

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 REFERENCING THESE DOCUMENTS IN ACCORDANCE WITH THE GOVERNING 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.

| MAXIMUM<br>FRAME<br>HEIGHT<br>(IN.) | MAXIMUM FRAME<br>WIDTH (IN.)     |                                  |
|-------------------------------------|----------------------------------|----------------------------------|
|                                     | INTERIOR<br>GLASS<br>OPTION<br>1 | INTERIOR<br>GLASS<br>OPTION<br>2 |
| 144                                 | 37                               | 50                               |
| 138                                 | 39                               | 52                               |
| 132                                 | 40                               | 54                               |
| 126                                 | 42                               | 57                               |
| 120                                 | 45                               | 60                               |
| 114                                 | 47                               | 63                               |
| 108                                 | 50                               | 66                               |
| 102                                 | 52                               | 70                               |
| 100                                 | 54                               | 72                               |
| 96                                  | 56                               | 72                               |
| 90                                  | 60                               | 72                               |
| 84                                  | 64                               | 72                               |
| 78                                  | 69                               | 72                               |
| 72                                  | 72                               | 72                               |

1. ALL SIZES IN TABLE ARE BASED ON TESTED SIZES & DO NOT EXCEED THE WINDOW AREA TESTED.
2. SEE GLAZING DETAILS FOR INTERIOR GLASS OPTIONS.
3. DIMENSIONS SHOWN ARE  $\pm 1/2"$ .

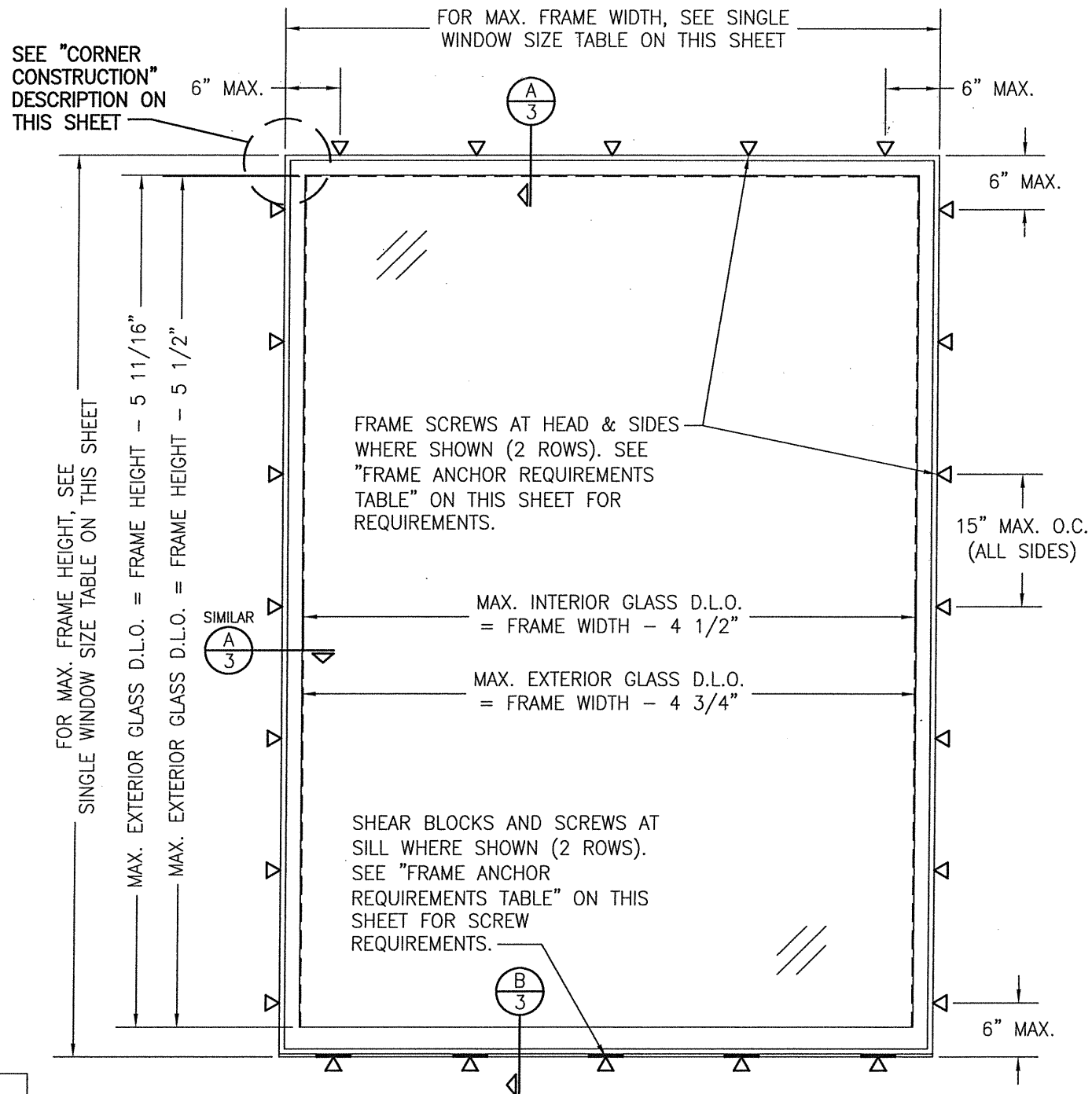
## +70/-70 PSF

## FRAME & SHEAR BLOCK SCREWS

| OPENING TYPE<br>(SUBSTRATE)                              | FRAME TO OPENING FASTENER TYPE                                           | MINIMUM<br>EMBED | MINIMUM<br>EDGE DIST. |
|----------------------------------------------------------|--------------------------------------------------------------------------|------------------|-----------------------|
| (2) MIN. 2X6 WOOD FRAME OR BUCK<br>(MIN. GR. 3 & G=0.55) | NO. 10 SMS OR WOOD SCREW                                                 | 1 1/4"           | 3/4"                  |
| MIN. 18 GA. 33 KSI METAL STUD                            | NO. 10 GR. 5 SELF TAP/DRILL SCREW                                        | FULL             | 1/2"                  |
| MIN. 1/8" THK A36 STEEL                                  | NO. 10 GR. 5 SELF TAP/DRILL SCREW                                        | FULL             | 1/2"                  |
| MIN. 1/8" THK 6063-T5 ALUM.                              | NO. 10 GR. 5 SELF TAP/DRILL SCREW                                        | FULL             | 1/2"                  |
| MIN. C-90 CMU OR 2500 PSI CONCRETE                       | (1) 1/4" CONCRETE SCREW AT SILL;<br>3/16" CONCRETE SCREW AT SIDES & HEAD | 1 1/4"           | 2"                    |

(1) CONCRETE SCREWS SHALL BE ELCO ULTRACONS, ELCO CRETE-FLEX, ITW RAMSET/RED HEAD TAPCONS OR HILTI KWIK-CON II (HARDENED STEEL OR S.S.).

