

PRODUCT APPROVAL FOR HR-250 IMPACT-RESISTANT CAPTURED CURTAIN WALL SYSTEM WITH
MULTIPLE GLAZING INFILLS FOR USE IN HURRICANE ZONES REQUIRING LARGE MISSILE IMPACT PROTECTION.

GENERAL NOTES:

1. HR-250 CAPTURED CURTAIN WALL SYSTEM LARGE MISSILE IMPACT LAMINATED GLASS, SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2020 (7th EDITION) OF THE FLORIDA BUILDING CODE. CURTAIN WALL MAY BE INSTALLED WITHIN HIGH VELOCITY HURRICANE ZONES (HVHZ) AND OUT OF THEM (NHVHZ).
- DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1620 (HVHZ) & 1609 (NHVHZ) OF THE ABOVE MENTIONED CODE, FOR A BASIC WIND SPEED AS REQUIRED BY THE JURISDICTION WHERE THIS PRODUCT TO BE INSTALLED FOR A DIRECTIONALITY FACTOR $K_d=0.85$, USING ASCE 7-16 & SHALL NOT EXCEED THE MAXIMUM (A.S.D.) DESIGN PRESSURE RATING INDICATED ON NOTE 2.
- IN ORDER TO VERIFY THE ABOVE CONDITION, ULTIMATE DESIGN WIND LOADS DETERMINED PER ASCE 7-16 SHALL BE FIRST REDUCED TO A.S.D. DESIGN WIND LOADS BY MULTIPLYING THEM BY 0.6 IN ORDER TO COMPARE THESE W/ MAX. (A.S.D) DESIGN PRESSURE RATINGS INDICATED ON NOTE 2.
- IN ORDER TO VERIFY THAT ANCHORS ON THIS P.E.D., AS TESTED, WERE NOT OVERSTRESSED, A 33% INCREASE IN ALLOWABLE STRESS FOR WIND LOADS WAS NOT USED IN THEIR ANALYSIS.
- THIS PRODUCT'S ADEQUACY FOR IMPACT AND CYCLIC RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1626 & 1609.1.2 OF THE ABOVE MENTIONED CODE AS PER PROTOCOLS TAS-201, TAS-202, TAS-203, AND AAMA 501 (PER SECTIONS 2411.3.2.1.1 & 1709.8.4) PER HURRICANE TEST LABORATORY REPORTS # 0105-0210-04, 0105-0511-04, 0105-0306-04, 0105-0717-04, 0105-0809-04 AND 0105-0919-04 AND PER ARCHITECTURAL TESTING LABORATORY REPORT # A4707.01-801-18 AND AS PER SUBMITTED STRUCTURAL CALCULATIONS, PERFORMED AS PER SECTION 1616 OF THE FLORIDA BUILDING CODE.
2. MAXIMUM DESIGN PRESSURE RATING FOR THIS CURTAIN WALL SHALL BE AS SHOWN ON SHEETS 8, 9, 10, 12, 13 AND 14 THRU 17.
3. THIS PRODUCT WILL NOT REQUIRE A HURRICANE PROTECTION DEVICE FOR INSTALLATIONS UP TO 30 FEET ABOVE GRADE.
4. THIS PRODUCT IS APPROVED FOR AIR/WATER INFILTRATION (15.0 PSF WATER PRESSURE).
5. HR-250 CAPTURED CURTAIN WALL SYSTEM LARGE MISSILE IMPACT LAMINATED GLASS SHALL COMPLY WITH SECTION 2406 OF THE FLORIDA BUILDING CODE.
6. ALL STEEL FRAMING SHALL BE WELDED IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY A.W.S. D.1.1 REGULATIONS. USE CERTIFIED WELDERS. USE E-70XX ELECTRODES. ALL JOINT WELDING BETWEEN ANGLES AND STEEL STRUCTURE SHALL BE 3/16" FILLET WELD TYPE.
7. PROVIDE 3/4" MAX. LOAD BEARING SHIM SPACE, WHEN ALLOWED BY THIS P.E.D.
8. SEE ANCHOR SCHEDULES ON SHEETS 12, 13 AND 14 THRU 17 FOR ANCHOR TYPE IDENTIFICATION AND SPACING.
9. REMAINING COMPONENTS FOR THIS CURTAIN WALL SYSTEM SHALL BE AS INDICATED ON BILL OF MATERIALS, SHEETS 4 AND 5 OF THIS DRAWING.
10. ALL ALUMINUM EXTRUSIONS IN CONTACT WITH DISSIMILAR MATERIALS SHALL COMPLY WITH SECTION III-6 OF THE 2015 ALUMINUM DESIGN MANUAL.
11. SHOP DRAWINGS PREPARED BASED ON THIS APPROVAL AND TAKING INTO ACCOUNT THE SPECIFIC JOB CONDITIONS, SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AS PART OF THE PERMIT DOCUMENTS.
12. SUBSTRATE MATERIAL ON THESE DRAWINGS AS "BY OTHERS" MUST WITHSTAND THE LOADS IMPOSED BY THE CURTAIN WALL SYSTEM.
13. THIS PRODUCT'S INSTALLATION SHALL COMPLY WITH ALL SPECS INDICATED IN THIS DRAWING PLUS ANY BUILDING AND ZONING REGULATIONS PROVIDED BY THE JURISDICTION WHERE PERMIT IS APPLIED TO.
14. (a) THIS P.E.D. PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; I.E. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.E.D.
- (b) CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION INCLUDING LIFE SAFETY OF THIS PRODUCT, BASED ON THIS P.E.D., PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT. CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.
- (c) THIS P.E.D. WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.
- (d) SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.E.D. ENGINEER OF RECORD, ACTING AS DELEGATED ENGINEER TO THE P.E.D. ENGINEER, SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.
- (e) ORIGINAL P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.

15. PRODUCT MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT PRODUCT IN ACCORDANCE WITH SECTION 1709.5 OF THE FLORIDA BUILDING CODE. ONE LABEL SHALL BE PLACED FOR EVERY OPENING.

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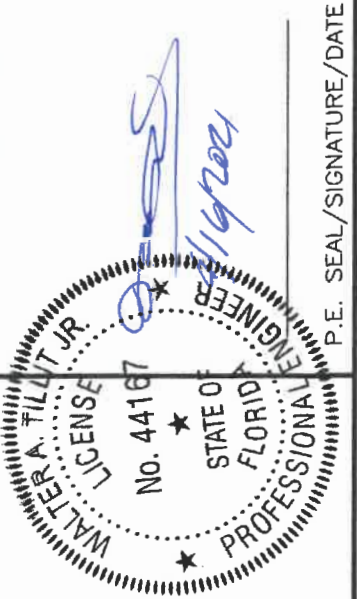
INSTRUCTIONS:

- STEP 1:** DETERMINE A.S.D. DESIGN WIND LOAD REQUIREMENTS BASED ON WIND VELOCITY, BUILDING HEIGHT, WIND ZONE, USING APPLICABLE ASCE 7 STANDARDS.
- STEP 2:** GO TO SCHEDULE ON SHEET 8 TO DETERMINE MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf) OF DESIRED GLASS SIZE BASED ON GLASS PANEL DIMENSIONS.
- STEP 3:** DETERMINE MAXIMUM MULLION AND JAMB SPAN "L"(FT) FOR A GIVEN MULLION EFFECTIVE SPACING "b", FOR SINGLE AND TWIN SPANS ON SCHEDULES ON SHEETS 9 AND 10.
- STEP 4:** USING SCHEDULES ON SHEETS 12, 13 AND 14 THRU 17 SELECT ANCHOR OPTION FOR MULLIONS AND JAMBS WITH A.S.D. DESIGN PRESSURE RATING EQUAL OR GREATER THAN A.S.D. DESIGN LOAD SPECIFIED IN STEP 1.
- STEP 5:** USING SCHEDULE ON SHEET 19, VERIFY MAXIMUM A.S.D. DESIGN PRESSURE RATING OF HORIZONTALS (IF USED) AND HORIZONTAL EXPANSION.
- STEP 6:** THE LOWEST VALUE OF A.S.D. DESIGN PRESSURE RATING RESULTING FROM STEPS 2, 3, 4 AND 5 SHALL APPLY TO THE ENTIRE SYSTEM.

THIS DRAWING SHALL ONLY BE USED TO
OBTAIN PERMITS IN THE STATE OF FLORIDA

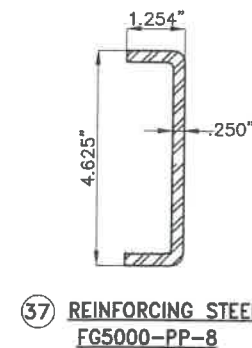
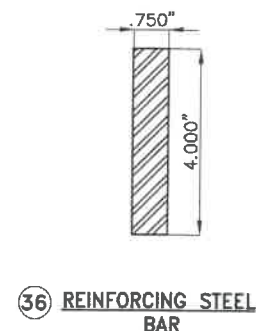
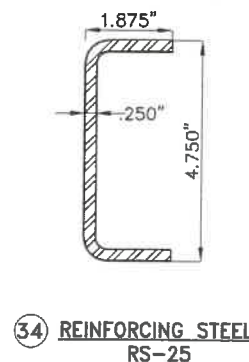
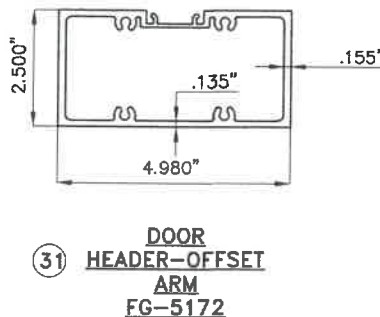
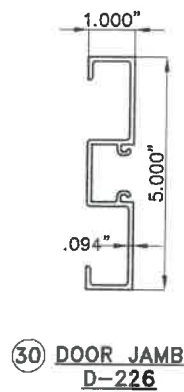
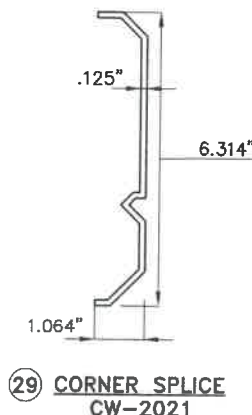
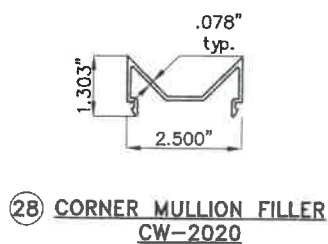
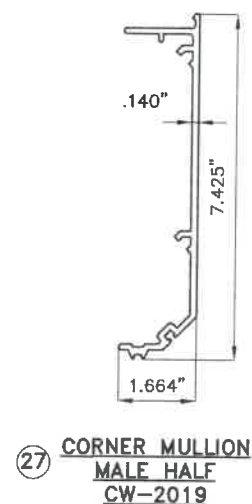
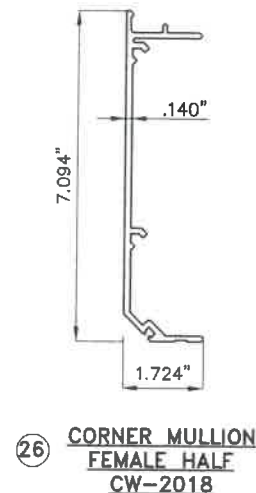
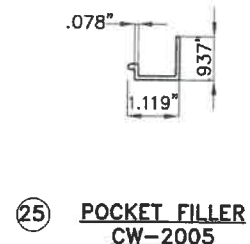
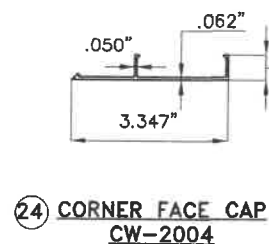
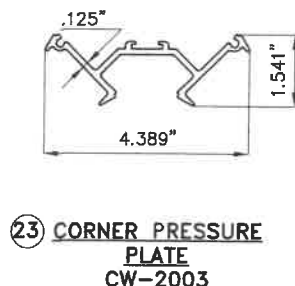
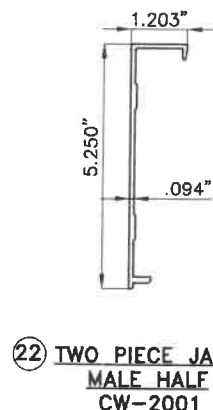
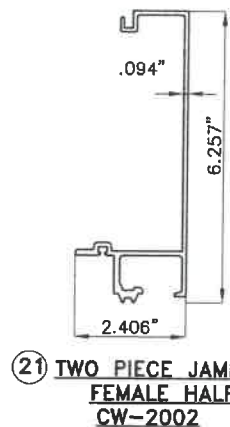
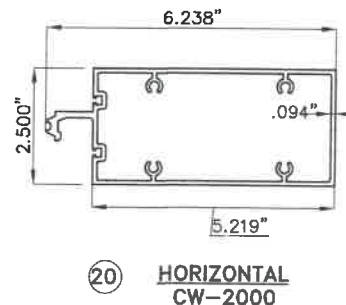
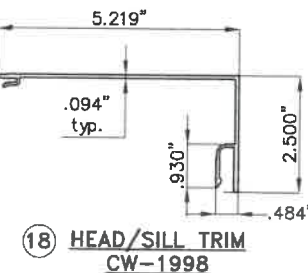
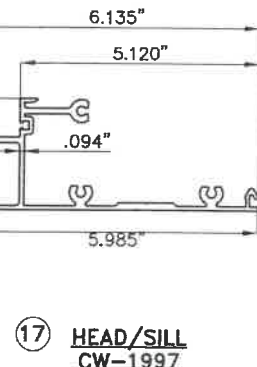
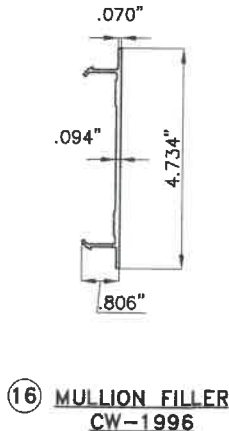
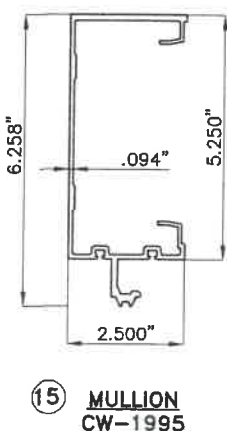
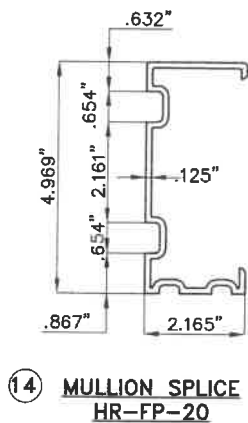
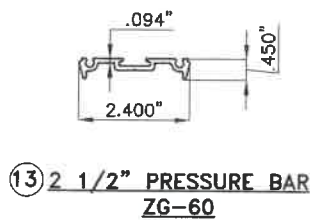
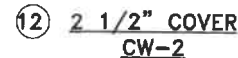
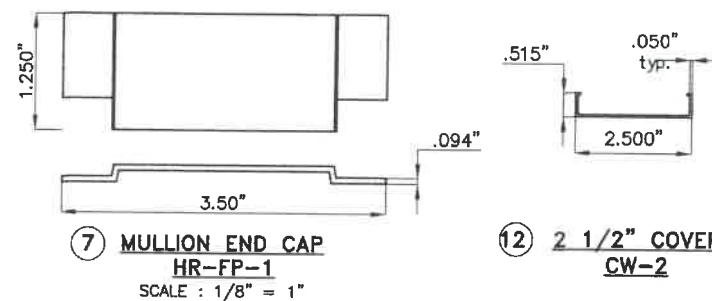
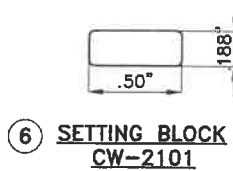
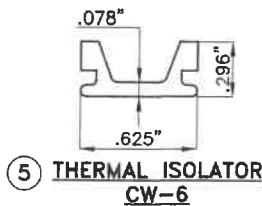
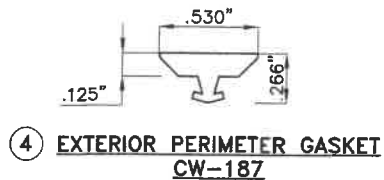
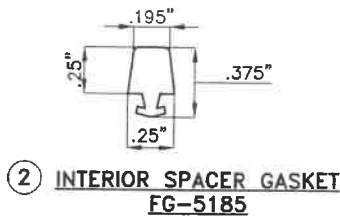
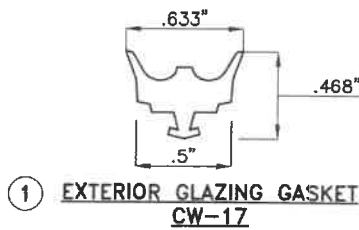
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REV. No		DATE		REV. No		DESCRIPTION	
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2		-		4		-	



HR-250 IMPACT RESISTANT CAPTURED CURTAIN WALL SYSTEM COMPONENTS

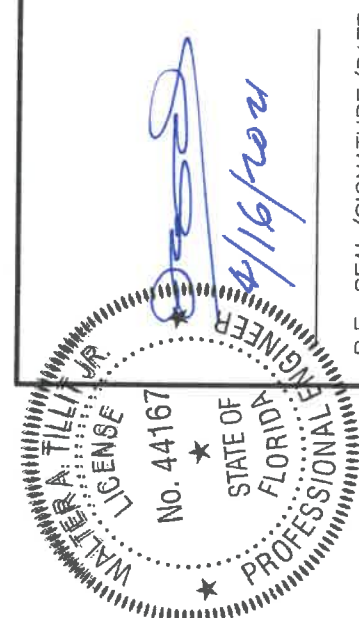
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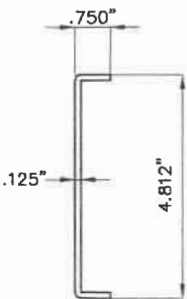
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REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	
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2	-	-	4	-	-	

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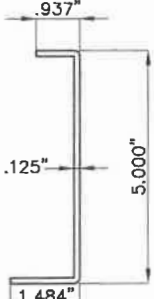


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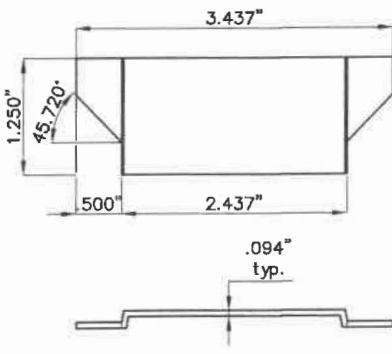
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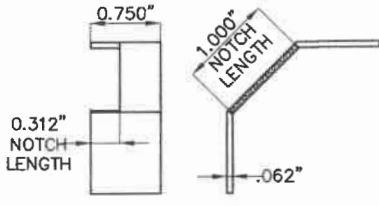
38 BRAKE METAL SPLICE
MALE
HR-FP-13



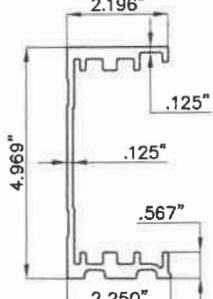
39 BRAKE METAL SPLICE
FEMALE
HR-FP-14



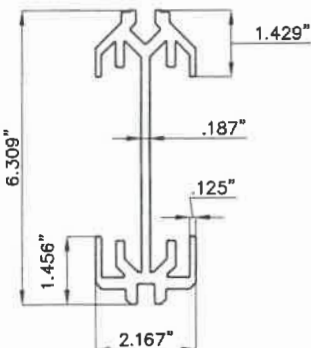
47 90° MULLION END CAP
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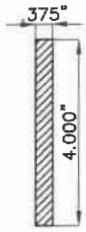
48 WATER DIVERTER
HR-FP-11
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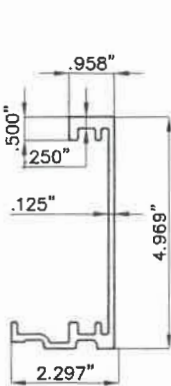
50 HEAD ANCHOR SLEEVE
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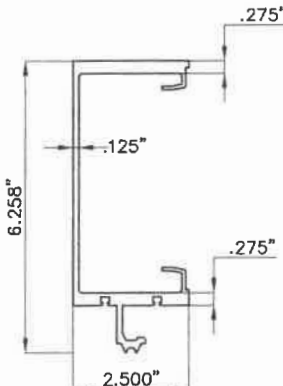
51 HEAD ANCHOR SLEEVE
CORNER HR-FP-17



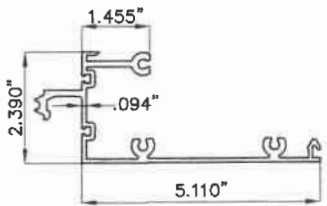
52 STEEL REINFORCING



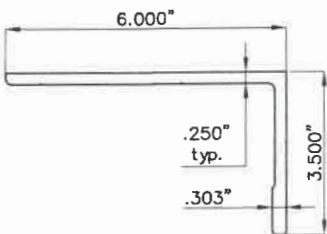
53 JAMB HEAD
ANCHOR SLEEVE
HR-FP-16



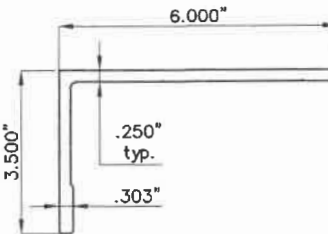
54 HEAVY MULLION
CW-2097



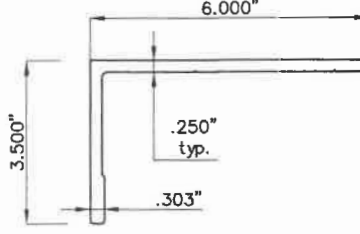
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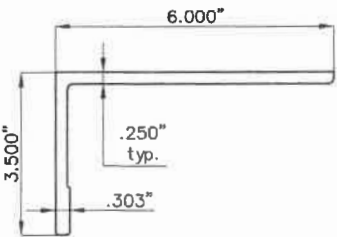
61 HEAD ANCHOR LEFT
HR-FP-24



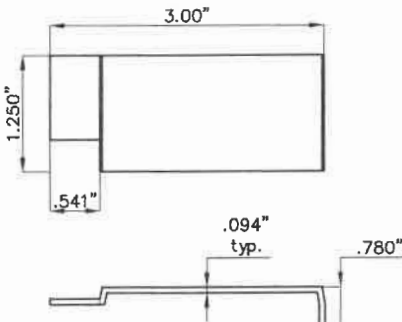
61A HEAD ANCHOR RIGHT
HR-FP-25



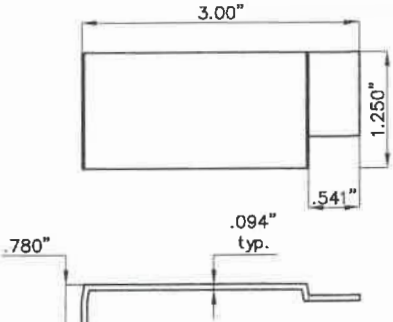
62 HEAD ANCHOR
CORNER LEFT
HR-FP-22



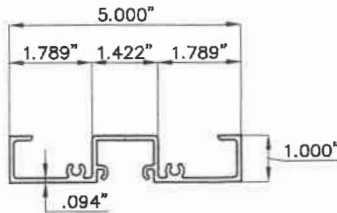
63 HEAD ANCHOR
CORNER RIGHT
HR-FP-23



66 RIGHT HAND JAMB
END CAP
HR-FP-2



67 LEFT HAND JAMB
END CAP
HR-FP-3



68 SUB-FRAME HEADER
D-231

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

HR-250 CAPTURED CURTAIN
WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS

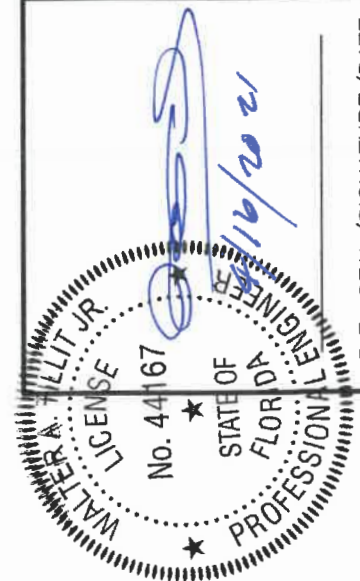
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21-057
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SHEET 3 OF 36

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TILTECO INC.

TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166
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e-mail: titlco@aol.com
CA-0006719
WALTER A. TILLIT JR., P.E.
FLORIDA Lic. # 44167

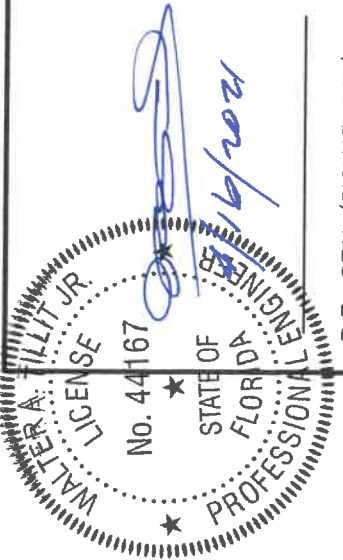


P.E. SEAL/SIGNATURE/DATE

BILL OF MATERIALS

ITEM No.	PART NUMBER	DESCRIPTION	DIMENSIONS	MATERIAL	MANUFACTURER	NOTES
1.	CW-17	EXTERIOR GLAZING GASKET	.190 SPACE	EPDM	VARIES	
2.	FG-5185	INTERIOR SPACER GASKET	.25 X .25	EPDM	VARIES	
3.	DOW 995	STRUCTURAL SILICONE	FILL SPACE	SILICONE	DOW CORNING	
4.	CW-187	EXTERIOR PERIMETER GASKET	.530 X .266	EPDM	VARIES	
5.	CW-6	THERMAL ISOLATOR	.625 X .296 X .078	EPDM	VARIES	
6.	CW-2101	SETTING BLOCK	.500 X .188 X 4" LONG	EPDM	VARIES	
7.	HR-FP-1	MULLION END CAPS	3.5 X 1.25 X .094	RIGID VINYL	VARIES	
8.	921 OR 795	PERIMETER SEALANT	FILL SPACE	POLYURETHANE/SILICONE	VULKEM OR DOW 795	
9.	FS-8	SPLINE ASSEMBLY SCREW	#14 X 1 HHSTS FS-322 (STALGARD COATED BY ELCO)	STEEL	VARIES	
10.	FS-7	JAMB SCREW	#10 X 3/4" PFH TYPE B	STEEL	VARIES	(2) ⦿ EA. HORIZ. 12" O.C. BETWEEN HORIZ. ⦿ (2) PIECES JAMB
11.	FS-322	PRESSURE PLATE SCREW	#12-14 X 1" HHW #3 FS-322 (STALGARD COATED BY ELCO)	STEEL	VARIES	(1) AT EACH 24" O.C.
12.	CW-2	2 1/2" COVER	.515 X 2.5 X .050	6063-T6 ALUMINUM	OBE	
13.	ZG-60	2 1/2" PRESSURE BAR	2.40 X .450 X .094	6063-T6 ALUMINUM	OBE	SEE NOTE: #1
14.	HR-FP-20	MULLION SPLICE	2.16 X 4.96 X .125 X 6" LONG	6063-T6 ALUMINUM	OBE	
15.	CW-1995	MULLION	2.50 X 6.26 X .094	6063-T6 ALUMINUM	OBE	
16.	CW-1996	MULLION FILLER	.806 X 4.734 X .094	6063-T6 ALUMINUM	OBE	
17.	CW-1997	HEAD/SILL	2.39 X 6.11 X .094	6063-T6 ALUMINUM	OBE	
18.	CW-1998	HEAD/SILL TRIM	2.50 X 5.219 X .094	6063-T5 ALUMINUM	OBE	
19.	NOT USED				OBE	
20.	CW-2000	HORIZONTAL	2.50 X 6.23 X .094	6063-T6 ALUMINUM	OBE	
21.	CW-2002	TWO PIECE JAMB - MALE	1.203 X 5.25 X .094	6063-T6 ALUMINUM	OBE	
22.	CW-2001	TWO PIECE JAMB - FEMALE	2.40 X 6.25 X .094	6063-T6 ALUMINUM	OBE	
23.	CW-2003	CORNER PRESSURE PLATE	1.541 X 4.389 X .125	6063-T5 ALUMINUM	OBE	
24.	CW-2004	CORNER FACE CAP	.546 X 3.347 X .062	6063-T5 ALUMINUM	OBE	
25.	CW-2005	POCKET FILLER	.937 X 1.119 X .078	6063-T5 ALUMINUM	OBE	
26.	CW-2018	CORNER MULLION - FEMALE	1.724 X 7.094 X .140	6063-T6 ALUMINUM	OBE	
27.	CW-2019	CORNER MULLION - MALE	1.724 X 7.094 X .140	6063-T6 ALUMINUM	OBE	
28.	CW-2020	CORNER MULLION FILLER	1.303 X 2.50 X .078	6063-T5 ALUMINUM	OBE	
29.	CW-2021	CORNER SPLICE	1.064 X 6.314 X .125	6063-T6 ALUMINUM	OBE	6" LONG
30.	D-226	DOOR JAMB	1.00 X 5.00 X .094	6063-T6 ALUMINUM	OBE	
31.	FG-5172	DOOR HEADER-OFFSET ARM	2.50 X 4.98 X .135	6063-T6 ALUMINIUM	OBE	
32.	FASTENER	STEEL REINFORCING ATTACHMENT BOLT	1/4-20 X 2" BOLT WITH WASHER AND NUT	STEEL	VARIES	
33.	**	BLUNDER PLUG (OPTIONAL)	1 1/4" DIA.	.	VARIES	ALT. PERIMETER ANCHOR ATTACHMENT ⦿ JAMBS
34.	RS-25	REINFORCING STEEL	4 11/16" X 1 7/8" X 1/4" CHANNEL	A36 STEEL	VARIES	USED ⦿ VERT. MULLION COATED ZINC RICH PRIMER
35.	NOT USED					
36.	**	REINFORCING STEEL BAR	3/4" X 4" STL. BAR	A36 STEEL	VARIES	USED ⦿ VERT. MULLION COATED ZINC RICH PRIMER
37.	FG5000-PP-8	REINFORCING STEEL	4 1/2" X 1 1/4" X 1/4" CHANNEL	A36 STEEL	VARIES	
38.	HR-FP-13	BRAKE METAL SPLICE - MALE	.75 X 4.812 X .75 X .125 X 8" LONG	3030 ALUMINUM	VARIES	USED ⦿ JAMBS 6" LONG
39.	HR-FP-14	BRAKE METAL SPLICE - FEMALE	.937 X 5.00 X 1.437 X .125 X 8" LONG	3030 ALUMINUM	VARIES	USED ⦿ JAMBS 6" LONG
40.	FASTENER	ANCHOR BOLT	5/8-11 X 4 1/2" GRD 5 BOLT AND HEX NUT AND WASHER	STEEL	VARIES	ZINC COATED, PER ASTM B-633

NOTE #1: ALL VERTICALS PRESSURE PLATES SHALL BE CUT 1/4" SHORT IN LENGTH TO ALLOW FOR WEEP SLOT

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)	M.P. DRAWN BY:	04/15/2021 DATE	21-057 DRAWING No	SHEET 4 OF 36
	HR-250 CAPTURED CURTAIN WALL SYSTEM LARGE MISSILE IMPACT LAMINATED GLASS			
©2021 TILTECO, INC.		 Oldcastle BuildingEnvelope™ 803 Airport Rd - Terrell, TX 75160 www.OldcastleBE.com - Phone 800-869-4567		
 TILTECO INC. TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 38th, St., Ste. 305, VIRGINIA GARDENS, FL 33166 Phone : (305)971-1530 . Fax : (305)971-1531 e-mail: tilteco@aol.com CA-0006719 WALTER A. TILLIT, Jr., P.E. FLORIDA Lic. # 44167		REV. No. 1 DATE 04/15/21 DESCRIPTION OLD 18-031 REV. No. 3 DATE DESCRIPTION		
		P.E. SEAL/SIGNATURE/DATE		

BILL OF MATERIALS (CONTINUED)

ITEM No.	PART NUMBER	DESCRIPTION	DIMENSIONS	MATERIAL	MANUFACTURER	NOTES
41.	**	STEEL DEADLOAD ANCHOR	4" X 6" X 5/16" X 5" LONG	A36 STEEL	VARIES	USED @ MULLIONS & JAMB. ZINC COATED, PER ASTM B-633
42.	**	SLIP PAD	4" X 4" X .063	NYLATRON	KORALATH	USED @ MID POINT ANCHORS
43.	FASTENER	JAMB ANCHOR BOLT	5/8"-11 X 1 1/2" BOLT	A36 STEEL	VARIES	ZINC COATED, PER ASTM B-633
44.	**	JAMB TAP PLATE	4" X 6" X 1/4"	A36 STEEL	VARIES	USED @ MID POINT ANCHORS
45.	FS-323	JAMB TAP PLATE SCREW	#12 X 1" PFH SCREW TYPE B	STEEL	VARIES	
46.	**	STEEL DEADLOAD ANCHOR @ CORNER	4" X 8" X 1/4" X 5" LONG	A36 STEEL	VARIES	USED @ 90° CORNER. ZINC COATED, PER ASTM B-633
47.	HR-FP-7	90 DEG MULLION END CAP	3.437 X 1.25 X .094	RIGID VINYL	OLDCASTLE BUILDINGENVELOPE	TOP & BOTTOM OF MULLION
48.	HR-FP-11	WATER DIVERTER	0.875 X 1.061 X 0.875 X .062	VINYL	VARIES	0.75" LONG. SEE NOTE #2 BELOW
49.	SM-5601	JOINT SEALANT TAPE	.125 X .500 X VARIES	BUTYL	SCHNEE-MOREHEAD	USED @ END OF INTERM HORIZONTALS
50.	HR-FP-15	HEAD ANCHOR SLEEVE	2 3/16" X 4 15/16" X 2 1/2" LONG	6063-T6 ALUMINUM	VARIES	
51.	HR-FP-17	HEAD ANCHOR SLEEVE CORNER	2 3/16" X 6 3/16" X 3" LONG	6063-T6 ALUMINUM	VARIES	USED @ JAMBS
52.	**	STEEL REINFORCING	3/8" X 4" STL. BAR	A36 STEEL	VARIES	ZINC COATED, PER ASTM B-633
53.	HR-FP-16	JAMB HEAD ANCHOR SLEEVE	2 3/16" X 5 5/16" X 5 1/8" LONG	6063-T6 ALUMINUM	OLDCASTLE BUILDINGENVELOPE	USED @ JAMBS
54.	CW-2097	HEAVY MULLION	2.50 X 6.26 X .125	6063-T6 ALUMINUM	OLDCASTLE BUILDINGENVELOPE	
55.	CW-2117	OPEN BACK HORIZONTAL	2.39 X 5.11 X .094	6063-T6 ALUMINUM	OLDCASTLE BUILDINGENVELOPE	
59.	FASTENER	STEEL REINFORCING ATTACHMENT BOLT	1/4-20 X 2" BOLT WITH WASHER AND NUT SAE GRADE 5	STEEL	VARIES	ZINC COATED, PER ASTM B-633
60.	FASTENER	STEEL REINFORCING ATTACHMENT BOLT	1/4-20 X 3 1/2" BOLT WITH WASHER AND NUT SAE GRADE 5	STEEL	VARIES	THROUGH-BOLT @ (55) HORIZONTALS ZINC COATED, PER ASTM B-633
61.	HR-FP-24	HEAD ANCHOR LEFT	3 1/2" x 6" x 4 1/4" LONG	6063-T6 ALUMINUM	OLDCASTLE BUILDINGENVELOPE	
61A.	HR-FP-25	HEAD ANCHOR RIGHT	3 1/2" x 6" x 4 1/4" LONG	6063-T6 ALUMINUM	OLDCASTLE BUILDINGENVELOPE	
62.	HR-FP-22	HEAD ANCHOR CORNER LEFT	2.147" X 6.314" X .125"	6063-T6 ALUMINUM	OLDCASTLE BUILDINGENVELOPE	
63.	HR-FP-23	HEAD ANCHOR CORNER RIGHT	2.147" X 6.314" X .25"	6063-T6 ALUMINUM	OLDCASTLE BUILDINGENVELOPE	
64.	FASTENER	STEEL REINFORCING ATTACHMENT BOLT	1/4-20 X 1 1/2" BOLT WITH WASHER AND NUT SAE GARDE 5	STEEL	VARIES	THROUGH-BOLT @ ALL HORIZONTALS
66.	HR-FP-2	RIGHT HAND JAMB END CAP	3 X 1.25 X .094	RIGID VINYL	VARIES	SEE NOTE # 2 BELOW
67.	HR-FP-3	LEFT HAND JAMB END CAP	3 X 1.25 X .094	RIGID VINYL	VARIES	SEE NOTE # 2 BELOW
68.	D-231	SUB-FRAME HEADER	1.00 X 5.00 X .094	6063-T6 ALUMINUM	OLDCASTLE BUILDINGENVELOPE	
69.	FASTENER	PERIMETER ANCHOR	1/4" TAPCON	STEEL	VARIES	

** NO PART NUMBER ASSIGNED

NOTE #2-BEAD OF DOW CORNING 995 SILICONE SHALL BE APPLIED TO FRAME SURFACE BEFORE PART IS INSTALLED

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

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**HR-250 CAPTURED CURTAIN
WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS**

TILTECO INC.

TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th, St., Ste. 305, VIRGINIA GARDENS, FL. 33168
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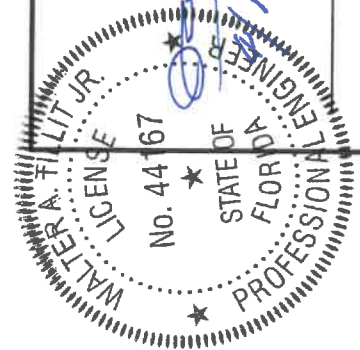
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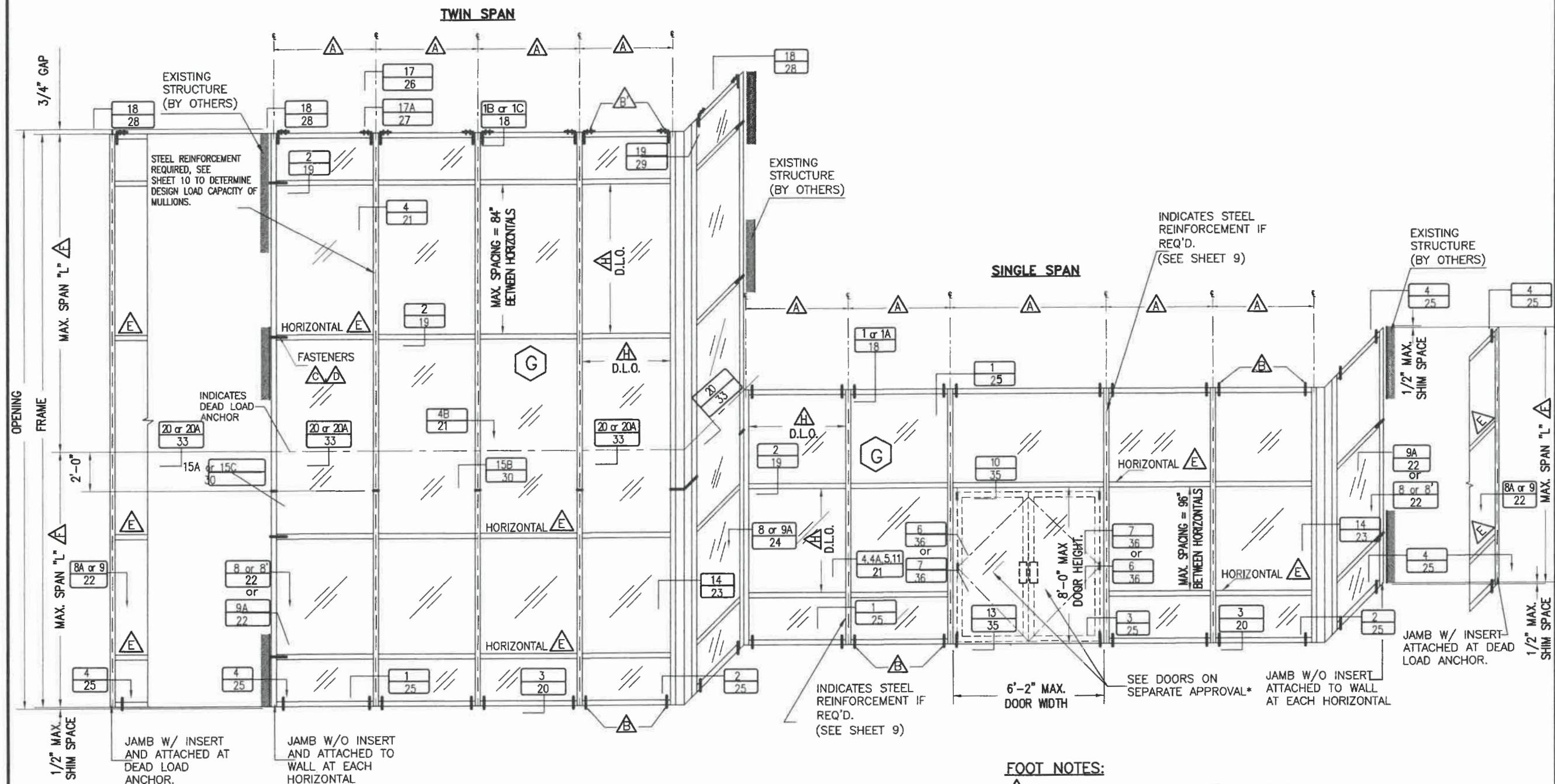
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ISOMETRIC ELEVATION FOR HR-250 IMPACT RESISTANT CAPTURED CURTAIN WALL SYSTEM

N.T.S.



* WHEN INSTALLING A DOOR IN THIS SYSTEM, PANELS ADJACENT TO DOOR MUST BE GLAZED WITH SAFETY GLASS, PER GLASS TYPES G31A OR G33A.

FOOT NOTES:

- A FOR MULLION SPACING SEE SHEETS 9 AND 10.
- B FOR HEAD (AT SINGLE SPAN CASE) AND SILL (AT SINGLE AND TWIN SPAN CASES), FASTENERS QUANTITY, TYPES AND SPECS SEE SHEET 12.
- B FOR HEAD (AT TWIN SPAN), FASTENERS QUANTITY, TYPES AND SPECS SEE SHEET 13.
- C FOR JAMB FASTENERS QUANTITY, TYPES AND SPECS SEE SHEETS 14 THRU 17.
- D SEE SHEETS 14 THRU 17 FOR MAXIMUM A.S.D. DESIGN PRESSURE RATING FOR JAMBS CONNECTED TO EXISTING STRUCTURE.
- E USE OF HORIZONTALS (SEE SECTION 2/19 AND 2A/19) DESIGN LOADS FOR LIMITATIONS.
- F FOR MAXIMUM MULLION SPAN SEE SHEETS 9 AND 10.
- G FOR GLAZING DETAILS AND GLASS SCHEDULE SEE SHEET 7.
- H FOR MAXIMUM D.L.O. SEE SCHEDULE ON SHEET 8.

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

HR-250 CAPTURED CURTAIN WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS

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SHEET 6 OF 36

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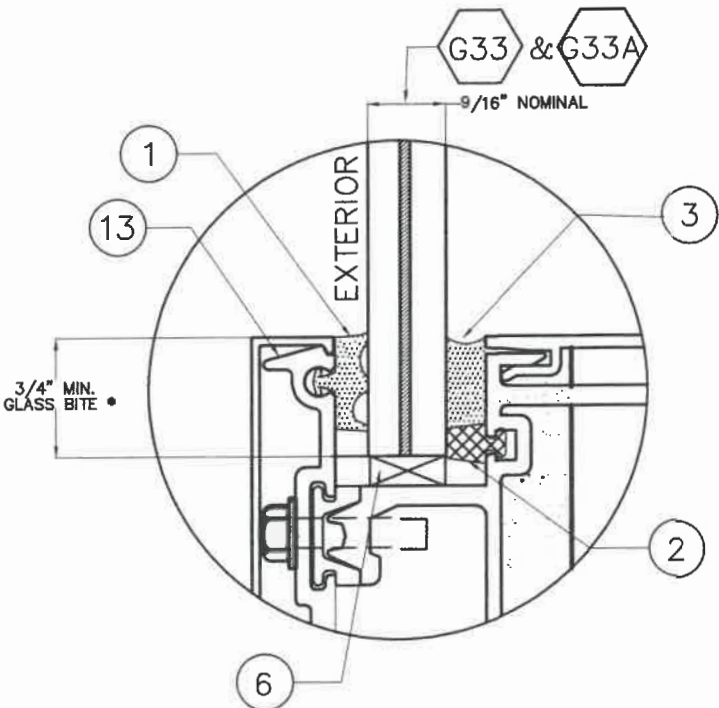
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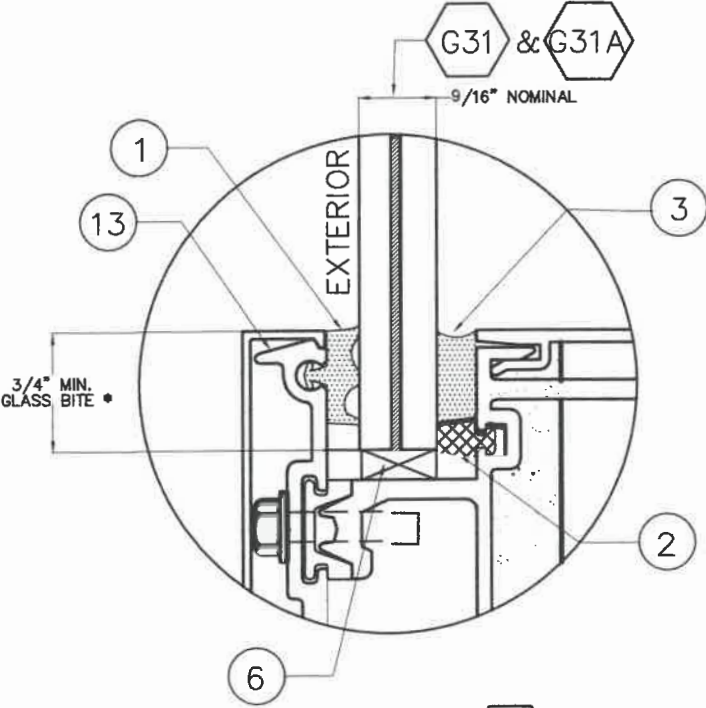
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TYPICAL GLAZING DETAILS

* USE 13/16" MIN. GLASS BITE AT CORNER MULLION LOCATIONS (SEE SHEETS 25 AND 32)
SCALE 1/8" = 1"



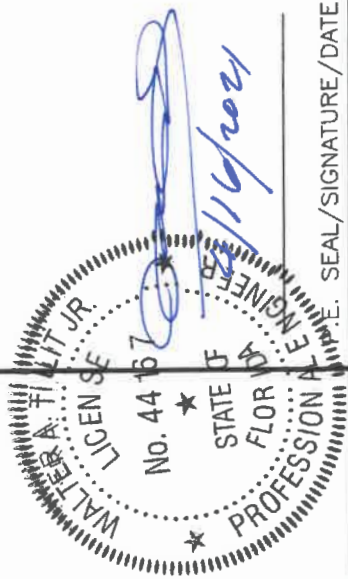
GLASS TYPE G33



GLASS TYPE G31

GLASS SCHEDULE

GLASS LABEL	GLASS COMPOSITION	MANUFACTURER NAME	MAX. D.L.O.	MISSILE TYPE
G33	9/16" OVERALL THICKNESS LAMINATED GLASS CONSISTING OF EXTERIOR (2) 1/4" H.S. AND .075" SAFLEX CP SAFLEX & SAFLEX HP COMPOSITE GLASS INTERLAYERS W/ PET CORE	EASTMAN CHEMICAL COMPANY	SEE SCHEDULE ON SHEET 8	LARGE MISSILE IMPACT
G31	9/16" OVERALL THICKNESS LAMINATED GLASS CONSISTING OF EXTERIOR (2) 1/4" H.S. AND .090" SAFLEX MULTI-LAYER (SERIES PVB) INTERLAYER.	EASTMAN CHEMICAL COMPANY	SEE SCHEDULE ON SHEET 8	LARGE MISSILE IMPACT
G33A	9/16" OVERALL THICKNESS LAMINATED GLASS CONSISTING OF EXTERIOR (2) 1/4" TEMPERED H.S. AND .075" SAFLEX CP SAFLEX & SAFLEX HP COMPOSITE GLASS INTERLAYERS W/ PET CORE	EASTMAN CHEMICAL COMPANY	SEE SCHEDULE ON SHEET 8	LARGE MISSILE IMPACT
G31A	9/16" OVERALL THICKNESS LAMINATED GLASS CONSISTING OF EXTERIOR (2) 1/4" TEMPERED H.S. AND .090" SAFLEX MULTI-LAYER (SERIES PVB) INTERLAYER.	EASTMAN CHEMICAL COMPANY	SEE SCHEDULE ON SHEET 8	LARGE MISSILE IMPACT



FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

HR-250 CAPTURED CURTAIN WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS

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REV. No

1

DESCRIPTION

QLD 18-031

DATE

04/15/21

REV. No

3

DESCRIPTION

DATE

REV. No

4

DESCRIPTION

DATE

SHEET 7 OF 36

MAXIMUM FRAME WIDTH "a" AND FRAME LENGTH "b" VERSUS A.S.D.
DESIGN PRESSURE RATING (psf) SCHEDULE *

GLASS TYPE G33 & G33A

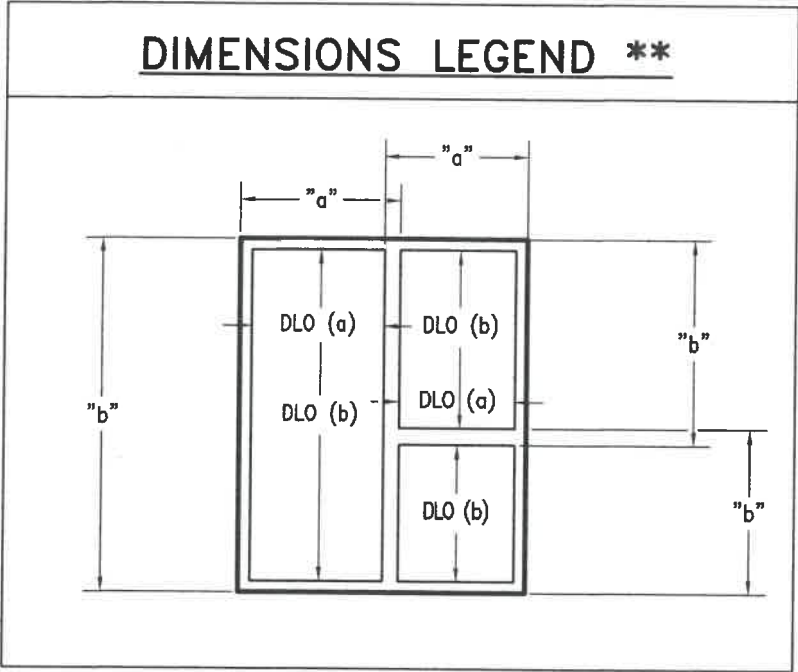
DIMENSION "a" *	DIMENSION "b" *	MAXIMUM A.S.D.DESIGN PRESSURE RATING(psf)
24"	from 24" to 101"	±100.0
30"	from 30" to 101"	±100.0
36"	from 36" to 101"	±100.0
42"	from 42" to 101"	±100.0
48"	from 48" to 101"	±100.0
54"	from 54" to 101"	±100.0
60"	from 60" to 101"	±100.0
66"	from 66" to 95"	±94.5
72"	from 72" to 87.5"	±86.5
78"	from 78" to 80.5"	±80.0

GLASS TYPE G31 & G31A

DIMENSION "a" *	DIMENSION "b" *	MAXIMUM A.S.D.DESIGN PRESSURE RATING(psf)
24"	from 24" to 101"	±90.0
30"	from 30" to 101"	±90.0
36"	from 36" to 101"	±90.0
42"	from 42" to 101"	±90.0
48"	from 48" to 101"	±90.0
54"	from 54" to 101"	±90.0
57.5"	from 57.5" to 96"	±90.0
60"	from 60" to 92.5"	±90.0
66"	from 66" to 84"	±85.0
72"	from 72" to 77"	±78.0
74.5"	from 74.5" to 74.5"	±75.5

* DETERMINATION OF MAXIMUM DAY LIGHT OPENING (D.L.O.) AT EACH END OF GLASS GIVEN "a" & "b"

SIDE	MAX. DAY LIGHT OPENING	
	(D.L.O.) Formula at Standard and Jamb mullions	(D.L.O.) Formula at head, sill and horizontal frames
MAX. D.L.O. (a) (SHORT SIDE)	"a"-5.00"	-
MAX. D.L.O. (b) (LONG SIDE)	-	"b"-5.00"



** SIDE "a" IS ALWAYS EQUAL OR SHORTER THAN "b". "a", "b" ,AY BE ORIENTED IN ANY DIRECTION.

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

HR-250 CAPTURED CURTAIN WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS

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REV. No

1

DATE

04/13/21

DESCRIPTION

REV. No

2

DATE

DESCRIPTION

REV. No

3

DATE

DESCRIPTION

REV. No

4

DATE

DESCRIPTION

DATE

04/15/2021

DRAWN BY:

M.P

DRAWING No

21-057

SHEET 8 OF 36

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WALTER A. TILLIT JR.

LICENSE

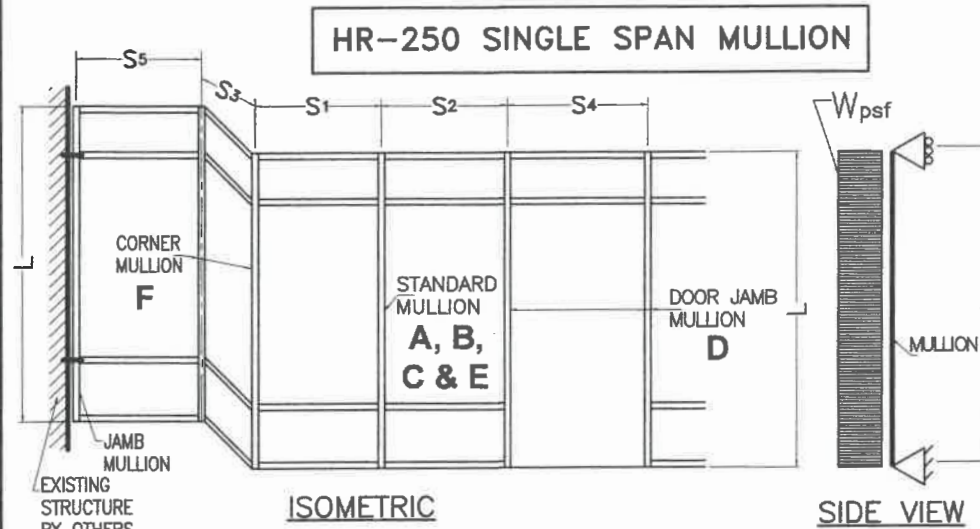
No. 44167

STATE OF FLORIDA

PROFESSIONAL ENGINEER

SEAL/SIGNATURE/DATE

04/16/2021



HR-250 SINGLE SPAN MULLION

ISOMETRIC

SIDE VIEW

L = MULLION SPAN ; S1, S2, S3, S4 & S5 = MULLION SPACING

EFFECTIVE SPACING $b = \frac{S1 + S2}{2}$
(FOR STANDARD MULLION)

EFFECTIVE SPACING $b = \frac{S1 + S3}{2}$
(FOR CORNER MULLION)

EFFECTIVE SPACING $b = \frac{S2 + S4}{2}$
(FOR DOOR JAMB MULLION)

EFFECTIVE SPACING $b = \frac{S5}{2}$
(FOR JAMB MULLION)

CASE DEFINITIONS

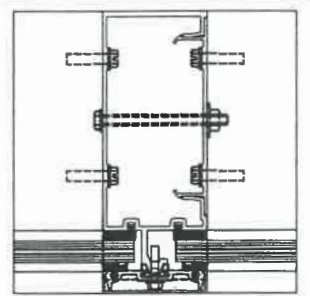
- CASE 1 :** SINGLE SPAN UNREINFORCED STANDARD MULLION A (SEE DET. 5/21)
- CASE 2 :** SINGLE SPAN REINFORCED STANDARD MULLION B FULL HEIGHT. (SEE DET. 4/21)
- CASE 3 :** SINGLE SPAN HEAVILY REINFORCED STANDARD MULLION C FULL HEIGHT. (SEE DET. 4A/21)
- CASE 4 :** SINGLE SPAN REINFORCED DOOR JAMB MULLION D FULL HEIGHT. (SEE DET. 7/36)
- CASE 5 :** SINGLE SPAN UNREINFORCED STANDARD HEAVY MULLION E (SEE DET. 11/21)
- CASE 6 :** SINGLE SPAN REINFORCED CORNER MULLION F FULL HEIGHT. (SEE DET. 14/23)

* MAXIMUM A.S.D. DESIGN PRESSURE RATING FOR STANDARD, DOOR JAMB, & CORNER MULLION WILL AUTOMATICALLY QUALIFY A.S.D. DESIGN PRESSURE RATINGS FOR JAMBS FOR ANY GIVEN MULLION SPACING. MAXIMUM JAMB SPAN (DISTANCE BETWEEN ANCHORAGE POINTS) IS 96", AND JAMB ANCHORAGE SHALL BE PERFORMED AT HORIZONTAL RAIL LOCATIONS (EXCEPT AT EXPANSION HORIZONTAL RAILS).

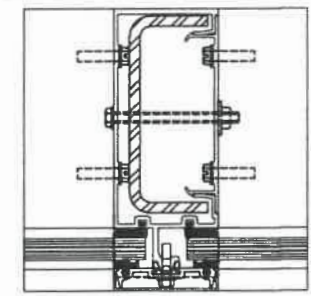
MAXIMUM A.S.D. DESIGN PRESSURE RATING FOR STANDARD, DOOR JAMB & CORNER MULLIONS MAXIMUM MULLION SPAN "L"(FT) SCHEDULE FOR A GIVEN A.S.D. DESIGN PRESSURE RATING (psf) AND A GIVEN MULLION EFFECTIVE SPACING "b"

MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf)	EFFECTIVE SPACING "b" (ft-in)	SINGLE SPAN MULLIONS					
		CASE 1 MULLION: A "L" (ft-in)	CASE 2 MULLION: B "L" (ft-in)	CASE 3 MULLION: C "L" (ft-in)	CASE 4 MULLION: D "L" (ft-in)	CASE 5 MULLION: E "L" (ft-in)	CASE 6 MULLION: F "L" (ft-in)
		"b" (ft-in)	"b" (ft-in)	"b" (ft-in)	"b" (ft-in)	"b" (ft-in)	"b" (ft-in)
60.0	3'-6"	10'-0"	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	4'-0"	10'-0"	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	4'-6"	9'-8"	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	5'-0"	8'-8"	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	5'-6"	7'-11"	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	6'-0"	7'-3"	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
65.0	3'-6"	10'-0"	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	4'-0"	10'-0"	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	4'-6"	8'-11"	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	5'-0"	8'-0"	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	5'-6"	7'-3"	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	6'-0"	6'-8"	12'-6"	12'-6"	12'-6"	9'-7"	12'-6"
70.0	3'-6"	-	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	4'-0"	-	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	4'-6"	-	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	5'-0"	-	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	5'-6"	-	12'-5"	12'-6"	12'-6"	9'-8"	12'-6"
	6'-0"	-	11'-11"	12'-6"	12'-6"	8'-10"	12'-6"
75.0	3'-6"	-	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	4'-0"	-	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	4'-6"	-	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	5'-0"	-	12'-6"	12'-6"	12'-6"	9'-11"	12'-6"
	5'-6"	-	12'-0"	12'-6"	12'-6"	9'-0"	12'-6"
	6'-0"	-	11'-6"	12'-6"	12'-6"	8'-3"	12'-6"
76.0	3'-6"	-	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	4'-0"	-	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	4'-6"	-	12'-6"	12'-6"	12'-6"	10'-0"	12'-6"
	5'-0"	-	12'-6"	12'-6"	12'-6"	9'-10"	12'-6"
	5'-6"	-	11'-11"	12'-6"	12'-6"	8'-11"	12'-6"
	6'-0"	-	11'-4"	12'-6"	12'-6"	8'-2"	12'-6"
80.0	3'-6"	-	12'-6"	12'-6"	12'-6"	-	12'-6"
	4'-0"	-	12'-6"	12'-6"	12'-6"	-	12'-6"
	4'-6"	-	12'-6"	12'-6"	12'-6"	-	12'-6"
	5'-0"	-	12'-2"	12'-6"	12'-6"	-	12'-6"
	5'-6"	-	11'-8"	12'-6"	12'-6"	-	12'-6"
	6'-0"	-	10'-9"	11'-9"	12'-6"	-	11'-9"
85.0	3'-6"	-	12'-6"	12'-6"	12'-6"	-	12'-6"
	4'-0"	-	12'-6"	12'-6"	12'-6"	-	12'-6"
	4'-6"	-	12'-6"	12'-6"	12'-6"	-	12'-6"
	5'-0"	-	11'-10"	12'-6"	12'-6"	-	12'-6"
	5'-6"	-	11'-1"	12'-0"	12'-6"	-	12'-0"
	6'-0"	-	10'-2"	11'-0"	12'-4"	-	11'-0"
90.0	3'-6"	-	12'-6"	12'-6"	12'-6"	-	12'-6"
	4'-0"	-	12'-6"	12'-6"	12'-6"	-	12'-6"
	4'-6"	-	12'-1"	12'-6"	12'-6"	-	12'-6"
	5'-0"	-	11'-6"	12'-6"	12'-6"	-	12'-6"
	5'-6"	-	10'-5"	11'-4"	12'-6"	-	11'-4"
	6'-0"	-	9'-7"	10'-5"	11'-8"	-	10'-5"
95.0	3'-6"	-	-	12'-6"	-	-	-
	4'-0"	-	-	12'-6"	-	-	-
	4'-6"	-	-	12'-6"	-	-	-
	5'-0"	-	-	11'-10"	-	-	-
	5'-6"	-	-	10'-9"	-	-	-
	6'-0"	-	-	9'-10"	-	-	-
100.0	3'-6"	-	-	12'-6"	-	-	-
	4'-0"	-	-	12'-6"	-	-	-
	4'-6"	-	-	12'-6"	-	-	-
	5'-0"	-	-	11'-3"	-	-	-
	5'-6"	-	-	10'-3"	-	-	-
	6'-0"	-	-	9'-5"	-	-	-

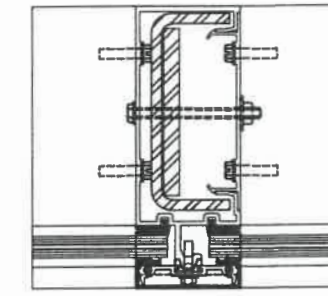
A CASE:1
LIGHT MULLION 15 + 16
Ix= 8.959 in4
Sx= 2.6969 in3
IN TERMS OF ALUM.



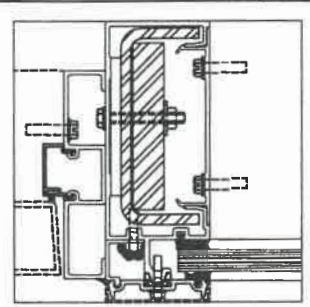
B CASE:2
LIGHT MULLION 15 + 16
W/ STEEL CHANNEL 34
Ix= 26.744 in4
Sx= 7.389 in3
IN TERMS OF ALUM.



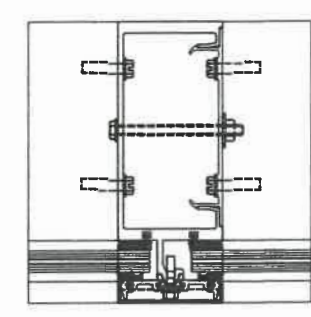
C CASE:3
LIGHT MULLION 15 + 16
W/ STEEL CHANNEL 34 &
3/8"x4" STEEL BAR 52
Ix= 32.918 in4
Sx= 8.8608 in3
IN TERMS OF ALUM.



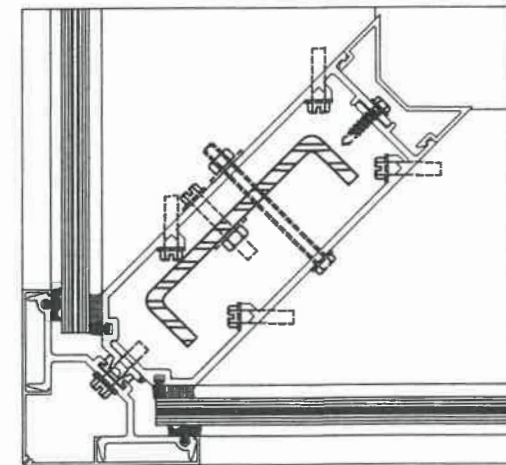
D CASE:4
LIGHT MULLION 15 + 16
W/ STEEL CHANNEL 34 &
3/4"x4" STEEL BAR 56
Ix= 43.923 in4
Sx= 10.8318 in3
IN TERMS OF ALUM.



E CASE:5
HEAVY MULLION 16 + 54
Ix= 12.850 in4
Sx= 3.721 in3
IN TERMS OF ALUM.



F CASE:6
CORNER MULLION 26 + 27
W/ STEEL CHANNEL 37
Ix= 10.513 in4
Sx= 2.7174 in3
IN TERMS OF ALUM.



FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

HR-250 CAPTURED CURTAIN WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS

TILECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33168
Phone : (305) 871-1530 Fax : (305) 871-1531
e-mail: tileco@aol.com
WALTER A. TILIT JR. P.E.
FLORIDA LIC. # 44167

04/15/2021
DATE

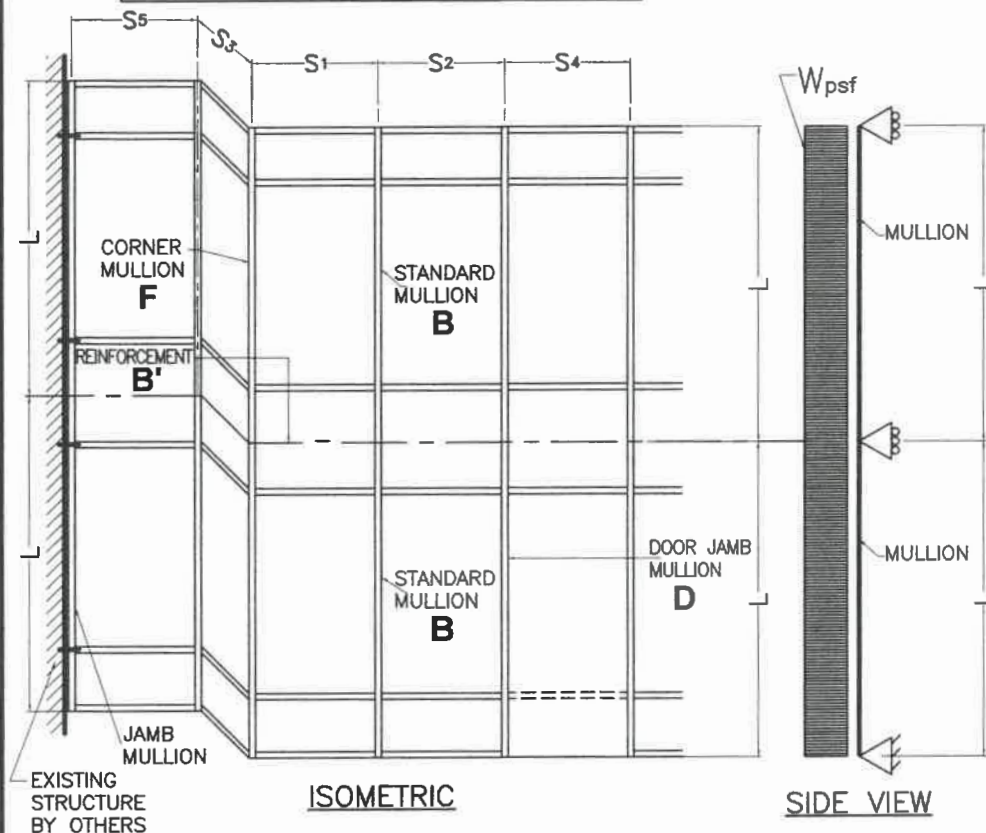
21-057
DRAWING No

SHEET 9 OF 36

WALTER A. TILIT JR.
LICENSE
No. 44167
STATE OF FLORIDA
PROFESSIONAL ENGINEER

SEAL/SIGNATURE/DATE

HR-250 TWIN SPAN MULLION



ISOMETRIC

SIDE VIEW

CASE DEFINITIONS

CASE 7 : TWIN SPAN REINFORCED STANDARD MULLION B FULL HEIGHT. (SEE DET. 4/21)
W/ REQUIRED 76" LONG ADDITIONAL REINFORCEMENT B' AT DEAD AND WIND LOAD ANCHOR LOCATION SEE SHEET 11.

CASE 8 : TWIN SPAN REINFORCED CORNER MULLION F FULL HEIGHT. (SEE DET. 14/23)

CASE 9 : REINFORCED DOOR JAMB MULLION D FULL HEIGHT. (SEE DET. 7/36)

***** MAXIMUM A.S.D. DESIGN PRESSURE RATING FOR STANDARD, DOOR JAMB, & CORNER MULLION WILL AUTOMATICALLY QUALIFY A.S.D. DESIGN PRESSURE RATINGS FOR JAMBS FOR ANY GIVEN MULLION SPACING. MAXIMUM JAMB SPAN (DISTANCE BETWEEN ANCHORAGE POINTS) IS 84", AND JAMB ANCHORAGE SHALL BE PERFORMED AT HORIZONTAL LOCATIONS.

L = MULLION SPAN ; S1, S2, S3, S4 & S5 = MULLION SPACING

EFFECTIVE SPACING $b = \frac{S1 + S2}{2}$
(FOR STANDARD MULLION)

EFFECTIVE SPACING $b = \frac{S1 + S3}{2}$
(FOR CORNER MULLION)

EFFECTIVE SPACING $b = \frac{S2 + S4}{2}$
(FOR DOOR JAMB MULLION)

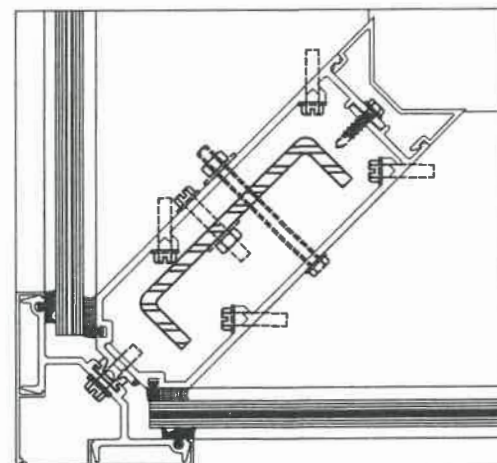
EFFECTIVE SPACING $b = \frac{S5}{2}$
(FOR JAMB MULLION)

MAXIMUM A.S.D. DESIGN PRESSURE RATING FOR STANDARD, DOOR JAMB & CORNER MULLIONS *

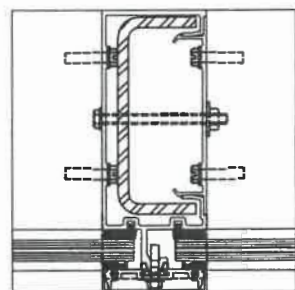
MAXIMUM MULLION SPAN "L"(FT) SCHEDULE FOR A GIVEN A.S.D. DESIGN PRESSURE RATING (psf) AND A GIVEN MULLION EFFECTIVE SPACING "b"

MAXIMUM A.S.D DESIGN PRESSURE RATING (psf)	EFFECTIVE SPACING "b" (ft-in)	TWIN SPAN MULLIONS		
		CASE 7 MULLION: B	CASE 8 MULLION: F	CASE 9 MULLION: D
		"L" (ft-in)	"L" (ft-in)	"L" (ft-in)
60.0	3' - 6"	12' - 6"	12' - 6"	12' - 6"
	4' - 0"	12' - 6"	12' - 6"	12' - 6"
	4' - 6"	12' - 6"	12' - 6"	12' - 6"
	5' - 0"	12' - 6"	12' - 6"	12' - 6"
	5' - 6"	12' - 6"	12' - 6"	12' - 6"
65.0	3' - 6"	12' - 6"	12' - 6"	12' - 6"
	4' - 0"	12' - 6"	12' - 6"	12' - 6"
	4' - 6"	12' - 6"	12' - 6"	12' - 6"
	5' - 0"	12' - 6"	12' - 6"	12' - 6"
	5' - 6"	12' - 6"	12' - 6"	12' - 6"
70.0	3' - 6"	12' - 6"	12' - 6"	12' - 6"
	4' - 0"	12' - 6"	12' - 6"	12' - 6"
	4' - 6"	12' - 6"	12' - 6"	12' - 6"
	5' - 0"	12' - 6"	12' - 6"	12' - 6"
	5' - 6"	12' - 6"	12' - 6"	12' - 6"
75.0	3' - 6"	12' - 6"	12' - 6"	12' - 6"
	4' - 0"	12' - 6"	12' - 6"	12' - 6"
	4' - 6"	12' - 6"	12' - 6"	12' - 6"
	5' - 0"	12' - 6"	12' - 6"	12' - 6"
	5' - 6"	12' - 6"	12' - 6"	12' - 6"
76.0	3' - 6"	12' - 6"	12' - 6"	12' - 6"
	4' - 0"	12' - 6"	12' - 6"	12' - 6"
	4' - 6"	12' - 6"	12' - 6"	12' - 6"
	5' - 0"	12' - 6"	12' - 6"	12' - 6"
	5' - 6"	12' - 6"	12' - 6"	12' - 6"
80.0	3' - 6"	12' - 6"	12' - 6"	12' - 6"
	4' - 0"	12' - 6"	12' - 6"	12' - 6"
	4' - 6"	12' - 6"	12' - 6"	12' - 6"
	5' - 0"	12' - 6"	12' - 6"	12' - 6"
	5' - 6"	12' - 6"	12' - 6"	12' - 6"
85.0	3' - 6"	12' - 6"	12' - 6"	12' - 6"
	4' - 0"	12' - 6"	12' - 6"	12' - 6"
	4' - 6"	12' - 6"	12' - 6"	12' - 6"
	5' - 0"	12' - 6"	12' - 6"	12' - 6"
	5' - 6"	12' - 6"	12' - 6"	12' - 6"
90.0	3' - 6"	12' - 6"	12' - 6"	12' - 6"
	4' - 0"	12' - 6"	12' - 6"	12' - 6"
	4' - 6"	12' - 6"	12' - 6"	12' - 6"
	5' - 0"	12' - 6"	12' - 6"	12' - 6"
	5' - 6"	11' - 4"	11' - 11"	12' - 6"

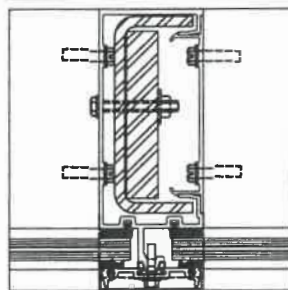
F CASE:8
CORNER MULLION 26 + 27
W/ STEEL CHANNEL 37
IN TERMS OF ALUM.



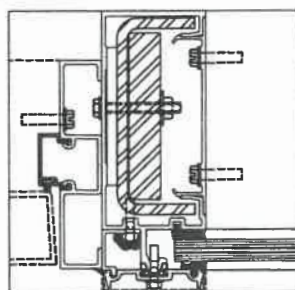
B CASE:7
LIGHT MULLION 15 + 16
W/ STEEL CHANNEL 34
IN TERMS OF ALUM.



B' REINFORCEMENT
CASE:7'
(AT DEAD & WIND LOAD
ANCHOR LOCATION) FOR B
W/ 3/4"x4" STEEL BAR 36
IN TERMS OF ALUM.



D CASE:9
LIGHT MULLION 15 + 16
W/ STEEL CHANNEL 34 &
3/4"x4" STEEL BAR 36
IN TERMS OF ALUM.



THIS MULLION SHALL BE USED FULL HEIGHT, i.e. ON BOTH SPANS OF THE TWIN SPAN CONDITION.

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

M.P. DRAWN BY: 04/15/2021 DATE
21-057 DRAWING No
SHEET 10 OF 36

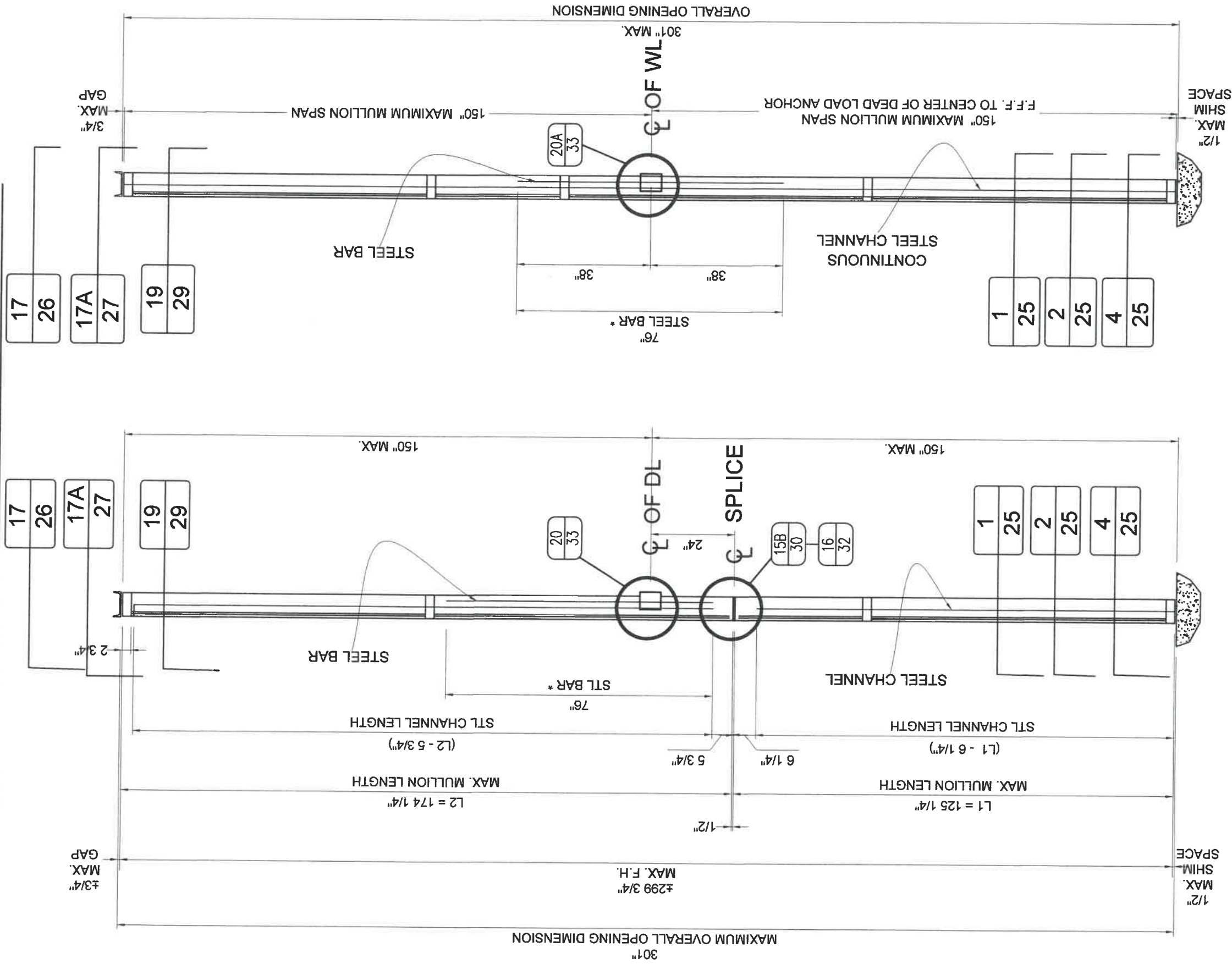
HR-250 CAPTURED CURTAIN WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS

oldcastle BuildingEnvelope™
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TILECO INC.
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CA-0006719
WALTER A. TILIT, JR., P.E.
FLORIDA LIC. # 44167



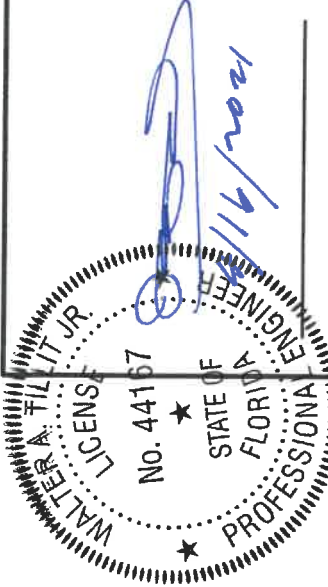
OPTIONS FOR TWIN SPAN STANDARD AND CORNER MULLIONS
INSTALLATION FOR HR-250 CURTAIN WALL SYSTEM



OPTION # 1
MULLION W/ SPLICE

OPTION # 2:
CONTINUOUS MULLION W/O SPLICE

* STEEL BAR NOT REQUIRED AT CORNER MULLION



P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

HR-250 CAPTURED CURTAIN
WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS



TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 305, Virginia Gardens, FL 33166
Phone : (305)871-1530 Fax : (305)871-1531
e-mail: tiltco@aol.com

CA-0006719
WALTER A. TILLIT JR., P.E.
FLORIDA LIC. # 44167

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REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 18-031	04/19/21	3		
2			4		

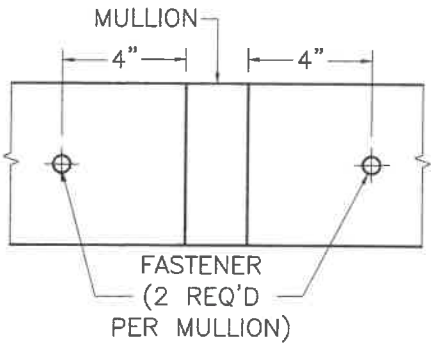
DRAWING No

21-057

SHEET 11 OF 36

MAXIMUM A.S.D. DESIGN PRESSURE RATING FOR SINGLE SPAN (HEAD & SILL) & TWIN SPAN (SILL ONLY) MULLION CONNECTIONS (SEE ALSO SHEET 13)

SINGLE SPAN MULLION: HEAD & SILL CONNECTION *					
MAXIMUM MULLION SPAN	EFFECTIVE SPACING	MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf)			
		POURED CONCRETE (Min. f _c = 3ksi) SUBSTRATE		1/4" Min. THK ASTM A-36 STEEL SUBSTRATE	
		FASTENERS TYPES		FASTENERS	
"L" (ft-in)	"b" (ft-in)	A	B	C	D
8' - 5"	3' - 6"	100.0	100.0	100.0	100.0
	4' - 0"	100.0	100.0	100.0	100.0
	4' - 6"	100.0	100.0	100.0	100.0
	5' - 0"	100.0	100.0	100.0	100.0
	5' - 6"	100.0	100.0	100.0	100.0
	6' - 0"	100.0	100.0	100.0	100.0
8' - 6"	3' - 6"	100.0	100.0	100.0	100.0
	4' - 0"	100.0	100.0	100.0	100.0
	4' - 6"	100.0	100.0	100.0	100.0
	5' - 0"	100.0	100.0	100.0	100.0
	5' - 6"	100.0	100.0	100.0	100.0
	6' - 0"	100.0	100.0	100.0	100.0
9' - 0"	3' - 6"	100.0	100.0	100.0	100.0
	4' - 0"	100.0	100.0	100.0	100.0
	4' - 6"	100.0	100.0	100.0	100.0
	5' - 0"	100.0	100.0	100.0	100.0
	5' - 6"	100.0	100.0	100.0	100.0
	6' - 0"	100.0	100.0	100.0	100.0
9' - 6"	3' - 6"	100.0	100.0	100.0	100.0
	4' - 0"	100.0	100.0	100.0	100.0
	4' - 6"	100.0	100.0	100.0	100.0
	5' - 0"	100.0	100.0	100.0	100.0
	5' - 6"	100.0	100.0	100.0	100.0
	6' - 0"	100.0	100.0	97.1	100.0
10' - 0"	3' - 6"	100.0	100.0	100.0	100.0
	4' - 0"	100.0	100.0	100.0	100.0
	4' - 6"	100.0	100.0	100.0	100.0
	5' - 0"	100.0	100.0	100.0	100.0
	5' - 6"	100.0	100.0	100.0	100.0
	6' - 0"	100.0	100.0	92.2	100.0
10' - 6"	3' - 6"	100.0	100.0	100.0	100.0
	4' - 0"	100.0	100.0	100.0	100.0
	4' - 6"	100.0	100.0	100.0	100.0
	5' - 0"	100.0	100.0	100.0	100.0
	5' - 6"	100.0	100.0	95.8	100.0
	6' - 0"	100.0	100.0	87.8	100.0
11' - 0"	3' - 6"	100.0	100.0	100.0	100.0
	4' - 0"	100.0	100.0	100.0	100.0
	4' - 6"	100.0	100.0	100.0	100.0
	5' - 0"	100.0	100.0	100.0	100.0
	5' - 6"	100.0	100.0	91.5	100.0
	6' - 0"	100.0	100.0	83.8	99.6
11' - 6"	3' - 6"	100.0	100.0	100.0	100.0
	4' - 0"	100.0	100.0	100.0	100.0
	4' - 6"	100.0	100.0	100.0	100.0
	5' - 0"	100.0	100.0	96.2	100.0
	5' - 6"	100.0	100.0	87.5	100.0
	6' - 0"	100.0	100.0	80.2	95.3
12' - 0"	3' - 6"	100.0	100.0	100.0	100.0
	4' - 0"	100.0	100.0	100.0	100.0
	4' - 6"	100.0	100.0	100.0	100.0
	5' - 0"	100.0	100.0	92.2	100.0
	5' - 6"	100.0	100.0	83.8	99.6
	6' - 0"	97.4	96.4	76.8	91.3
12' - 6"	3' - 6"	100.0	100.0	100.0	100.0
	4' - 0"	100.0	100.0	100.0	100.0
	4' - 6"	100.0	100.0	98.4	100.0
	5' - 0"	100.0	100.0	88.5	100.0
	5' - 6"	100.0	100.0	80.5	95.7
	6' - 0"	93.5	92.6	73.8	87.7



SCHMATIC CONNECTION DETAIL *

* SEE CONNECTION DETAILS ON SHEETS 18 & 25 FOR FASTENERS QUANTITY & LOCATIONS AT MULLION.

TWIN SPAN MULLION: SILL CONNECTION *					
MAXIMUM MULLION SPAN	EFFECTIVE SPACING	MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf)			
		POURED CONCRETE (Min. f _c = 3ksi) SUBSTRATE		1/4" Min. THK ASTM A-36 STEEL SUBSTRATE	
		FASTENERS TYPES		FASTENERS	
"L" (ft-in)	"b" (ft-in)	A	B	C	D
8' - 5"	3' - 6"	90.0	90.0	90.0	90.0
	4' - 0"	90.0	90.0	90.0	90.0
	4' - 6"	90.0	90.0	90.0	90.0
	5' - 0"	90.0	90.0	90.0	90.0
	5' - 6"	90.0	90.0	90.0	90.0
	6' - 0"	90.0	90.0	90.0	90.0
8' - 6"	3' - 6"	90.0	90.0	90.0	90.0
	4' - 0"	90.0	90.0	90.0	90.0
	4' - 6"	90.0	90.0	90.0	90.0
	5' - 0"	90.0	90.0	90.0	90.0
	5' - 6"	90.0	90.0	90.0	90.0
	6' - 0"	90.0	90.0	90.0	90.0
9' - 0"	3' - 6"	90.0	90.0	90.0	90.0
	4' - 0"	90.0	90.0	90.0	90.0
	4' - 6"	90.0	90.0	90.0	90.0
	5' - 0"	90.0	90.0	90.0	90.0
	5' - 6"	90.0	90.0	90.0	90.0
	6' - 0"	90.0	90.0	90.0	90.0
9' - 6"	3' - 6"	90.0	90.0	90.0	90.0
	4' - 0"	90.0	90.0	90.0	90.0
	4' - 6"	90.0	90.0	90.0	90.0
	5' - 0"	90.0	90.0	90.0	90.0
	5' - 6"	90.0	90.0	90.0	90.0
	6' - 0"	90.0	90.0	90.0	90.0
10' - 0"	3' - 6"	90.0	90.0	90.0	90.0
	4' - 0"	90.0	90.0	90.0	90.0
	4' - 6"	90.0	90.0	90.0	90.0
	5' - 0"	90.0	90.0	90.0	90.0
	5' - 6"	90.0	90.0	90.0	90.0
	6' - 0"	90.0	90.0	90.0	90.0
10' - 6"	3' - 6"	90.0	90.0	90.0	90.0
	4' - 0"	90.0	90.0	90.0	90.0
	4' - 6"	90.0	90.0	90.0	90.0
	5' - 0"	90.0	90.0	90.0	90.0
	5' - 6"	90.0	90.0	90.0	90.0
	6' - 0"	90.0	90.0	87.8	90.0
11' - 0"	3' - 6"	90.0	90.0	90.0	90.0
	4' - 0"	90.0	90.0	90.0	90.0
	4' - 6"	90.0	90.0	90.0	90.0
	5' - 0"	90.0	90.0	90.0	90.0
	5' - 6"	90.0	90.0	90.0	90.0
	6' - 0"	90.0	90.0	83.8	90.0
11' - 6"	3' - 6"	90.0	90.0	90.0	90.0
	4' - 0"	90.0	90.0	90.0	90.0
	4' - 6"	90.0	90.0	90.0	90.0
	5' - 0"	90.0	90.0	90.0	90.0
	5' - 6"	90.0	90.0	87.5	90.0
	6' - 0"	90.0	90.0	80.2	90.0
12' - 0"	3' - 6"	90.0	90.0	90.0	90.0
	4' - 0"	90.0	90.0	90.0	90.0
	4' - 6"	90.0	90.0	90.0	90.0
	5' - 0"	90.0	90.0	90.0	90.0
	5' - 6"	90.0	90.0	83.8	90.0
	6' - 0"	90.0	90.0	76.8	90.0
12' - 6"	3' - 6"	90.0	90.0	90.0	90.0
	4' - 0"	90.0	90.0	90.0	90.0
	4' - 6"	90.0	90.0	90.0	90.0
	5' - 0"	90.0	90.0	88.5	90.0
	5' - 6"	90.0	90.0	80.5	90.0
	6' - 0"	90.0	90.0	73.8	87.7

B FASTENERS TYPES REQUIREMENTS

- A - 1/2"Ø HILTI KWIK BOLT TZ ANCHOR W/ 3 1/4" Min. EMBEDMENT INTO 8" Min. THICK POURED CONCRETE (Min. f_c = 3 ksi) BEYOND ANY FINISH MATERIAL, W/ 6" MIN. EDGE DISTANCE.
- B - 1/2"Ø HILTI KWIK BOLT TZ ANCHOR W/ 3 1/4" Min. EMBEDMENT INTO 6" Min. THICK POURED CONCRETE (Min. f_c = 3 ksi) BEYOND ANY FINISH MATERIAL, W/ 7 1/2" MIN. EDGE DISTANCE.
- C - 1/2"Ø HILTI HUS-H SCREW ANCHOR W/ 3" Min. EMBEDMENT INTO 4" Min. THICK POURED CONCRETE (Min. f_c = 3 ksi) BEYOND ANY FINISH MATERIAL, W/ 3 3/4" MIN. EDGE DISTANCE.
- D - 1/2"Ø-13 TYPE "F" GRADE 5 BOLT TO 1/4" MIN. THK. ASTM A-36 STEEL W/ 1" Min. EDGE DISTANCE OR 1/2"Ø -13 SAE GALVANIZED STEEL GRADE 5 HHB THRU BOLT W/ NUT & LOCK WASHER TO 1/4" Min. THK. ASTM A-36 STEEL W/ 1" MIN. EDGE DISTANCE.

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
	1	OLD 18-031	04/19/21	3	—
2	—	—	4	—	—

M.P. DRAWN BY:	04/15/2021 DATE		21-057 DRAWING No	SHEET 12 OF 36
	HR-250 CAPTURED CURTAIN WALL SYSTEM LARGE MISSILE IMPACT LAMINATED GLASS			
 Oldcastle BuildingEnvelope™ 803 Airport Rd - Terrell, TX 75160 www.OldcastleBE.com - Phone 800-869-4567				

TILECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th, St. Ste. 305, VIRGINIA GARDENS, FL 33166
Phone : (305)671-1530 - Fax : (305)671-1531
e-mail: tileco@ol.com
CA-0006719
WALTER A. TILLIT JR. P.E.
FLORIDA Lic. # 44167

WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF FLORIDA
PROFESSIONAL ENGINEER
P.E. SEAL/SIGNATURE/DATE

MAXIMUM A.S.D. DESIGN PRESSURE RATING FOR TWIN SPAN MULLION HEAD ANCHOR CONNECTIONS

61

TWIN SPAN MULLION : HEAD CONNECTION *

W/ (1) 6"x 3 1/2" x 4 1/4" LONG ANCHOR #61

TYPE 1 **		MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf)					
MAXIMUM MULLION SPAN	EFFECTIVE SPACING	POURED CONCRETE (Min. f _c = 3ksi) SUBSTRATE			1/4" Min. THK ASTM A-36 STEEL SUBSTRATE		
		FASTENERS TYPES			FASTENER		
		"L" (ft-in)	"b" (ft-in)	A	B	C	D
8' - 5"	3' - 6"			66.3	69.2	58.9	90.0
	4' - 0"			58.0	60.5	51.5	90.0
	4' - 6"			51.6	53.8	45.8	90.0
	5' - 0"			46.4	48.4	41.2	90.0
	5' - 6"			42.2	44.0	37.5	90.0
8' - 6"	3' - 6"			65.6	68.5	58.3	90.0
	4' - 0"			57.4	59.9	51.0	90.0
	4' - 6"			51.1	53.3	45.4	90.0
	5' - 0"			46.0	48.0	40.8	90.0
	5' - 6"			41.8	43.6	37.1	90.0
9' - 0"	3' - 6"			62.0	64.7	55.1	90.0
	4' - 0"			54.3	56.6	48.2	90.0
	4' - 6"			48.2	50.3	42.8	90.0
	5' - 0"			43.4	45.3	38.6	90.0
	5' - 6"			39.5	41.2	35.1	90.0
9' - 6"	3' - 6"			58.7	61.3	52.2	90.0
	4' - 0"			51.4	53.6	45.7	90.0
	4' - 6"			45.7	47.7	40.6	90.0
	5' - 0"			41.1	42.9	36.5	90.0
	5' - 6"			37.4	39.0	33.2	90.0
10' - 0"	3' - 6"			55.8	58.2	49.6	90.0
	4' - 0"			48.8	50.9	43.4	90.0
	4' - 6"			43.4	45.3	38.6	90.0
	5' - 0"			39.1	40.8	34.7	90.0
	5' - 6"			35.5	37.1	31.6	90.0
10' - 6"	3' - 6"			53.1	55.5	47.2	90.0
	4' - 0"			46.5	48.5	41.3	90.0
	4' - 6"			41.3	43.1	36.7	90.0
	5' - 0"			37.2	38.8	33.1	90.0
	5' - 6"			33.8	35.3	30.0	90.0
11' - 0"	3' - 6"			50.7	52.9	45.1	90.0
	4' - 0"			44.4	46.3	39.4	90.0
	4' - 6"			39.5	41.2	35.1	90.0
	5' - 0"			35.5	37.1	31.6	90.0
	5' - 6"			32.3	33.7	28.7	90.0
11' - 6"	3' - 6"			48.5	50.6	43.1	90.0
	4' - 0"			42.5	44.3	37.7	90.0
	4' - 6"			37.7	39.4	33.5	90.0
	5' - 0"			34.0	35.4	30.2	90.0
	5' - 6"			30.9	32.2	27.4	90.0
12' - 0"	3' - 6"			46.5	48.5	41.3	90.0
	4' - 0"			40.7	42.5	36.2	90.0
	4' - 6"			36.2	37.7	32.1	90.0
	5' - 0"			32.6	34.0	28.9	90.0
	5' - 6"			29.6	30.9	26.3	87.7
12' - 6"	3' - 6"			44.6	46.6	39.7	90.0
	4' - 0"			39.1	40.8	34.7	90.0
	4' - 6"			34.7	36.2	30.9	90.0
	5' - 0"			31.2	32.6	27.8	90.0
	5' - 6"			28.4	29.6	25.2	84.2

TWIN SPAN MULLION :		HEAD CONNECTION *			
W/ (1) 6" x 3 1/2" x 4 1/4" LONG ANCHOR #61					
TYPE 2 **		MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf)			
MAXIMUM MULLION SPAN	EFFECTIVE SPACING	POURED CONCRETE (Min. f _c = 3ksi) SUBSTRATE			1/4" Min. THK ASTMA-36 STEEL SUBSTRATE
		FASTENERS TYPES			FASTENERS
"L" (ft-in)	"b" (ft-in)	A	B	C	D
8' - 5"	3' - 6"	59.2	61.8	52.6	90.0
	4' - 0"	51.8	54.0	46.0	90.0
	4' - 6"	46.0	48.0	40.9	90.0
	5' - 0"	41.4	43.2	36.8	90.0
	5' - 6"	37.7	39.3	33.5	90.0
8' - 6"	3' - 6"	58.6	61.2	52.1	90.0
	4' - 0"	51.3	53.5	45.6	90.0
	4' - 6"	45.6	47.6	40.5	90.0
	5' - 0"	41.0	42.8	36.5	90.0
	5' - 6"	37.3	38.9	33.1	90.0
9' - 0"	3' - 6"	55.4	57.8	49.2	90.0
	4' - 0"	48.4	50.5	43.0	90.0
	4' - 6"	43.1	44.9	38.3	90.0
	5' - 0"	38.8	40.4	34.4	90.0
	5' - 6"	35.2	36.8	31.3	90.0
9' - 6"	3' - 6"	52.4	54.7	46.6	90.0
	4' - 0"	45.9	47.9	40.8	90.0
	4' - 6"	40.8	42.6	36.2	90.0
	5' - 0"	36.7	38.3	32.6	90.0
	5' - 6"	33.4	34.8	29.7	90.0
10' - 0"	3' - 6"	49.8	52.0	44.3	90.0
	4' - 0"	43.6	45.5	38.7	90.0
	4' - 6"	38.8	40.4	34.4	90.0
	5' - 0"	34.9	36.4	31.0	90.0
	5' - 6"	31.7	33.1	28.2	90.0
10' - 6"	3' - 6"	47.4	49.5	42.2	90.0
	4' - 0"	41.5	43.3	36.9	90.0
	4' - 6"	36.9	38.5	32.8	90.0
	5' - 0"	33.2	34.7	29.5	90.0
	5' - 6"	30.2	31.5	26.8	89.5
11' - 0"	3' - 6"	45.3	47.3	40.2	90.0
	4' - 0"	39.6	41.4	35.2	90.0
	4' - 6"	35.2	36.8	31.3	90.0
	5' - 0"	31.7	33.1	28.2	90.0
	5' - 6"	28.8	30.1	25.6	85.4
11' - 6"	3' - 6"	43.3	45.2	38.5	90.0
	4' - 0"	37.9	39.6	33.7	90.0
	4' - 6"	33.7	35.2	29.9	90.0
	5' - 0"	30.3	31.6	26.9	89.9
	5' - 6"	27.6	28.8	24.5	81.7
12' - 0"	3' - 6"	41.5	43.3	36.9	90.0
	4' - 0"	36.3	37.9	32.3	90.0
	4' - 6"	32.3	33.7	28.7	90.0
	5' - 0"	29.1	30.3	25.8	86.1
	5' - 6"	26.4	27.6	23.5	78.3
12' - 6"	3' - 6"	39.9	41.6	35.4	90.0
	4' - 0"	34.9	36.4	31.0	90.0
	4' - 6"	31.0	32.3	27.5	90.0
	5' - 0"	27.9	29.1	24.8	82.7
	5' - 6"	25.4	26.5	22.5	75.2

