

FRANK BENNARDO, PE
PE# 0046549 CA# 9885



FL#29509.2



**ENGINEERING
Express**

CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

GLASS CITY
3776 NW 124TH AVE.

3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065

FL SPRINGS, FL 3
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	JEM	AJP	04/05/19
2020 FBC	CCB	AJP	10/13/20
-	-	-	-
-	-	-	-
-	-	-	-

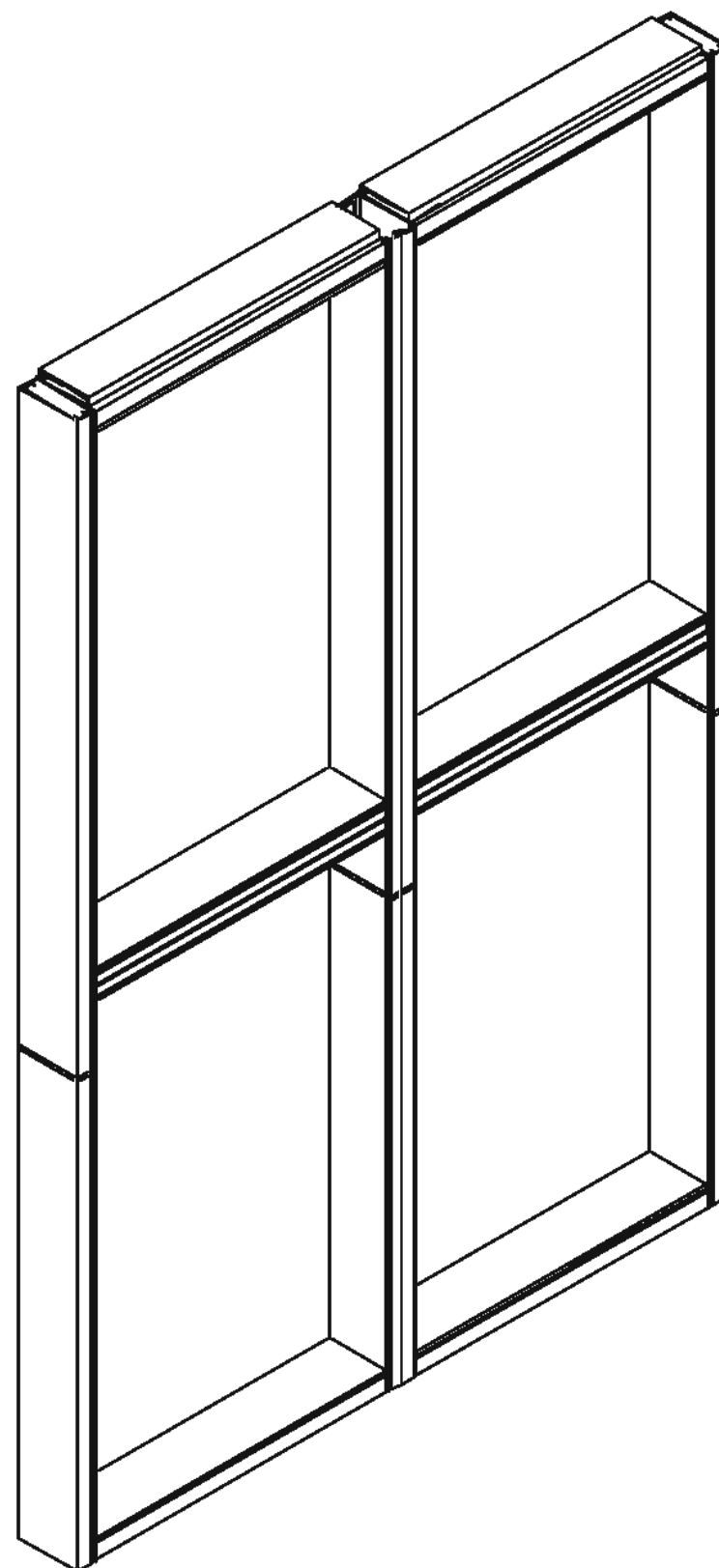
COPYRIGHT ENGINEERING EXPRESS

20-29351b

SCALE: NTS UNLESS NOT

OF
2

1



1. THIS SYSTEM DESCRIBED HEREIN HAS BEEN DESIGNED AND TESTED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE SEVENTH EDITION (2020) PER
 - a. ASTM E330-14, E331-00, E283-04, E1886-13a, E1996-14
 - b. TAS 201 / 202 / 203
 - c. AAMA 501
 - d. ANSI Z97.1-2015
2. FOR USE WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE (HVHZ).
3. DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY 1.5 SAFETY FACTOR.
4. NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS SYSTEM. WIND LOAD DURATION FACTOR $C_d=1.6$ HAS BEEN USED FOR WOOD ANCHOR DESIGN.
5. THE ARCHITECT/ENGINEER OF RECORD FOR THE PROJECT SUPERSTRUCTURE WITH WHICH THIS DESIGN IS USED SHALL BE RESPONSIBLE FOR THE INTEGRITY OF ALL SUPPORTING SURFACES TO THIS DESIGN WHICH SHALL BE COORDINATED BY THE PERMITTING CONTRACTOR. WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
6. THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT.
7. THE CONTRACTOR IS RESPONSIBLE TO INSULATE ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
8. ALL FASTENERS INTO METAL SUBSTRATES TO BE 1/4"Ø DEWALT DRILL-FLEX UNLESS NOTED OTHERWISE. ALL THRU-BOLTS AT INTERMEDIATE VERTICAL MULLIONS TO BE 1/4" DIA THRU-BOLTS WITH FENDER WASHERS AND NUT AS SHOWN HEREIN. FASTENERS SHALL BE CADMIUM-PLATED OR OTHERWISE CORROSION-RESISTANT MATERIAL AND SHALL COMPLY WITH "SPECIFICATIONS FOR ALUMINUM STRUCTURES" SECTION J.3.7.2 BY THE ALUMINUM ASSOCIATION, INC., & ANY APPLICABLE FEDERAL, STATE, AND/OR LOCAL CODES
9. ENGINEER SEAL AFFIXED HERE TO VALIDATES STRUCTURAL DESIGN AS SHOWN ONLY. USE OF THIS SPECIFICATION BY CONTRACTOR, et al. INDEMNIFIES & SAVES HARMLESS THIS ENGINEER FOR ALL COST & DAMAGES INCLUDING LEGAL FEES & APPELLATE FEES RESULTING FROM MATERIAL FABRICATION, SYSTEM ERECTION, & CONSTRUCTION PRACTICES BEYOND THAT WHICH IS CALLED FOR BY LOCAL, STATE, & FEDERAL CODES & FROM DEVIATIONS OF THIS PLAN.
10. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.
11. ALTERATIONS, ADDITIONS, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.
12. SAFEGUARDS MUST BE OBSERVED (NOT IN THIS CERTIFICATION)
13. PRODUCT SHALL BE PERMANENTLY LABELED WITH A MINIMUM OF ONE LABEL PER SYSTEM CONTAINING THE FOLLOWING:
UNITED GLASS SYSTEMS
3776 NW 124th AVENUE
CORAL SPRINGS, FLORIDA 33065
APPROVED BY FLORIDA BUILDING COMMISSION
FLORIDA PRODUCT APPROVAL NUMBER FL# 29509.2

SHEET INDEX	
# SHEET	DESCRIPTION
1	COVER SHEET
2	ELEVATIONS
3-15	DETAILS
16-17	LOADING TABLES & GLASS TYPES
18-19	MULLION LOADING TABLES
20	SPLICE REINFORCEMENT FOR VARIABLE SPAN
21-26	ANCHOR LOADING TABLES
27	EXTRUSIONS / PART LIST
28	ASSEMBLY DIAGRAM
28	TOTAL

VISIT [ECALC.IO/29351](https://ecalculator.io/29351)

FOR SITE SPECIFIC DEVIATIONS
& MORE INFORMATION ABOUT THIS DOCUMENT
OR SCAN THIS QR CODE

VISIT ENGINEERINGEXPRESS.COM/STORE
FOR ADDITIONAL PLANS, REPORTS & RESOURCES





FL#29509.2

ENGINEERING
EXPRESS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.