(2) 2X6 BUCKS MAY BE RIPPED DOWN TO MINIMUM 4 1/2" ACTUAL DEPTH.

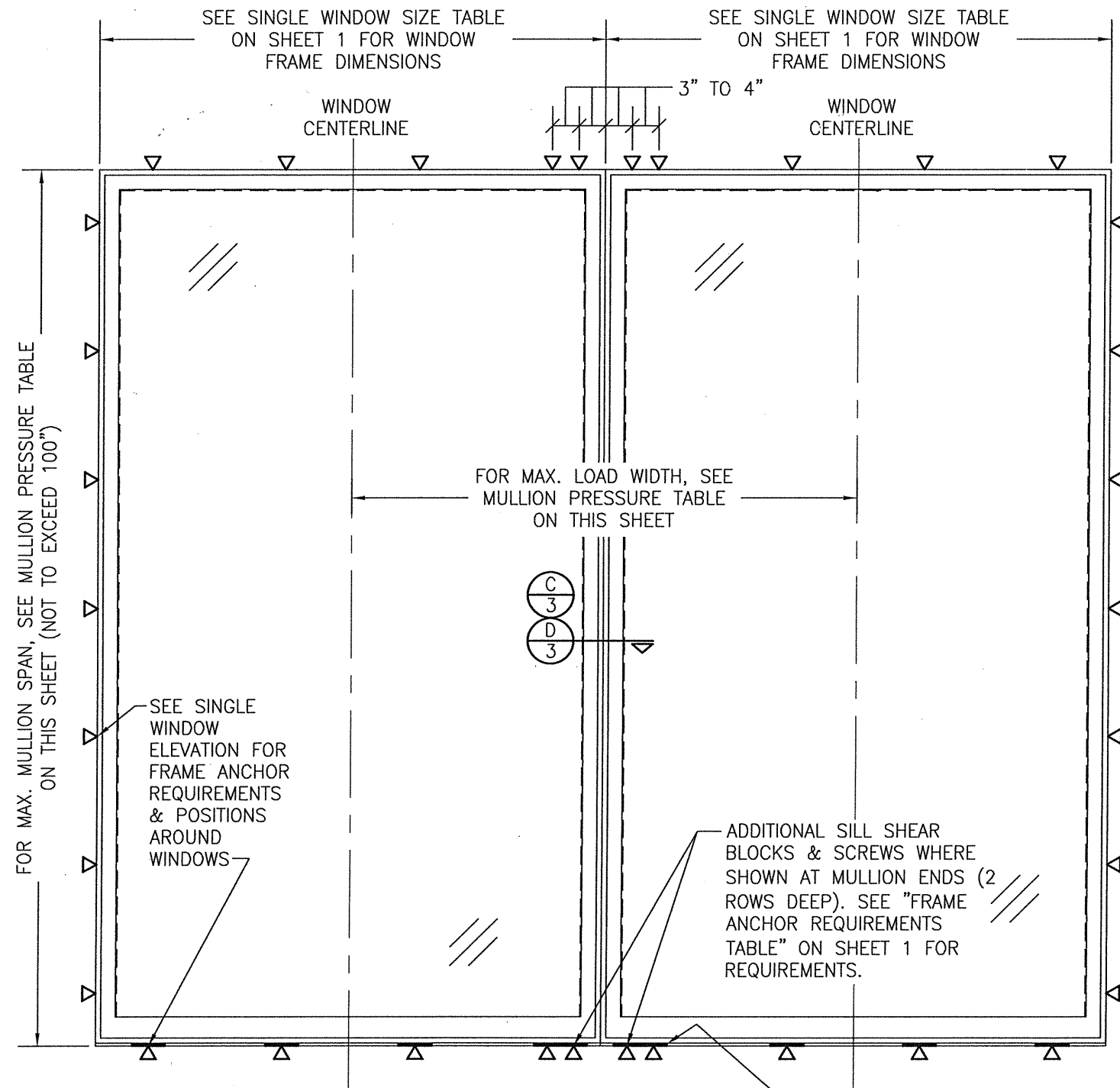


SCALE:  $3/4" = 1'-0"$

(LONG DIMENSION MAY BE HORIZONTAL OR VERTICAL)

MAIN FRAME: CORNERS ARE SQUARE CUT, SEALED WITH A GASKET, FASTENED WITH 5 NO. 8 X 1" SCREWS THROUGH THE JAMB INTO THE HEAD AND 8 NO. 8 X 1" SCREWS THROUGH THE JAMB INTO THE SILL AND SEALED WITH SILICONE. GLAZING SUPPORT LEG AND BEAD (PART #8 & 9): EACH ARE MITER CUT & SECURED WITH 1 NO. 8 X 1" SCREW.

