

GENERAL NOTES:

1. THIS PRODUCT HAS BEEN TESTED, ANALYZED & APPROVED FOR DESIGN PRESSURES NOT TO EXCEED THOSE SHOWN IN THE "ALLOWABLE DESIGN PRESSURE TABLE(S)".
2. OPENINGS, BUCKING & BUCKING FASTENERS MUST BE PROPERLY DESIGNED & INSTALLED TO TRANSFER WIND LOADS TO THE STRUCTURE.
3. ALL HARDWARE & FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS & SHALL NOT VARY UNLESS SPECIFICALLY MENTIONED ON THE DRAWINGS. SPECIFIED ANCHOR EMBED TO BASE MATERIAL SHALL BE BEYOND WALL FINISH OR STUCCO.
4. THIS PRODUCT HAS BEEN DESIGNED IN ACCORDANCE WITH AND MEETS THE REQUIREMENTS OF THE FLORIDA BUILDING CODE (FBC) INCLUDING HIGH VELOCITY HURRICANE ZONES (HVHZ) & IS LARGE MISSILE IMPACT RATED.
5. IMPACT SHUTTERS ARE NOT REQUIRED WITH THIS PRODUCT.
6. ALL ANCHORS SECURING PRODUCT FRAMES TO PRESSURE TREATED BUCKS OR WOOD FRAMING SHALL BE CAPABLE OF RESISTING CORROSION CAUSED BY THE PRESSURE TREATING CHEMICALS IN THE WOOD.
7. DETERMINE THE POSITIVE & NEGATIVE DESIGN LOADS TO USE WHEN REFERENCEING THESE DOCUMENTS IN ACCORDANCE WITH THE COVERING CODE AND GOVERNING WIND VELOCITY. FOR WIND LOAD CALCULATIONS IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, A DIRECTIONALITY FACTOR OF $K_d = 0.85$ MAY BE APPLIED PER THE ASCE-7 STANDARD.
8. MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF FLORIDA BUILDING CODE.
9. TO THE BEST OF OUR KNOWLEDGE, THE PRODUCT SHOWN HEREIN IS QUALITY ASSURED BY A FLORIDA STATE APPROVED CERTIFICATION/QA ENTITY & SHALL BE LABELED IN ACCORDANCE WITH THE FBC AND THE FLORIDA DEPARTMENT OF BUSINESS & PROFESSIONAL REGULATION SPECIFICATIONS. THESE DRAWINGS SHOW ALL APPLICABLE ELEVATION, COMBINATION, INSTALLATION & COMPARATIVE ANALYSIS CONDITIONS AS DETERMINED THROUGH TESTING & ENGINEERING RATIONAL ANALYSIS. PRODUCT ASSEMBLY SHALL BE IN ACCORDANCE WITH THESE DRAWINGS. THE MANUFACTURER'S QUALITY ASSURANCE SPECIFICATIONS & TESTING REPORTS.
10. CERTIFICATION OF THIS PRODUCT SHALL BE CONSIDERED VOID IF IT IS INSTALLED WITHOUT A BUILDING PERMIT FROM THE APPLICABLE LOCAL BUILDING DEPARTMENT OR IF IT IS INSTALLED BY ANYONE OTHER THAN A LICENSED CONTRACTOR EXPERIENCED WITH INSTALLATIONS OF THIS TYPE OF PRODUCT.

EVALUATION OF THIS PRODUCT IS BASED ON APPLICABLE STANDARDS AND/OR INFORMATION & RESULTS FROM APPLICABLE TEST REPORTS. THE FLORIDA BUILDING CODE VERSION CONSIDERED WITH THIS EVALUATION WAS THAT IN FORCE AT THE TIME OF THE EVALUATION. IN THE EVENT OF CODE VERSION CHANGES/UPDATES OR IN THE EVENT THAT NEW OR ADDITIONAL TESTING IS COMPLETED ON THIS PRODUCT, PRIOR TO STATING CODE COMPLIANCE WITH THE STATE, THE MANUFACTURER SHALL CONFIRM WITH THE EVALUATION ENGINEER OF RECORD THAT EVERYTHING SPECIFIED HERE-IN IS CURRENT WITH ALL CURRENT TESTING, CODES AND APPLICABLE STANDARDS.

INSTALLATION NOTE:

WHEN NECESSARY, INSTALLATION METHODS MAY BE MIXED WITH ANY ONE WINDOW SUCH THAT INDIVIDUAL SIDES OF THE WINDOW MAY USE ONE OR THE OTHER ANCHOR METHOD (EXAMPLE: SILL MAY USE FRAME SCREWS METHOD WHILE OTHER SIDES USE CLIP)

ANCHOR/SUBSTRATE EVALUATION NOTE:

ALL ANCHORS IN THEIR SPECIFIED SUBSTRATES HAVE BEEN ANALYZED IN ACCORDANCE WITH THEIR APPLICABLE STANDARD(S) AND ARE FOUND TO BE CAPABLE OF SUPPORTING ALL LOADS IMPOSED ON THEM UNDER THE GUIDELINES OF THIS DOCUMENT. ANY SUBSTRATES OR CONDITIONS OUTSIDE OF WHAT IS SHOWN HERE-IN SHALL BE SUBJECT TO JOB SPECIFIC ENGINEER'S REVIEW & CERTIFICATION.

FRAME ANCHOR REQUIREMENTS TABLE

OPENING TYPE (SUBSTRATE)	FRAME/CLIP TO OPENING FASTENER TYPE	MINIMUM EMBED	MINIMUM EDGE DIST.
FRAME SCREWS			
MIN. 2X4 WOOD FRAME OR BUCK (MIN. GR. 3 & G=0.55)	NO. 14 SMS OR WOOD SCREW	1 1/4"	3/4"
MIN. 16 GA. 50 KSI METAL STUD	1/4-20 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. 1/8" THK A36 STEEL	1/4-20 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. 1/8" THK 6063-T5 ALUM.	1/4-20 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. C-90 CMU	(1) 1/4" CONCRETE SCREW	1 1/4"	2"
MIN. 2500 PSI CONCRETE	(1) 1/4" CONCRETE SCREW	1 1/2"	2"
INSTALLATION CLIP SCREWS			
(2) MIN. 2X6 WOOD FRAME OR BUCK (MIN. GR. 3 & G=0.55)	NO. 14 SMS SCREW	1 3/8"	3/4"