CORAL SPRINGS, FL 33065

(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	JEM	AJP	04/05/19
2020 FBC	CCB	AJP	10/13/20

COPYRIGHT ENGINEERING EXPRESS®

20-29351b

SCALE: NTS UNLESS NOTED

2

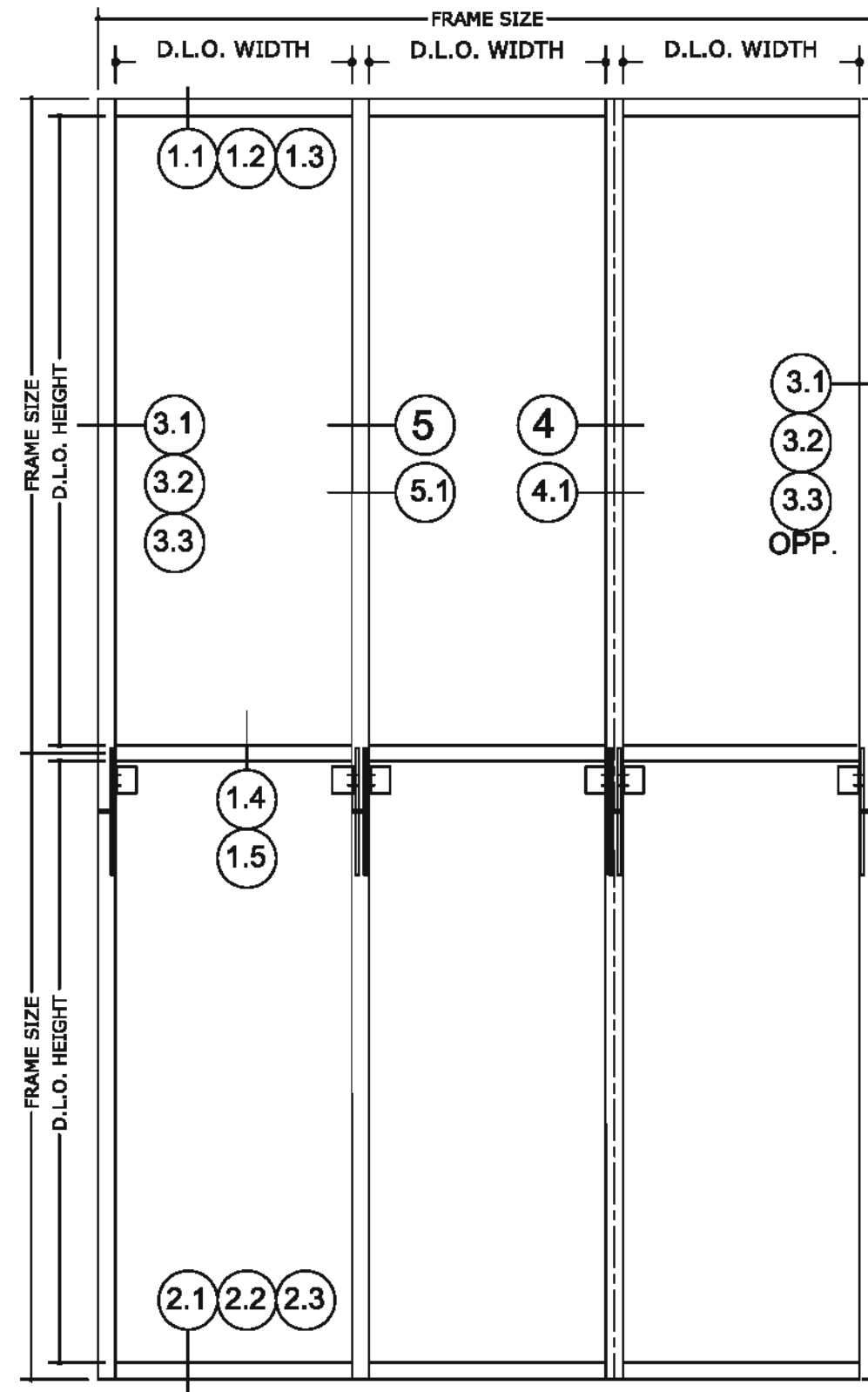
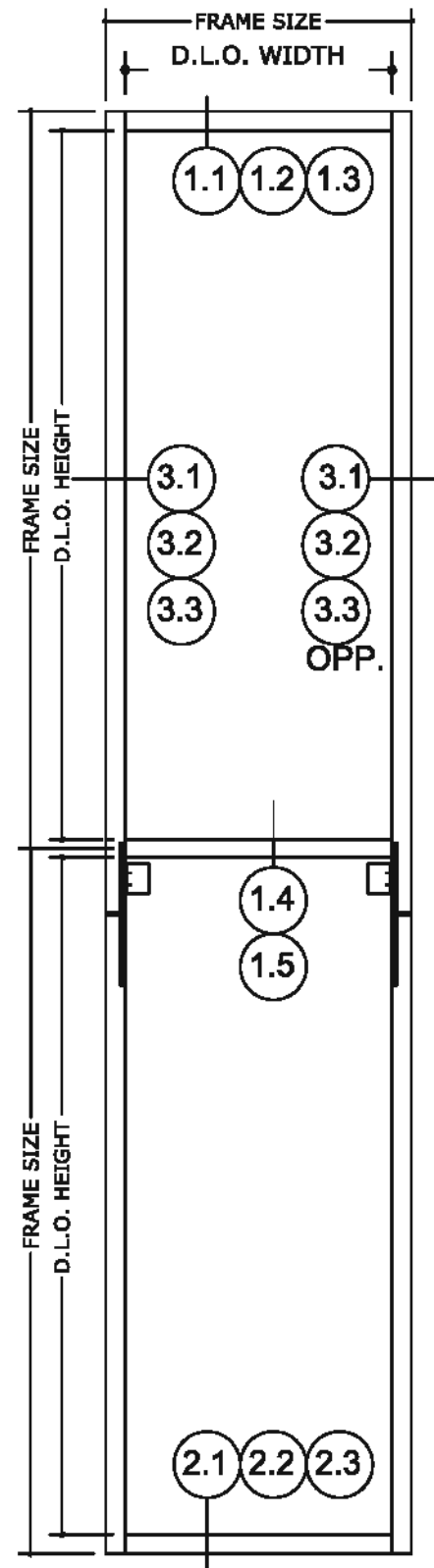
28

INSTRUCTIONS TO DETERMINE DESIGN PRESSURE RATING

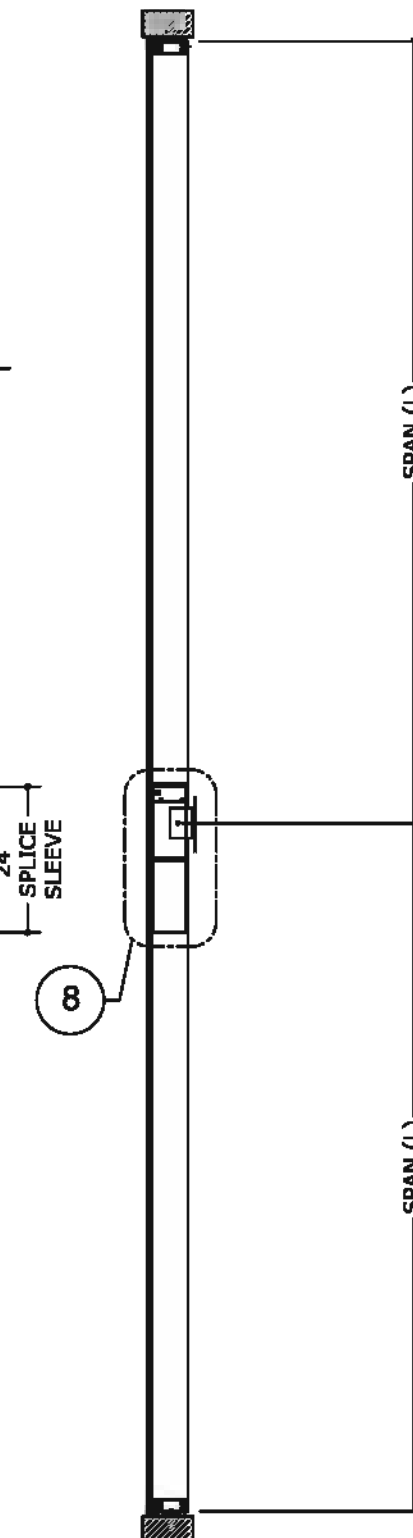
STEP 1: USE THE GLASS LOADING TABLES TO
DETERMINE THE ALLOWABLE PRESSURE OF THE
GLASS.