|                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                                                           |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| DRAWING NO.<br><b>1717</b>                                                                                                                                         |  | REV.<br><b>D</b>                                                                                                                                                                                                                                                                                                                          |  |
| SHEET NO.<br><b>1</b> OF <b>4</b>                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                                                           |  |
| CERTIFICATION<br>                                                             |  | WARREN W. SCHAEFER, P.E.<br>P.E. NO. 44135                                                                                                                                                                                                                                                                                                |  |
| DRAWING TITLE<br><b>960 FIXED IMPACT WINDOW</b>                                                                                                                    |  | MANUFACTURER<br><b>ST. CLOUD WINDOW, INC.</b><br>390 INDUSTRIAL BLVD.<br>SAUK RAPIDS, MN 56379<br>320-251-9311                                                                                                                                                                                                                            |  |
| CONSULTANTS<br><b>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A. (CA 6809)</b><br>7480 150TH COURT NORTH<br>PALM BEACH GARDENS, FL 33418<br>PHONE: 561-744-3424 |  | NO.      REVISION DESCRIPTION      BY      DATE<br>A1      UPDATE TO CURRENT STANDARDS      W.R.M.      08/23/11<br>B1      UPDATE TO CURRENT STANDARDS      W.W.S.      01/12/15<br>& ADD OPTIONAL SILL DETAIL<br>C1      CHANGE SHIM SPACE TO 3/8"      W.W.S.      11/09/17<br>D1      EDIT SHEAR BLOCK INFO      W.W.S.      01/21/20 |  |
| DRAWN BY:<br>W.W.S.                                                                                                                                                |  | CHECKED BY:<br>W.W.S.                                                                                                                                                                                                                                                                                                                     |  |
| PLOT:<br>1=16                                                                                                                                                      |  | DATE:<br>09/28/10                                                                                                                                                                                                                                                                                                                         |  |



**EXTERIOR ELEVATION:  
MULTIPLE FIXED WINDOWS**  
SCALE: 3/4" = 1'-0"

NOTE: SILL SHEAR BLOCKS ARE CUT DOWN TO 3" LENGTHS AT MULLION END TO ALLOW FOR 3" ANCHOR SPACING.

**MULTIPLE UNIT NOTES:**

1. FOR ALL DETAIL NOT SHOWN, SEE SINGLE WINDOW ELEVATION.
2. MULLION MAY BE HORIZONTAL OR VERTICAL PROVIDING ALL UNIT SIZE RESTRICTIONS ARE AS SHOWN IN THIS ELEVATION AND THE SINGLE WINDOW ELEVATION ON SHEET 1..
3. THERE IS NO LIMIT ON THE NUMBER OF WINDOWS THAT MAY BE COMBINED IN ONE DIRECTION INTO ONE OPENING PROVIDING THE OPENING IS DESIGNED TO SUPPORT ALL LOADS TRANSFERRED FROM THE WINDOWS & THEIR MULLIONS.
4. INDIVIDUAL WINDOW SIZES SHALL BE RESTRICTED AS SPECIFIED IN THE SINGLE WINDOW ELEVATION.

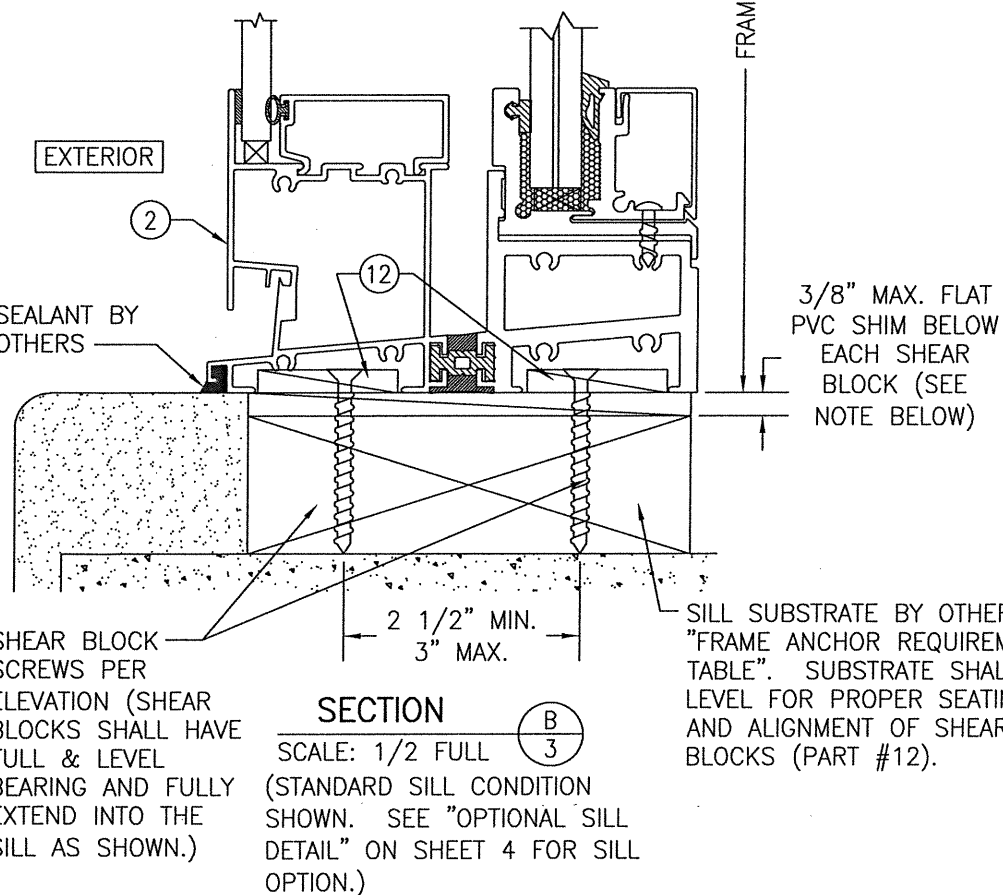
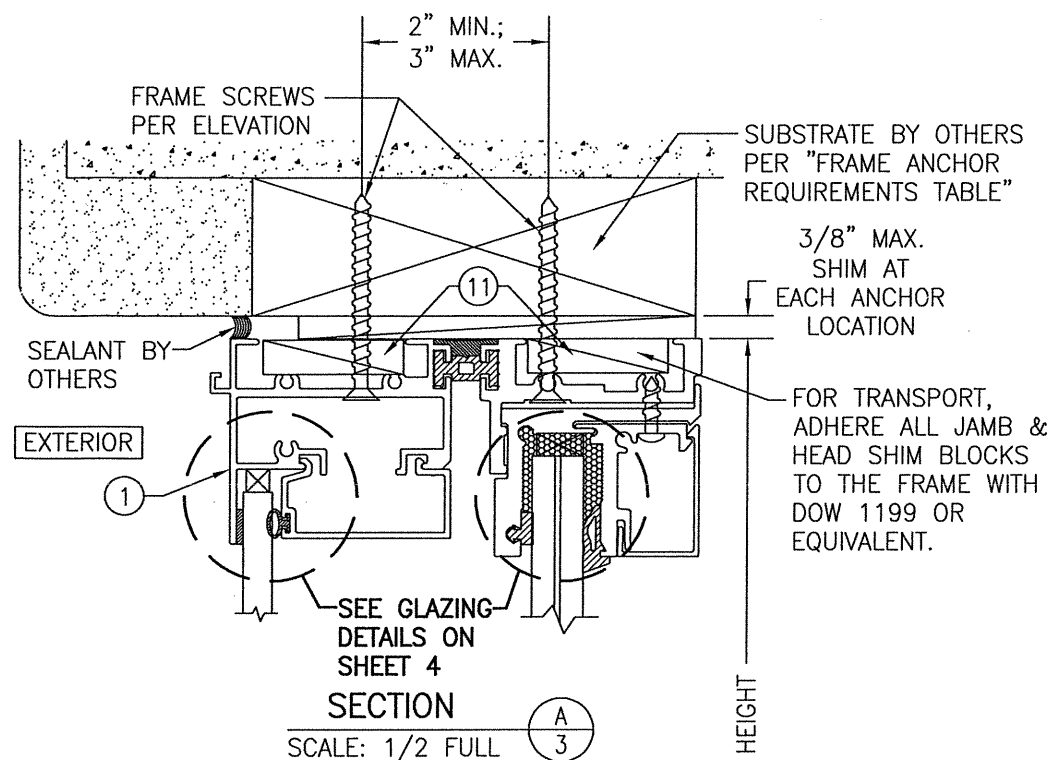
**MULLION ALLOWABLE DESIGN PRESSURE**

