EMBEDMENT	
MINIMUM EDGE DISTANCE	
ANCHOR LOCATIONS	
FROM ENDS	
ON CENTER	

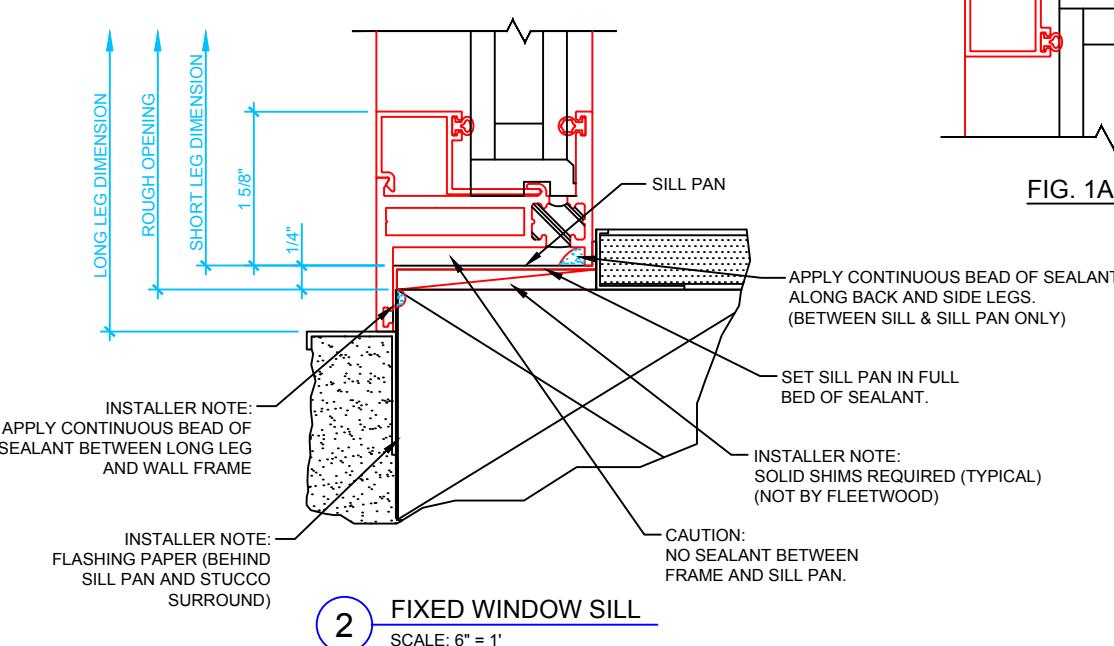
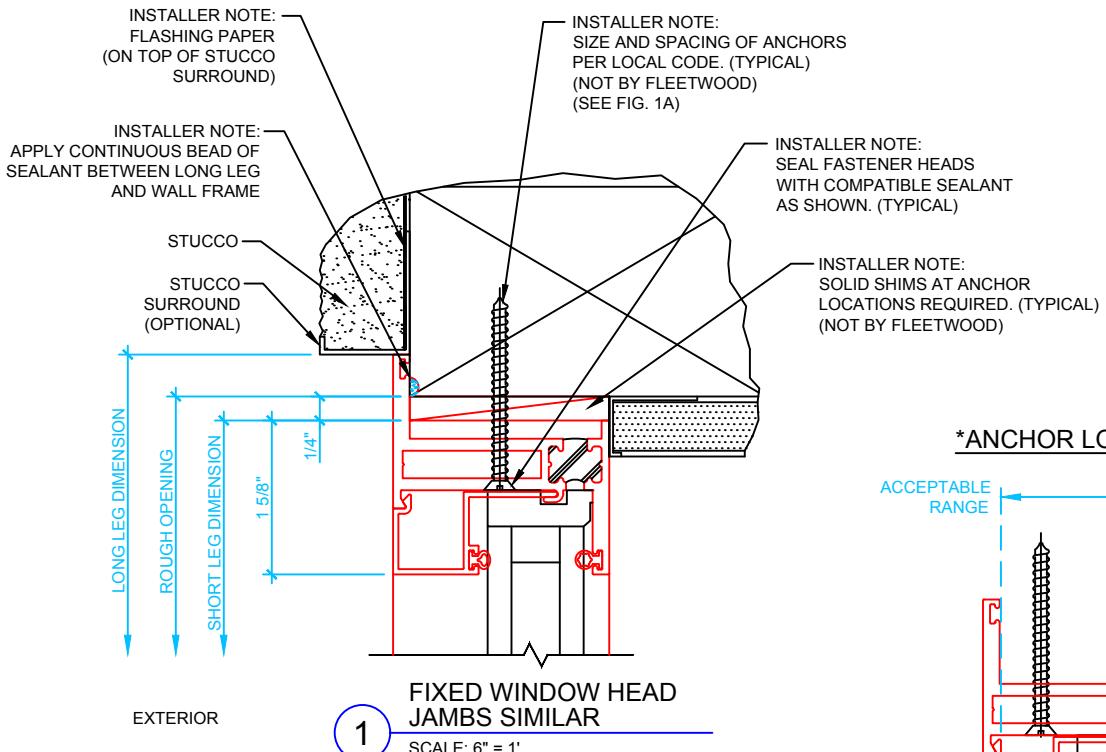


FIG. 1A

NOTES: 1. \*ANCHOR LOCATION: INSTALLER RESPONSIBLE TO ENSURE ANCHORS MAINTAIN EDGE DISTANCE ON STRUCTURE.  
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### 4-Bar Hinge Limit Device Installation Instructions

#### I. Applications:

For Awnings, Hoppers, and 4-Bar Casements when a limit device is requested.