STEP 2: USE THE MULLION LOADING TABLE TO
DETERMINE THE ALLOWABLE PRESSURES FOR
THE MULLIONS.

STEP 3: THE MINIMUM VALUE BETWEEN STEP 1
AND STEP 2 WILL DETERMINE THE DESIGN LOAD
PRESSURE FOR THIS SYSTEM.



TYPICAL TWIN SPAN ELEVATIONS



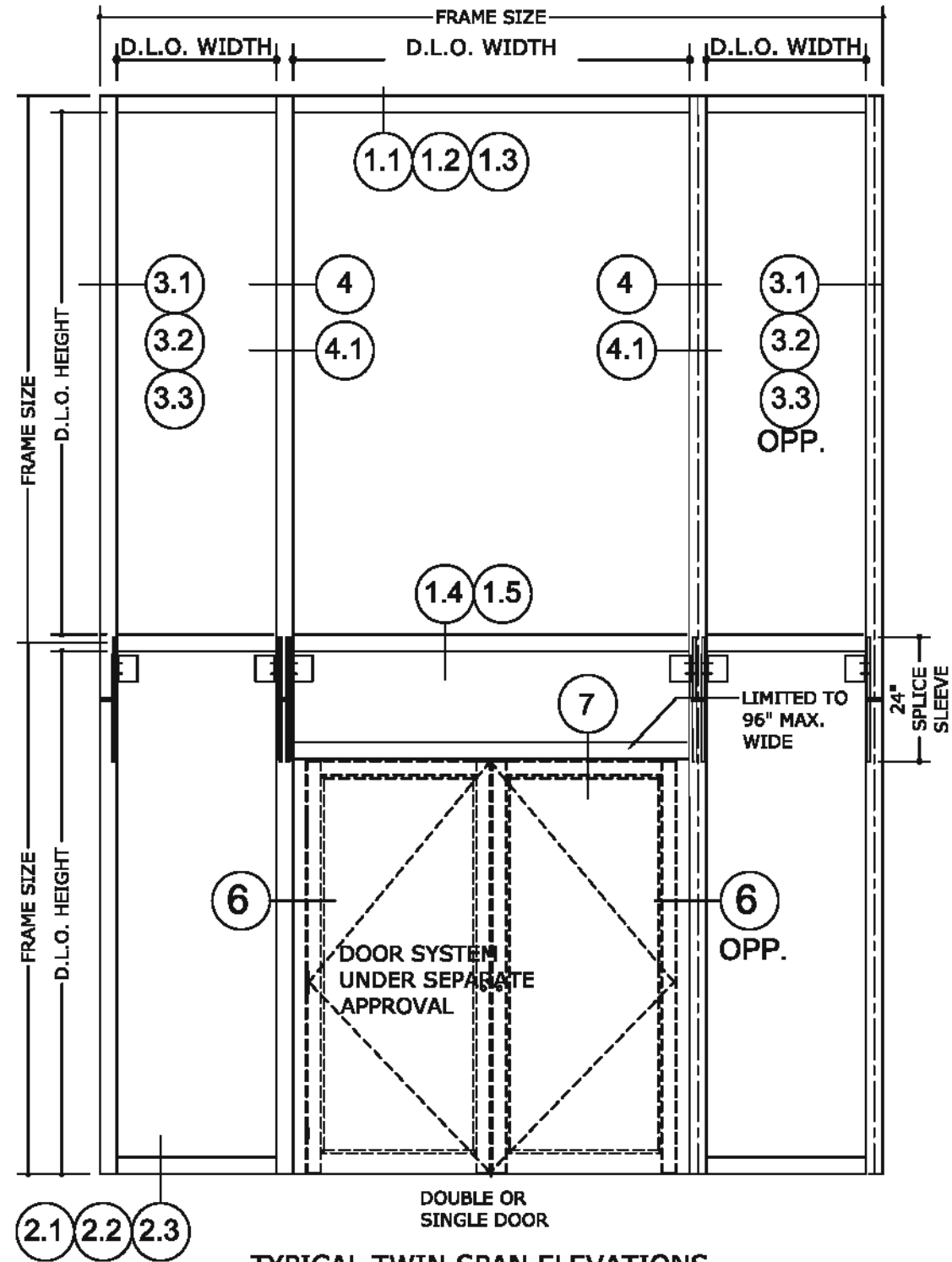
TWIN SPAN SECTION

INSTRUCTIONS TO DETERMINE
DESIGN PRESSURE RATING

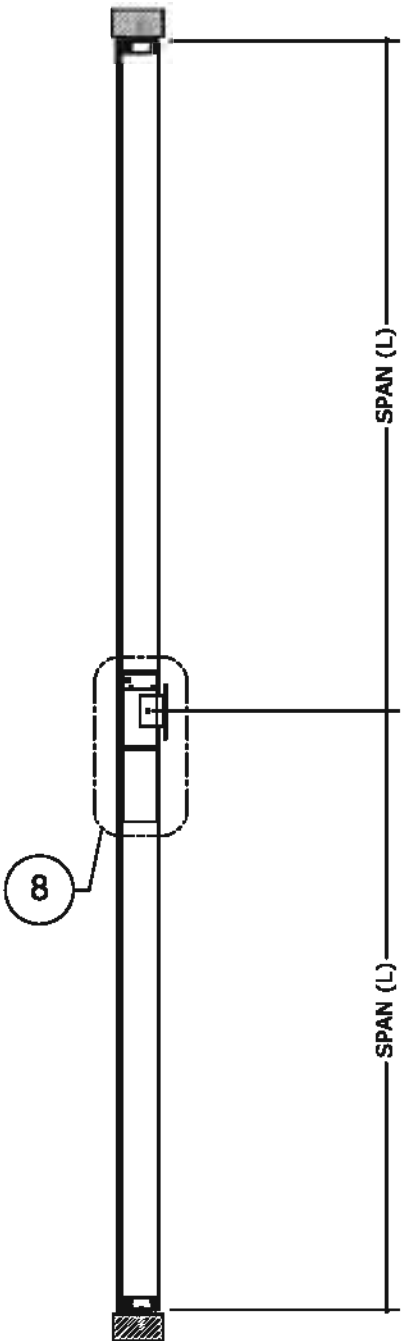
STEP 1: USE THE GLASS LOADING TABLES TO
DETERMINE THE ALLOWABLE PRESSURE OF THE
GLASS.

STEP 2: USE THE MULLION LOADING TABLE TO
DETERMINE THE ALLOWABLE PRESSURES FOR
THE MULLIONS.

STEP 3: THE MINIMUM VALUE BETWEEN STEP 1
AND STEP 2 WILL DETERMINE THE DESIGN LOAD
PRESSURE FOR THIS SYSTEM.