| MAXIMUM MULLION SPAN (IN.) | MAXIMUM LOAD WIDTH (IN.) |               | ALLOWABLE PRESSURE (+/- PSF) |
|----------------------------|--------------------------|---------------|------------------------------|
|                            | H-BAR MULLION            | I-BAR MULLION |                              |
| 100                        | 72                       | 72.75         | 40.9                         |
|                            | 66                       | 66.75         | 43.2                         |
|                            | 60                       | 60.75         | 46.3                         |
|                            | 54                       | 54.75         | 50.3                         |
|                            | 48                       | 48.75         | 55.2                         |
|                            | 42                       | 42.75         | 61.9                         |
|                            | 36                       | 36.75         | 70.0                         |
| 96                         | 72                       | 72.75         | 44.6                         |
|                            | 66                       | 66.75         | 46.9                         |
|                            | 60                       | 60.75         | 49.9                         |
|                            | 54                       | 54.75         | 53.6                         |
|                            | 48                       | 48.75         | 59.5                         |
|                            | 42                       | 42.75         | 65.6                         |
|                            | 38                       | 38.75         | 70.0                         |
| 90                         | 72                       | 72.75         | 52.2                         |
|                            | 66                       | 66.75         | 54.8                         |
|                            | 60                       | 60.75         | 57.4                         |
|                            | 54                       | 54.75         | 60.7                         |
|                            | 48                       | 48.75         | 65.2                         |
| 84                         | 43                       | 43.75         | 70.0                         |
|                            | 72                       | 72.75         | 59.8                         |
|                            | 66                       | 66.75         | 61.4                         |
|                            | 60                       | 60.75         | 63.8                         |
| 78                         | 54                       | 54.75         | 67.1                         |
|                            | 50                       | 50.75         | 70.0                         |
|                            | 72                       | 72.75         | 68.3                         |
| 77                         | 66                       | 66.75         | 69.6                         |
|                            | 64                       | 64.75         | 70.0                         |
|                            | 72                       | 72.75         | 70.0                         |