MIN. 16 GA. 50 KSI METAL STUD	NO. 14 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. 1/8" THK A36 STEEL	1/4-20 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. 1/8" THK 6063-T5 ALUM.	1/4-20 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. C-90 CMU	(1) 1/4" CONCRETE SCREW	1 1/4"	2"
MIN. 2500 PSI CONCRETE	(1) 1/4" CONCRETE SCREW	1 1/2"	2"

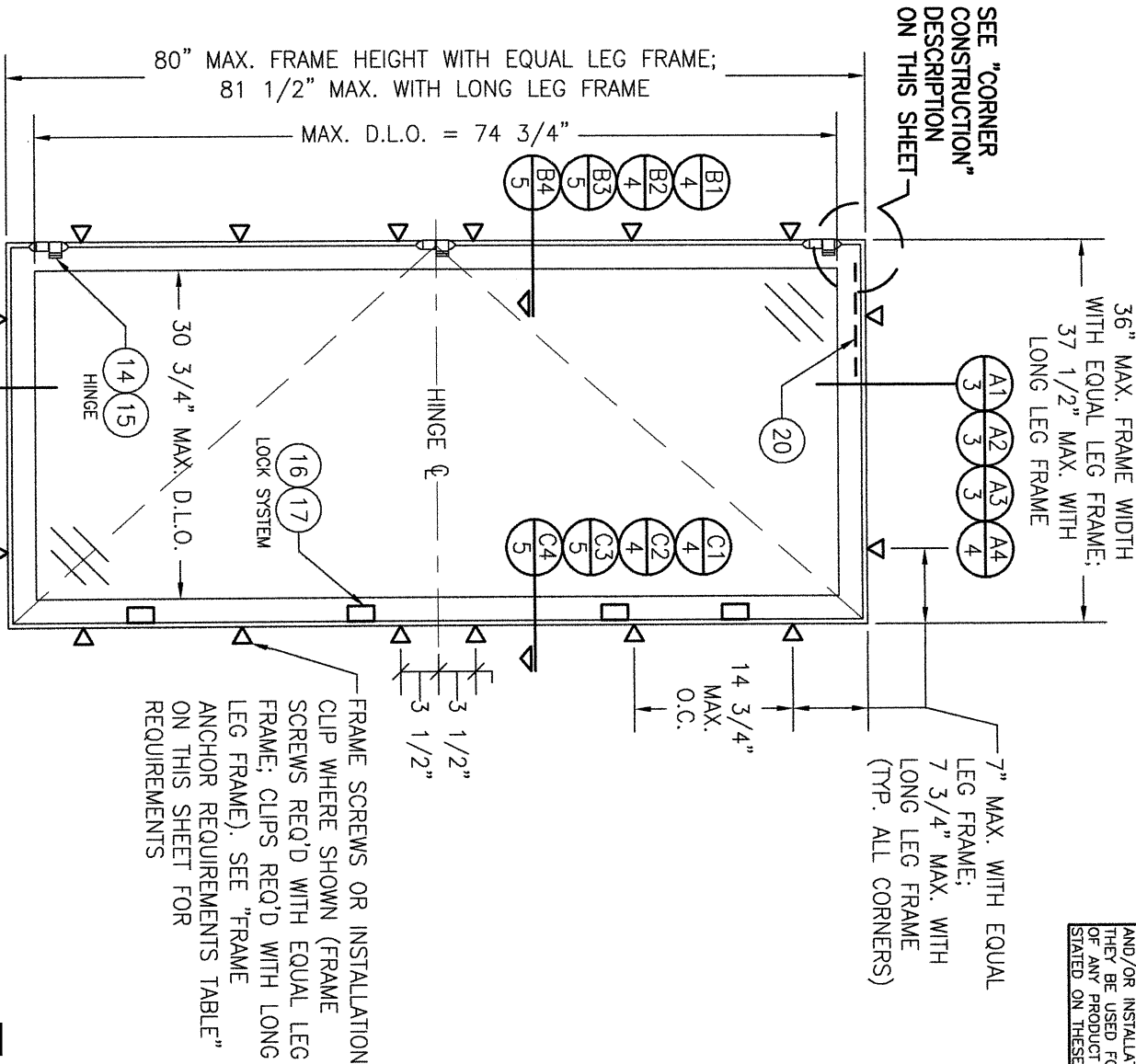
- (1) CONCRETE SCREWS SHALL BE ELCO ULTRACONS (C.S.), ELCO CRETE-FLEX (S.S.), ITW RAMSET/RED HEAD TAPCONS (C.S. OR S.S.) OR HILTI KWK-CON II (C.S OR S.S.).
- (2) 2X6 BUCKS MAY BE RIPPED DOWN TO AS LITTLE AS 4" PROVIDING THE REQUIRED SCREW EDGE DISTANCE IS HELD & THE BUCK EXTENDS TO WITHIN 3/16" OF THE EXTERIOR EDGE OF THE WINDOW FRAME.

LOCK REQUIREMENTS
(CAM LOCKS)

MAXIMUM FRAME HEIGHT	QUANTITY PER PANEL
EQUAL LEG FRAME	
80"	3
52"	2
LONG LEG FRAME	
81 1/2"	3
53 1/2"	2

LOCK REQUIREMENTS
(MULTI-POINT LOCK)

MAXIMUM FRAME HEIGHT	QUANTITY PER PANEL
EQUAL LEG FRAME	
80"	4
68"	3
44"	2
LONG LEG FRAME	
81 1/2"	4
69 1/2"	3
45 1/2"	2



HINGE REQUIREMENTS

FRAME HEIGHT	QUANTITY PER PANEL
EQUAL LEG FRAME	
OVER 44"	3
44" & LESS	2
LONG LEG FRAME	
OVER 45 3/4"	3
45 3/4" & LESS	2

HINGES SHALL BE LOCATED APPROXIMATELY 4" FROM TOP & BOTTOM OF FRAME WITH EQUAL LEG FRAME & 4.75" WITH LONG LEG FRAME. WHEN 3RD HINGE IS REQUIRED, IT SHALL BE LOCATED AT MID HEIGHT OF WINDOW.