TYPICAL TWIN SPAN ELEVATIONS



TWIN SPAN SECTION

FRANK BENNARDO, PE
PE# 0046549 CA# 9885



FL#29509.2

ENGINEERING EXPRESS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS
3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	JEM	AJP	04/05/19
2020 FRC	CCB	AJP	10/13/20

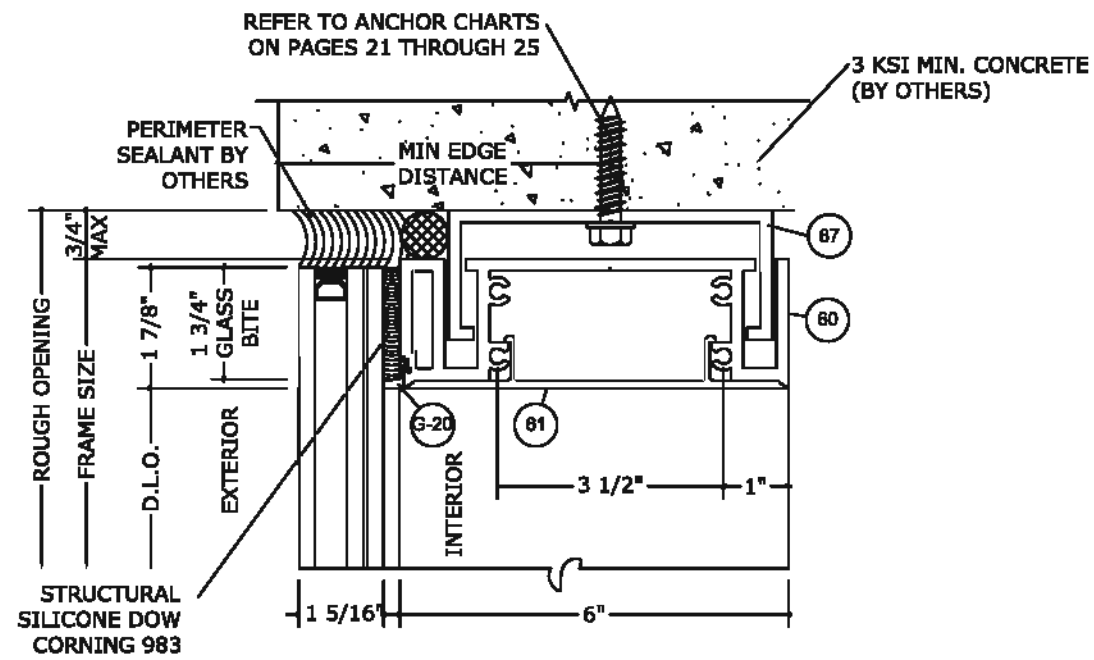
COPYRIGHT ENGINEERING EXPRESS®

20-29351b

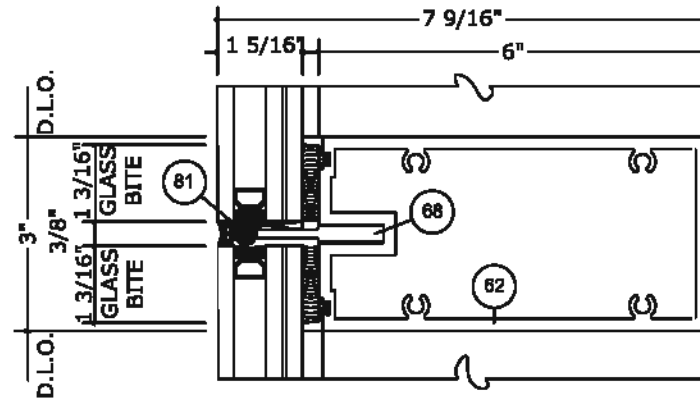
SCALE: NTS UNLESS NOTED

3
28

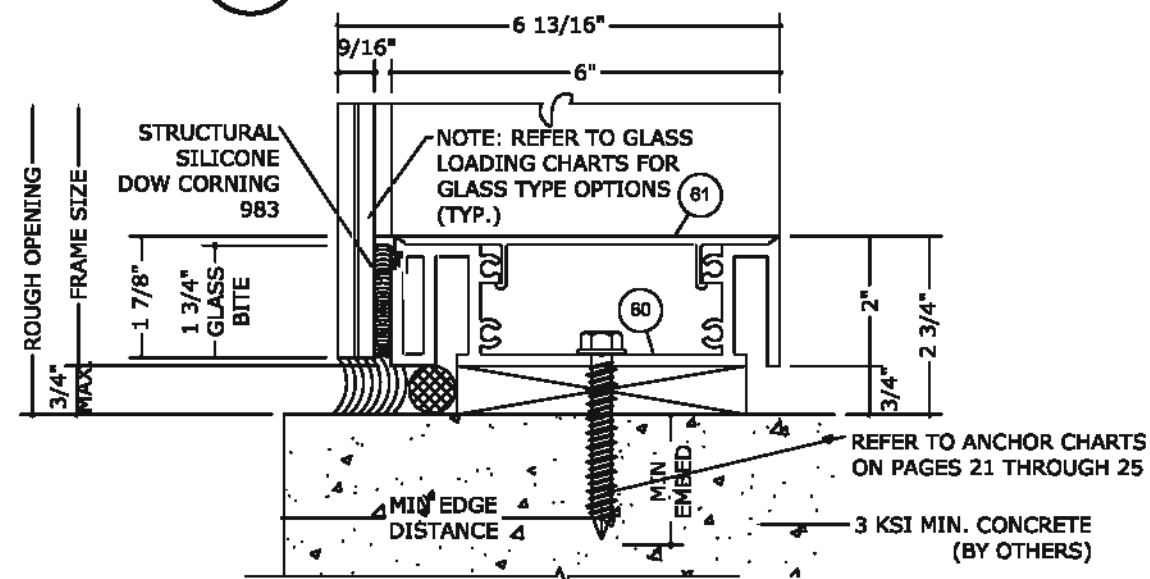
C:\Users\joern\AppData\Local\Temp\Ac3Publish_8116\20-29351 - FL29508.2 - DWG2.dwg 11/20/2020 - 4:54pm joern