**NOTES:**

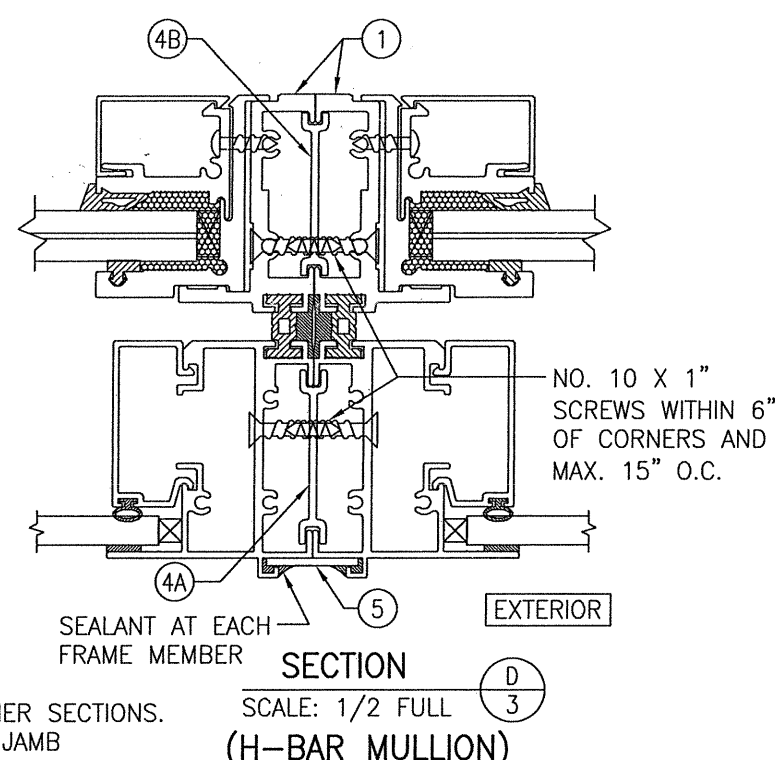
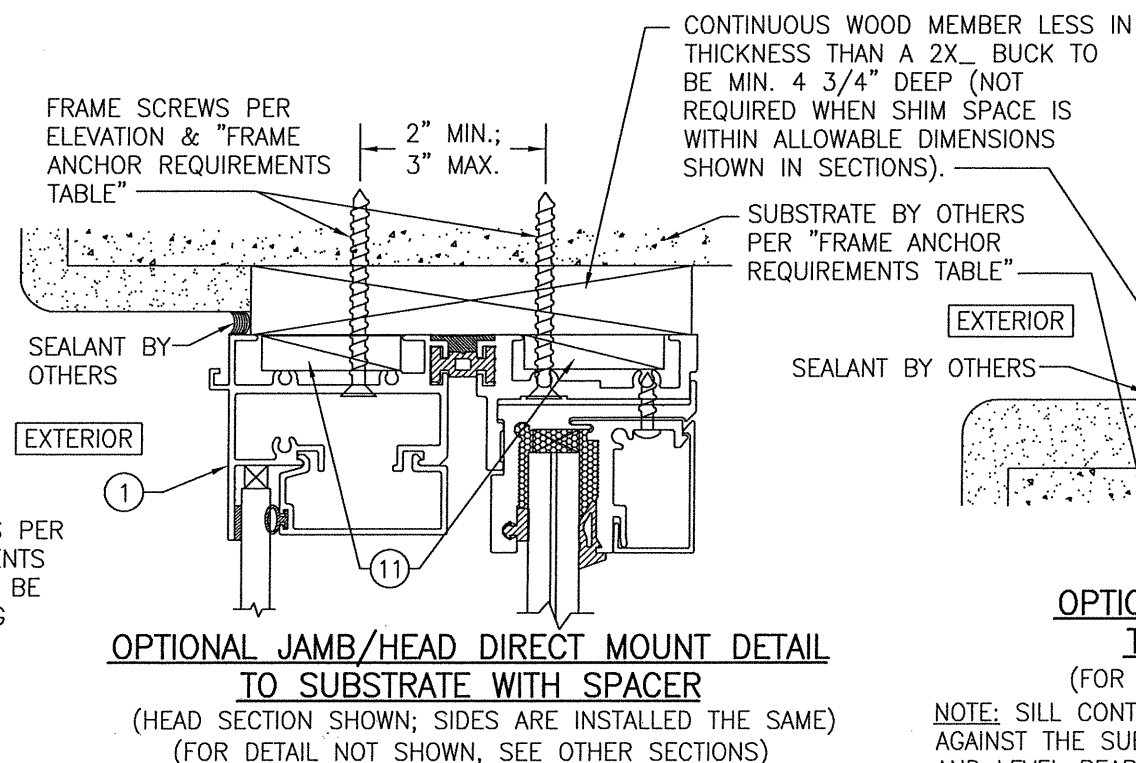
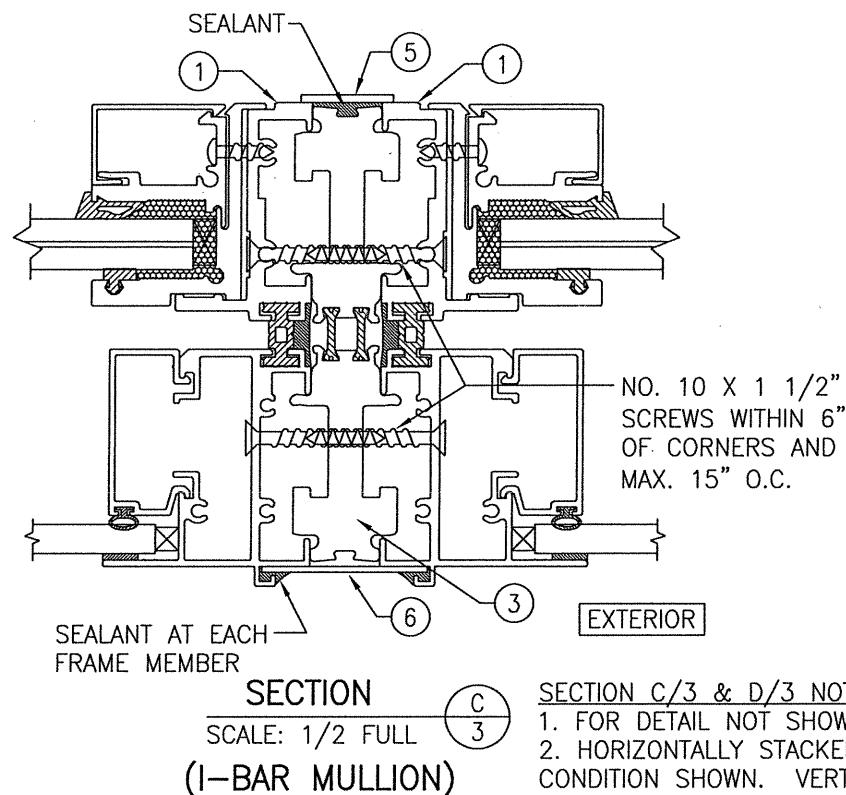
1. SEE ELEVATION FOR DIMENSIONING OF LOAD WIDTH.
2. ALLOWABLE UNIT PRESSURE SHALL BE THE LESSER OF THE PRESSURE SHOWN IN THIS TABLE & THAT SPECIFIED FOR THE INDIVIDUAL WINDOW.
3. SIZE VALUES IN TABLE ARE +/-1/2"

|                                                                                                                                                          |                      |                                                                                                          |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------|------|
| DRAWN BY: W.W.S.                                                                                                                                         |                      | CHECKED BY: W.W.S.                                                                                       |      |
| PLOT: 1=16                                                                                                                                               |                      | DATE: 09/28/10                                                                                           |      |
| NO.                                                                                                                                                      | REVISION DESCRIPTION | BY                                                                                                       | DATE |
|                                                                                                                                                          |                      |                                                                                                          |      |
| DRAWING TITLE: 960 FIXED IMPACT WINDOW                                                                                                                   |                      |                                                                                                          |      |
| CONSULTANTS:<br>W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809)<br>7480 150TH COURT NORTH<br>PALM BEACH GARDENS, FL 33418<br>PHONE: 561-744-3424 |                      | MANUFACTURER:<br>ST. CLOUD WINDOW, INC.<br>390 INDUSTRIAL BLVD.<br>SAUK RAPIDS, MN 56379<br>320-251-9311 |      |
| CERTIFICATION<br>STATE OF FLORIDA<br>JAN 21 2020<br>WARREN W. SCHAEFER, P.E.<br>P.E. NO. 44135                                                           |                      | DRAWING NO. 1717<br>REV. D<br>SHEET NO. 2 OF 4                                                           |      |



#### SILL SHIMMING REQUIREMENTS:

FLAT SHIMS AT SILL SHALL BE MINIMUM 3 3/4" WIDE X 4 1/2" DEEP AND BE PLACED DIRECTLY BELOW THE SHEAR BLOCKS SUCH THAT THE SHEAR BLOCKS SECURELY SIT FLUSH AND LEVEL ON THE SHIMS. INDIVIDUAL SHIM THICKNESS SHALL BE AS REQUIRED (NTE 3/8") TO INSURE ALL SHEAR BLOCKS FULLY EXTEND INTO THE SILL AS SHOWN.