EXTERIOR ELEVATION:
SINGLE CASEMENT WINDOW

SCALE: 3/4" = 1'-0"

ALLOWABLE DESIGN PRESSURE
(SINGLE WINDOWS)

+60/-65 PSF

CORNER CONSTRUCTION:

FRAME & SASH: MITER CUT, BUTTED AND FULLY WELDED

THESE DRAWINGS ARE APPLICABLE ONLY TO THE PRODUCT SPECIFIED. THEY MAY NOT BE USED FOR THE ASSEMBLY AND/OR INSTALLATION OF ANY OTHER PRODUCT NOR MAY THEY BE USED FOR RATIONAL AND/OR LOCAL APPROVAL OF ANY PRODUCT NOT PRODUCED BY THE MANUFACTURER STATED ON THESE DRAWINGS.

NO.	REVISION DESCRIPTION	BY	DATE
A1	UPDATE TO CURRENT STANDARDS	W.R.M.	08/17/11
B1	ADD INST. CLIP DIMENSIONS	W.R.M.	09/25/13
C1	UPDATE TO CURRENT STANDARDS	W.W.S.	12/10/14
D1	INCREASE SHIM SPACE	W.W.S.	09/04/24

DRAWING TITLE	EMPIRE BRONZE SERIES IMPACT CASEMENT WINDOWS
CONSULTANTS	W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.
MANUFACTURER	HOPE'S WINDOWS, INC. 84 HOPKINS AVENUE JAMESTOWN, NY 14702 (716) 665-5124

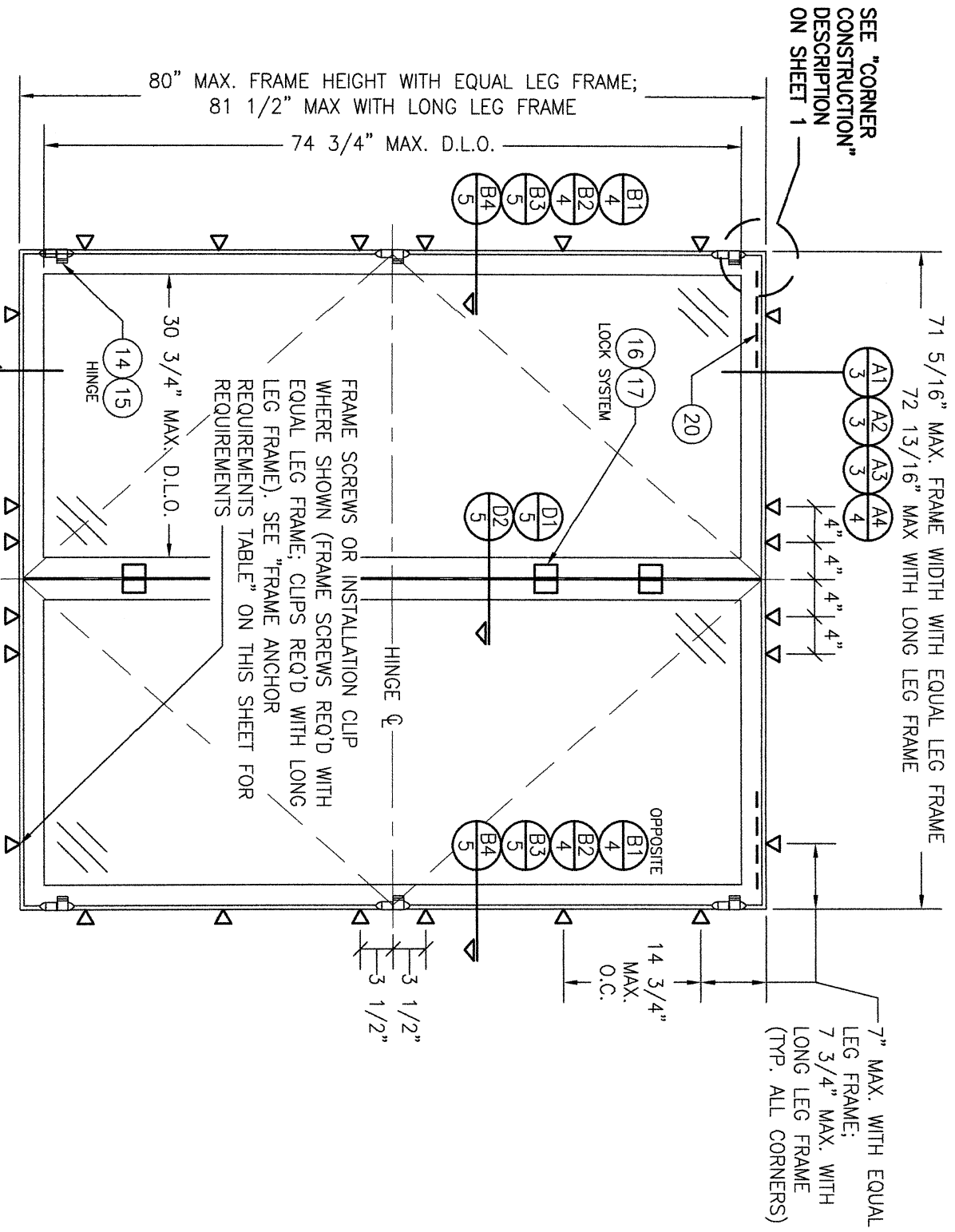
25601 AYSEN DRIVE PUNTA GORDA, FL 33983 PHONE: 561-744-3424

CERTIFICATION	WARREN W. SCHAEFER, P.E. P.E. NO. 44135
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DRAWING NO.	1701	REV.	D
SHEET NO.	1	OF	6