61A

61

TWIN SPAN MULLION

(INCLUDING CORNER MULLION)

HEAD CONNECTION *

W/ (2) 6"x 3 1/2" x 4 1/4" LONG ANCHOR #61

TYPES 1 & 2 **		XIMUM A.S.D. DESIGN PRESSURE RATING				
MAXIMUM MULLION SPAN	EFFECTIVE SPACING	POURED CONCRETE (Min. f _c = 3ksi) SUBSTRATE			1/4" Min. THK ASTMA-36 STEEL SUBSTRATE	
		FASTENERS TYPES			FASTENERS	
		"L" (ft-in)	"b" (ft-in)	A	B	C
8' - 5"	3' - 6"		90.0	90.0	90.0	90.0
	4' - 0"		90.0	90.0	90.0	90.0
	4' - 6"		90.0	90.0	90.0	90.0
	5' - 0"		90.0	90.0	90.0	90.0
	5' - 6"		90.0	90.0	90.0	90.0
8' - 6"	3' - 6"		90.0	90.0	90.0	90.0
	4' - 0"		90.0	90.0	90.0	90.0
	4' - 6"		90.0	90.0	90.0	90.0
	5' - 0"		90.0	90.0	90.0	90.0
	5' - 6"		90.0	90.0	90.0	90.0
9' - 0"	3' - 6"		90.0	90.0	90.0	90.0
	4' - 0"		90.0	90.0	90.0	90.0
	4' - 6"		90.0	90.0	90.0	90.0
	5' - 0"		90.0	90.0	90.0	90.0
	5' - 6"		90.0	90.0	90.0	90.0
9' - 6"	3' - 6"		90.0	90.0	90.0	90.0
	4' - 0"		90.0	90.0	90.0	90.0
	4' - 6"		90.0	90.0	90.0	90.0
	5' - 0"		90.0	90.0	90.0	90.0
	5' - 6"		90.0	90.0	90.0	90.0
10' - 0"	3' - 6"		90.0	90.0	90.0	90.0
	4' - 0"		90.0	90.0	90.0	90.0
	4' - 6"		90.0	90.0	90.0	90.0
	5' - 0"		90.0	90.0	90.0	90.0
	5' - 6"		90.0	90.0	90.0	90.0
10' - 6"	3' - 6"		90.0	90.0	90.0	90.0
	4' - 0"		90.0	90.0	90.0	90.0
	4' - 6"		90.0	90.0	90.0	90.0
	5' - 0"		90.0	90.0	90.0	90.0
	5' - 6"		90.0	90.0	90.0	90.0
11' - 0"	3' - 6"		90.0	90.0	90.0	90.0
	4' - 0"		90.0	90.0	90.0	90.0
	4' - 6"		90.0	90.0	90.0	90.0
	5' - 0"		90.0	90.0	90.0	90.0
	5' - 6"		90.0	90.0	90.0	90.0
11' - 6"	3' - 6"		90.0	90.0	90.0	90.0
	4' - 0"		90.0	90.0	90.0	90.0
	4' - 6"		90.0	90.0	90.0	90.0
	5' - 0"		90.0	90.0	90.0	90.0
	5' - 6"		90.0	90.0	90.0	90.0
12' - 0"	3' - 6"		90.0	90.0	90.0	90.0
	4' - 0"		90.0	90.0	90.0	90.0
	4' - 6"		90.0	90.0	90.0	90.0
	5' - 0"		90.0	90.0	90.0	90.0
	5' - 6"		90.0	90.0	90.0	90.0
12' - 6"	3' - 6"		90.0	90.0	90.0	90.0
	4' - 0"		90.0	90.0	90.0	90.0
	4' - 6"		90.0	90.0	90.0	90.0
	5' - 0"		90.0	90.0	90.0	90.0
	5' - 6"		90.0	90.0	90.0	90.0

* SEE CONNECTION DETAILS ON SHEETS 26 & 27 FOR FASTENERS QUANTITY & LOCATIONS AT MULLION. †

** TYPE 1 CONNECTION: CORRESPONDS TO CONTINUOUS TWIN SPAN MULLION INSTALLATIONS.

TYPE 2 CONNECTION: CORRESPONDS TO SPLICED TWIN SPAN MULLION INSTALLATIONS.

FASTENERS TYPES REQUIREMENTS

- A - 1/2"Ø HILTI KWIK BOLT TZ ANCHOR W/ 3 1/4" Min. EMBEDMENT INTO 8" Min. THICK POURED CONCRETE (Min. f_c = 3 ksi) BEYOND ANY FINISH MATERIAL, W/ 6" MIN. EDGE DISTANCE.
- B - 1/2"Ø HILTI KWIK BOLT TZ ANCHOR W/ 3 1/4" Min. EMBEDMENT INTO 6" Min. THICK POURED CONCRETE (Min. f_c = 3 ksi) BEYOND ANY FINISH MATERIAL, W/ 7 1/2" MIN. EDGE DISTANCE.
- C - 1/2"Ø HILTI HUS-H SCREW ANCHOR W/ 3" Min. EMBEDMENT INTO 4" Min. THICK POURED CONCRETE (Min. f_c = 3 ksi) BEYOND ANY FINISH MATERIAL, W/ 3 3/4" MIN. EDGE DISTANCE.
- D - 1/2"Ø-13 TYPE "F" GRADE 5 BOLT TO 1/4" MIN. THK. ASTM A-36 STEEL W/ 1" MIN. EDGE DISTANCE OR 1/2"Ø-13 SAE GALVANIZED STEEL GRADE 5 HBB THRU BOLT W/ NUT & LOCK WASHER TO 1/4" MIN. THK. ASTM A-36 STEEL W/ 1" MIN. EDGE DISTANCE.

† MAX. PRESSURE RATING FOR JAMB CONNECTION @ HEAD W/ ANCHOR(61) IS ± 100 psf FOR SINGLE SPAN CURTAIN WALL AND ±90 psf FOR TWIN SPAN CURTAIN WALL, VALID FOR ALL EFFECTIVE WIDTHS. SEE CONNECTION DETAILS ON SHEET 28 FOR FASTENERS QUANTITY AND LOCATION AT JAMB.

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

HR-250 CAPTURED CURTAIN WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS

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M.P. DRAWN BY: 04/15/2021 DATE
21-057 DRAWING No
SHEET 13 OF 36

P.E. SEAL/SIGNATURE/DATE

MAXIMUM A.S.D. DESIGN PRESSURE RATING FOR JAMBS AT SINGLE SPAN CURTAIN WALL FASTENED TO EXISTING STRUCTURE W/ 3/8"Ø
FASTENERS (SEE ALSO SHEETS 15, 16 & 17)

OPTION #1 : 2 FASTENERS CONNECTION								
MAXIMUM MULLION SPAN	EFFECTIVE SPACING b = S _y /2	MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf)						
		POURED CONCRETE (Min. f _c = 3ksi) SUBSTRATE			GROUT FILLED CONCRETE BLOCK SUBSTRATE		1/4" Min. THK ASTM A-36 STEEL SUBSTRATE	
		FASTENER TYPES			FASTENER TYPES		FASTENER	
"L" (ft-in)	"b" (ft-in)	E	F	G	H	I	J	
8' - 5"	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 0"	100.0	100.0	93.3	100.0	93.3	100.0	
	2' - 3"	100.0	100.0	82.9	100.0	82.9	100.0	
	2' - 6"	91.5	91.5	74.6	91.5	74.6	100.0	
	2' - 9"	83.2	83.2	67.8	83.2	67.8	94.1	
8' - 6"	3' - 3"	70.4	70.4	57.4	70.4	57.4	79.7	
	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 0"	100.0	100.0	92.4	100.0	92.4	100.0	
	2' - 3"	100.0	100.0	82.1	100.0	82.1	100.0	
	2' - 6"	90.6	90.6	73.9	90.6	73.9	100.0	
9' - 0"	2' - 9"	82.3	82.3	67.2	82.3	67.2	93.2	
	3' - 3"	69.7	69.7	56.8	69.7	56.8	78.9	
	1' - 9"	100.0	100.0	99.7	100.0	99.7	100.0	
	2' - 0"	100.0	100.0	87.2	100.0	87.2	100.0	
	2' - 3"	95.0	95.0	77.5	95.0	77.5	100.0	
9' - 6"	2' - 6"	85.5	85.5	69.8	85.5	69.8	96.8	
	2' - 9"	77.8	77.8	63.4	77.8	63.4	88.0	
	3' - 3"	65.8	65.8	53.7	65.8	53.7	74.5	
	1' - 9"	100.0	100.0	94.5	100.0	94.5	100.0	
	2' - 0"	100.0	100.0	82.6	100.0	82.6	100.0	
10' - 0"	2' - 3"	90.0	90.0	73.5	90.0	73.5	100.0	
	2' - 6"	81.0	81.0	66.1	81.0	66.1	91.7	
	2' - 9"	73.7	73.7	60.1	73.7	60.1	83.4	
	3' - 3"	62.3	62.3	50.9	62.3	50.9	70.6	
	1' - 9"	100.0	100.0	89.7	100.0	89.7	100.0	
10' - 6"	2' - 0"	96.2	96.2	78.5	96.2	78.5	100.0	
	2' - 3"	85.5	85.5	69.8	85.5	69.8	96.8	
	2' - 6"	77.0	77.0	62.8	77.0	62.8	87.2	
	2' - 9"	70.0	70.0	57.1	70.0	57.1	79.2	
	3' - 3"	59.2	59.2	48.3	59.2	48.3	67.0	
11' - 0"	1' - 9"	100.0	100.0	85.5	100.0	85.5	100.0	
	2' - 0"	91.7	91.7	74.8	91.7	74.8	100.0	
	2' - 3"	81.5	81.5	66.5	81.5	66.5	92.2	
	2' - 6"	73.3	73.3	59.8	73.3	59.8	83.0	
	2' - 9"	66.7	66.7	54.4	66.7	54.4	75.5	
11' - 6"	3' - 3"	56.4	56.4	46.0	56.4	46.0	63.9	
	1' - 9"	100.0	100.0	81.6	100.0	81.6	100.0	
	2' - 0"	87.5	87.5	71.4	87.5	71.4	99.0	
	2' - 3"	77.8	77.8	63.4	77.8	63.4	88.0	
	2' - 6"	70.0	70.0	57.1	70.0	57.1	79.2	
12' - 0"	2' - 9"	63.6	63.6	51.9	63.6	51.9	72.0	
	3' - 3"	53.8	53.8	43.9	53.8	43.9	60.9	
	1' - 9"	95.6	95.6	78.0	95.6	78.0	100.0	
	2' - 0"	83.7	83.7	68.3	83.7	68.3	94.7	
	2' - 3"	74.4	74.4	60.7	74.4	60.7	84.2	
12' - 6"	2' - 6"	66.9	66.9	54.6	66.9	54.6	75.8	
	2' - 9"	60.9	60.9	49.7	60.9	49.7	68.9	
	3' - 3"	51.5	51.5	42.0	51.5	42.0	58.3	
	1' - 9"	91.7	91.7	74.8	91.7	74.8	100.0	
	2' - 0"	80.2	80.2	65.4	80.2	65.4	90.8	
12' - 12"	2' - 3"	71.3	71.3	58.2	71.3	58.2	80.7	
	2' - 6"	64.2	64.2	52.3	64.2	52.3	72.6	
	2' - 9"	58.3	58.3	47.6	58.3	47.6	66.0	
	3' - 3"	49.4	49.4	40.3	49.4	40.3	55.9	
	1' - 9"	88.0	88.0	71.8	88.0	71.8	99.6	
12' - 18"	2' - 0"	77.0	77.0	62.8	77.0	62.8	87.2	
	2' - 3"	68.4	68.4	55.8	68.4	55.8	77.5	
	2' - 6"	61.6	61.6	50.2	61.6	50.2	69.7	
	2' - 9"	56.0	56.0	45.7	56.0	45.7	63.4	
	3' - 3"	47.4	47.4	38.7	47.4	38.7	53.6	

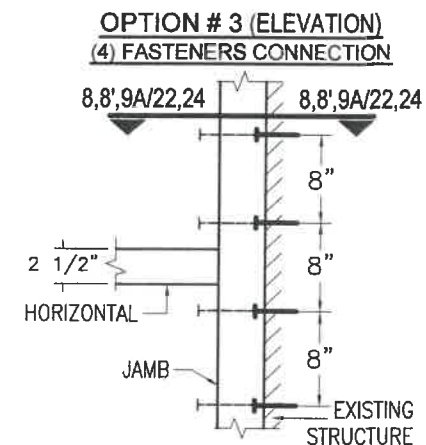
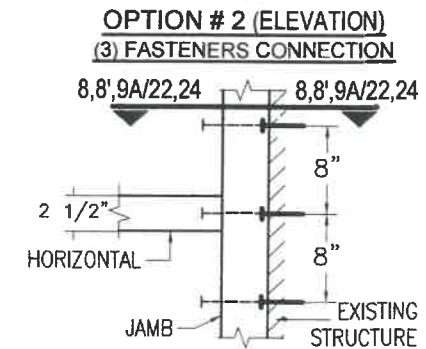
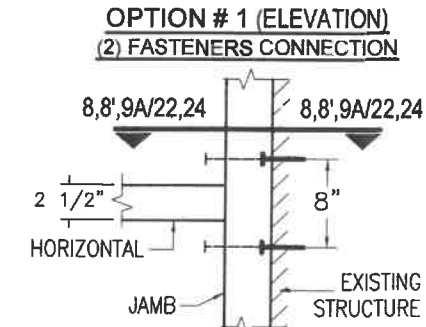
OPTION #2 : 3 FASTENERS CONNECTION								
MAXIMUM MULLION SPAN	EFFECTIVE SPACING b = S _y / 2	MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf)						1/4" Min. THK ASTMA-36 STEEL SUBSTRATE
		POURED CONCRETE (Min. f _c = 3ksi) SUBSTRATE			GROUT FILLED CONCRETE BLOCK SUBSTRATE		FASTENER	
		FASTENER TYPES			FASTENER TYPES			
"L" (ft-in)	"b" (ft-in)	E	F	G	H	I	J	
8' - 5"	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 3"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 6"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 9"	100.0	100.0	100.0	100.0	100.0	100.0	
8' - 6"	3' - 3"	100.0	100.0	86.1	100.0	86.1	100.0	
	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 3"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 6"	100.0	100.0	100.0	100.0	100.0	100.0	
9' - 0"	2' - 9"	100.0	100.0	100.0	100.0	100.0	100.0	
	3' - 3"	100.0	100.0	85.3	100.0	85.3	100.0	
	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 3"	100.0	100.0	100.0	100.0	100.0	100.0	
9' - 6"	2' - 6"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 9"	100.0	100.0	95.2	100.0	95.2	100.0	
	3' - 3"	98.7	98.7	80.5	98.7	80.5	100.0	
	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0	
10' - 0"	2' - 3"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 6"	100.0	100.0	94.2	100.0	94.2	100.0	
	2' - 9"	100.0	100.0	85.7	100.0	85.7	100.0	
	3' - 3"	88.8	88.8	72.5	88.8	72.5	100.0	
	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0	
10' - 6"	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 3"	100.0	100.0	99.7	100.0	99.7	100.0	
	2' - 6"	100.0	100.0	89.7	100.0	89.7	100.0	
	2' - 9"	100.0	100.0	81.6	100.0	81.6	100.0	
	3' - 3"	84.6	84.6	69.0	84.6	69.0	95.8	
11' - 0"	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 3"	100.0	100.0	95.2	100.0	95.2	100.0	
	2' - 6"	100.0	100.0	85.7	100.0	85.7	100.0	
	2' - 9"	95.4	95.4	77.9	95.4	77.9	100.0	
11' - 6"	3' - 3"	80.8	80.8	65.9	80.8	65.9	91.4	
	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 3"	100.0	100.0	91.0	100.0	91.0	100.0	
	2' - 6"	100.0	100.0	81.9	100.0	81.9	100.0	
12' - 0"	2' - 9"	91.3	91.3	74.5	91.3	74.5	100.0	
	3' - 3"	77.2	77.2	63.0	77.2	63.0	87.4	
	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 0"	100.0	100.0	98.1	100.0	98.1	100.0	
	2' - 3"	100.0	100.0	87.2	100.0	87.2	100.0	
12' - 6"	2' - 6"	96.2	96.2	78.5	96.2	78.5	100.0	
	2' - 9"	87.5	87.5	71.4	87.5	71.4	99.0	
	3' - 3"	74.0	74.0	60.4	74.0	60.4	83.8	
	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0	
	2' - 0"	100.0	100.0	94.2	100.0	94.2	100.0	
12' - 6"	2' - 3"	100.0	100.0	83.7	100.0	83.7	100.0	
	2' - 6"	92.4	92.4	75.4	92.4	75.4	100.0	
	2' - 9"	84.0	84.0	68.5	84.0	68.5	95.1	
	3' - 3"	71.1	71.1	58.0	71.1	58.0	80.5	

MAXIMUM A.S.D DESIGN PRESSURE RATING FOR JAMBS AT TWIN SPAN CURTAIN WALL FASTENED TO EXISTING
STRUCTURE W/ 3/8"Ø FASTENERS (CONTINUED)

OPTION #1 : 2 FASTENERS CONNECTION							
MAXIMUM MULLION SPAN	EFFECTIVE SPACING b = S _s / 2 *	MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf)					
		POURED CONCRETE (Min. f _c = 3ksi) SUBSTRATE			GROUT FILLED CONCRETE BLOCK SUBSTRATE		1/4" Min. Thk. ASTM A-36 STEEL SUBSTRATE
		FASTENER TYPES			FASTENER TYPES		FASTENER
"L" (ft-in)	"b" (ft-in)	E	F	G	H	I	J
8' - 5"	2' - 9"	78.6	78.6	64.1	78.6	64.1	88.9
	2' - 0"	68.7	68.7	56.1	68.7	56.1	77.8
	2' - 3"	61.1	61.1	49.8	61.1	49.8	69.2
	2' - 6"	55.0	55.0	44.9	55.0	44.9	62.3
8' - 6"	2' - 9"	50.0	50.0	40.8	50.0	40.8	56.6
	1' - 9"	78.6	78.6	64.1	78.6	64.1	88.9
	2' - 0"	68.7	68.7	56.1	68.7	56.1	77.8
	2' - 3"	61.1	61.1	49.8	61.1	49.8	69.2
8' - 6"	2' - 6"	55.0	55.0	44.9	55.0	44.9	62.3
	2' - 9"	50.0	50.0	40.8	50.0	40.8	56.6
	1' - 9"	78.6	78.6	64.1	78.6	64.1	88.9
	2' - 0"	68.7	68.7	56.1	68.7	56.1	77.8
9' - 0"	2' - 3"	61.1	61.1	49.8	61.1	49.8	69.2
	2' - 6"	55.0	55.0	44.9	55.0	44.9	62.3
	2' - 9"	50.0	50.0	40.8	50.0	40.8	56.6
	1' - 9"	78.6	78.6	64.1	78.6	64.1	88.9
9' - 6"	2' - 0"	68.7	68.7	56.1	68.7	56.1	77.8
	2' - 3"	61.1	61.1	49.8	61.1	49.8	69.2
	2' - 6"	55.0	55.0	44.9	55.0	44.9	62.3
	2' - 9"	50.0	50.0	40.8	50.0	40.8	56.6
10' - 0"	1' - 9"	78.6	78.6	64.1	78.6	64.1	88.9
	2' - 0"	68.7	68.7	56.1	68.7	56.1	77.8
	2' - 3"	61.1	61.1	49.8	61.1	49.8	69.2
	2' - 6"	55.0	55.0	44.9	55.0	44.9	62.3
10' - 0"	2' - 9"	50.0	50.0	40.8	50.0	40.8	56.6
	1' - 9"	78.6	78.6	64.1	78.6	64.1	88.9
	2' - 0"	68.7	68.7	56.1	68.7	56.1	77.8
	2' - 3"	61.1	61.1	49.8	61.1	49.8	69.2
10' - 6"	2' - 6"	55.0	55.0	44.9	55.0	44.9	62.3
	2' - 9"	50.0	50.0	40.8	50.0	40.8	56.6
	1' - 9"	78.6	78.6	64.1	78.6	64.1	88.9
	2' - 0"	68.7	68.7	56.1	68.7	56.1	77.8
11' - 0"	2' - 3"	61.1	61.1	49.8	61.1	49.8	69.2
	2' - 6"	55.0	55.0	44.9	55.0	44.9	62.3
	2' - 9"	50.0	50.0	40.8	50.0	40.8	56.6
	1' - 9"	78.6	78.6	64.1	78.6	64.1	88.9
11' - 6"	2' - 0"	68.7	68.7	56.1	68.7	56.1	77.8
	2' - 3"	61.1	61.1	49.8	61.1	49.8	69.2
	2' - 6"	55.0	55.0	44.9	55.0	44.9	62.3
	2' - 9"	50.0	50.0	40.8	50.0	40.8	56.6
12' - 0"	1' - 9"	78.6	78.6	64.1	78.6	64.1	88.9
	2' - 0"	68.7	68.7	56.1	68.7	56.1	77.8
	2' - 3"	61.1	61.1	49.8	61.1	49.8	69.2
	2' - 6"	55.0	55.0	44.9	55.0	44.9	62.3
12' - 6"	2' - 9"	50.0	50.0	40.8	50.0	40.8	56.6
	1' - 9"	78.6	78.6	64.1	78.6	64.1	88.9
	2' - 0"	68.7	68.7	56.1	68.7	56.1	77.8
	2' - 3"	61.1	61.1	49.8	61.1	49.8	69.2
12' - 6"	2' - 6"	55.0	55.0	44.9	55.0	44.9	62.3
	2' - 9"	50.0	50.0	40.8	50.0	40.8	56.6

OPTION #2 : 3 FASTENERS CONNECTION							
MAXIMUM MULLION SPAN	EFFECTIVE SPACING b = S _s / 2 *	MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf)					
		POURED CONCRETE (Min. f _c = 3ksi) SUBSTRATE			GROUT FILLED CONCRETE BLOCK SUBSTRATE		1/4" Min. THK ASTM A-36 STEEL SUBSTRATE
		FASTENER TYPES			FASTENER TYPES		FASTENER
"L" (ft-in)	"b" (ft-in)	E	F	G	H	I	J
8' - 5"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	84.1	90.0	84.1	90.0
	2' - 3"	90.0	90.0	74.8	90.0	74.8	90.0
	2' - 6"	82.5	82.5	67.3	82.5	67.3	90.0
	2' - 9"	75.0	75.0	61.2	75.0	61.2	84.9
8' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	84.1	90.0	84.1	90.0
	2' - 3"	90.0	90.0	74.8	90.0	74.8	90.0
	2' - 6"	82.5	82.5	67.3	82.5	67.3	90.0
	2' - 9"	75.0	75.0	61.2	75.0	61.2	84.9
9' - 0"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	84.1	90.0	84.1	90.0
	2' - 3"	90.0	90.0	74.8	90.0	74.8	90.0
	2' - 6"	82.5	82.5	67.3	82.5	67.3	90.0
	2' - 9"	75.0	75.0	61.2	75.0	61.2	84.9
9' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	84.1	90.0	84.1	90.0
	2' - 3"	90.0	90.0	74.8	90.0	74.8	90.0
	2' - 6"	82.5	82.5	67.3	82.5	67.3	90.0
	2' - 9"	75.0	75.0	61.2	75.0	61.2	84.9
10' - 0"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	84.1	90.0	84.1	90.0
	2' - 3"	90.0	90.0	74.8	90.0	74.8	90.0
	2' - 6"	82.5	82.5	67.3	82.5	67.3	90.0
	2' - 9"	75.0	75.0	61.2	75.0	61.2	84.9
10' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	84.1	90.0	84.1	90.0
	2' - 3"	90.0	90.0	74.8	90.0	74.8	90.0
	2' - 6"	82.5	82.5	67.3	82.5	67.3	90.0
	2' - 9"	75.0	75.0	61.2	75.0	61.2	84.9
11' - 0"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	84.1	90.0	84.1	90.0
	2' - 3"	90.0	90.0	74.8	90.0	74.8	90.0
	2' - 6"	82.5	82.5	67.3	82.5	67.3	90.0
	2' - 9"	75.0	75.0	61.2	75.0	61.2	84.9
11' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	84.1	90.0	84.1	90.0
	2' - 3"	90.0	90.0	74.8	90.0	74.8	90.0
	2' - 6"	82.5	82.5	67.3	82.5	67.3	90.0
	2' - 9"	75.0	75.0	61.2	75.0	61.2	84.9
12' - 0"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	84.1	90.0	84.1	90.0
	2' - 3"	90.0	90.0	74.8	90.0	74.8	90.0
	2' - 6"	82.5	82.5	67.3	82.5	67.3	90.0
	2' - 9"	75.0	75.0	61.2	75.0	61.2	84.9
12' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	84.1	90.0	84.1	90.0
	2' - 3"	90.0	90.0	74.8	90.0	74.8	90.0
	2' - 6"	82.5	82.5	67.3	82.5	67.3	90.0
	2' - 9"	75.0	75.0	61.2	75.0	61.2	84.9

OPTION #3: 4 FASTENERS CONNECTION								
MAXIMUM MULLION SPAN	EFFECTIVE SPACING b = S _s / 2 *	MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf)						
		POURED CONCRETE (Min. f _c = 3ksa) SUBSTRATE			GROUT FILLED CONCRETE BLOCK SUBSTRATE		1/4" Min. THK ASTM A-36 STEEL SUBSTRATE	
		FASTENER TYPES			FASTENER TYPES		FASTENER	
"L" (ft-in)	"b" (ft-in)	E	F	G	H	I	J	
8' - 5"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 6"	90.0	90.0	89.7	90.0	89.7	90.0	
8' - 6"	2' - 9"	90.0	90.0	81.6	90.0	81.6	90.0	
	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0	
9' - 0"	2' - 6"	90.0	90.0	89.7	90.0	89.7	90.0	
	2' - 9"	90.0	90.0	81.6	90.0	81.6	90.0	
	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0	
9' - 6"	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 6"	90.0	90.0	89.7	90.0	89.7	90.0	
	2' - 9"	90.0	90.0	81.6	90.0	81.6	90.0	
	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0	
10' - 0"	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 6"	90.0	90.0	89.7	90.0	89.7	90.0	
	2' - 9"	90.0	90.0	81.6	90.0	81.6	90.0	
10' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 6"	90.0	90.0	89.7	90.0	89.7	90.0	
11' - 0"	2' - 9"	90.0	90.0	81.6	90.0	81.6	90.0	
	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0	
11' - 6"	2' - 6"	90.0	90.0	89.7	90.0	89.7	90.0	
	2' - 9"	90.0	90.0	81.6	90.0	81.6	90.0	
	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0	
12' - 0"	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 6"	90.0	90.0	89.7	90.0	89.7	90.0	
	2' - 9"	90.0	90.0	81.6	90.0	81.6	90.0	
	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0	
12' - 6"	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0	
	2' - 6"	90.0	90.0	89.7	90.0	89.7	90.0	
	2' - 9"	90.0	90.0	81.6	90.0	81.6	90.0	



FASTENER TYPES REQUIREMENTS:

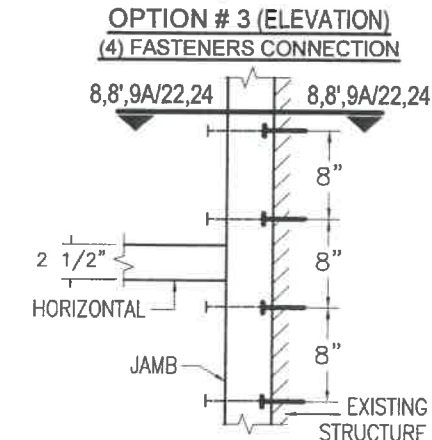
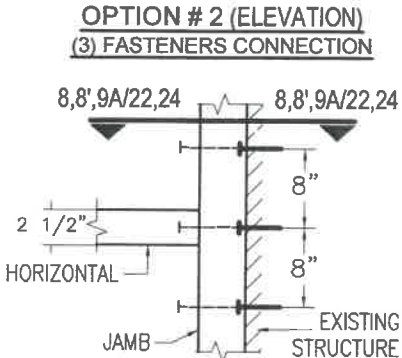
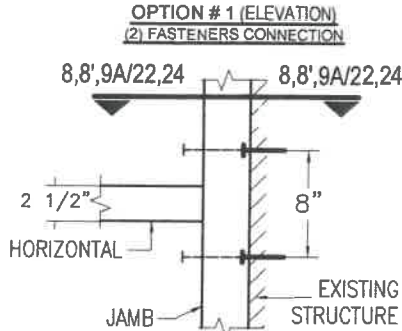
- E - 3/8"Ø HILTI KWIK BOLT TZ ANCHOR W/ 2" Min. EMBEDMENT INTO POURED CONCRETE (Min. f

MAXIMUM A.S.D DESIGN PRESSURE RATING FOR JAMBS AT SINGLE SPAN CURTAIN WALL FASTENED TO EXISTING STRUCTURE W/ 1/2"Ø FASTENERS (CONTINUED)

OPTION #1 : 2 FASTENER CONNECTION							
MAXIMUM MULLION SPAN	EFFECTIVE SPACING b = S _g /2	MAXIMUM A.S.D DESIGN PRESSURE RATING (psf)					
		POURED CONCRETE (Min. f _c = 3ksi) SUBSTRATE			GROUT FILLED CONCRETE BLOCK SUBSTRATE		1/4" Min. Th. ASTM A-36 STEEL SUBSTRATE
		FASTENER TYPES			FASTENER TYPES		FASTENER
"L" (ft-in)	"b" ft-in)	K	L	M	N	O	P
8' - 5"	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 3"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 6"	100.0	100.0	100.0	100.0	90.3	100.0
	2' - 9"	100.0	100.0	100.0	100.0	82.1	100.0
8' - 6"	3' - 3"	100.0	100.0	100.0	100.0	69.5	100.0
	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 3"	100.0	100.0	100.0	100.0	99.3	100.0
	2' - 6"	100.0	100.0	100.0	100.0	89.4	100.0
9' - 0"	2' - 9"	100.0	100.0	100.0	100.0	81.3	100.0
	3' - 3"	100.0	100.0	100.0	100.0	68.8	100.0
	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 3"	100.0	100.0	100.0	100.0	93.8	100.0
9' - 6"	2' - 6"	100.0	100.0	100.0	100.0	84.4	100.0
	2' - 9"	100.0	100.0	100.0	100.0	76.8	100.0
	3' - 3"	100.0	100.0	100.0	100.0	65.0	100.0
	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0
10' - 0"	2' - 3"	100.0	100.0	100.0	100.0	88.9	100.0
	2' - 6"	100.0	100.0	100.0	100.0	80.0	100.0
	2' - 9"	100.0	100.0	100.0	100.0	72.7	100.0
	3' - 3"	100.0	100.0	100.0	100.0	61.5	100.0
	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
10' - 6"	2' - 0"	100.0	100.0	100.0	100.0	95.0	100.0
	2' - 3"	100.0	100.0	100.0	100.0	84.4	100.0
	2' - 6"	100.0	100.0	100.0	100.0	76.0	100.0
	2' - 9"	100.0	100.0	100.0	100.0	69.1	100.0
	3' - 3"	100.0	100.0	100.0	100.0	58.5	100.0
11' - 0"	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 0"	100.0	100.0	100.0	100.0	90.5	100.0
	2' - 3"	100.0	100.0	100.0	100.0	80.4	100.0
	2' - 6"	100.0	100.0	100.0	100.0	72.4	100.0
	2' - 9"	100.0	100.0	100.0	100.0	65.8	100.0
11' - 6"	3' - 3"	100.0	100.0	100.0	100.0	55.7	100.0
	1' - 9"	100.0	100.0	100.0	100.0	98.7	100.0
	2' - 0"	100.0	100.0	100.0	100.0	86.4	100.0
	2' - 3"	100.0	100.0	100.0	100.0	76.8	100.0
	2' - 6"	100.0	100.0	100.0	100.0	69.1	100.0
12' - 0"	2' - 9"	100.0	100.0	100.0	100.0	62.8	100.0
	3' - 3"	100.0	100.0	100.0	100.0	53.1	100.0
	1' - 9"	100.0	100.0	100.0	100.0	94.4	100.0
	2' - 0"	100.0	100.0	100.0	100.0	82.6	100.0
	2' - 3"	100.0	100.0	100.0	100.0	73.4	100.0
12' - 6"	2' - 6"	100.0	100.0	100.0	100.0	66.1	100.0
	2' - 9"	100.0	100.0	100.0	100.0	60.1	100.0
	3' - 3"	100.0	100.0	100.0	92.5	50.8	100.0
	1' - 9"	100.0	100.0	100.0	100.0	90.5	100.0
	2' - 0"	100.0	100.0	100.0	100.0	79.2	100.0
12' - 0"	2' - 3"	100.0	100.0	100.0	100.0	70.4	100.0
	2' - 6"	100.0	100.0	100.0	100.0	63.3	100.0
	2' - 9"	100.0	100.0	100.0	100.0	57.6	100.0
	3' - 3"	100.0	100.0	100.0	88.6	48.7	100.0
	1' - 9"	100.0	100.0	100.0	100.0	86.9	100.0
12' - 6"	2' - 0"	100.0	100.0	100.0	100.0	76.0	100.0
	2' - 3"	100.0	100.0	100.0	100.0	67.6	100.0
	2' - 6"	100.0	100.0	100.0	100.0	60.8	100.0
	2' - 9"	100.0	100.0	100.0	100.0	55.3	100.0
	3' - 3"	100.0	100.0	100.0	85.1	46.8	100.0