#### OPTIONAL SILL DIRECT MOUNT DETAIL TO SUBSTRATE WITH SPACER

(FOR DETAIL NOT SHOWN, SEE OTHER SECTIONS)

NOTE: SILL CONTINUOUS WOOD MEMBER MUST BE LEVEL AND STABLE AGAINST THE SUBSTRATE TO INSURE THE SHEAR BLOCKS HAVE FULL AND LEVEL BEARING AND FULLY EXTEND INTO THE SILL AS SHOWN.

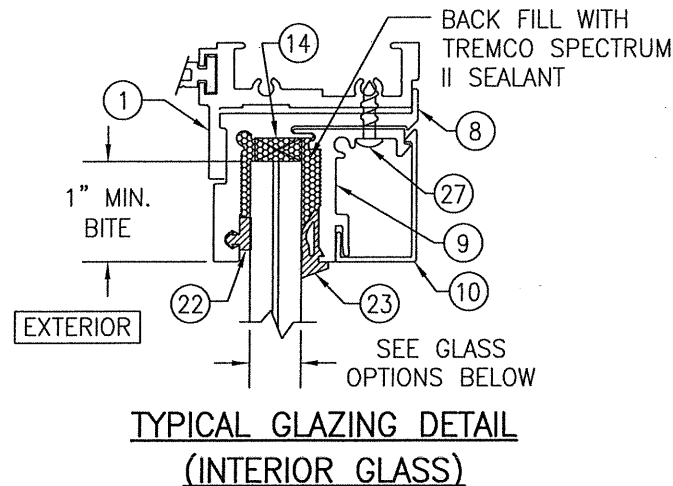
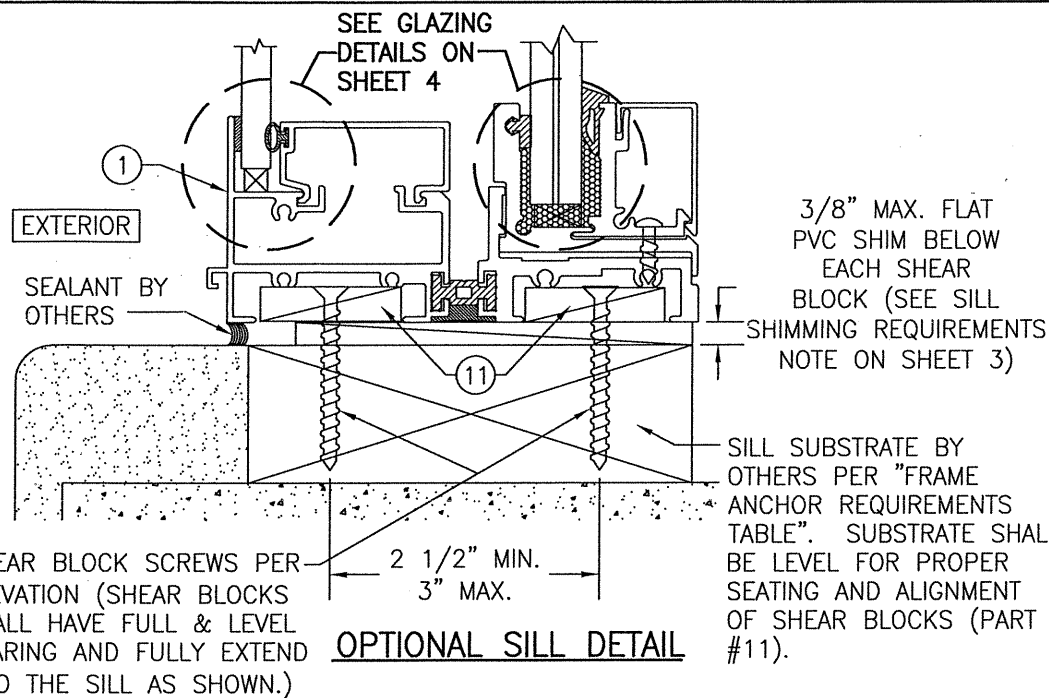
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| DRAWN BY: W.W.S. |          | CHECKED BY: W.W.S. |      |
| PLOT: 1=2        |          | DATE: 09/28/10     |      |
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ST. CLOUD WINDOW, INC.  
390 INDUSTRIAL BLVD.  
SAUK RAPIDS, MN 56379  
320-251-9311

W. W. SCHAEFER ENGINEERING  
& CONSULTING, P.A. (CA 6809)  
7480 150TH COURT NORTH  
PALM BEACH GARDENS, FL 33418  
PHONE: 561-744-3424