Digitally signed
by Warren W
Schaefer
Date:
2024.09.05
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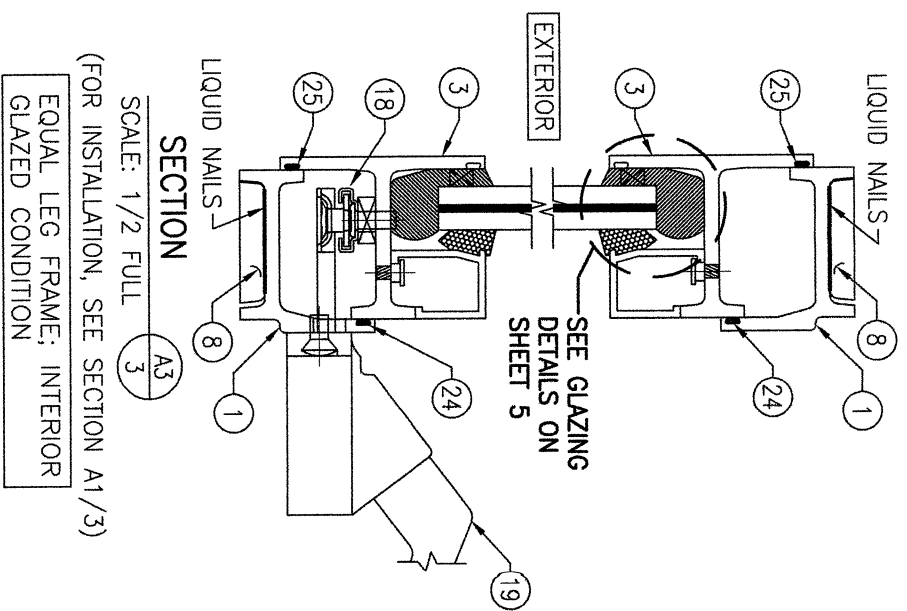
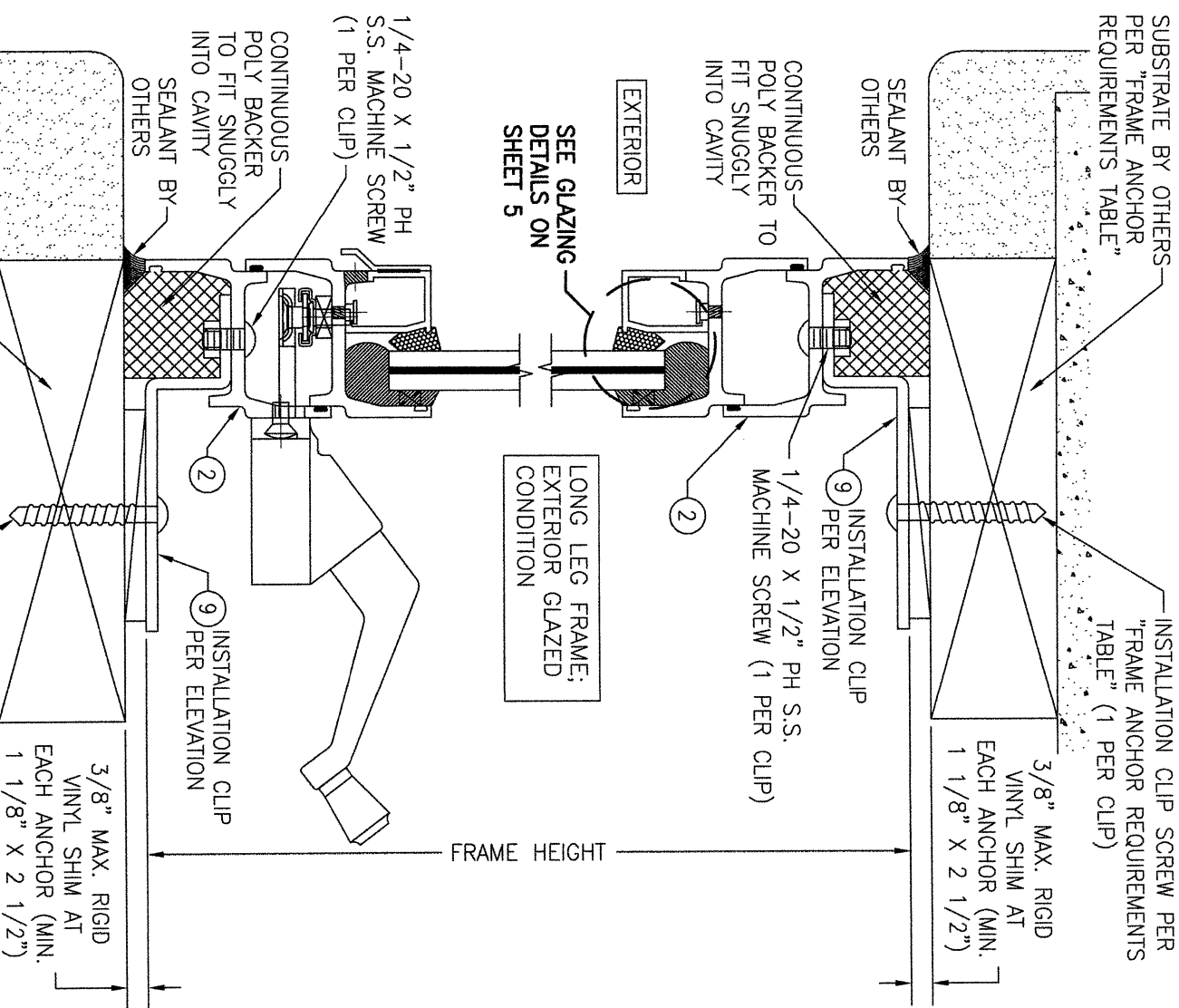
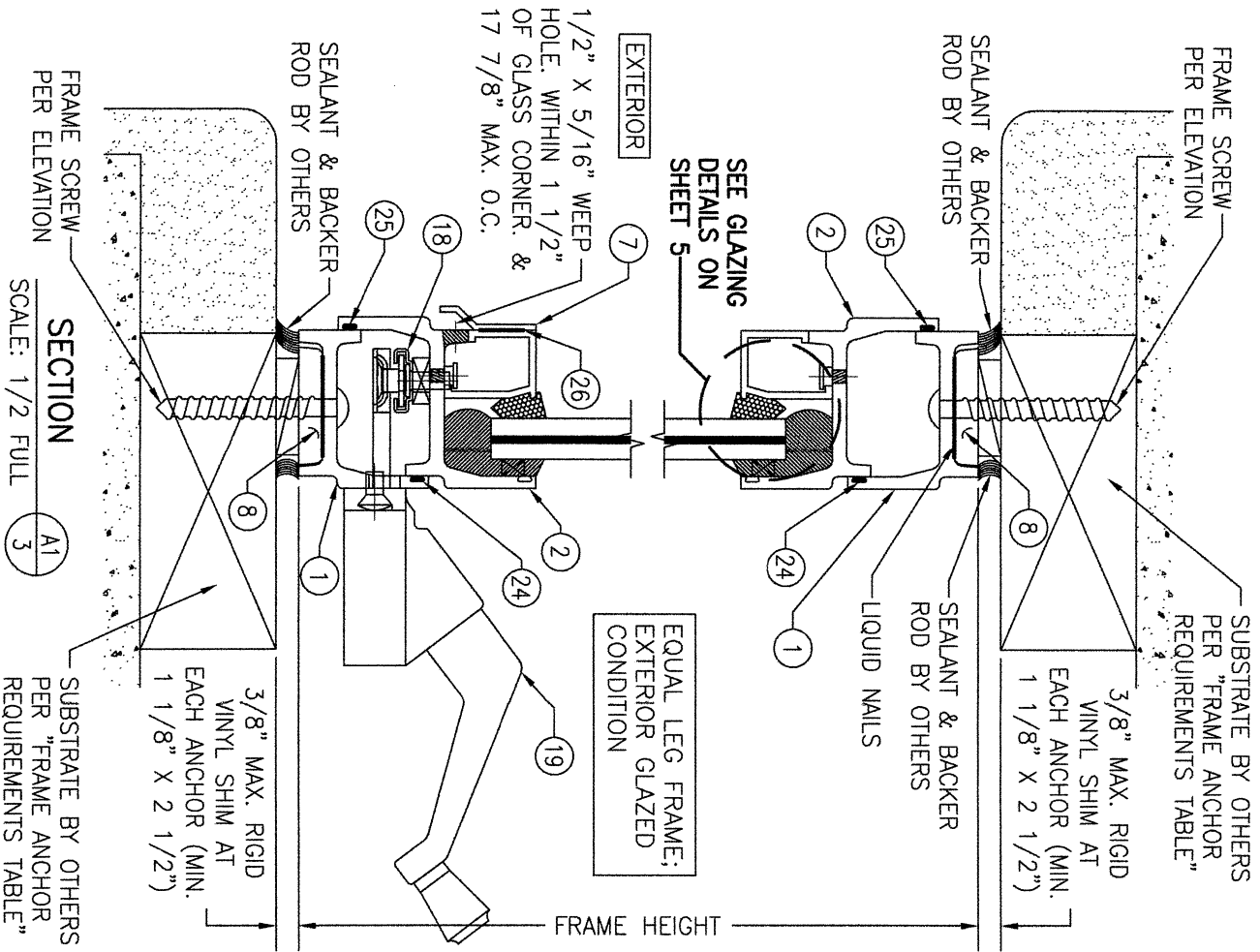
EXTERIOR ELEVATION:
DOUBLE CASEMENT WINDOW WITH
FIXED ASTRAGAL
SCALE: 3/4" = 1'-0"