OPTION #1 : 3 FASTENERS CONNECTION							
MAXIMUM MULLION SPAN	EFFECTIVE SPACING b = S ₂ / 2	MAXIMUM A.S.D DESIGN PRESSURE RATING (psf)					
		POURED CONCRETE (Min. fc = 3ksi) SUBSTRATE			GROUT FILLED CONCRETE BLOCK SUBSTRATE		1/4" Min. T. ASTM A-36 STEEL SUBSTRATE
		FASTENER TYPES			FASTENER TYPES		FASTENER TYPES
"L" (ft-in)	"b" ft-in)	K	L	M	N	O	P
8' - 5"	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 3"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 6"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	3' - 3"	100.0	100.0	100.0	100.0	100.0	100.0
8' - 6"	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 3"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 6"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	3' - 3"	100.0	100.0	100.0	100.0	100.0	100.0
9' - 0"	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 3"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 6"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	3' - 3"	100.0	100.0	100.0	100.0	97.4	100.0
9' - 6"	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 3"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 6"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	3' - 3"	100.0	100.0	100.0	100.0	92.3	100.0
10' - 0"	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 3"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 6"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	3' - 3"	100.0	100.0	100.0	100.0	87.7	100.0
10' - 6"	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 3"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 6"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 9"	100.0	100.0	100.0	100.0	98.7	100.0
	3' - 3"	100.0	100.0	100.0	100.0	83.5	100.0
11' - 0"	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 3"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 6"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 9"	100.0	100.0	100.0	100.0	94.2	100.0
	3' - 3"	100.0	100.0	100.0	100.0	79.7	100.0
11' - 6"	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 3"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 6"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 9"	100.0	100.0	100.0	100.0	99.1	100.0
	3' - 3"	100.0	100.0	100.0	100.0	90.1	100.0
12' - 0"	1' - 9"	100.0	100.0	100.0	100.0	76.3	100.0
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 3"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 6"	100.0	100.0	100.0	100.0	95.0	100.0
	2' - 9"	100.0	100.0	100.0	100.0	86.4	100.0
	3' - 3"	100.0	100.0	100.0	100.0	73.1	100.0
12' - 6"	1' - 9"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 0"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 3"	100.0	100.0	100.0	100.0	100.0	100.0
	2' - 6"	100.0	100.0	100.0	100.0	91.2	100.0
	2' - 9"	100.0	100.0	100.0	100.0	82.9	100.0
	3' - 3"	100.0	100.0	100.0	100.0	70.2	100.0

OPTION #2 : 4 FASTENERS CONNECTION							
MAXIMUM MULLION SPAN	EFFECTIVE SPACING b = S _e /2	MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf)					
		POURED CONCRETE (Min. f _c = 3ksi) SUBSTRATE			GROUT FILLED CONCRETE BLOCK SUBSTRATE		1/4" Min. Th. ASTM A-36 STEEL SUBSTRATE
		FASTENER TYPES			FASTENER TYPES		FASTENER
		K	L	M	N	O	P
8'-5"	1'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-0" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-6" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	3'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
8'-6"	1'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-0" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-6" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	3'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
9'-10"	1'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-0" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-6" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	3'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
9'-6"	1'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-0" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-6" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	3'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
10'-0"	1'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-0" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-6" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	3'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
10'-6"	1'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-0" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-6" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	3'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
11'-0"	1'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-0" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-6" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	3'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
11'-6"	1'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-0" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-6" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	3'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
12'-0"	1'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-0" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-6" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	3'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
12'-6"	1'-9" ¹⁶	100.0	100.0	100.0	100.0	97.4	100.0
	2'-0" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-3" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-6" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	2'-9" ¹⁶	100.0	100.0	100.0	100.0	100.0	100.0
	3'-3" ¹⁶	100.0	100.0	100.0	100.0	93.5	100.0



B FASTENER TYPES REQUIREMENTS:

- K - 1/2"Ø HILTI KWIK BOLT TZ ANCHOR W/ 3" Min. EMBEDMENT INTO POURED CONCRETE (Min. $f_c = 3$ ksi) BEYOND ANY FINISH MATERIAL, W/ 4" MIN. EDGE DISTANCE.
- L - 1/2"Ø HILTI KWIK BOLT 3 ANCHOR W/ 3 1/2" Min. EMBEDMENT INTO POURED CONCRETE (Min. $f_c = 3$ ksi) BEYOND ANY FINISH MATERIAL, W/ 4" MIN. EDGE DISTANCE.
- M - 1/2"Ø HILTI HUS-H SCREW ANCHOR W/ 3" Min. EMBEDMENT INTO POURED CONCRETE (Min. $f_c = 3$ ksi) BEYOND ANY FINISH MATERIAL, W/ 4" MIN. EDGE DISTANCE.
- N - 1/2"Ø HILTI KWIK BOLT 3 ANCHOR W/ 3 1/2" Min. EMBEDMENT INTO GROUT FILLED CONCRETE BLOCK BEYOND ANY FINISH MATERIAL, W/ 4" MIN. EDGE DISTANCE.
- O - 1/2"Ø HILTI HUS-H SCREW ANCHOR W/ 3" Min. EMBEDMENT INTO GROUT FILLED CONCRETE BLOCK BEYOND ANY FINISH MATERIAL, W/ 4" MIN. EDGE DISTANCE.
- P - 1/2"Ø-13 TYPE "F" GRADE 5 BOLT TO 1/4" MIN. THK. ASTM A-36 STEEL W/ 1" MIN. EDGE DISTANCE OR 1/2"Ø-13 SAE GRADE 5, GALVANIZED STEEL BOLT W/ LOCK WASHER & NUT TO 1/4" MIN. THK. ASTM A-36 STEEL & MIN. ED = 1"

* SEE SHEET 9 FOR EFFECTIVE SPACING DEFINITION AT ISOMETRIC.

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

**HR-250 CAPTURED CURTAIN
WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS**

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TILECO INC.

TILLIT TESTING & ENGINEERING COMPANY
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CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

M.P
DRAWN BY:

DATE 04/15/2021

21-057
DRAWING No.

SHEET 16 OF 36

1	OLD 18-031	04/15/21	3	-	-
2	-	-	4	-	-

1. *Introduction*

SIGNATURE: _____ SEAL/SIGNATURE/DATE _____

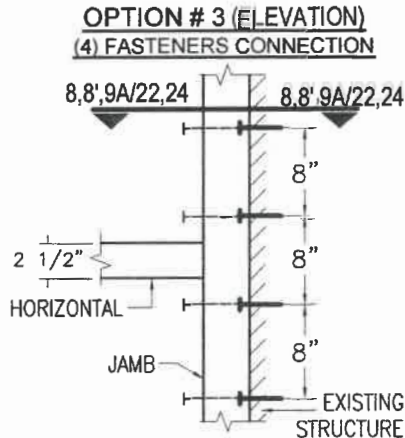
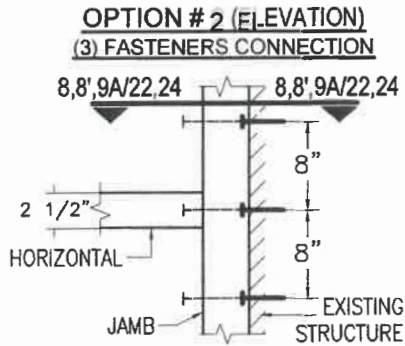
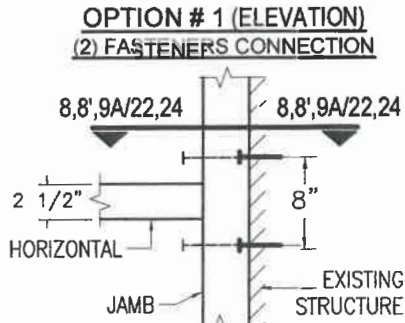
1

TO EXISTING STRUCTURE W 1/2"Ø FASTENERS (CONTINUED)

OPTION #1 : 2 FASTENERS CONNECTION							
MAXIMUM MULLION SPAN	EFFECTIVE SPACING b = S _s /2 *	MAXIMUM A.S.D. DESIGN PRESSURE RATING (psi)					
		POURED CONCRETE (Min. f _c = 3ksi) SUBSTRATE			GROUT FILLED CONCRETE BLOCK SUBSTRATE		1/4" Min. THK ASTM A-36 STEEL SUBSTRATE
		FASTENER TYPES			FASTENER TYPES		FASTENER
"L" (ft-in)	"b" (ft-in)	K	L	M	N	O	P
8' - 5"	1' - 9"	90.0	90.0	90.0	90.0	77.6	90.0
	2' - 0"	90.0	90.0	90.0	90.0	67.9	90.0
	2' - 3"	90.0	90.0	90.0	90.0	60.3	90.0
	2' - 6"	90.0	90.0	90.0	90.0	54.3	90.0
	2' - 9"	90.0	90.0	87.0	89.8	49.4	90.0
8' - 6"	1' - 9"	90.0	90.0	90.0	90.0	77.6	90.0
	2' - 0"	90.0	90.0	90.0	90.0	67.9	90.0
	2' - 3"	90.0	90.0	90.0	90.0	60.3	90.0
	2' - 6"	90.0	90.0	90.0	90.0	54.3	90.0
	2' - 9"	90.0	90.0	87.0	89.8	49.4	90.0
9' - 0"	1' - 9"	90.0	90.0	90.0	90.0	77.6	90.0
	2' - 0"	90.0	90.0	90.0	90.0	67.9	90.0
	2' - 3"	90.0	90.0	90.0	90.0	60.3	90.0
	2' - 6"	90.0	90.0	90.0	90.0	54.3	90.0
	2' - 9"	90.0	90.0	87.0	89.8	49.4	90.0
9' - 6"	1' - 9"	90.0	90.0	90.0	90.0	77.6	90.0
	2' - 0"	90.0	90.0	90.0	90.0	67.9	90.0
	2' - 3"	90.0	90.0	90.0	90.0	60.3	90.0
	2' - 6"	90.0	90.0	90.0	90.0	54.3	90.0
	2' - 9"	90.0	90.0	87.0	89.8	49.4	90.0
10' - 0"	1' - 9"	90.0	90.0	90.0	90.0	77.6	90.0
	2' - 0"	90.0	90.0	90.0	90.0	67.9	90.0
	2' - 3"	90.0	90.0	90.0	90.0	60.3	90.0
	2' - 6"	90.0	90.0	90.0	90.0	54.3	90.0
	2' - 9"	90.0	90.0	87.0	89.8	49.4	90.0
10' - 6"	1' - 9"	90.0	90.0	90.0	90.0	77.6	90.0
	2' - 0"	90.0	90.0	90.0	90.0	67.9	90.0
	2' - 3"	90.0	90.0	90.0	90.0	60.3	90.0
	2' - 6"	90.0	90.0	90.0	90.0	54.3	90.0
	2' - 9"	90.0	90.0	87.0	89.8	49.4	90.0
11' - 0"	1' - 9"	90.0	90.0	90.0	90.0	77.6	90.0
	2' - 0"	90.0	90.0	90.0	90.0	67.9	90.0
	2' - 3"	90.0	90.0	90.0	90.0	60.3	90.0
	2' - 6"	90.0	90.0	90.0	90.0	54.3	90.0
	2' - 9"	90.0	90.0	87.0	89.8	49.4	90.0
11' - 6"	1' - 9"	90.0	90.0	90.0	90.0	77.6	90.0
	2' - 0"	90.0	90.0	90.0	90.0	67.9	90.0
	2' - 3"	90.0	90.0	90.0	90.0	60.3	90.0
	2' - 6"	90.0	90.0	90.0	90.0	54.3	90.0
	2' - 9"	90.0	90.0	87.0	89.8	49.4	90.0
12' - 0"	1' - 9"	90.0	90.0	90.0	90.0	77.6	90.0
	2' - 0"	90.0	90.0	90.0	90.0	67.9	90.0
	2' - 3"	90.0	90.0	90.0	90.0	60.3	90.0
	2' - 6"	90.0	90.0	90.0	90.0	54.3	90.0
	2' - 9"	90.0	90.0	87.0	89.8	49.4	90.0
12' - 6"	1' - 9"	90.0	90.0	90.0	90.0	77.6	90.0
	2' - 0"	90.0	90.0	90.0	90.0	67.9	90.0
	2' - 3"	90.0	90.0	90.0	90.0	60.3	90.0
	2' - 6"	90.0	90.0	90.0	90.0	54.3	90.0
	2' - 9"	90.0	90.0	87.0	89.8	49.4	90.0

OPTION #2 : 3 FASTENERS CONNECTION							
MAXIMUM MULLION SPAN	EFFECTIVE SPACING b = S _s / 2 *	MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf)					
		POURED CONCRETE (Min. f _c = 3ksi) SUBSTRATE			GROUT FILLED CONCRETE BLOCK SUBSTRATE		1/4" Min. THK ASTM A-36 STEEL SUBSTRATE
		FASTENER TYPES			FASTENER TYPES		FASTENER
"L" (ft-in)	"b" (ft-in)	K	L	M	N	O	P
8' - 5"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	81.4	90.0
	2' - 9"	90.0	90.0	90.0	90.0	74.0	90.0
8' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	81.4	90.0
	2' - 9"	90.0	90.0	90.0	90.0	74.0	90.0
9' - 0"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	81.4	90.0
	2' - 9"	90.0	90.0	90.0	90.0	74.0	90.0
9' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	81.4	90.0
	2' - 9"	90.0	90.0	90.0	90.0	74.0	90.0
10' - 0"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	81.4	90.0
	2' - 9"	90.0	90.0	90.0	90.0	74.0	90.0
10' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	81.4	90.0
	2' - 9"	90.0	90.0	90.0	90.0	74.0	90.0
11' - 0"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	81.4	90.0
	2' - 9"	90.0	90.0	90.0	90.0	74.0	90.0
11' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	81.4	90.0
	2' - 9"	90.0	90.0	90.0	90.0	74.0	90.0
12' - 0"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	81.4	90.0
	2' - 9"	90.0	90.0	90.0	90.0	74.0	90.0
12' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	81.4	90.0
	2' - 9"	90.0	90.0	90.0	90.0	74.0	90.0

MAXIMUM MULLION SPAN	EFFECTIVE SPACING b = S _y / 2 *	MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf)					
		POURED CONCRETE (Min. f _c = 3ksi) SUBSTRATE			GROUT FILLED CONCRETE BLOCK SUBSTRATE		1/4" Min. THK ASTM A-36 STEEL SUBSTRATE
		FASTENER TYPES			FASTENER TYPES		FASTENER
		"L" (ft-in)	"b" (ft-in)	K	L	M	N
8' - 5"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
8' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
9' - 0"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
9' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
10' - 0"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
10' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
11' - 0"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
11' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
12' - 0"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
12' - 6"	1' - 9"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 0"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 3"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 6"	90.0	90.0	90.0	90.0	90.0	90.0
	2' - 9"	90.0	90.0	90.0	90.0	90.0	90.0



FASTENER TYPES REQUIREMENTS:

- K- 1/2"Ø HILTI KWIK BOLT TZ ANCHOR W/ 2" Min. EMBEDMENT INTO POURED CONCRETE (Min. $f_c = 3$ ksi) BEYOND ANY FINISH MATERIAL, W/ 4" MIN. EDGE DISTANCE.
- L- 1/2"Ø HILTI KWIK BOLT 3 ANCHOR W/ 3 1/2" Min. EMBEDMENT INTO POURED CONCRETE (Min. $f_c = 3$ ksi) BEYOND ANY FINISH MATERIAL, W/ 4" MIN. EDGE DISTANCE.
- M- 1/2"Ø HILTI HUS-H SCREW ANCHOR W/ 3" Min. EMBEDMENT INTO POURED CONCRETE (Min. $f_c = 3$ ksi) BEYOND ANY FINISH MATERIAL, W/ 4" MIN. EDGE DISTANCE.
- N- 1/2"Ø HILTI KWIK BOLT 3 ANCHOR W/ 3 1/2" Min. EMBEDMENT INTO GROUT FILLED CONCRETE BLOCK BEYOND ANY FINISH MATERIAL, W/ 4". EDGE DISTANCE.
- O- 1/2"Ø HILTI HUS-H SCREW ANCHOR W/ 3" Min. EMBEDMENT INTO GROUT FILLED CONCRETE BLOCK BEYOND ANY FINISH MATERIAL, W/ 4" MIN. EDGE DISTANCE.
- P- 1/2"Ø-13 TYPE "F" GRADE 5 BOLT TO 1/4" MIN. THK. ASTM A-36 STEEL W/ 1" MIN. EDGE DISTANCE OR 1/2"Ø-13 SAE GALVANIZED STEEL GRADE 5 HBB THRU BOLT W/ NUT & LOCK WASHER TO 1/4" MIN. THK. ASTM A-36 STEEL W/ 1" MIN. EDGE DISTANCE.

* SEE SHEET 10 FOR EFFECTIVE SPACING DEFINITION AT ISOMETRIC.

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

**HR-250 CAPTURED CURTAIN
WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS**

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CA-0006719

M.P.
DRAWN BY:

04/15/2021
DATE

21-057
DRAWING No

SHEET 17 OF 36

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 18-031	04/15/21	3	-	-
2	-	-	4	-	-

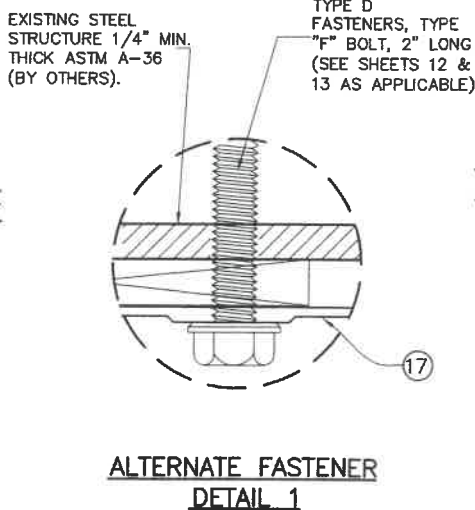
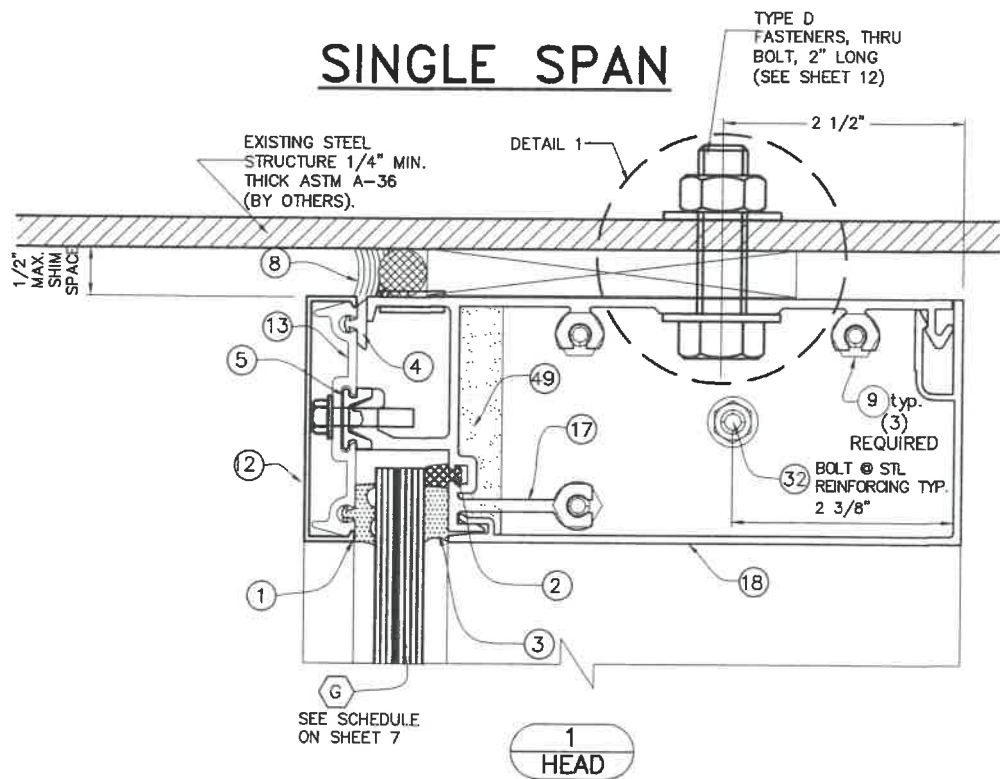
WALTER A. TILLIT JR., P.E.
FLORIDA Lic. # 44167

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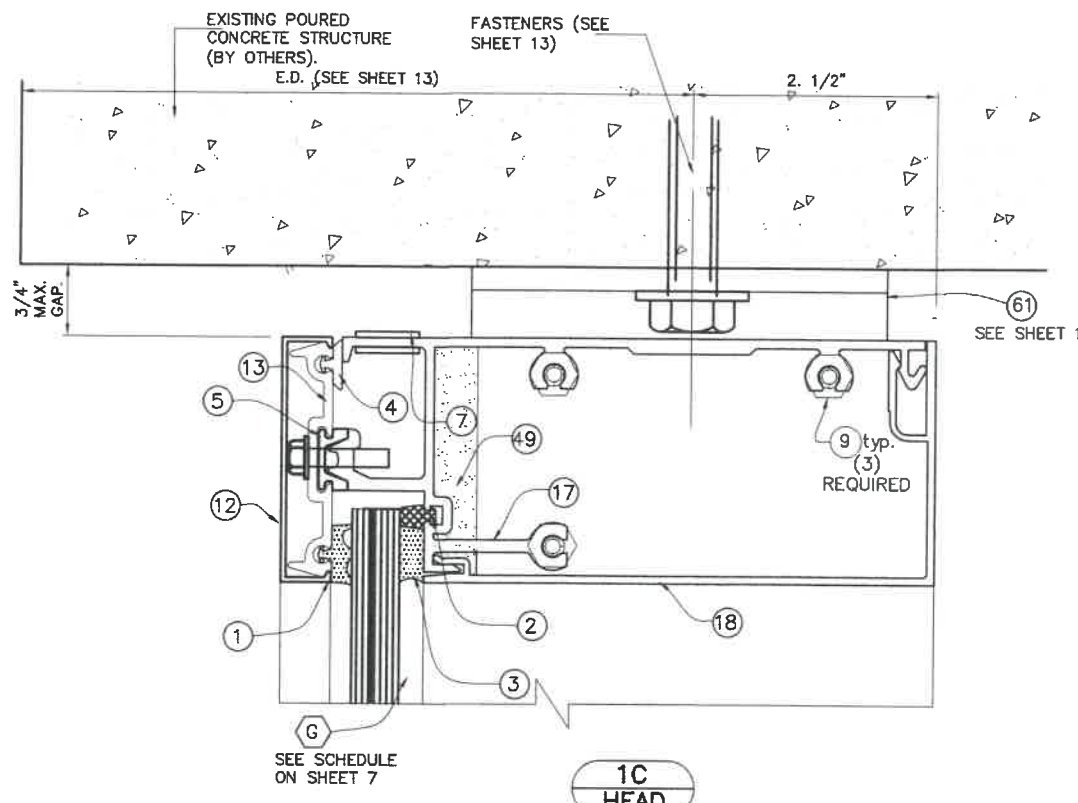
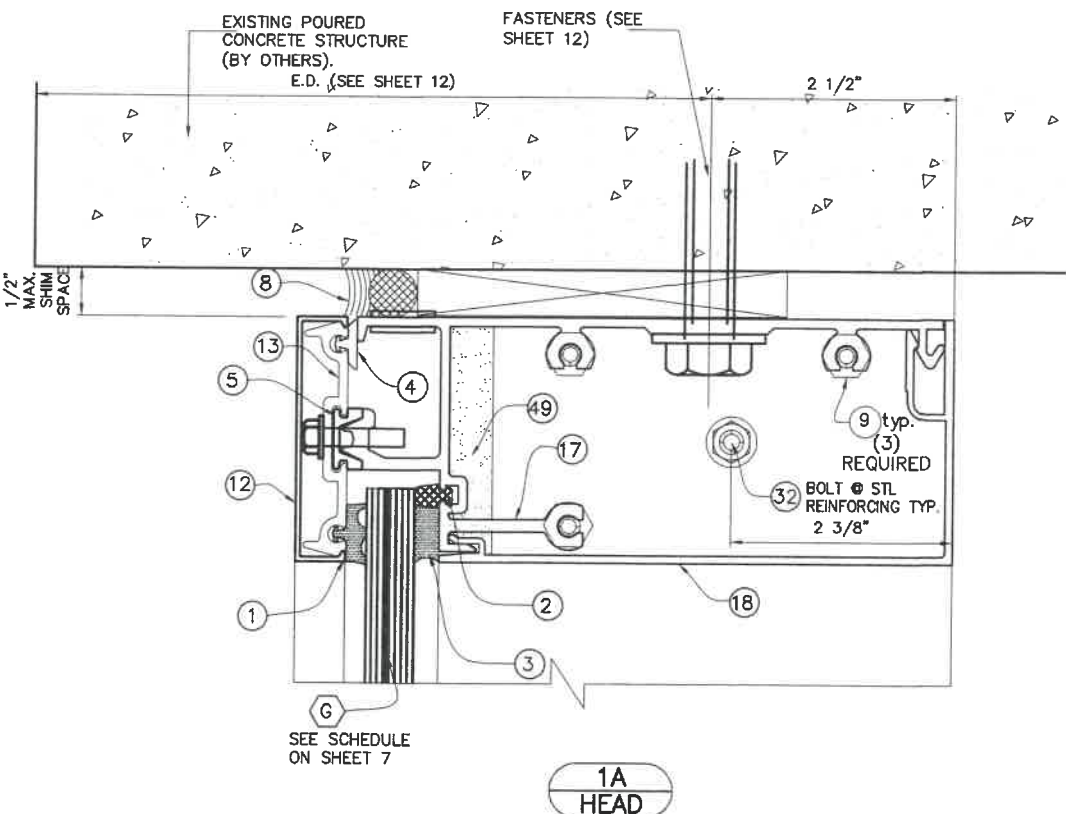
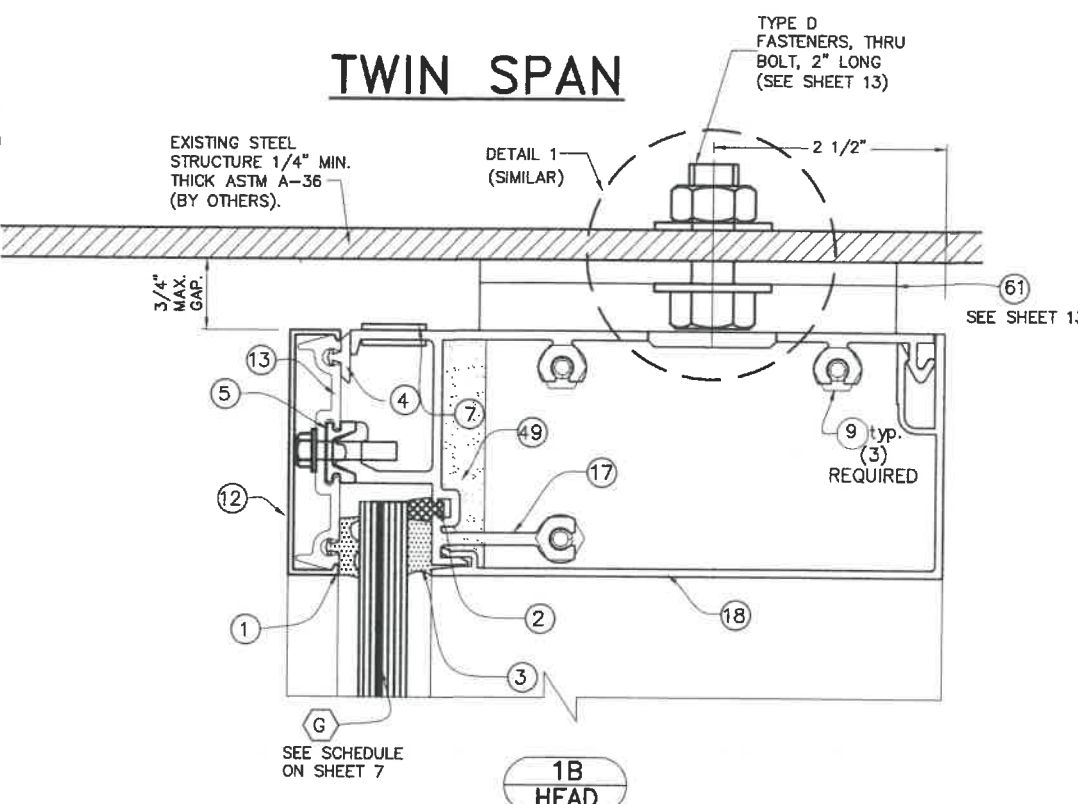


HEAD CONNECTION DETAILS (SIDE VIEWS)

SINGLE SPAN



TWIN SPAN

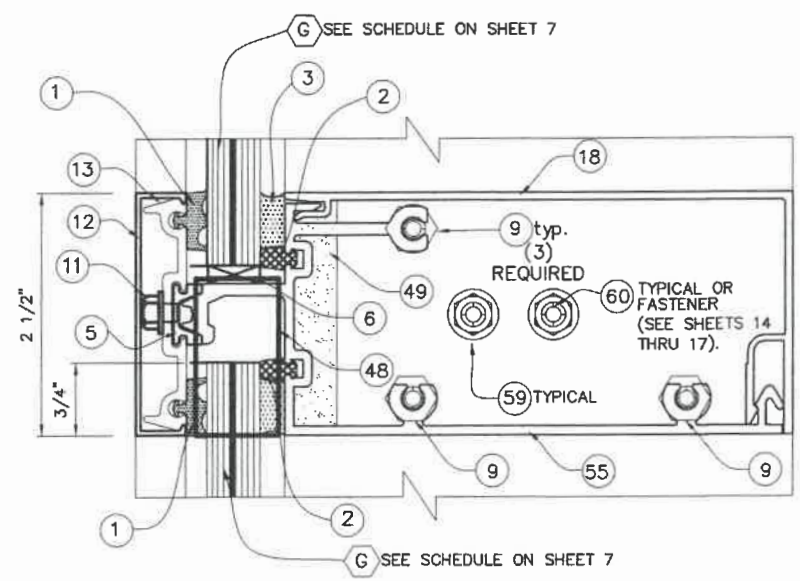


NOTE: SEE ALSO DETAILS 1, 2, 3 & 4, & 18 ON SHEETS 25 & 28 RESPECTIVELY

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

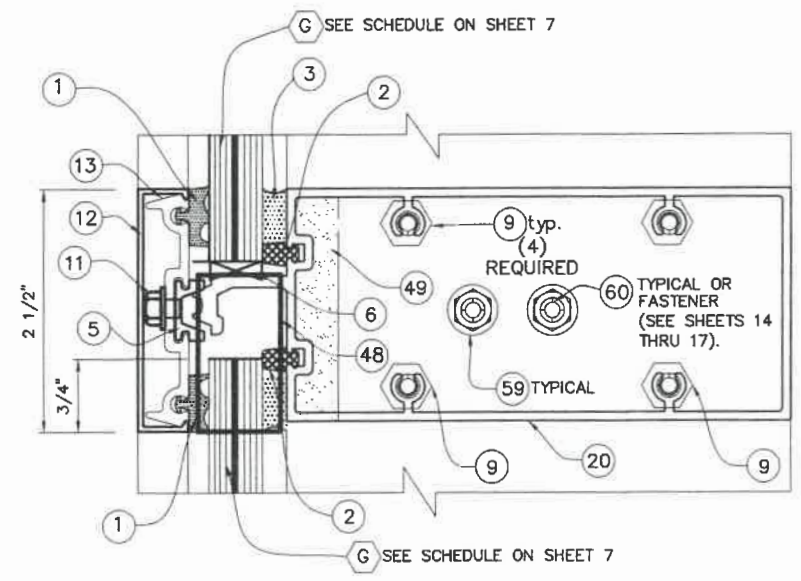
©2021 TILTECO, INC		TILTECO INC.		TILLIT TESTING & ENGINEERING COMPANY 3355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166 Phone : (305)871-1530 • Fax : (305)871-1531 e-mail: tileco@aol.com CA-0006719 WALTER A. TILLIT JR. P.E. FLORIDA Lic. # 44167	
HR-250 CAPTURED CURTAIN WALL SYSTEM LARGE MISSILE IMPACT LAMINATED GLASS		 Oldcastle BuildingEnvelope™		803 Airport Rd - Terrell, TX 75160 www.OldcastleBE.com - Phone 800-869-4567	
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SHEET 18 OF 36					