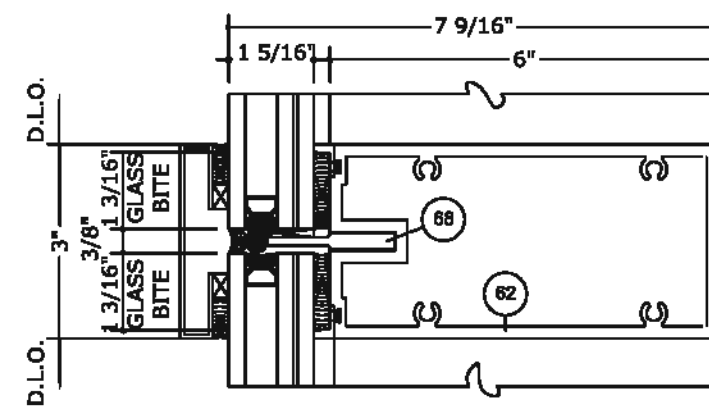
1.1 HEAD DETAIL (CONCRETE)
N.T.S



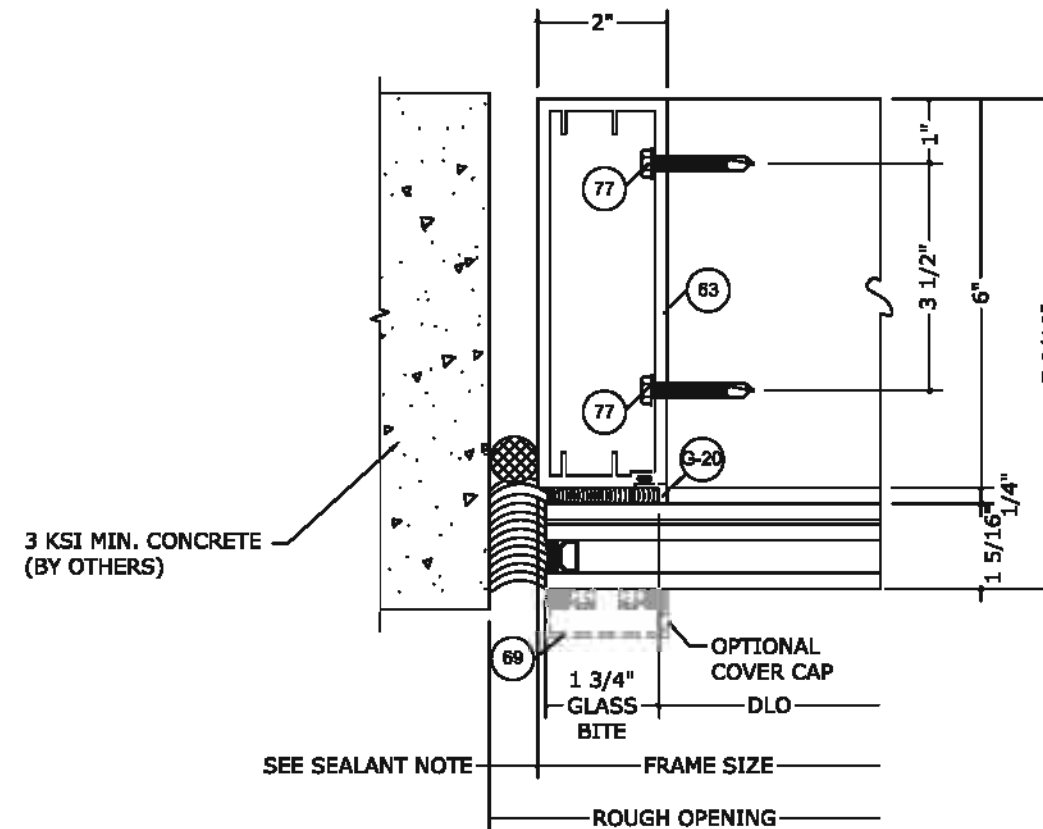
1.4 HORIZONTAL DETAIL
N.T.S



2.1 SILL DETAIL (CONCRETE)
N.T.S



1.5 HORIZONTAL DETAIL
N.T.S



3.1 JAMB DETAIL (CONCRETE)
N.T.S

SEALANT NOTE:
DESIGN SEALANT AT THE JAMB PER ASTM C1472 ON
A SPECIFIC SITE BASIS

FRANK BENNARDO, PE
PE# 0046549 CA# 9885



FL#29509.2

ENGINEERING EXPERTS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS
3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

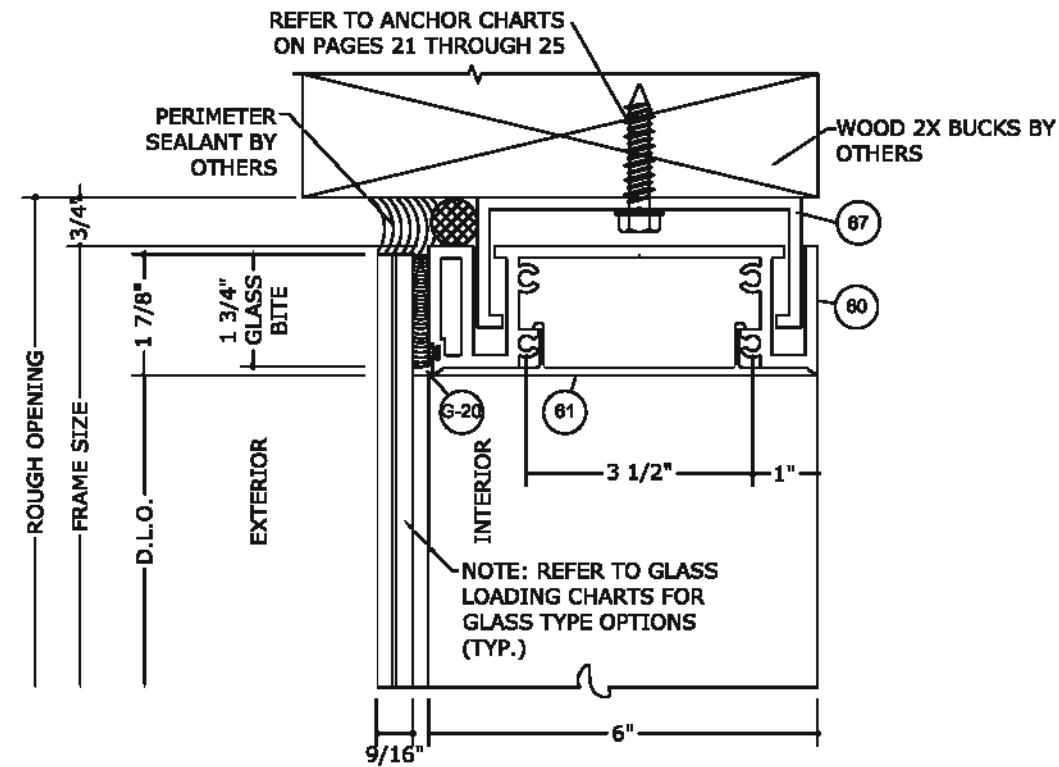
REMARKS	DRAWN	CHKD	DATE
INIT ISSUE	JEM	AJP	04/05/19
2020 FRC	OCB	AJP	10/13/20