ALLOWABLE DESIGN PRESSURE (DOUBLE WINDOWS)	
(1)	+60/-60 PSF
(1) WHEN FRAME WIDTH IS AT LEAST 4" LESS THAN THAT SHOWN OR THE FRAME HEIGHT IS AT LEAST 7" LESS THAN THAT SHOWN, THE ALLOWABLE PRESSURE MAY BE INCREASED TO +60/-65 PSF.	

DRAWN BY: W.W.S.		CHECKED BY: W.W.S.	
DATE: 07/16/10	DATE: 07/16/10	DATE: 07/16/10	DATE: 07/16/10
1=16	1=16	1=16	1=16
NO.	REVISION DESCRIPTION	BY	DATE

DRAWING TITLE EMPIRE BRONZE SERIES IMPACT CASEMENT WINDOWS	
CONSULTANTS W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. 25601 AYSEN DRIVE PUNTA GORDA, FL 33983 PHONE: 561-744-3424	MANUFACTURER HOPE'S WINDOWS, INC. 84 HOPKINS AVENUE JAMESTOWN, NY 14702 (716) 665-5124

CERTIFICATION	
WARREN W. SCHAEFER, P.E. P.E. NO. 44135	
DRAWING NO. 1701 REV. D	
SHEET NO. 2 OF 6	



INSTALLATION SEALANT NOTE

FRAME TO OPENING & MULLION SEALANTS ARE NOT PART OF THIS CERTIFICATION & ARE THE RESPONSIBILITY OF THE WINDOW INSTALLER.

NO.	REVISION	DESCRIPTION	BY	DATE
1-2				

DRAWING TITLE
EMPIRE BRONZE SERIES IMPACT CASEMENT WINDOWS

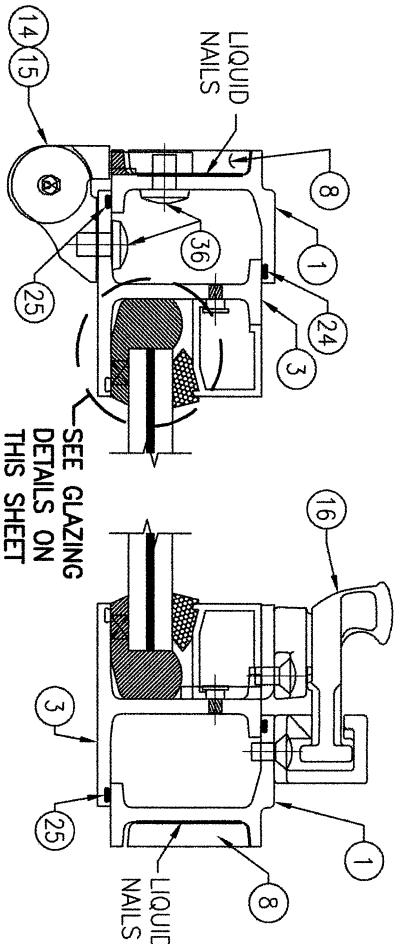
CONSULTANTS
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A.
25601 AYSEN DRIVE
PUNTA GORDA, FL 33983
PHONE: 561-744-3424