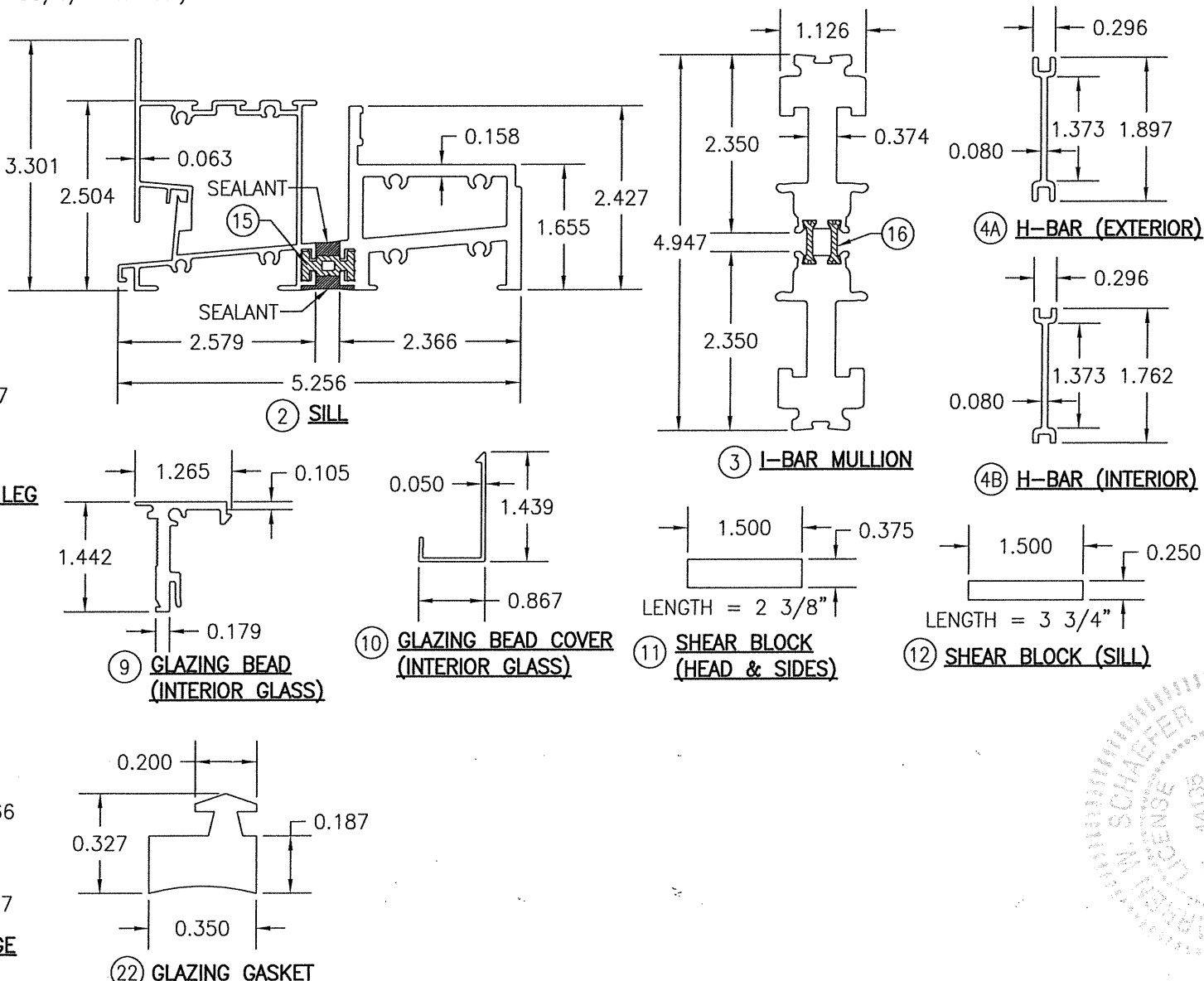
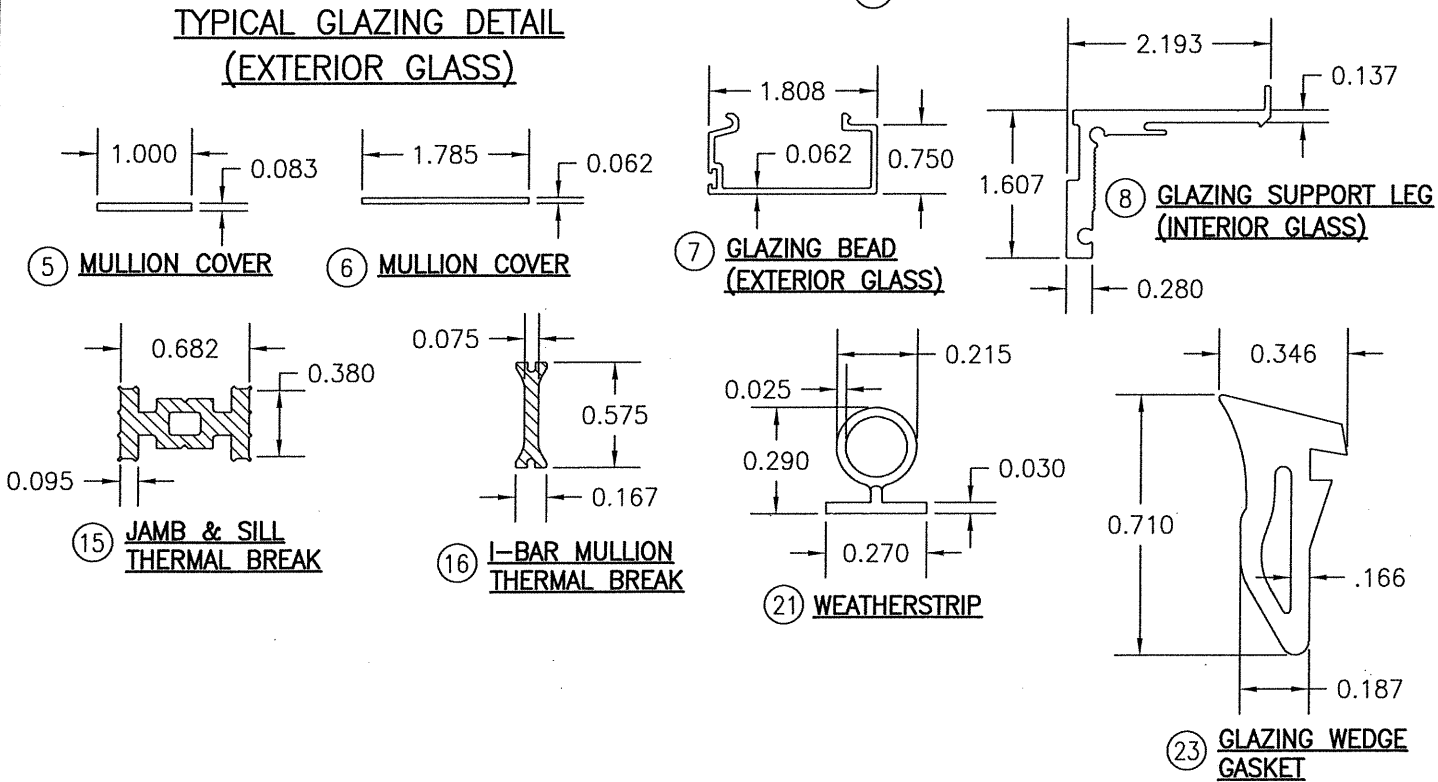
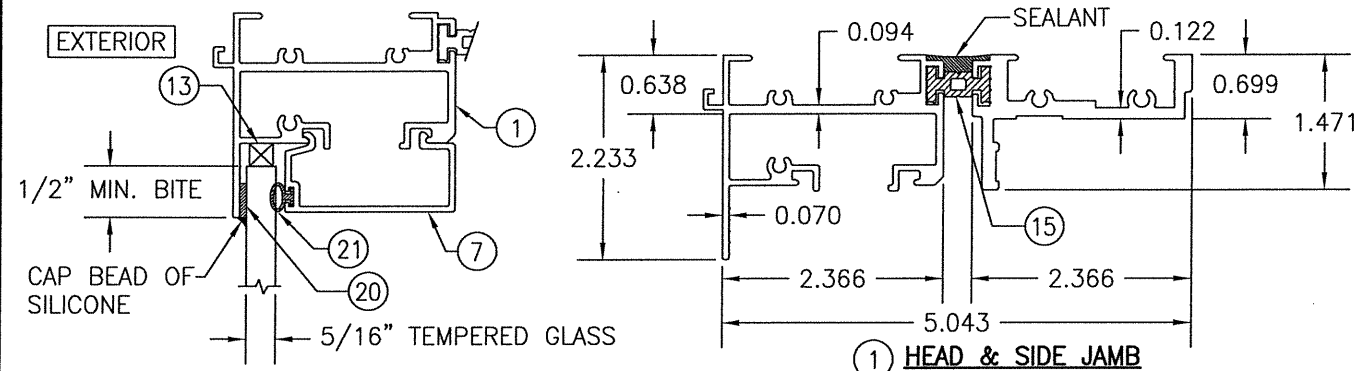
W. W. SCHAEFER, P.E.  
P.E. NO. 44135