COPYRIGHT ENGINEERING EXPERTS®

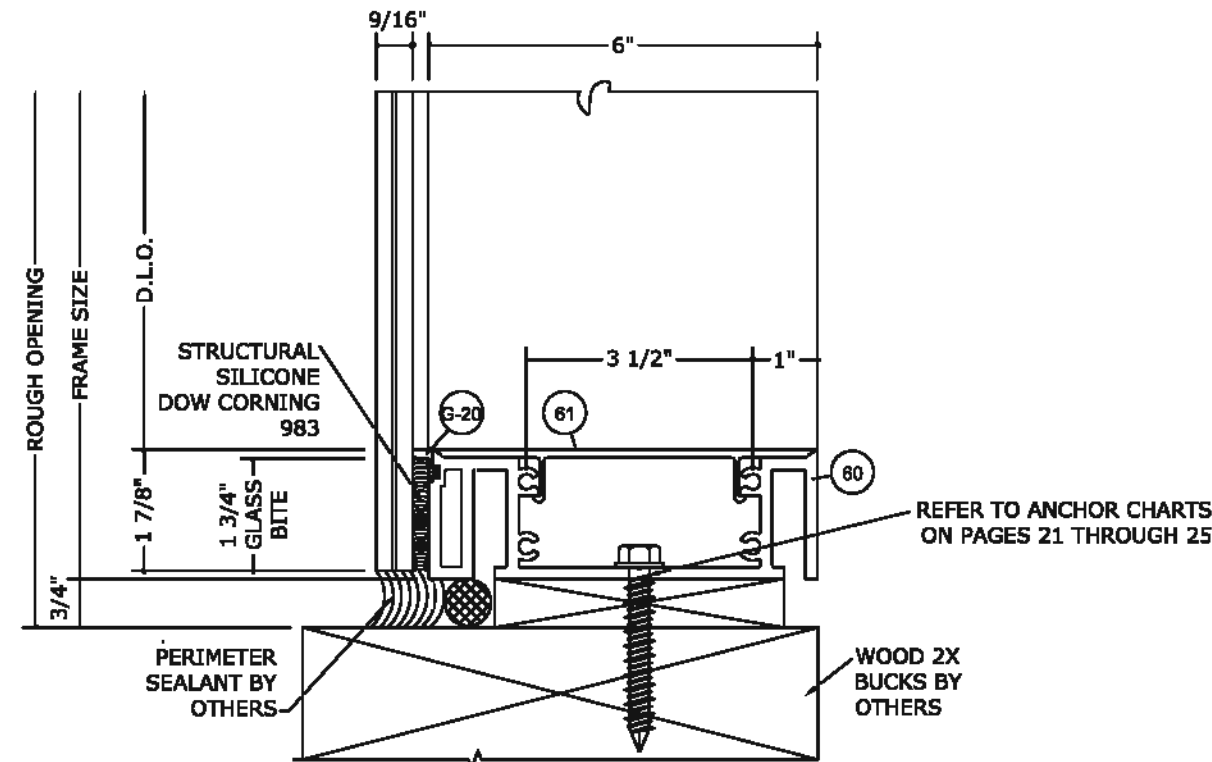
20-29351b

SCALE: NTS UNLESS NOTED

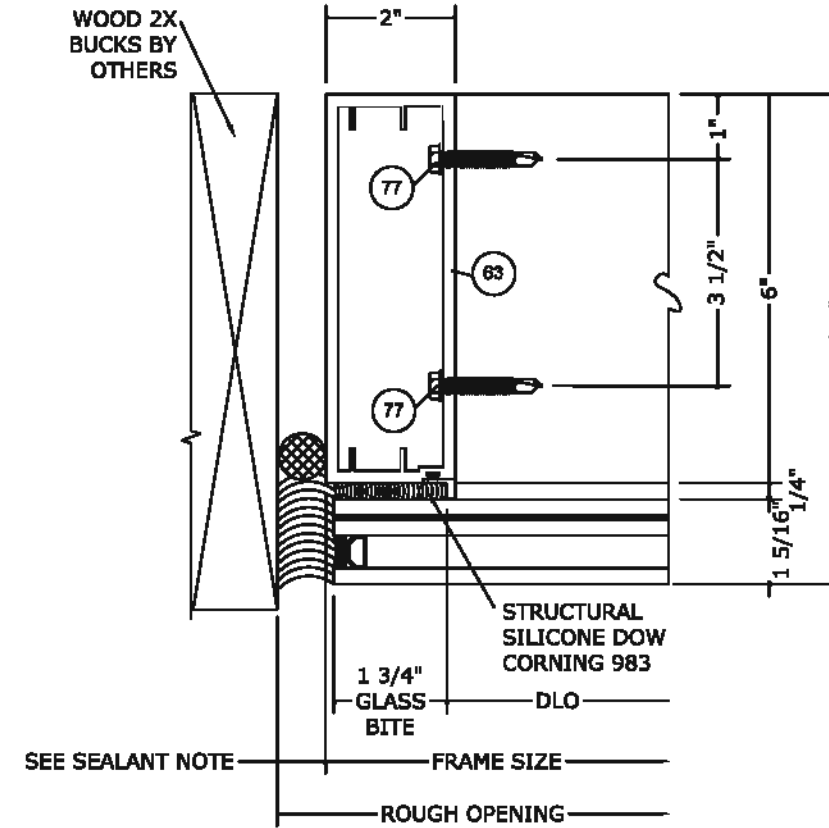
11/20/2020 - 4:54pm joem C:\Users\joem\appdata\local\Temp\Ac3Publish_8116120-29351 - FL29509.2 - DWG2.dwg



1.2 HEAD DETAIL (WOOD)
N.T.S.



2.2 SILL DETAIL (WOOD)
N.T.S.



3.2 JAMB DETAIL (WOOD)
N.T.S.

SEALANT NOTE:
DESIGN SEALANT AT THE JAMB PER ASTM C1472 ON
A SPECIFIC SITE BASIS

FRANK BENNARDO, PE
PE# 0046549 CA# 9885



FL#29509.2

ENGINEERING
EXPRESS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE	CHKD	DATE
INIT ISSUE	04/05/19	JEM	AJP
2020 FRC	10/13/20	OCB	AJP