MANUFACTURER
HOPE'S WINDOWS, INC.
84 HOPKINS AVENUE
JAMESTOWN, NY 14702
(716) 665-5124

CERTIFICATION

WARREN W. SCHAEFER, P.E.
P.E. NO. 44135

EQUAL LEG FRAME; INTERIOR GLAZED CONDITION



SECTION

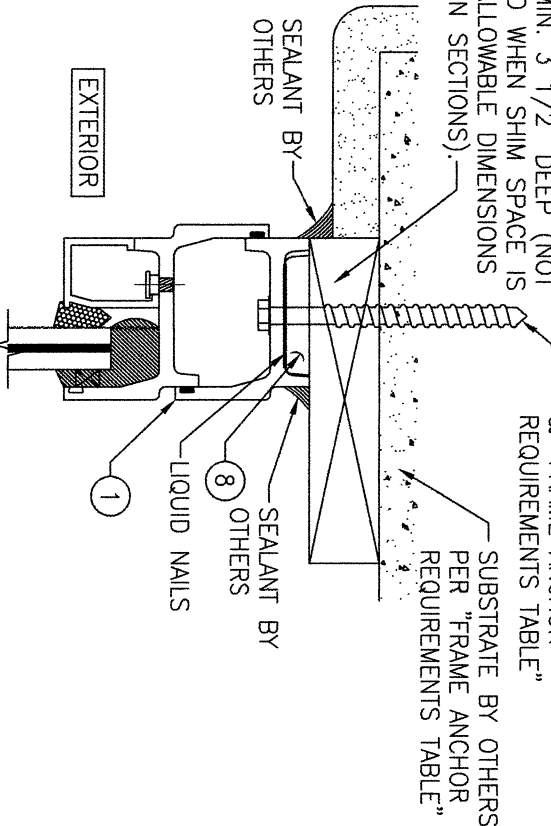
SCALE: 1/2 FULL

SECTION

SCALE: 1/2 FULL

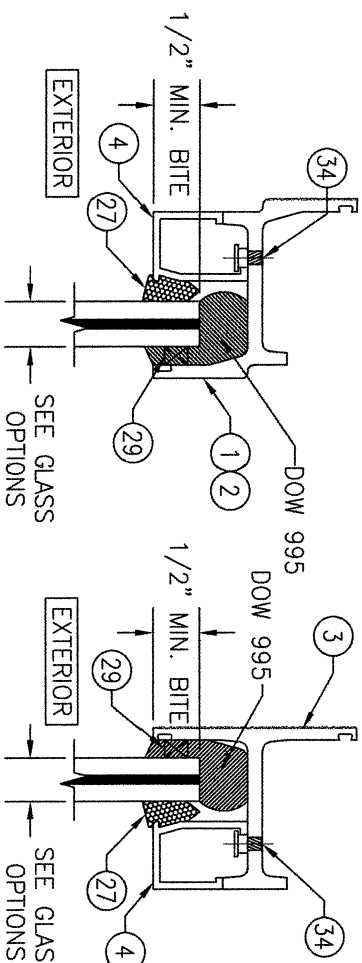
(FOR INSTALLATION, SEE SECTIONS B1/4 & C1/4)
(CAM LOCK SHOWN. MULTI-POINT LOCK ALSO APPLIES)

CONTINUOUS WOOD MEMBER LESS
IN THICKNESS THAN A 2X BUCK
TO BE MIN. 3 1/2" DEEP (NOT
REQUIRED WHEN SHIM SPACE IS
WITHIN ALLOWABLE DIMENSIONS)
SHOWN IN SECTIONS).



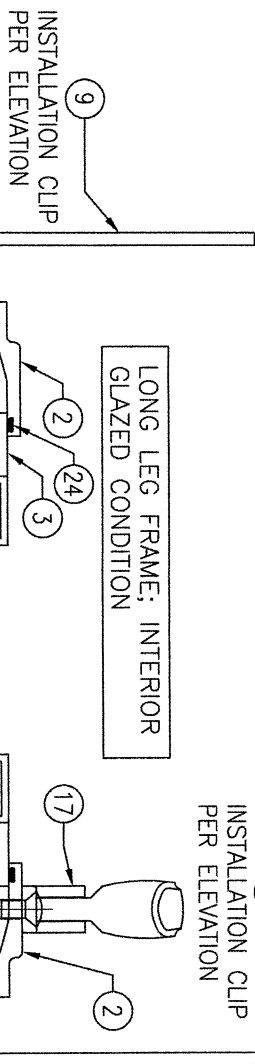
OPTIONAL DIRECT MOUNT DETAIL
TO SUBSTRATE WITH SPACER

(HEAD SECTION SHOWN; SILL & SIDES ARE INSTALLED THE SAME)
(FOR DETAIL NOT SHOWN, SEE OTHER SECTIONS)



GLAZING DETAIL 1
(EXTERIOR GLAZED WITH
NON-I.G. GLASS)

GLAZING DETAIL 2
(INTERIOR GLAZED WITH
NON-I.G. GLASS)



LONG LEG FRAME; INTERIOR
GLAZED CONDITION

1/4-20 X 1/2" PH S.S. MACHINE
SCREW (1 PER
CLIP)