HORIZONTAL CONNECTION DETAILS (SIDE VIEWS)



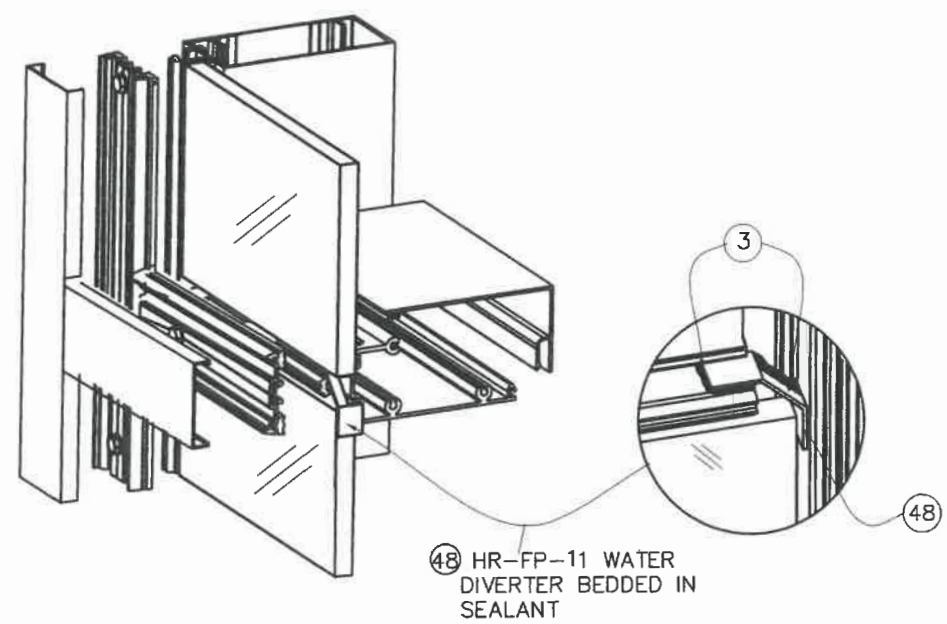
2
INT HORI

AT SINGLE OR TWIN SPAN



2A
INT HORI

AT SINGLE OR TWIN SPAN



48 HR-FP-11 WATER
DIVERTER BEDDED IN
SEALANT

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

HR-250 CAPTURED CURTAIN
WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS

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FLORIDA LIC. # 44167

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04/15/2021
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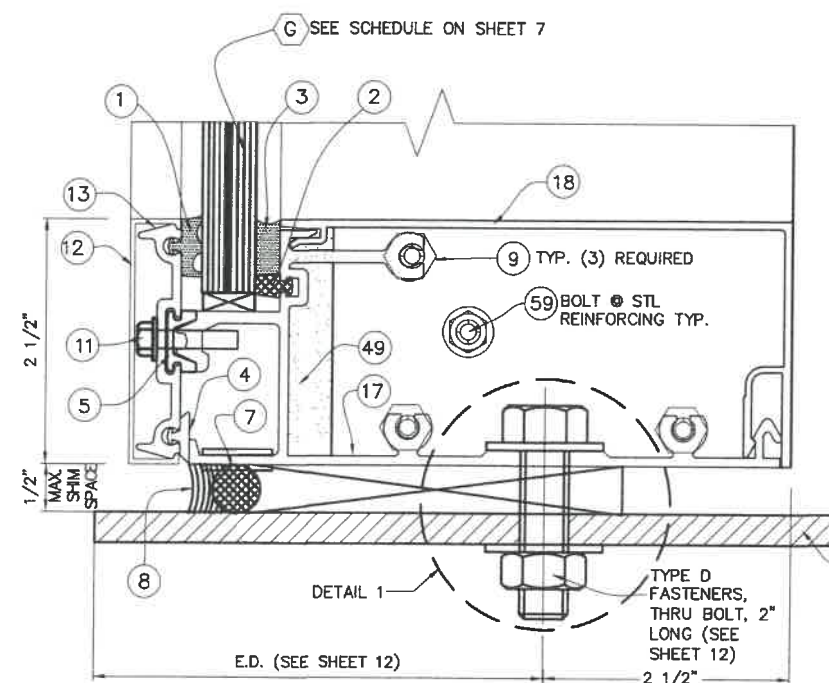
21-057
DRAWING No

SHEET 19 OF 36

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4/16/2021

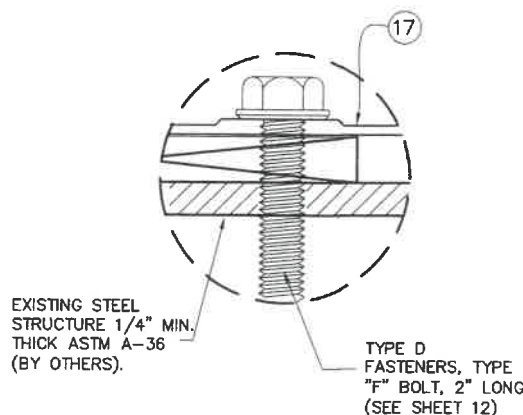
SILL CONNECTION DETAILS (SIDE VIEWS)



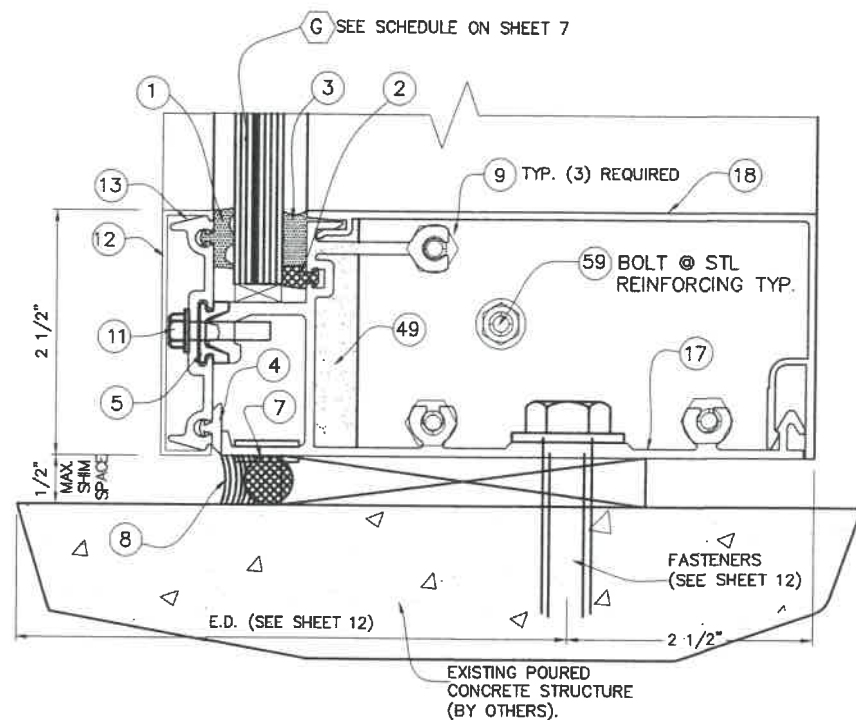
3
SILL

CONNECTION TO STEEL
STRUCTURE

NOTE: SEE ALSO DETAILS 1
THRU 4 ON SHEET 25



ALTERNATE FASTENER
DETAIL 1



3
SILL

CONNECTION TO POURED
CONCRETE STRUCTURE

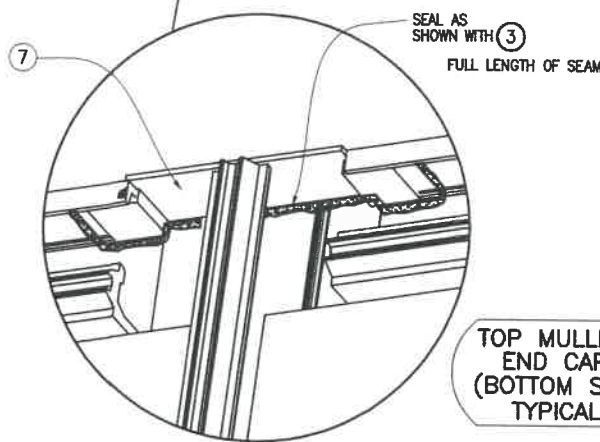
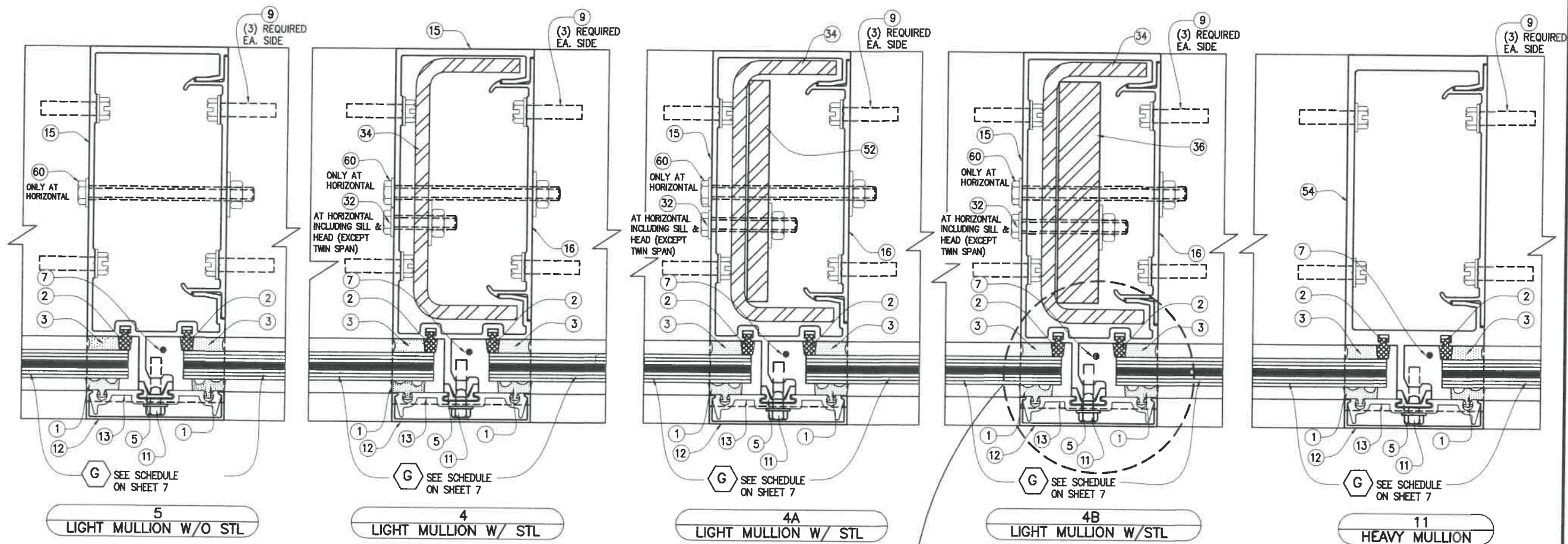


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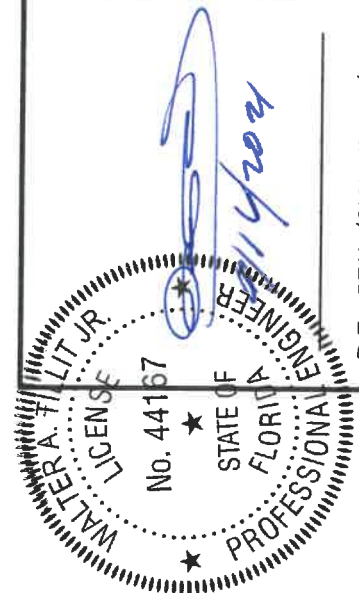
TILECO INC. TILLIT TESTING & ENGINEERING COMPANY 8355 N.W. 38th St., Ste. 305, Virginia Gardens, FL 33166 Phone : (305) 871-1530 Fax : (305) 871-1531 e-mail: tiltco@aol.com CA-0006719 WALTER A. TILIT JR. P.E. FLORIDA LIC. # 44167		HR-250 CAPTURED CURTAIN WALL SYSTEM LARGE MISSILE IMPACT LAMINATED GLASS		M.P. DRAWN BY:
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				DRAWING No 21-057
				SHEET 20 OF 36

STANDARD MULLION DETAILS (PLAN)

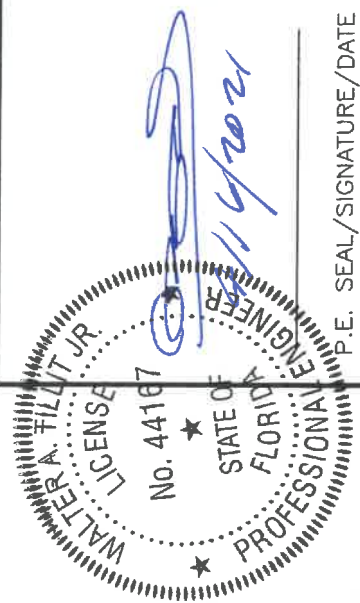
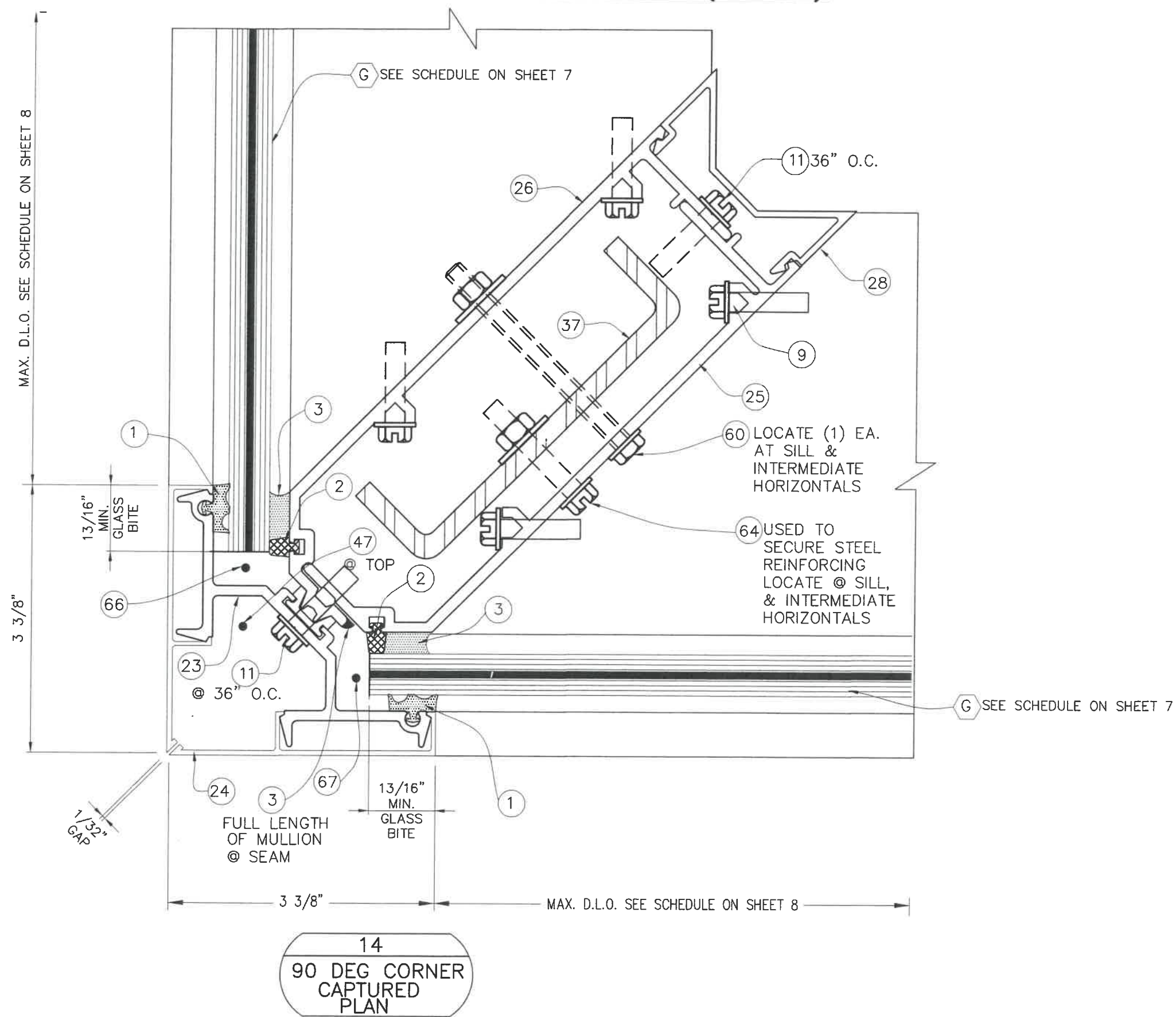


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CORNER MULLION DETAILS (PLAN)



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HR-250 CAPTURED CURTAIN WALL SYSTEM
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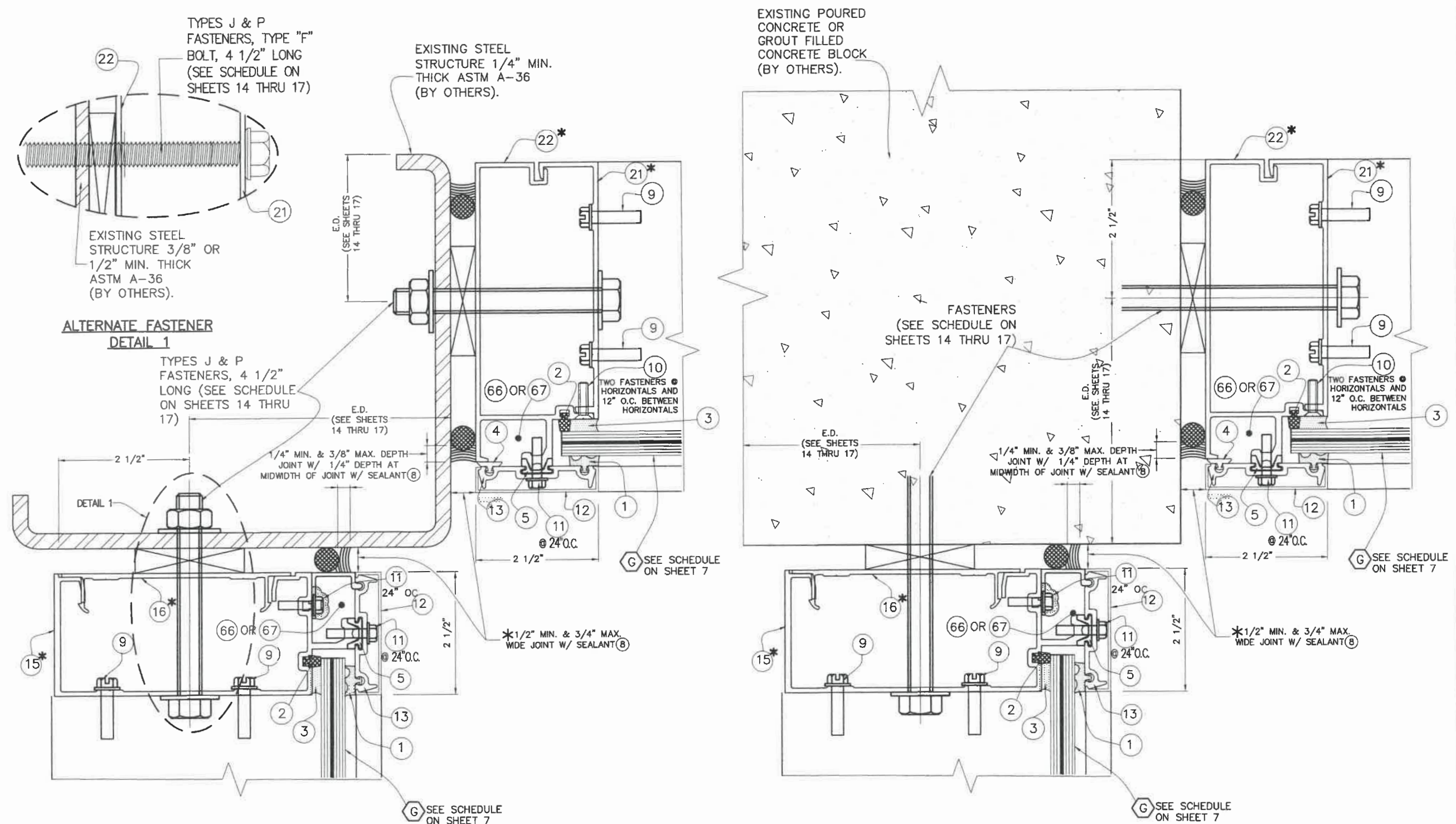
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SHEET 23 OF 36

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1	OLD 18-031	04/15/21	3	-	-
2	-	-	4	-	-

JAMBS CONNECTIONS AT INSIDE CORNER (PLAN)



8, 9A @ INSIDE CORNER
JAMB TO EXISTING
STEEL (PLAN)

* JAMBS MAY BE
⑮ + ⑯ OR ⑳ + ㉑
INTERCHANGABLE

8, 9A @ INSIDE CORNER
JAMB TO POURED
CONCRETE (PLAN)

* NOTE: ABOVE INDICATED MAXIMUM AND MINIMUM VALUES FOR SPECIFIED SEALANT VERTICAL JOINT WIDTH AT JAMBS CONNECTED TO WALL HAVE BEEN DETERMINED ONLY TAKING INTO CONSIDERATION THE ACTUAL MOVEMENT OF GLASS WALL AT JAMBS DUE TO THERMAL, WIND AND ITS OWN CONSTRUCTION TOLERANCE, AND NOT PERFORMANCE FACTORS FROM THE SURROUNDING STRUCTURE.

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

HR-250 CAPTURED CURTAIN WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS

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WALTER A. TILLIT JR., P.E.
FLORIDA LIC. # 44167

21-057
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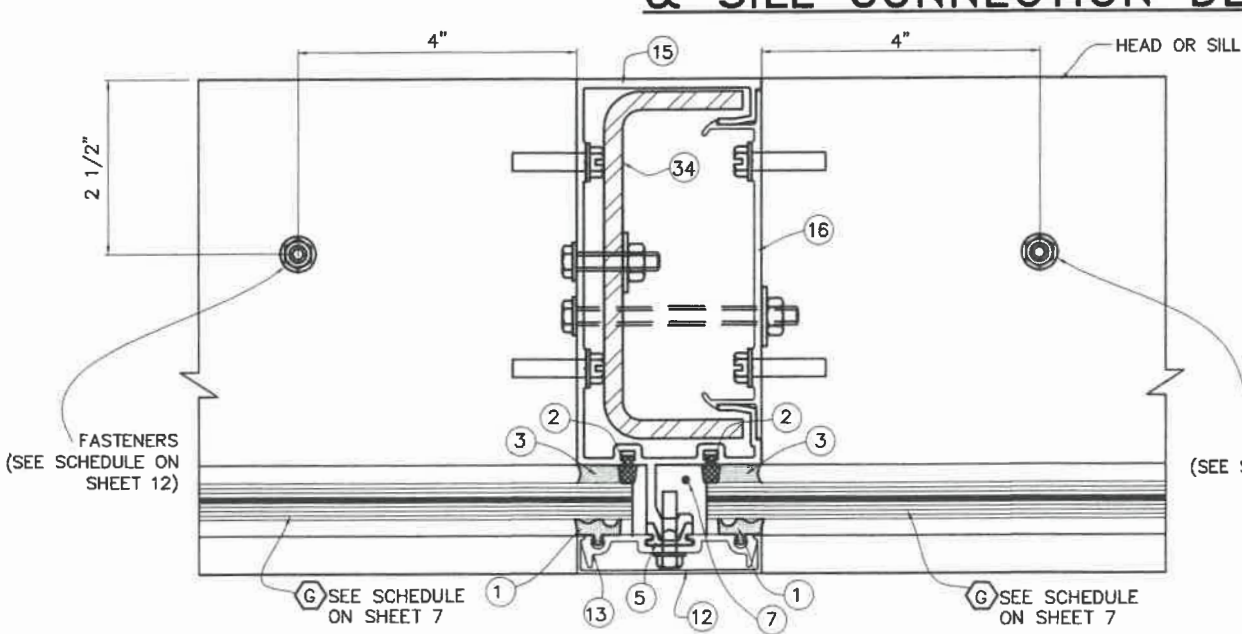
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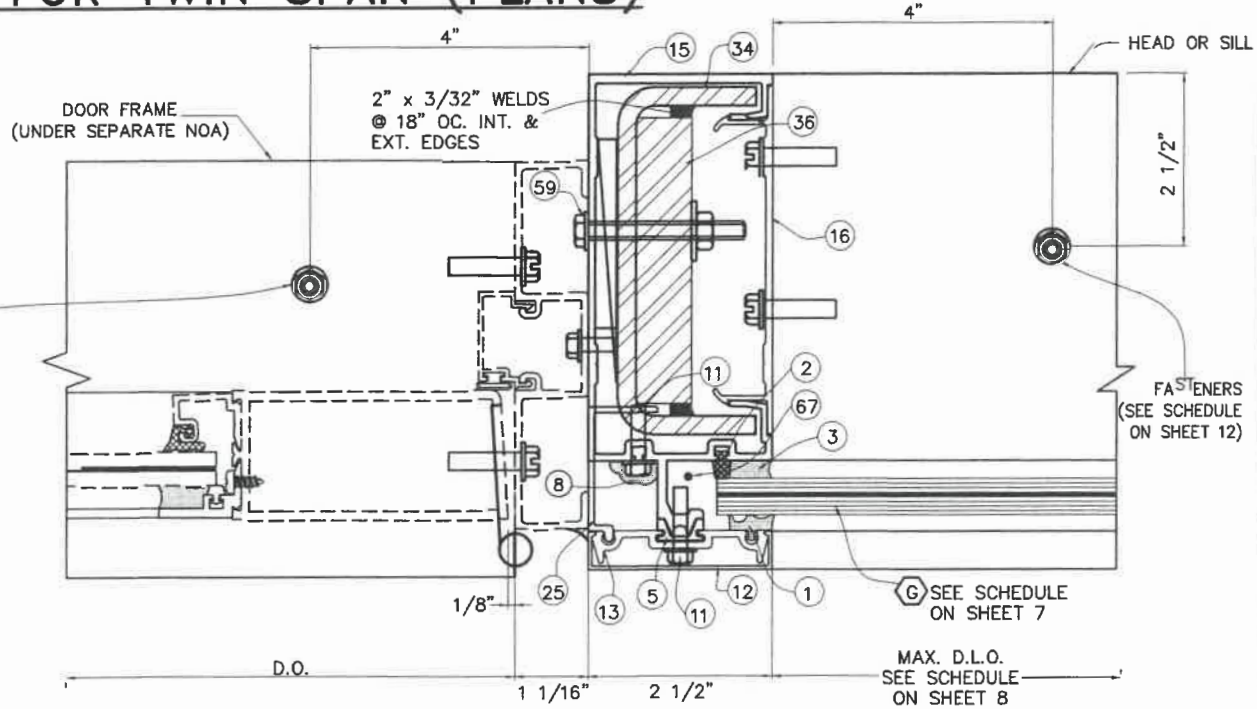
WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

SEAL/SIGNATURE/DATE

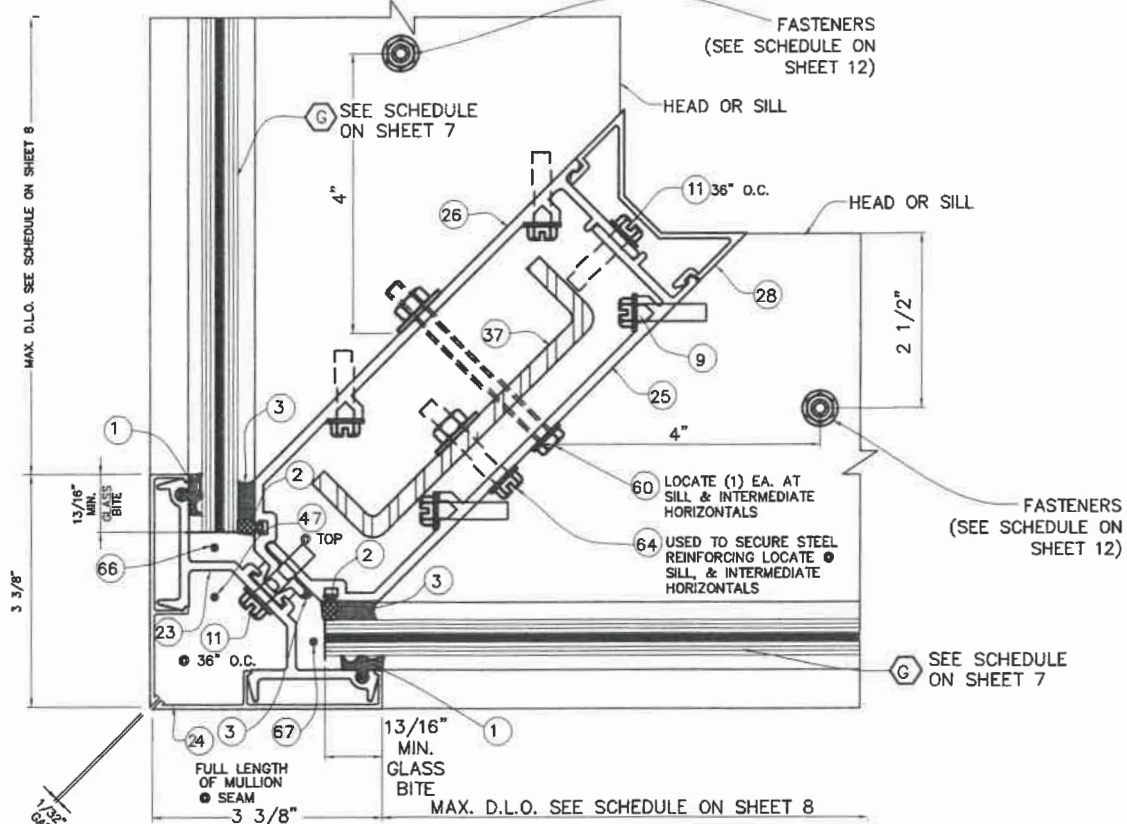
SILL & HEAD CONNECTION DETAILS FOR SINGLE SPAN
& SILL CONNECTION DETAIL FOR TWIN SPAN (PLANS)



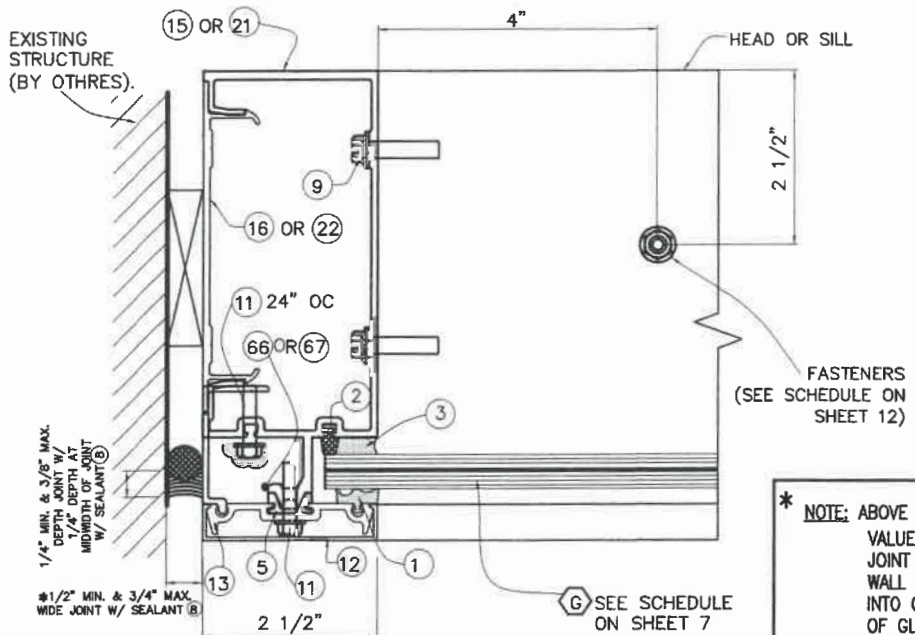
1
CONNECTION AT STANDARD MULLION



3
CONNECTION AT STANDARD MULLION AT DOOR



2
CONNECTION AT CORNER MULLION



4
CONNECTION AT JAMBS

* NOTE: ABOVE INDICATED MAXIMUM AND MINIMUM VALUES FOR SPECIFIED SEALANT VERTICAL JOINT WIDTH AT JAMBS CONNECTED TO WALL HAVE BEEN DETERMINED ONLY TAKING INTO CONSIDERATION THE ACTUAL MOVEMENT OF GLASS WALL AT JAMBS DUE TO THERMAL, WIND AND ITS OWN CONSTRUCTION TOLERANCE, AND NOT PERFORMANCE FACTORS FROM THE SURROUNDING STRUCTURE.