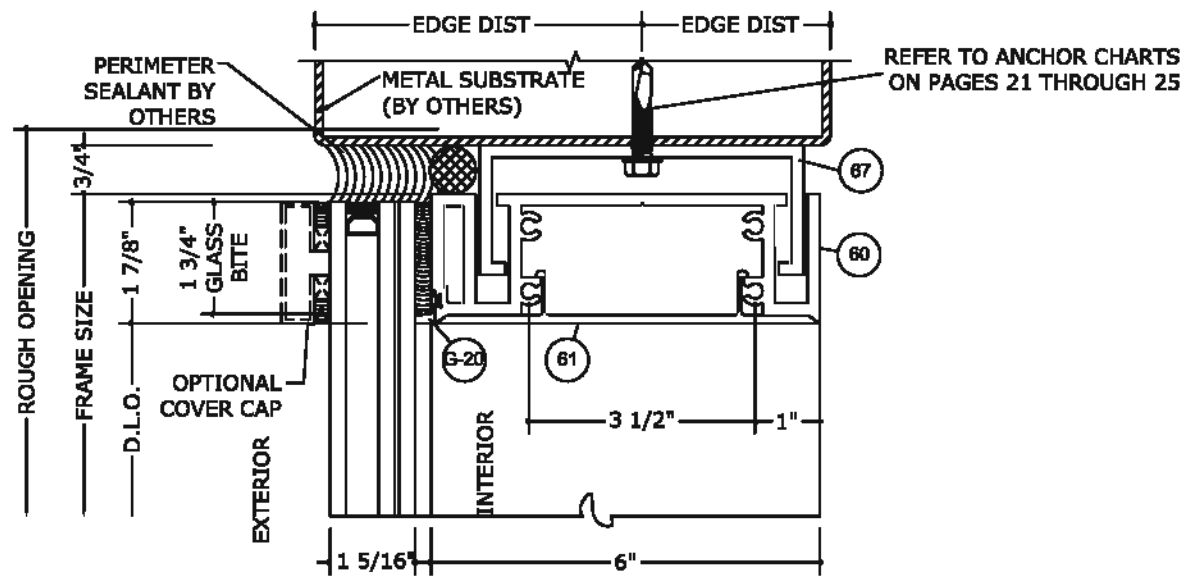
COPYRIGHT ENGINEERING EXPRESS®

20-29351b

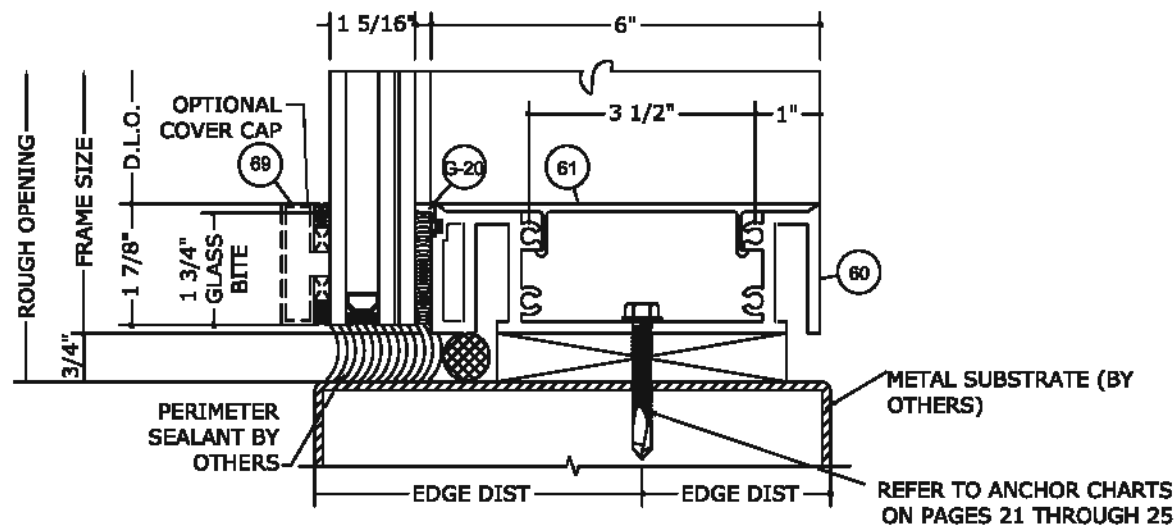
SCALE: NTS UNLESS NOTED

5
28

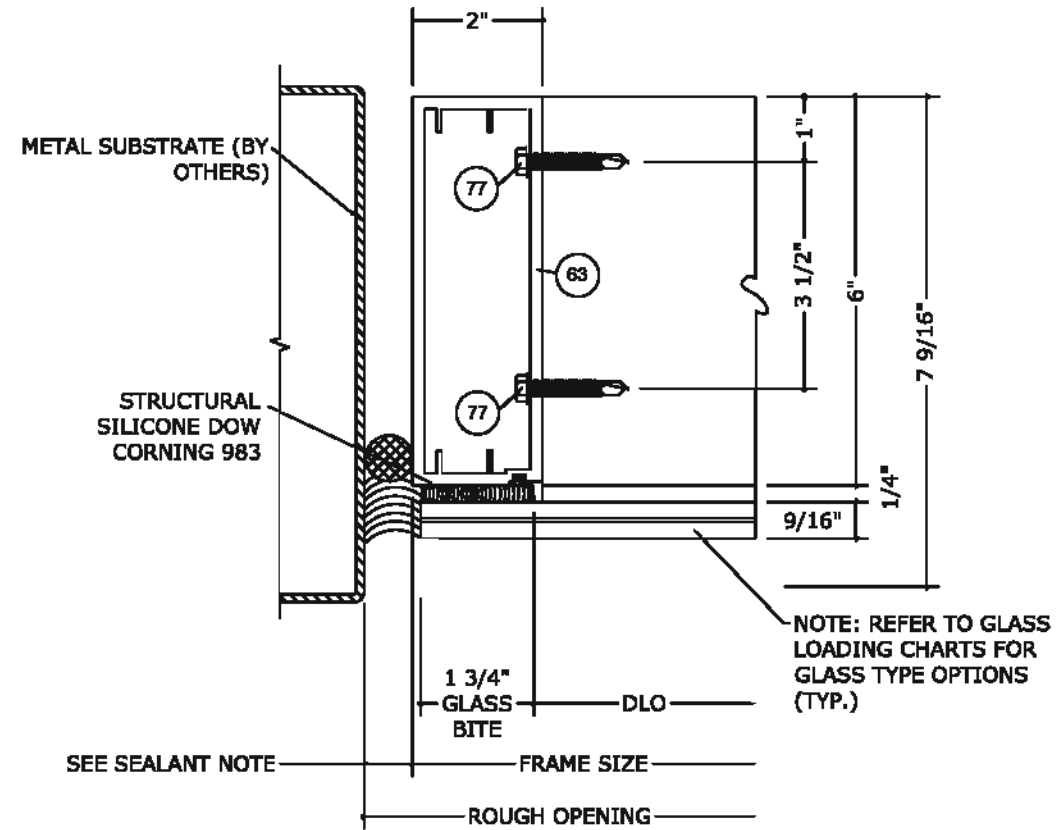
C:\Users\joern\AppData\Local\Temp\Ac3Publish_8116120-29351 - FL29509.2 - DWG2.dwg 11/20/2020 - 4:54pm joern



1.3 HEAD DETAIL (METAL)
N.T.S



2.3 SILL DETAIL (METAL)
N.T.S



3.3 JAMB DETAIL (METAL)
N.T.S

SEALANT NOTE:
DESIGN SEALANT AT THE JAMB PER ASTM C1472 ON
A SPECIFIC SITE BASIS

FRANK BENNARDO, PE
PE# 0046549 CA# 9885



FL#29509.2

ENGINEERING EXPRESS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287

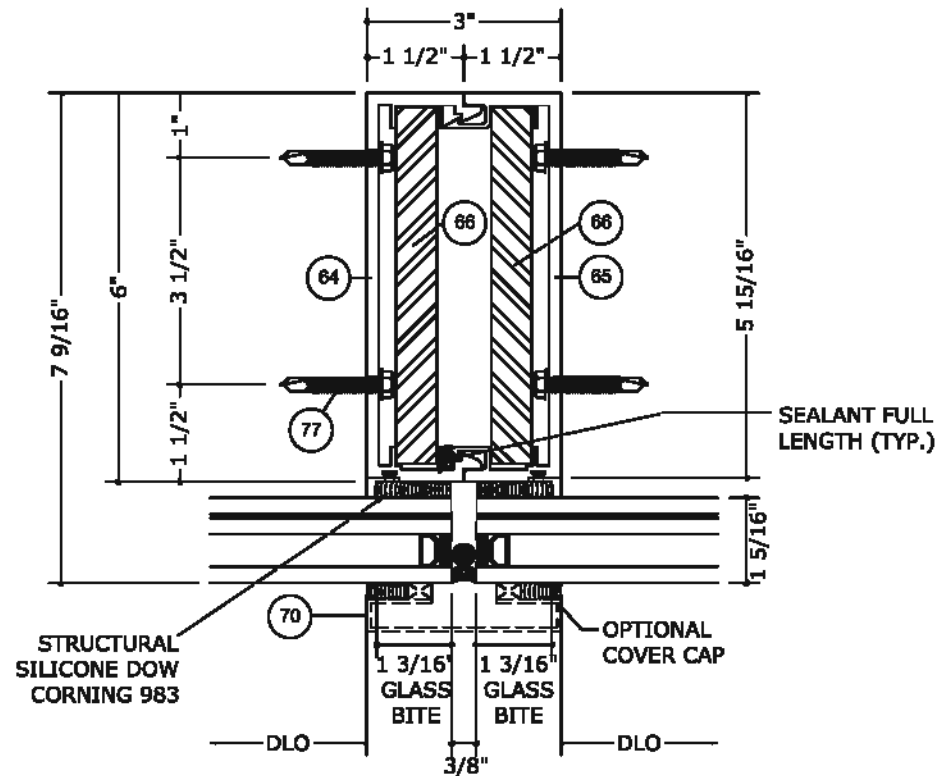
7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE	CHKD
INIT ISSUE	04/05/19	JEM
2020 FRC	10/13/20	OCB
		AJP
		AJP