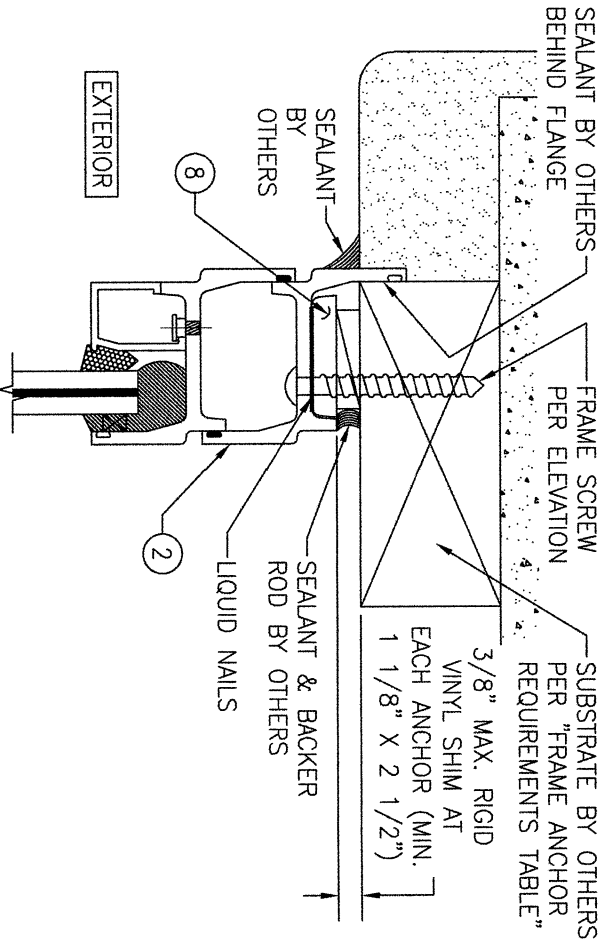
SECTION

SCALE: 1/2 FULL

SECTION

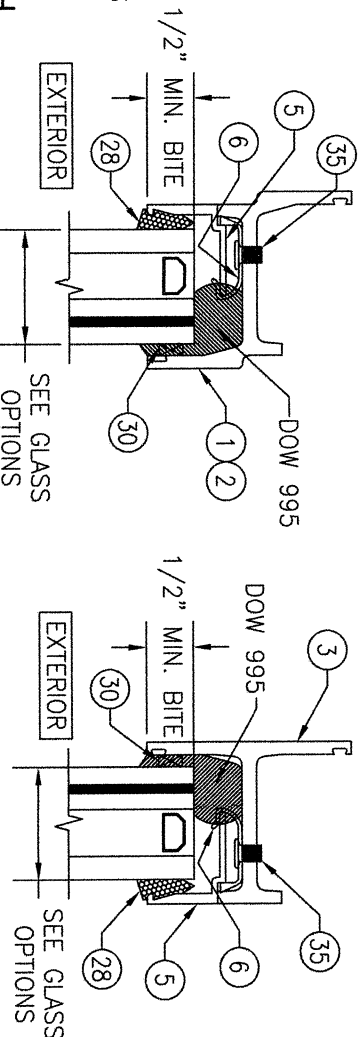
SCALE: 1/2 FULL

(FOR INSTALLATION, SEE SECTIONS B2/4 & C2/4)
(MULTI-POINT LOCK SHOWN. CAM LOCK ALSO APPLIES)



OPTIONAL FLANGE MOUNT DETAIL

(HEAD SECTION SHOWN; SILL & SIDES ARE INSTALLED THE SAME)
(EXTERIOR GLAZED CONDITION SHOWN. INTERIOR GLAZED CONDITION ALSO APPLIES.)
(FOR DETAIL NOT SHOWN, SEE OTHER SECTIONS)

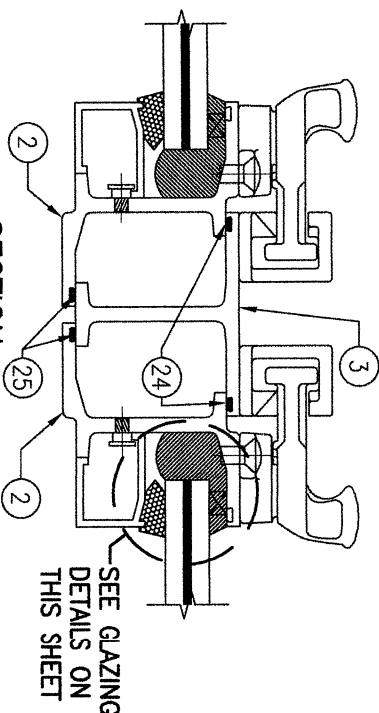


GLAZING DETAIL 3

GLAZING DETAIL 4

(EXTERIOR GLAZED I.G. GLASS)

(INTERIOR GLAZED I.G. GLASS)

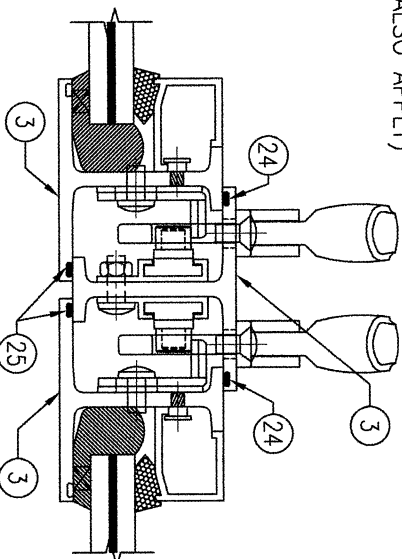


SECTION

SCALE: 1/2 FULL

EXTERIOR GLAZED

(CAM LOCKS SHOWN. MULTI-POINT LOCKS
ALSO APPLY)



SECTION

SCALE: 1/2 FULL

INTERIOR GLAZED

(MULTI-POINT LOCKS SHOWN. CAM LOCKS
ALSO APPLY)

GLASS OPTIONS

OPTION 1 (NON-I.G. GLASS INTERIOR OR EXTERIOR GLAZED):

7/16" LAMINATED GLASS (3/16" H.S./0.09" KURARAY
SG/3/16" H.S.)

OPTION 2 (I.G. GLASS EXTERIOR GLAZED):

1 1/4" I.G. LAMINATED GLASS (1/4" TEMP. EXTERIOR, 1/2"
ALUMINUM SPACER & 3/16" H.S./0.09" KURARAY SG/3/16"
H.S. INTERIOR)

OPTION 3 (I.G. GLASS INTERIOR GLAZED):

1 1/4" I.G. LAMINATED GLASS (3/16" H.S./0.09" KURARAY
SG/3/16" H.S. EXTERIOR, 1/2" ALUMINUM SPACER & 1/4"
TEMP. INTERIOR)

GLAZING NOTE: AT BASE OF GLASS, 4" LONG
SILICONE SETTING BLOCKS SHALL BE PLACED
AT MAX. 24" O.C. (QTY. OF 2 MIN.). WIDTH
& THICKNESS OF BLOCKS SHALL BE AS
REQUIRED TO MATCH THE GLASS SECTION
THICKNESS AND DEPTH OF SPACE AT GLASS
EDGE.

NO.	REVISION	DESCRIPTION	BY	DATE

DRAWN BY:	CHECKED BY:
M.M.S.	M.M.S.
DATE:	DATE:
07/16/10	

DRAWING TITLE
EMPIRE BRONZE SERIES IMPACT CASEMENT WINDOWS

CONSULTANTS
W. W. SCHAEFER ENGINEERING
& CONSULTING, P.A.