#### II. Tools Required:

Measuring tape or ruler, drill, 1/4" drill bit, #29 drill bit, Phillips screwdriver / drill, and pencil / marker.

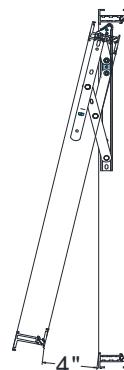
#### III. Installation Instructions:

##### Limit Device Awnings and Hoppers (vent height > 13")

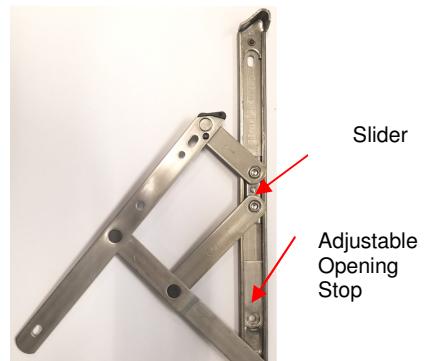
1. Open the window to desired opening size (Figure 1).
2. Move the adjustable opening stop up against the slider and mark the hole location with a pencil (Figure 2).
3. With the adjustable opening stop at the desired location drill using a 1/4" drill bit until the drill is through THE 4-BAR HINGE ONLY (Figure 3). Clean out any shavings that may have occurred during the drilling process.
4. Using a #29 drill bit, drill through the outer wall of the Awning / Hopper window frame (Figure 3). Ensure that only the outer wall is penetrated.
5. With a Phillips screwdriver / drill use a #10 PHP-B 0.5 inch screw and tighten into previously drilled hole.

##### When Roto Operator hardware is present

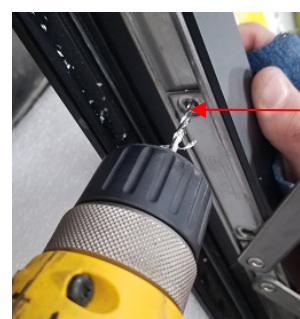
6. Open the window to desired opening size.
7. On the vent side of the window use a pencil / marker mark the inside location of the sliding hinges (Figure 4).
8. With the sliders at the desired location drill using a 1/4" drill bit until the drill is through the sliding track. Clean out any shavings that may have occurred during the drilling process.
9. Using a #29 drill bit, drill through the outer wall of the Awning / Hopper window frame. Ensure that only the outer wall is penetrated.
10. With a Phillips screwdriver / drill use a #10 PHP-B 0.5 inch screw and tighten into previously drilled hole.



**Figure 1:**  
Awning Set to 4" Opening



**Figure 2:**  
Component Locations, 4-bar Hinge



First 1/4" drill bit  
then #29 drill bit

**Figure 3:**  
Example Drill Hole Location  
(Hopper Shown)



Slider

**Figure 4:**  
Roto Operator Drill Hole Location  
(Awning Shown)

### Butt Hinge

#### I. Applications:

For Butt Hinge Casements when a limit device is requested.

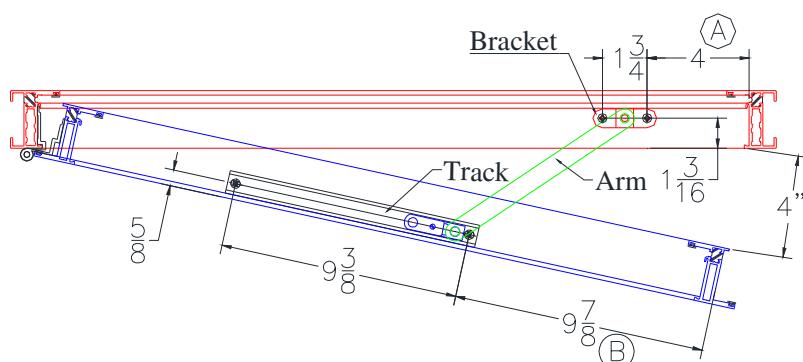
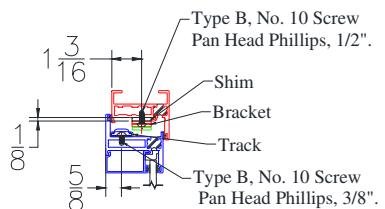
#### II. Tools / Parts Required:

Measuring tape or ruler, drill, limit device, 5/32" dia. drill bit, phillips screwdriver bit, 0.75" x 2.50" x 0.125" shim, #10 PHP-B 0.5" screw , #10 PHP-B 0.375" screw and pencil / marker.

Note: Add .250" to screw length if substituted with a sharp point screw.

#### IV. Installation Instructions:

1. Open the vent to the desired opening (Figure 1).
2. Orientate the limit device on window.
3. Mark location of four (4) holes.
4. Drill .250" deep holes with 5/32" dia. drill bit.
5. Install the bracket & shim to frame with two (2) #10 PHP-B 0.5" screw.
6. Install the track to vent with two (2) #10 PHP-B 0.375" screw.



**Figure 1:**  
4" Clear Opening