DRAWING NO. 1717  
SHEET NO. 3 OF 4



**INTERIOR GLASS OPTIONS:**  
 OPTION 1: 9/16" LAMINATED GLASS (1/4 AN/0.09 DUPONT SG/1/4 AN)  
 OPTION 2: 9/16" LAMINATED GLASS (1/4 HT. ST./0.09 DUPONT SG/1/4 HT. ST.)

| ITEM #           | ITEM DESCRIPTION                          | MANUFACTURER/NOTES                            |
|------------------|-------------------------------------------|-----------------------------------------------|
| PARTS            |                                           |                                               |
| 1                | HEAD & SIDE JAMB                          | 6063-T6 ALUMINUM                              |
| 2                | SILL                                      | 6063-T6 ALUMINUM                              |
| 3                | I-BAR 4-PIECE MULLION                     | 6063-T6 ALUMINUM                              |
| 4A               | H-BAR (EXTERIOR)                          | 6063-T6 ALUMINUM                              |
| 4B               | H-BAR (INTERIOR)                          | 6063-T6 ALUMINUM                              |
| 5                | MULLION COVER                             | 6063-T6 ALUMINUM                              |
| 6                | MULLION COVER                             | 6063-T6 ALUMINUM                              |
| 7                | GLAZING BEAD (EXTERIOR GLASS)             | 6063-T6 ALUMINUM                              |
| 8                | GLAZING SUPPORT LEG (INTERIOR GLASS)      | 6063-T6 ALUMINUM                              |
| 9                | GLAZING BEAD (INTERIOR GLASS)             | 6063-T6 ALUMINUM                              |
| 10               | GLAZING BEAD COVER (INTERIOR GLASS)       | 6063-T6 ALUMINUM                              |
| 11               | SHIM BLOCK (HEAD & SIDES)                 | THK. HIGH DENSITY PVC                         |
| 12               | SHEAR BLOCK (SILL)                        | HIGH DENSITY PVC                              |
| 13               | 1/4" X 1/4" X 2" SETTING BLOCK            | HIGH DENSITY PVC (MINIMUM AS REQUIRED BY FBC) |
| 14               | 1/4" X 1/2" X 2" SETTING BLOCK            | HIGH DENSITY PVC (MINIMUM AS REQUIRED BY FBC) |
| 15               | JAMB & SILL THERMAL BREAK                 | GEON RIGID POLYVINYL CHLORIDE BY JIFRAM       |
| 16               | I-BAR MULLION THERMAL BREAK               | TECHNOFORM 945500                             |
| SEALS & SEALANTS |                                           |                                               |
| 20               | 1/16" X 3/8" BUTYL TAPE                   | TREMCO POLYSHIM II #71010B1760                |
| 21               | HOLLOW VINYL BULB WEATHERSTRIP            | ULTRAFAB E20118KN5020                         |
| 22               | GLAZING GASKET (SPONGE)                   | TREMCO CCN SPONGE WITH DART 1/8" #0800426EOE  |
| 23               | GLAZING WEDGE GASKET (DUROMETER = 70+/-5) | TREMCO STANDARD POLY-WEJ #0020126E7E          |
| FASTENERS        |                                           |                                               |
| 27               | NO. 8 X 5/8" S.S. SELF TAP SCREW          | 6" FROM ENDS & 12" MAX. O.C.                  |



|                                                                                                                                                     |    |                      |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|----|----------------------|-----|
| DRAWN BY: W.W.S.                                                                                                                                    |    | CHECKED BY: W.W.S.   |     |
| PLOT: 1=2                                                                                                                                           |    | DATE: 09/28/10       |     |
| DATE                                                                                                                                                | BY | REVISION DESCRIPTION | NO. |
|                                                                                                                                                     |    |                      |     |
| <b>ST. CLOUD WINDOW, INC.</b><br>390 INDUSTRIAL BLVD.<br>SAUK RAPIDS, MN 56379<br>320-251-9311                                                      |    |                      |     |
| <b>W. W. SCHAEFER ENGINEERING &amp; CONSULTING, P.A. (CA 6809)</b><br>7480 150TH COURT NORTH<br>PALM BEACH GARDENS, FL 33418<br>PHONE: 561-744-3424 |    |                      |     |
| DRAWING TITLE: 960 FIXED IMPACT WINDOW<br>CONSULTANTS:                                                                                              |    |                      |     |
| CERTIFICATION: <b>JAN 21 2020</b><br>WARREN W. SCHAEFER, P.E.<br>P.E. NO. 44135                                                                     |    |                      |     |
| DRAWING NO. 1717                                                                                                                                    |    | REV. D               |     |
| SHEET NO. 4                                                                                                                                         |    | OF 4                 |     |