25601 AYSEN DRIVE
PUNTA GORDA, FL 33983
PHONE: 561-744-3424

MANUFACTURER

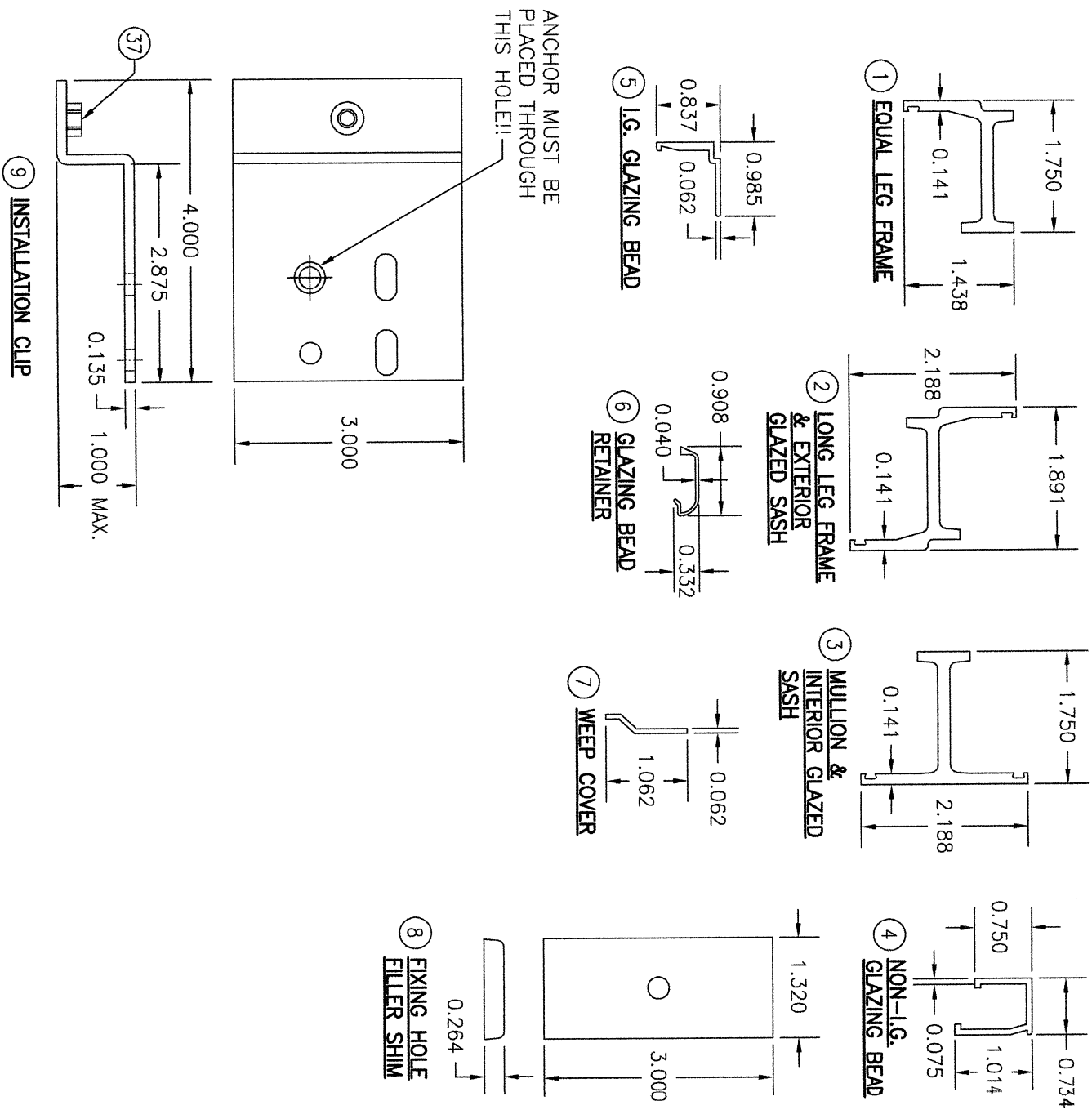
HOPE'S WINDOWS, INC.
84 HOPKINS AVENUE
JAMESTOWN, NY 14702
(716) 665-5124

CERTIFICATION

WARREN W. SCHAEFER, P.E.
P.E. NO. 44135

DRAWING NO. 1701
SHEET NO. 5 OF 6

ITEM #	ITEM DESCRIPTION	MANUFACTURER/NOTES
PARTS		
1	EQUAL LEG FRAME	385 BRONZE
2	LONG LEG FRAME & EXTERIOR GLAZED SASH	385 BRONZE
3	MULLION & INTERIOR GLAZED SASH	385 BRONZE
4	NON-I.G. GLAZING BEAD	385 BRONZE
5	I.G. GLAZING BEAD	304 S.S., 6063-T5 ALUM OR 385 BRONZE
6	GLAZING BEAD RETAINER	304 S.S., 6063-T5 ALUM OR 280 BRONZE
7	WEEP COVER	6063-T5 ALUMINUM OR 280 BRONZE
8	FIXING HOLE FILLER SHIM	RIGID VINYL
9	INSTALLATION CLIP	10 GA. GALVANIZED STEEL
HARDWARE		
14	ADJUSTABLE PIVOT HINGE	HOPE'S PART NO. 1144R-1146
15	STANDARD WELDED ON PIVOT HINGE	HOPE'S PART NO. 237
16	SINGLE POINT CAM LOCK WITH KEEPERS	HOPE'S PART NO. 162 &. 208-43
17	MULTI-POINT LOCK	HOPE'S PART NO. 101A
18	SINGLE ARM ROTO OPERATOR	HOPE'S PART NO. 141-11
19	OPERATOR HANDLE	AS REQUIRED TO OPERATE WINDOW
20	OPTIONAL FRICTION ADJUSTER	HOPE'S PART NO. 846
SEALS & SEALANTS		
24	EPDM SPONGE WEATHERSTRIP	TREMCO TR11688E EPDM
25	VINYL LEAF BULB WEATHERSTRIP	HOPE'S PART NO. 797B
26	DOUBLE SIDED TAPE	3M VBH 4941 FOAM/ACRYLIC
27	GLAZING WEDGE (USED WITH NON-I.G. GLAZING)	TREMCO 496E EPDM
28	GLAZING WEDGE (USED WITH I.G. GLAZING)	TREMCO PS1125E EPDM
29	NON-I.G. GLAZING SHIM	TREMCO TR2178W EPDM
30	I.G. GLAZING SHIM	TREMCO TR1488W EPDM
FASTENERS		
34	6-32 X 1/4" S.S. HIGH COLLAR CAP SCREW	2 1/2" FROM D.L.O. EDGE & 12" MAX. O.C.
35	10-24 X 1/4" S.S. SELF SEALING MACHINE SCREW	2 1/2" FROM D.L.O. EDGE & 12" MAX. O.C.
36	1/4-20 X 3/8" S.S. MACHINE SCREW	2 PER HINGE LEAF (REQ'D ONLY WITH ADJUSTABLE HINGE)
37	1/4-20 SELF CLINCHING NUT INSERT	1 PER CLIP

[illegible]

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DRAWING TITLE	
EMPIRE BRONZE SERIES IMPACT CASEMENT WINDOWS	
CONSULTANTS	MANUFACTURER
W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. 25601 AYSN DRIVE PUNTA GORDA, FL 33983 PHONE: 561-744-3424	HOPE'S WINDOWS, INC. 84 HOPKINS AVENUE JAMESTOWN, NY 14702 (716) 665-5124