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CA-0006719
WALTER A. TILLIT JR. P.E.
FLORIDA Lic. # 44167

HR-250 CAPTURED CURTAIN WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS

M.P. DRAWN BY:
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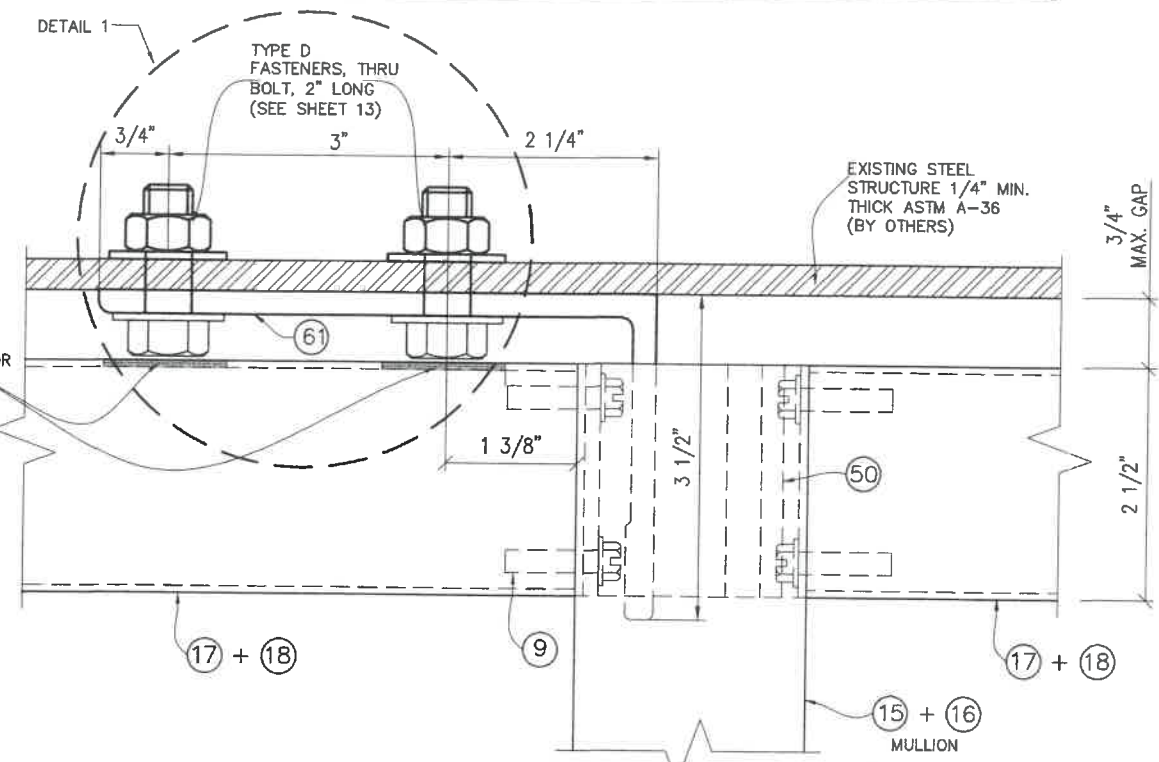
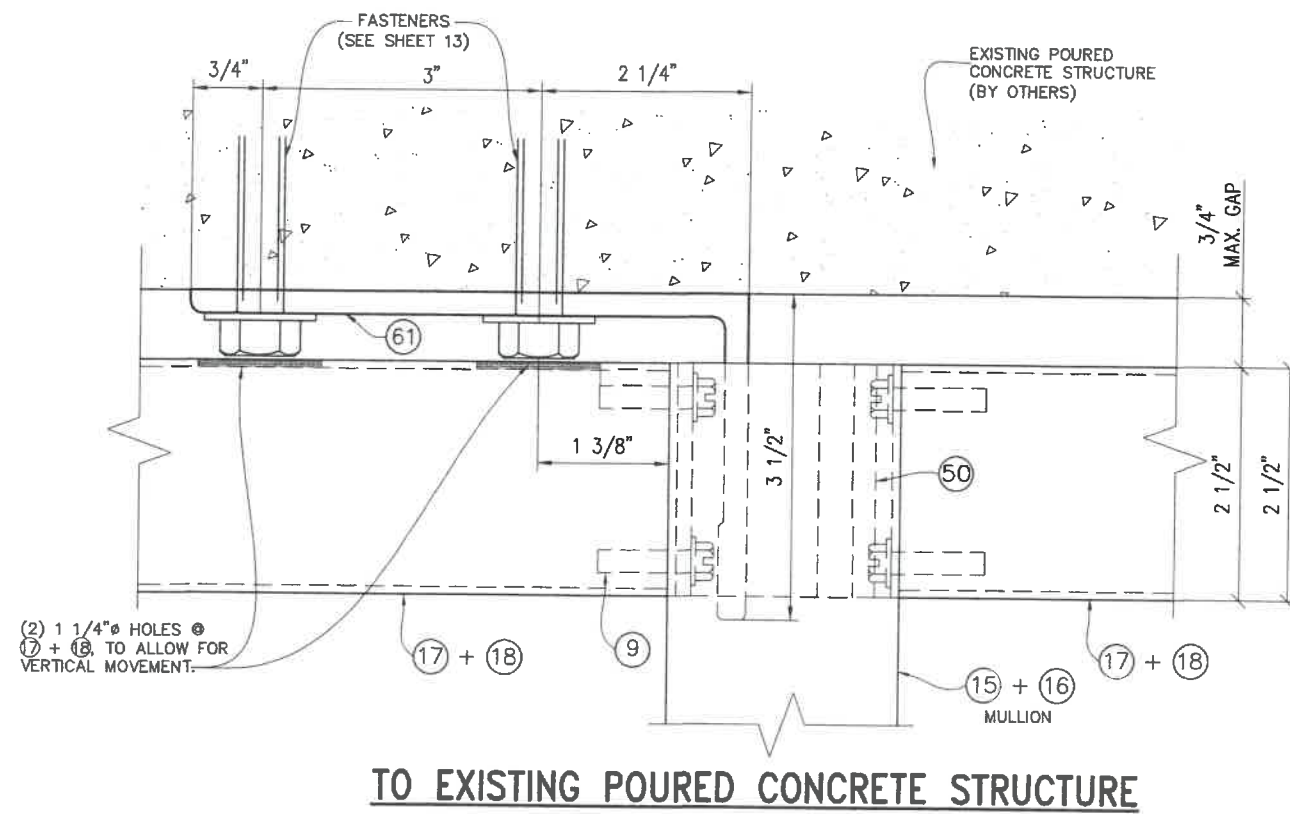
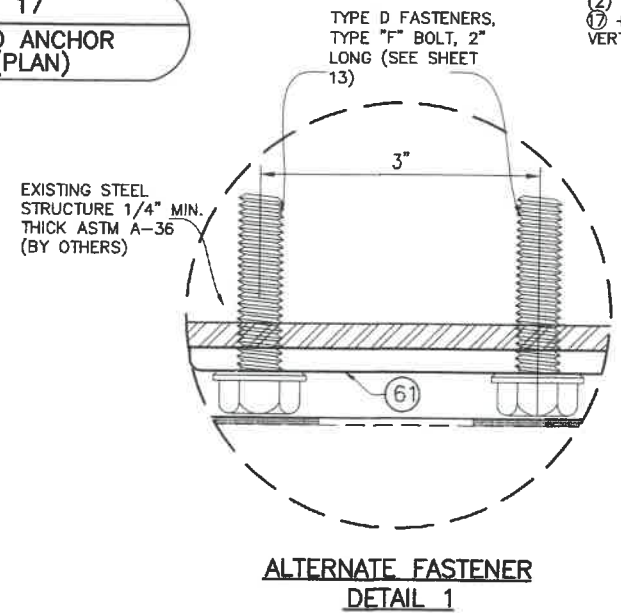
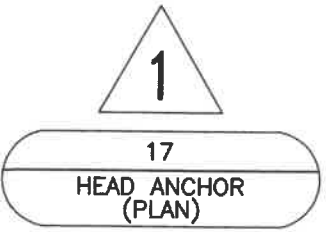
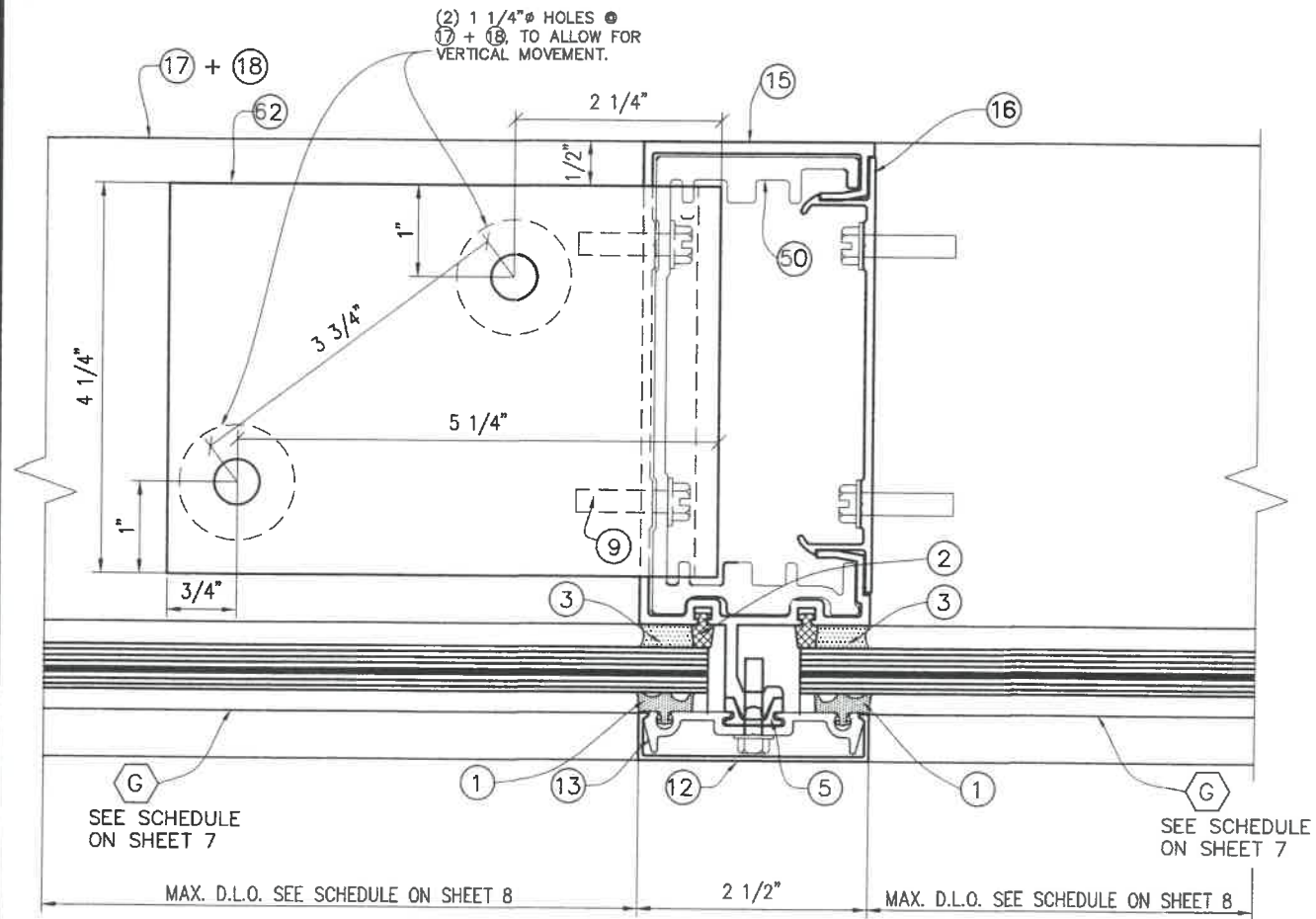
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OLD 18-031
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04/15/21
REV. No. 2
DESCRIPTION
DATE

SHEET 25 OF 36

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LICENSE
No. 44167
STATE OF FLORIDA
PROFESSIONAL ENGINEER

OPTION #1 FOR HEAD CONNECTION OF TWIN SPAN STANDARD MULLIONS WITH (1) 61



TO EXISTING STEEL STRUCTURE
EXTERIOR ELEVATIONS

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

HR-250 CAPTURED CURTAIN WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS

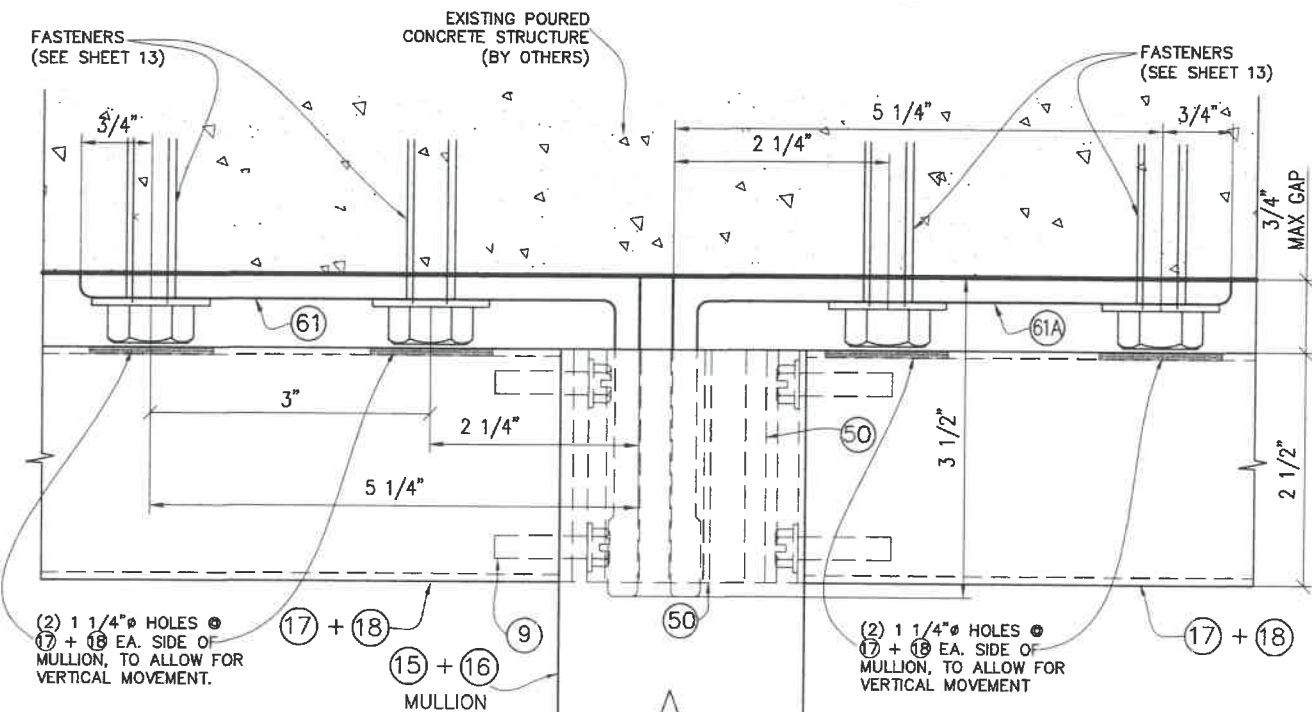
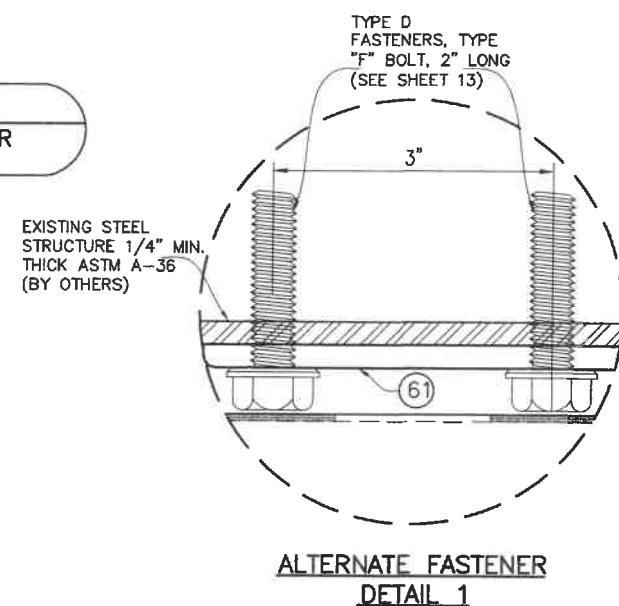
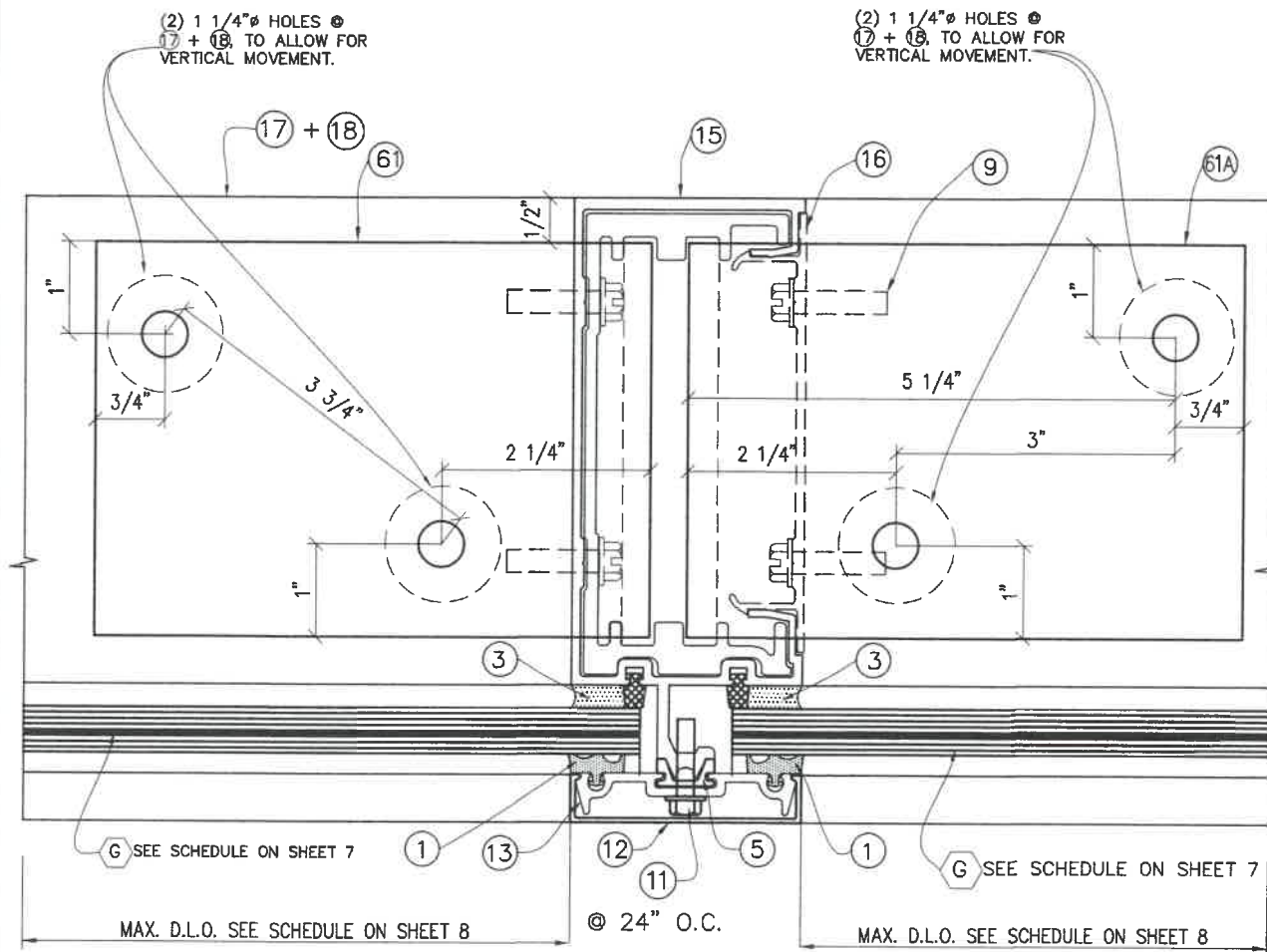
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e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT JR., P.E.
FLORIDA Lic. # 44167

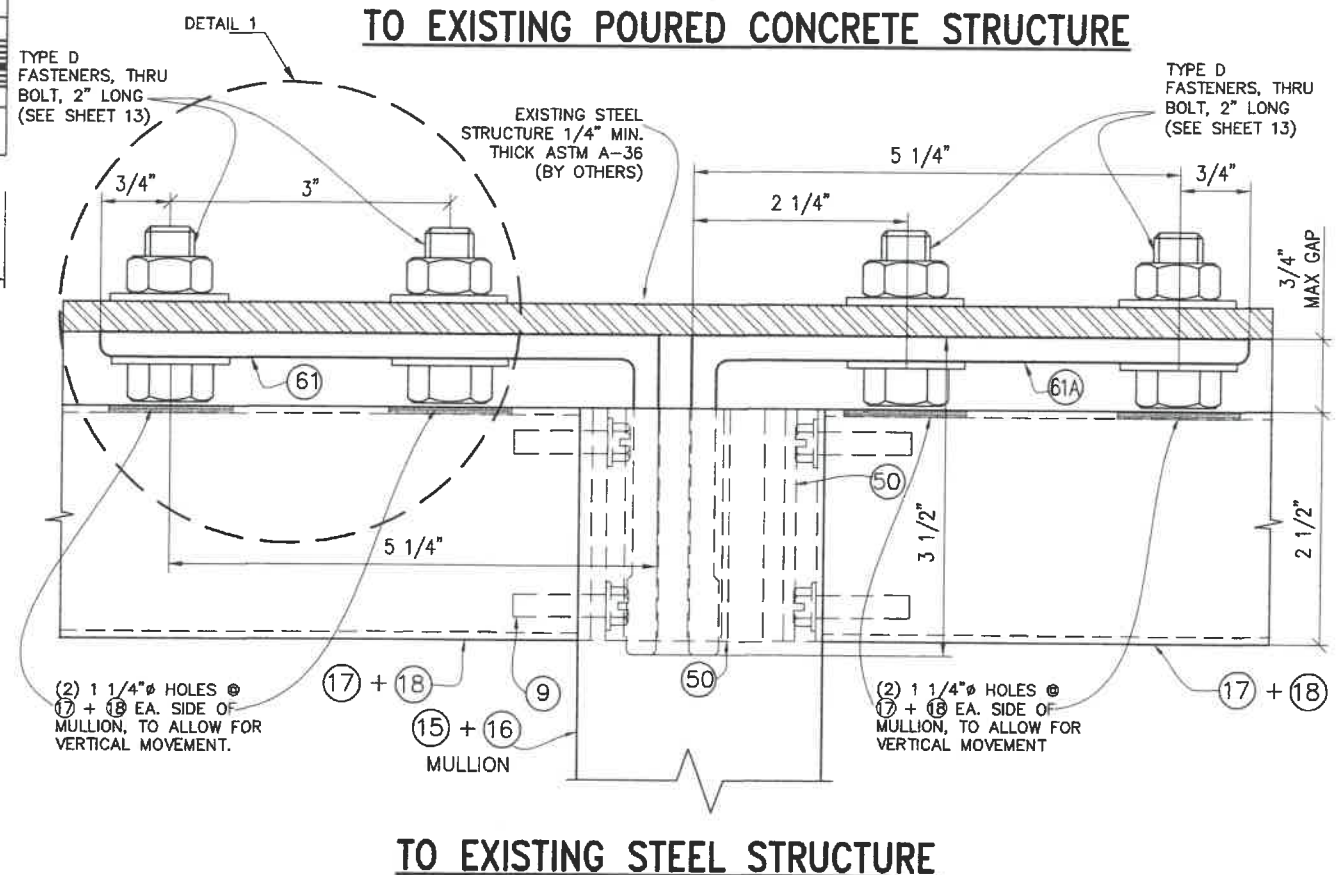
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21-057 DRAWING No
SHEET 26 OF 36

WALTER A. TILLIT JR. LICENSE No. 44167 STATE OF FLORIDA PROFESSIONAL ENGINEER
P.E. SEAL/SIGNATURE/DATE

OPTION #2 FOR HEAD CONNECTION OF TWIN SPAN STANDARD MULLIONS WITH 61 & 61A



TO EXISTING POURED CONCRETE STRUCTURE



TO EXISTING STEEL STRUCTURE

EXTERIOR ELEVATIONS

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

**HR-250 CAPTURED CURTAIN
WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS**



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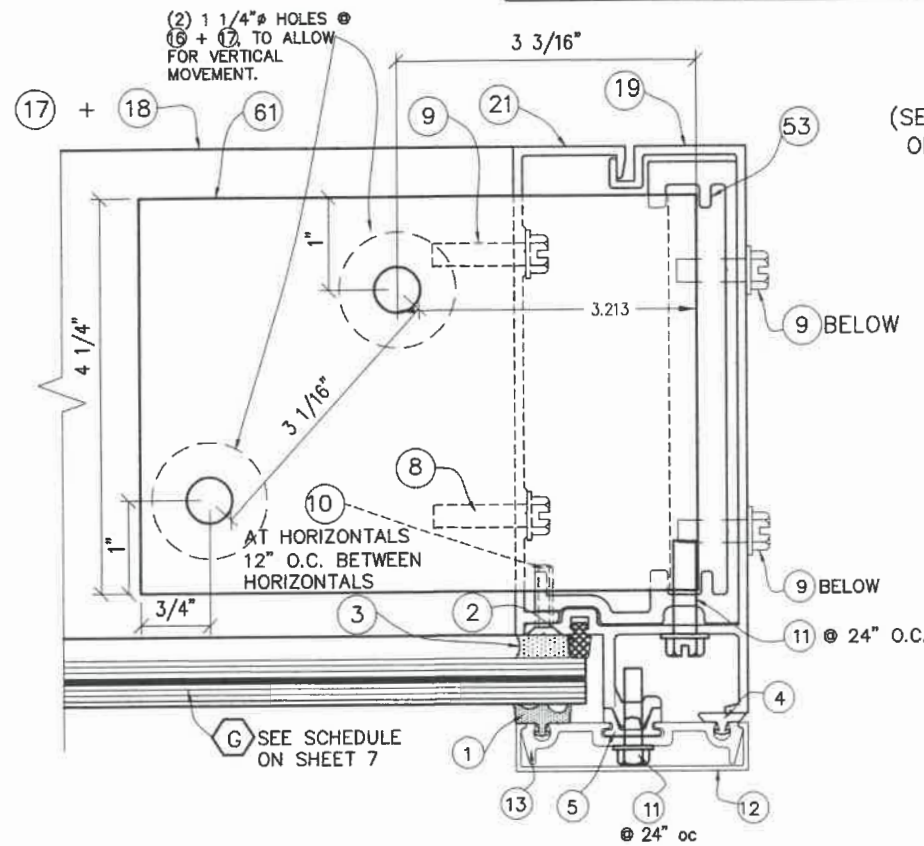
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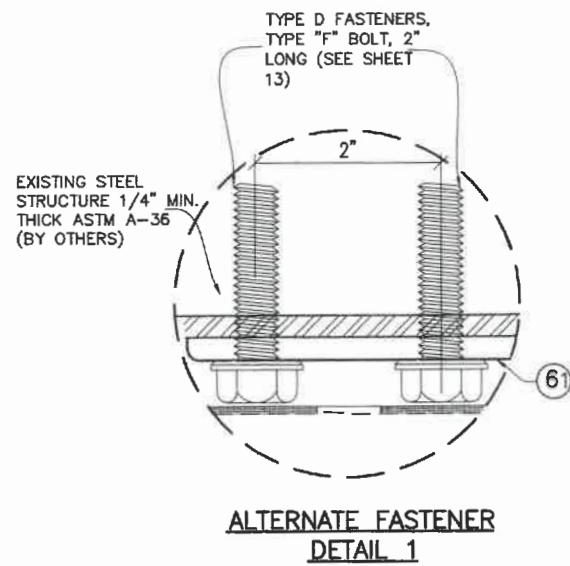
P.E. SEAL/SIGNATURE/DATE

A circular professional engineer seal for the State of Florida. The outer ring contains the text "WALTER A. TILLITT JR." at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by two stars. The inner circle contains the text "LICENSE" on the left and "STATE OF FLORIDA" on the right, also separated by two stars. In the center, the number "No. 44167" is printed. A blue ink signature is written over the top right portion of the seal.

HEAD CONNECTION OF TWIN SPAN JAMBS



18
JAMB HEAD ANCHOR PLAN



**ALTERNATE FASTENER
DETAIL 1**

FASTENERS
(SEE SCHEDULE
ON SHEET 13)

(2) 1 1/4" HOLES @
17 + 18, TO ALLOW
FOR VERTICAL
MOVEMENT.

**TO EXISTING POURED
CONCRETE STRUCTURE**

TYPE D FASTENERS,
THRU BOLT, 2" LONG
(SEE SHEET 13)

(2) 1 1/4" HOLES @
17 + 18, TO ALLOW
FOR VERTICAL
MOVEMENT.

**TO EXISTING STEEL
STRUCTURE**

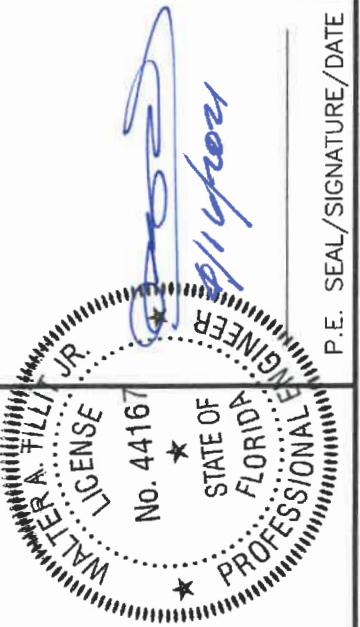
EXISTING POURED
CONCRETE OR
GROUT FILLED
CONCRETE BLOCK
(BY OTHERS)

EXISTING STEEL
STRUCTURE 1/4" MIN.
THICK ASTM A-36
(BY OTHERS)

EXTERIOR ELEVATIONS 1

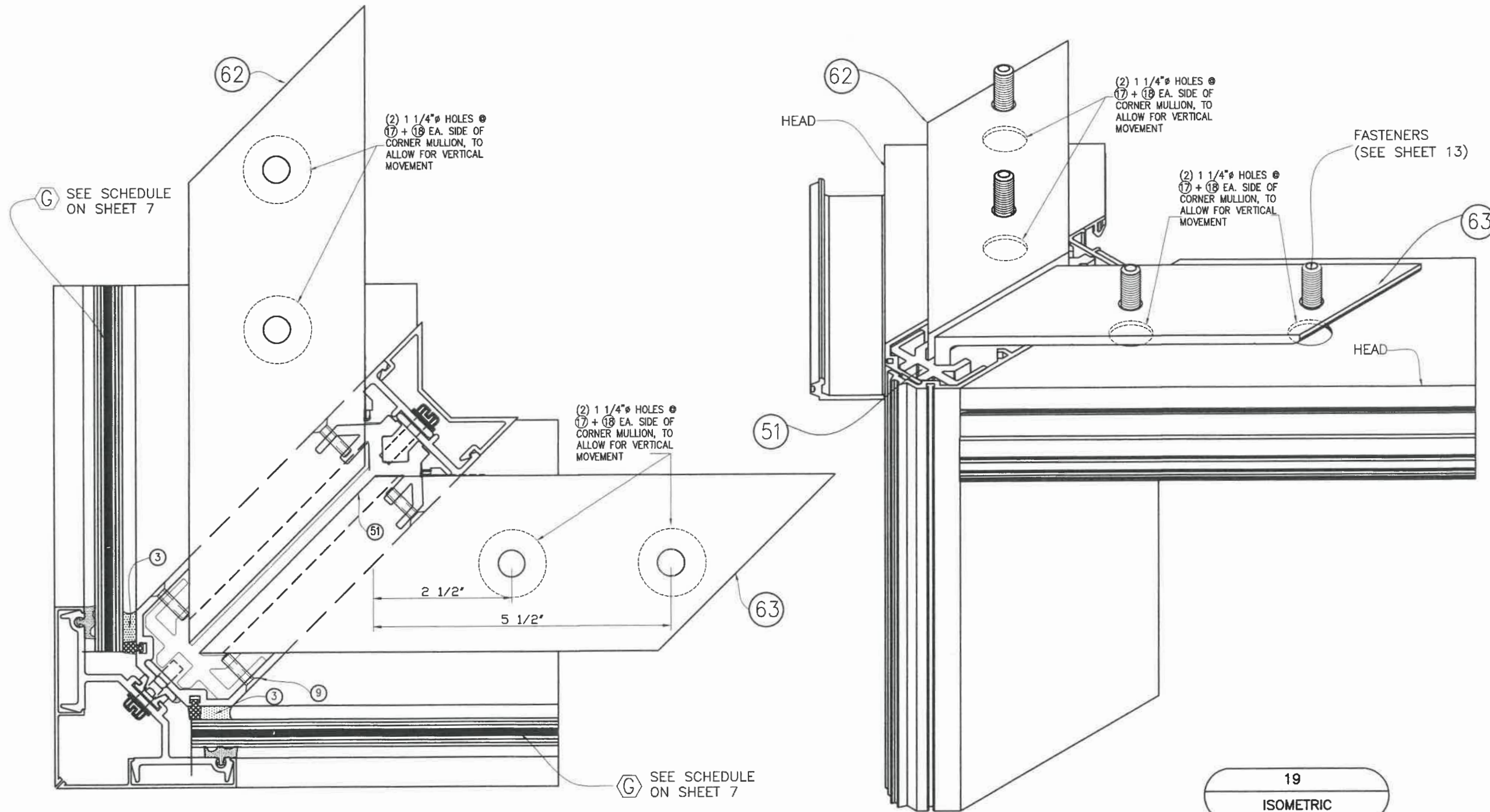
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2			4	



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HEAD CONNECTION DETAIL FOR TWIN SPAN CORNER MULLION



19
CORNER HEAD ANCHOR
(PLAN)

19
ISOMETRIC

WALTER A. TILLIT JR.
LICENSE
No. 44167
★
STATE OF
FLORIDA
★
PROFESSIONAL ENGINEER

[Signature]
4/16/02

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**HR-250 CAPTURED CURTAIN
WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS**

Oldcastle BuildingEnvelope™

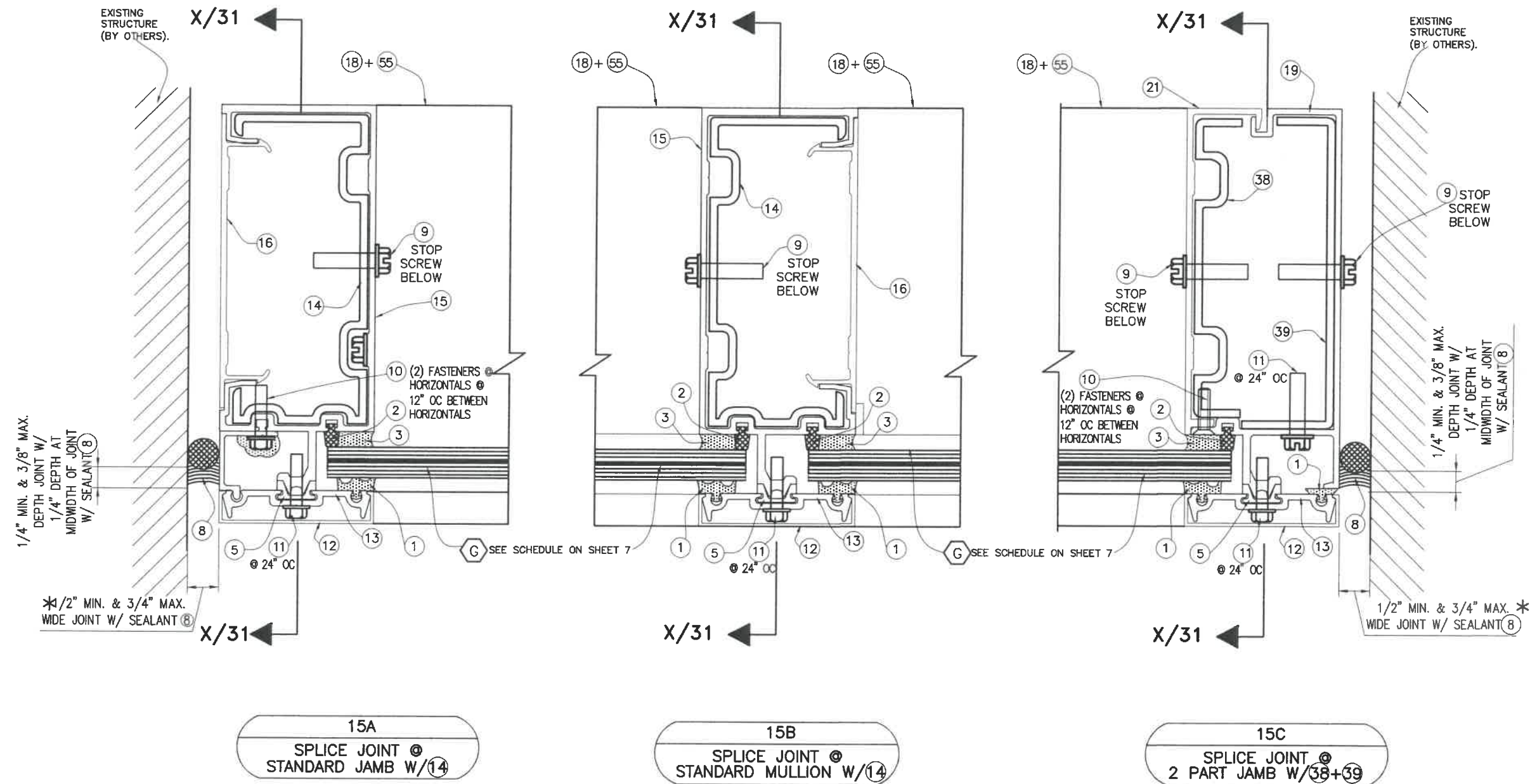
M.P
DRAWN BY:

04/15/2021
DATE

21-057
DRAWING No

SHEET 29 OF 36

MULLION AND JAMB SPLICES AT TWIN SPAN ONLY (PLAN)



* **NOTE:** ABOVE INDICATED MAXIMUM AND MINIMUM VALUES FOR SPECIFIED SEALANT VERTICAL JOINT WIDTH AT JAMBS CONNECTED TO WALL HAVE BEEN DETERMINED ONLY TAKING INTO CONSIDERATION THE ACTUAL MOVEMENT OF GLASS WALL AT JAMBS DUE TO THERMAL, WIND AND ITS OWN CONSTRUCTION TOLERANCE, AND NOT PERFORMANCE FACTORS FROM THE SURROUNDING STRUCTURE.

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LARGE MISSILE IMPACT LAMINATED GLASS

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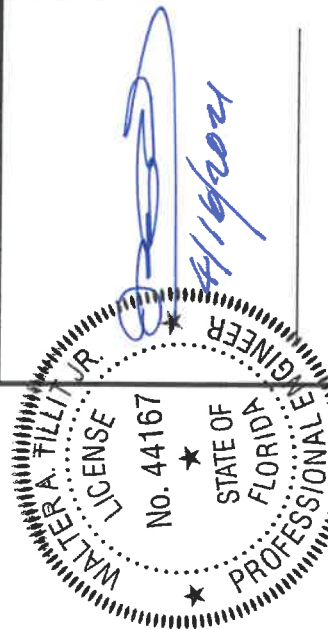
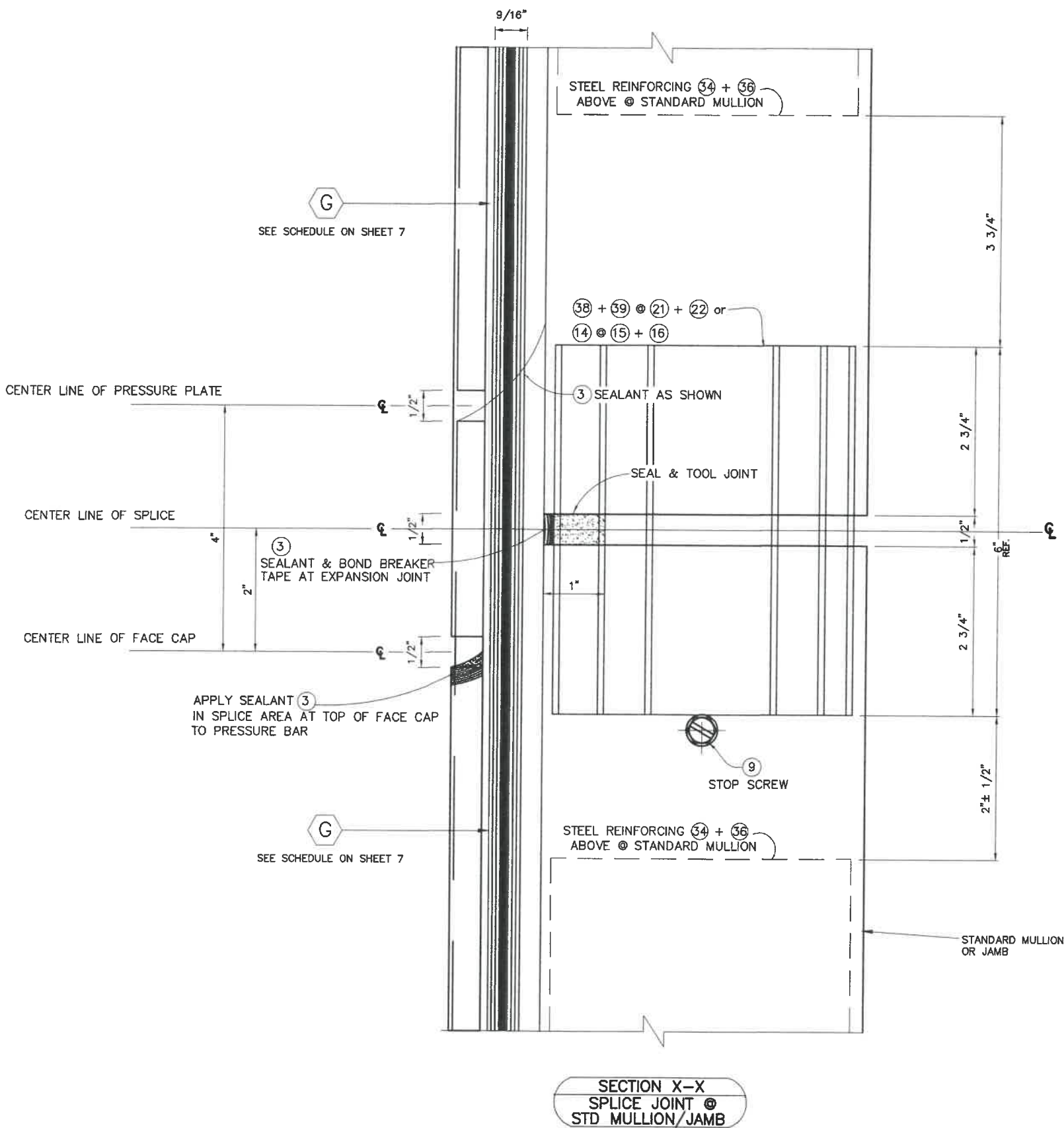
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SHEET 30 OF 36

WALTER A. TILLIT, JR.
LICENSE No. 44167
STATE OF FLORIDA
PROFESSIONAL ENGINEER

P.E. SEAL/SIGNATURE/DATE

MULLION AND JAMB SPLICES AT TWIN SPAN ONLY (SIDE VIEW)



P.E. SEAL/SIGNATURE/DATE

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HR-250 CAPTURED CURTAIN
WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS

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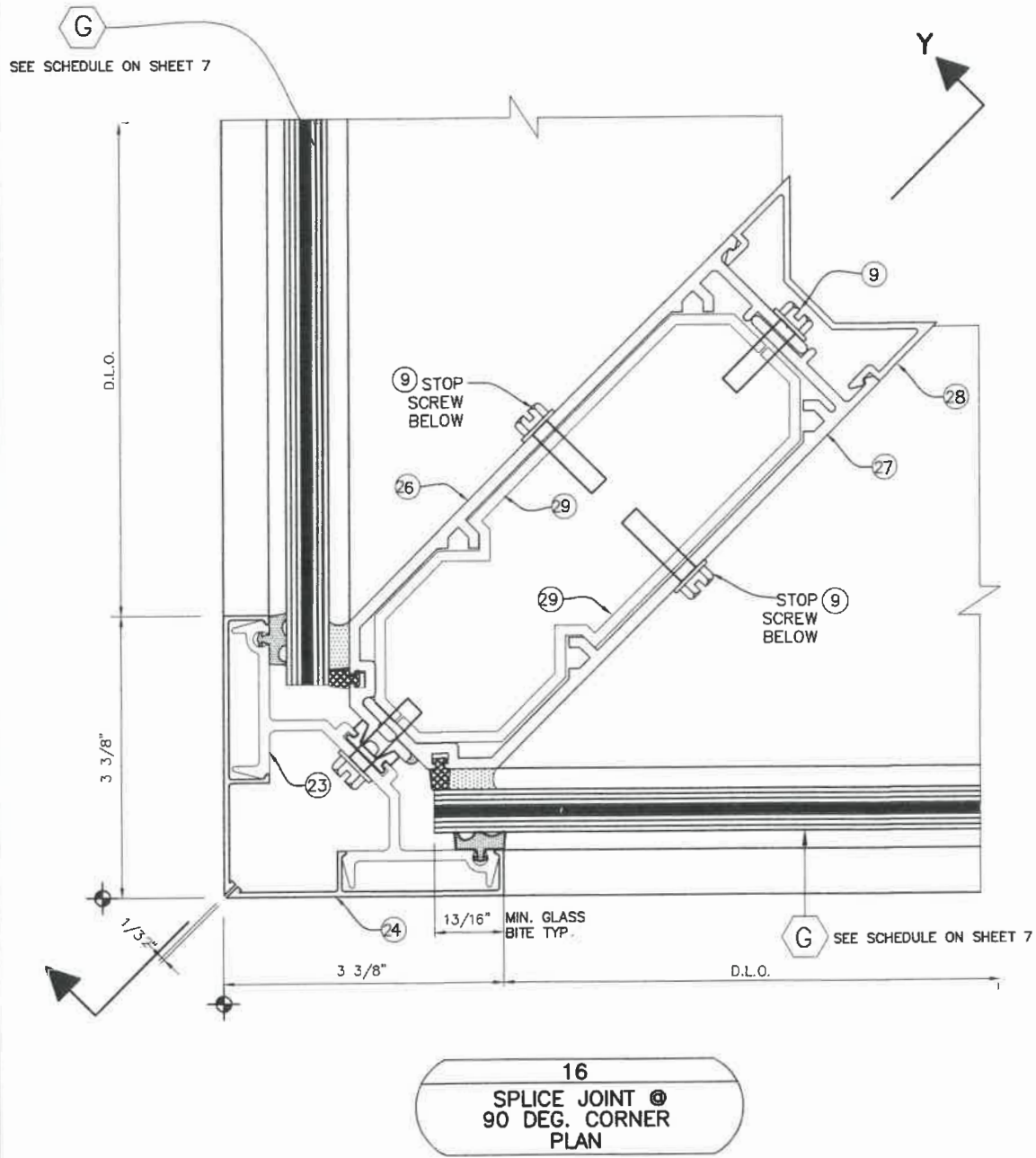
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DATE

21-057
DRAWING No

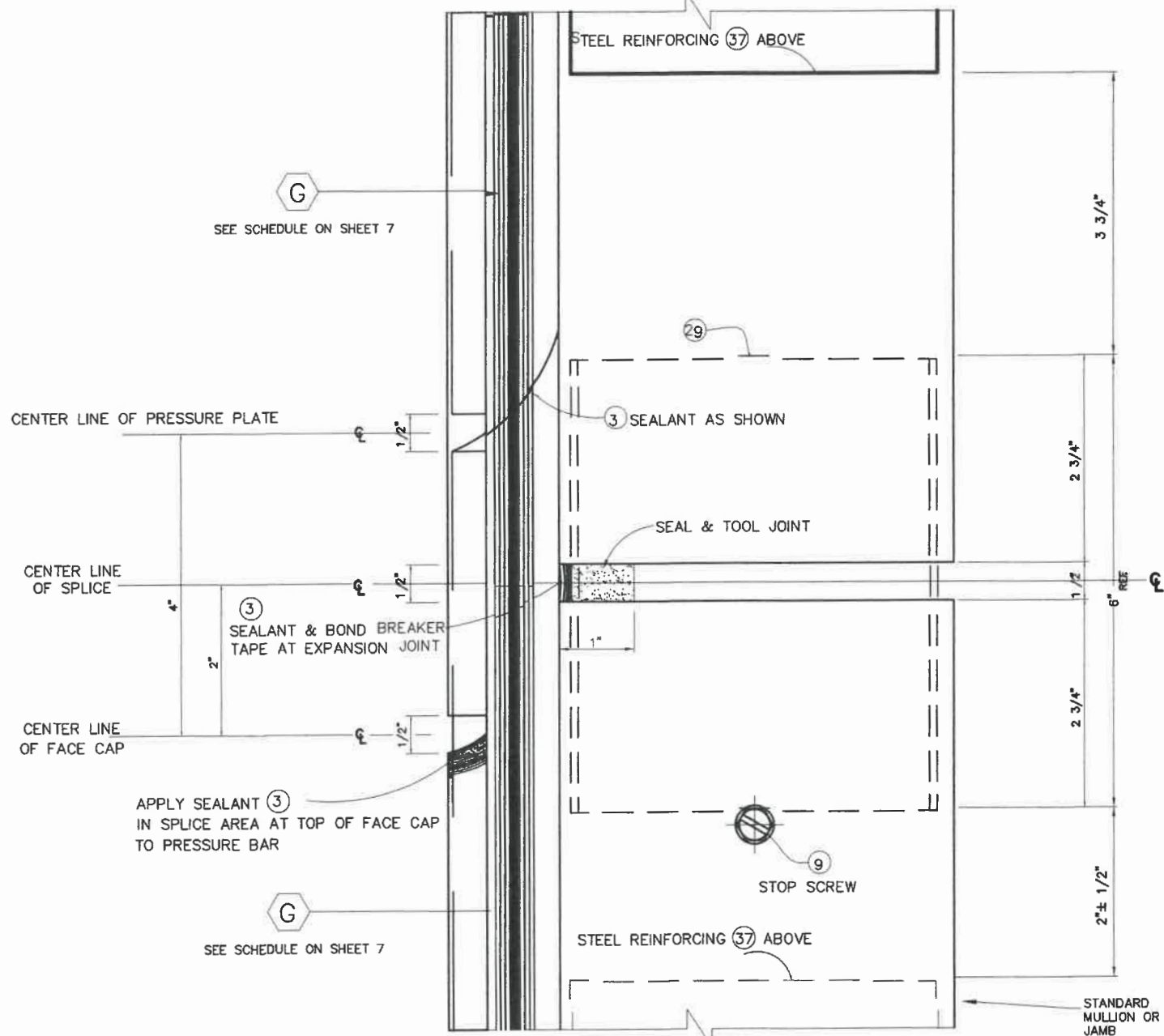
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1	OLD TB-031	04/15/21	3		
2			4		

SHEET 31 OF 36

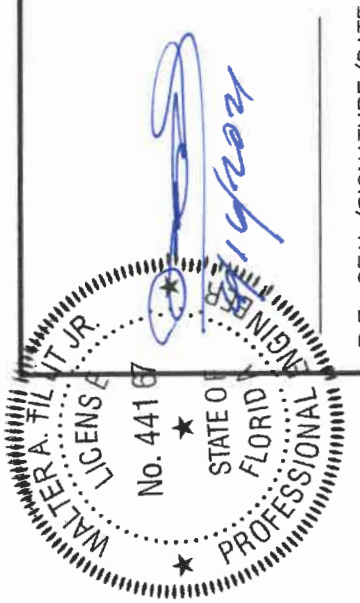
CORNER MULLION SPLICE AT TWIN SPAN (PLAN)



16
SPLICE JOINT @
90 DEG. CORNER
PLAN



16
SPLICE JOINT @
90 DEG. CORNER
SECTION Y-Y



FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

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6355 N.W. 36th, Ste. 305, VIRGINIA GARDENS, FL 33166
Phone : (305)871-1530 • Fax : (305)871-1531
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CA-0008719
WALTER A. TILT Jr. P.E.
FLORIDA Lic. # 44167

HR-250 CAPTURED CURTAIN WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS

oldcastle BuildingEnvelope™
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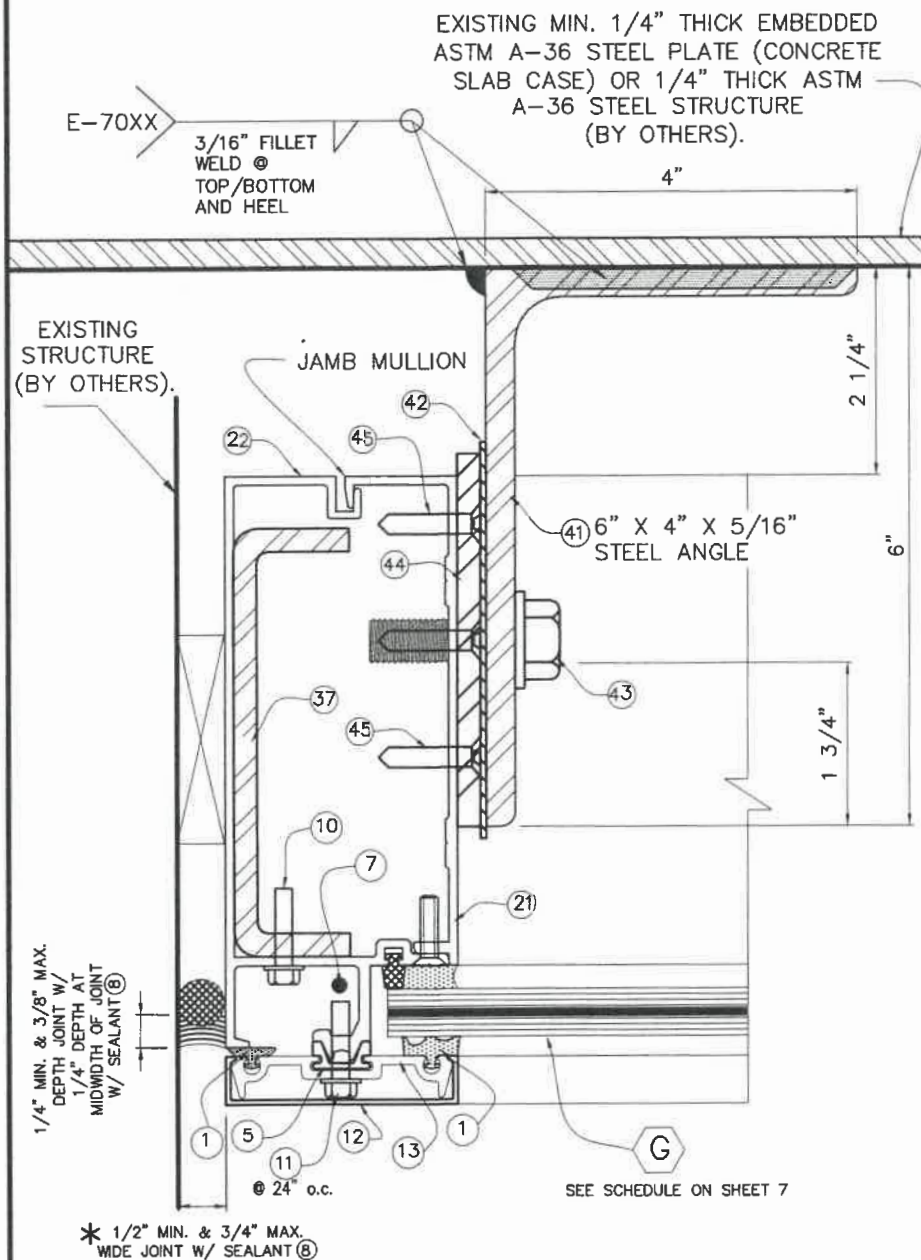
M.P. DRAWN BY: 04/15/2021 DATE

21-057 DRAWING No

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2			4		

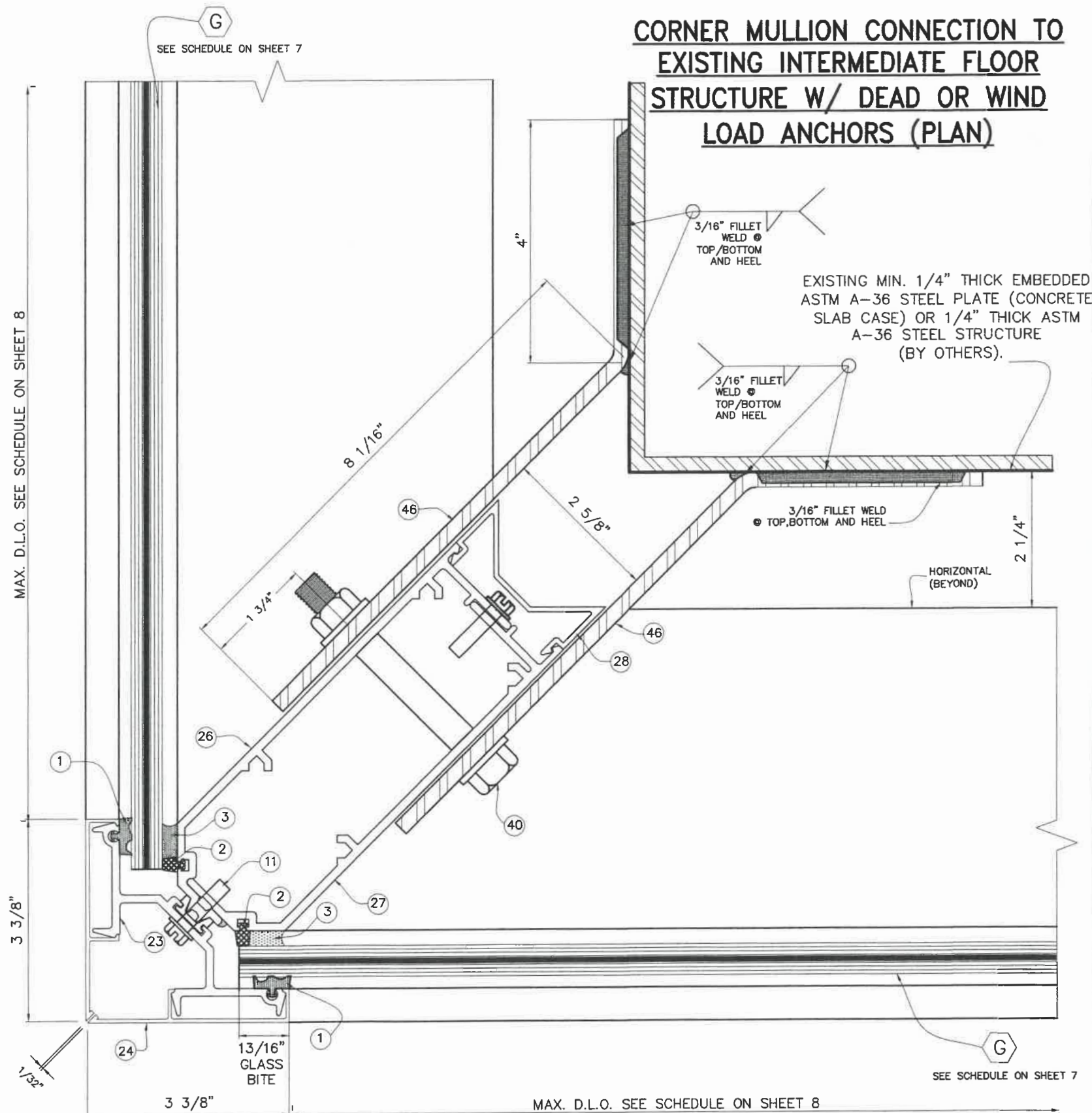
SHEET 32 OF 36

JAMB CONNECTION TO EXISTING INTERMEDIATE FLOOR STRUCTURE W/ DEAD OR WIND LOAD ANCHOR (PLAN)



SECTION "E-E" @ JAMB

* NOTE: ABOVE INDICATED MAXIMUM AND MINIMUM VALUES FOR SPECIFIED SEALANT VERTICAL JOINT WIDTH AT JAMBS CONNECTED TO WALL HAVE BEEN DETERMINED ONLY TAKING INTO CONSIDERATION THE ACTUAL MOVEMENT OF GLASS WALL AT JAMBS DUE TO THERMAL, WIND AND ITS OWN CONSTRUCTION TOLERANCE, AND NOT PERFORMANCE FACTORS FROM THE SURROUNDING STRUCTURE.



SECTION "F-F" @ CORNER MULLION

CORNER MULLION CONNECTION TO EXISTING INTERMEDIATE FLOOR STRUCTURE W/ DEAD OR WIND LOAD ANCHORS (PLAN)

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

HR-250 CAPTURED CURTAIN
WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS

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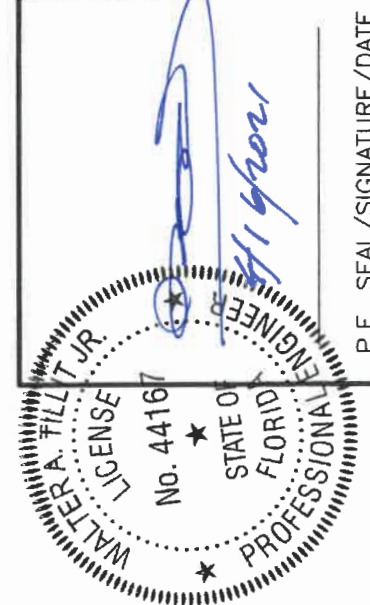
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M.P.
DRAWN BY:

04/15/2021
DATE

21-057
DRAWING No

SHEET 34 OF 36



P.E. SEAL/SIGNATURE/DATE

Technical drawing of a door header assembly, showing a cross-section and elevation view. The drawing includes numerous callouts (1 through 68) and dimensions.

Dimensions:

- 2 1/2"
- 1"
- 1/8"
- 4"
- 1" TYP.
- DLO

Callouts and Notes:

- G SEE SCHEDULE ON SHEET 7
- 3
- 1
- 2
- 49
- 6
- 12
- 11
- 13
- 8
- 25
- 11
- 9 (3) REQUIRED
- 60 OR JAMB FASTENER (SEE SHEETS 14 THRU 17)
- 18 + 55 OR 20
- 68
- #12-24x1/2" SCREW (SEE ELEVATION Z ON SHEET 36)
- DOOR SASH (SEE SEPARATE APPROVAL)
- SET IN SELANT 3

Bottom Label:

10
OR HEADER

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

**HR-250 CAPTURED CURTAIN
WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS**

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EET 35 OF 36

P.E. SEAL/SIGNATURE/DATE

DOOR JAMBS CONNECTION TO CURTAIN WALL

EXISTING STRUCTURE (BY OTHERS).

OPTION 1 ACCESS HOLE @ ANCHORS

FASTENERS ON SHEETS 14 THRU 17)

#12-24x1/2" SCREW @ 18" O.C. (SEE ELEVATION FOR SPACING AND LOCATION)

1/4" MIN. & 3/8" MAX. DEPTH JOINT W/ 1/4" DEPTH AT MIDWIDTH OF JOINT W/ SEALANT (8)

*** 1/2" MIN. & 3/4" MAX. WIDE JOINT W/ SEALANT (8)**

15 + 16 or 21 + 22

30

11

25

13

5

12

8

SEALANT

3/32"

2 1/2"

1 1/16"

D.O.

DOOR UNDER SEPARATE APPROVAL

1/4" MAX. SHIM @ STEEL

30

60

#12-24x1/2" SCREW @ 18" O.C. (SEE ELEVATION FOR SPACING AND LOCATION)

15

34

2"x3/32" WELDS @ 18" O.C. FRONT & REAR)

36

16

10

2

3

SEE SCHEDULE ON SHEET 7

1

25

8

12

5

11

13

3/32"

1 1/16"

2 1/2"

D.O.

MAX. D.L.O. SEE SCHEDULE

DOOR JAMB
TO CURTAIN
WALL JAMB

DOOR JAMB
TO CURTAIN WALL
DOOR MULLION

* NOTE: ABOVE INDICATED MAXIMUM AND MINIMUM VALUES FOR SPECIFIED SEALANT VERTICAL JOINT WIDTH AT JAMBS CONNECTED TO WALL HAVE BEEN DETERMINED ONLY TAKING INTO CONSIDERATION THE ACTUAL MOVEMENT OF GLASS WALL AT JAMBS DUE TO THERMAL, WIND AND ITS OWN CONSTRUCTION TOLERANCE, AND NOT PERFORMANCE FACTORS FROM THE SURROUNDING STRUCTURE.

FASTENERS (SEE
SHEET 12) @ 4"
FROM JAMB TYP.
EA. SIDE.

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

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**HR-250 CAPTURED CURTAIN
WALL SYSTEM
LARGE MISSILE IMPACT LAMINATED GLASS**

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CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167

M.P
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DATE 04/15/2021

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