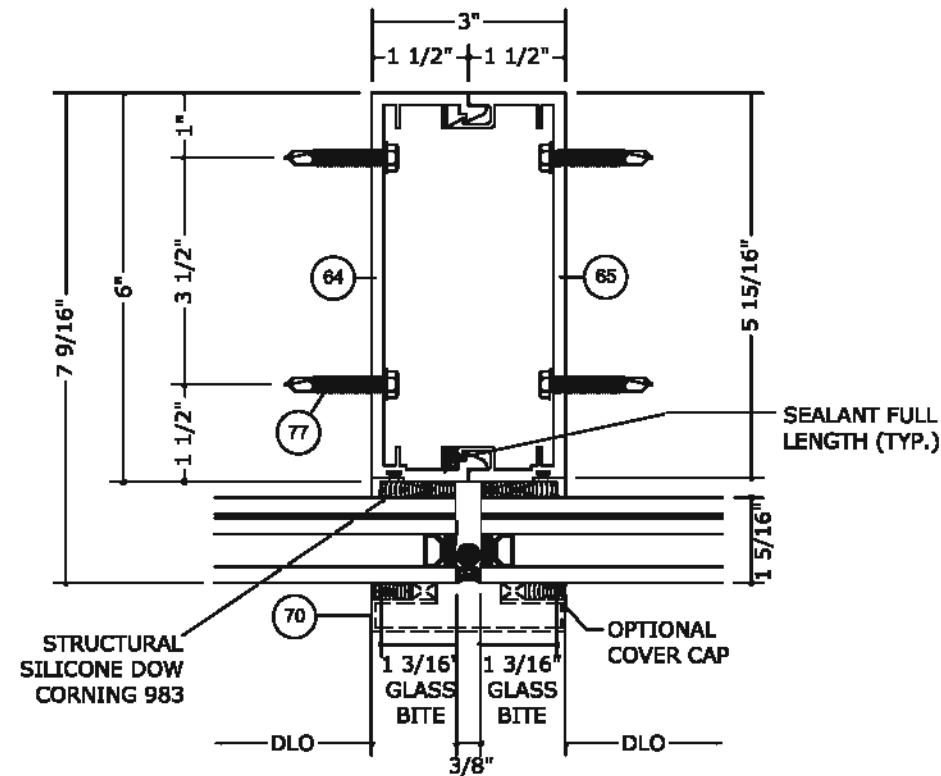
COPYRIGHT ENGINEERING EXPRESS®

20-29351b

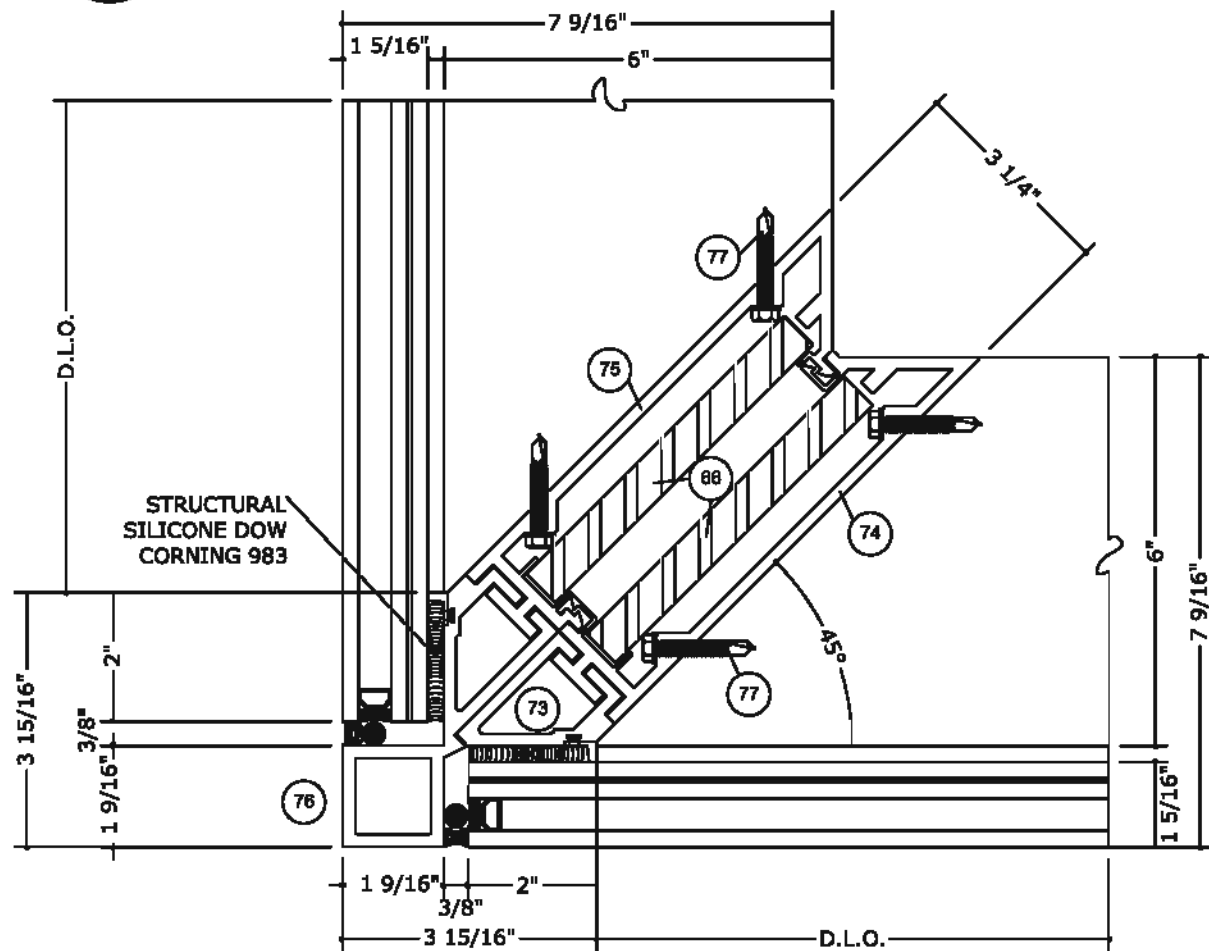
SCALE: NTS UNLESS NOTED



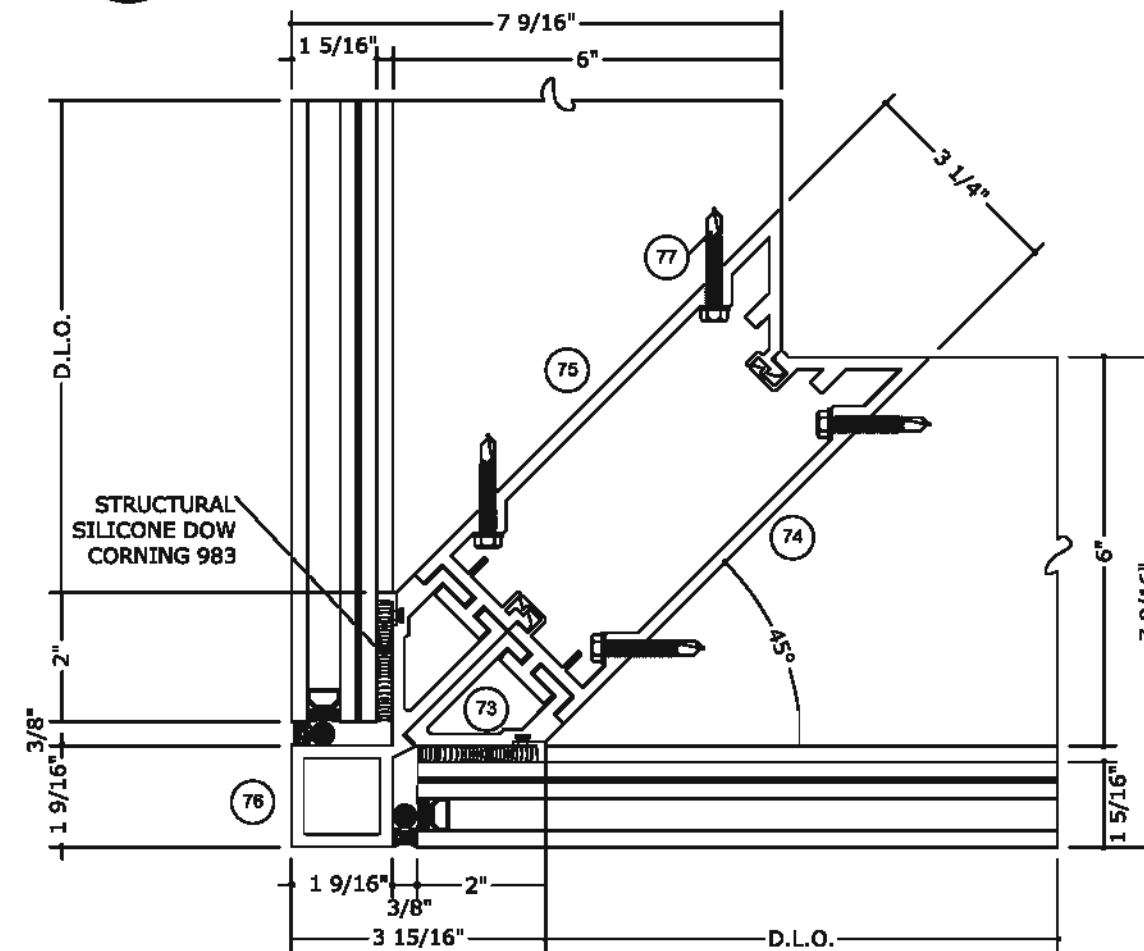
4 VERTICAL INTERMEDIATE DETAIL (REINFORCED)
N.T.S



5 VERTICAL INTERMEDIATE DETAIL
N.T.S



4.1 90° CORNER DETAIL (REINFORCED)
N.T.S



5.1 90° CORNER DETAIL
N.T.S

FRANK BENNARDO, PE
PE# 0046549 CA# 9885



FL#29509.2

ENGINEERING EXPERTS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 364-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE	CHKD	DATE
INIT ISSUE	04/05/19	JEM	AJP
2020 FRC	10/13/20	OCB	AJP

COPYRIGHT ENGINEERING EXPERTS®

20-29351b

SCALE: NTS UNLESS NOTED

 **ENGINEERING
EXPRESS**

CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	JEM	AJP	04/05/19
2020 FBC	CCB	AJP	10/13/20
-	-	-	-
-	-	-	-
-	-	-	-

SCALE: NTS UNLESS NOTED

8 OF 28





FL#29509.2



CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(354) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

GLASS SYS
8776 NW 124TH AVE

3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065

AL SPRINGS, FL 3
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DRWN	CHKD	DATE
INT ISSUE	JEM	AJP	04/05/19
2020 FBC	COB	AJP	10/13/20
-	-	-	-
-	-	-	-
-	-	-	-

COPYRIGHT ENGINEERING EXPRESS

20-29351b

SCALE: NTS UNLESS NOTE

OF
28

NOTE:
SEE PAGE 20 FOR REQUIRED SPLICE REINFORCEMENT FOR CONDITIONS WHERE
1 SPAN IS GREATER THAN 11'-0" & PRESSURES ARE GRATER THAN 90 P.S.F.



**SEALANT NOTE:
DESIGN SEALANT AT THE JAMB PER
ASTM C1472 ON A SPECIFIC SITE BASIS**



FL#29509.2

ENGINEERING EXPRESS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE	CHKD	DATE
INIT ISSUE	04/05/19	JEM	AJP
2020 FRC	10/13/20	CCB	AJP

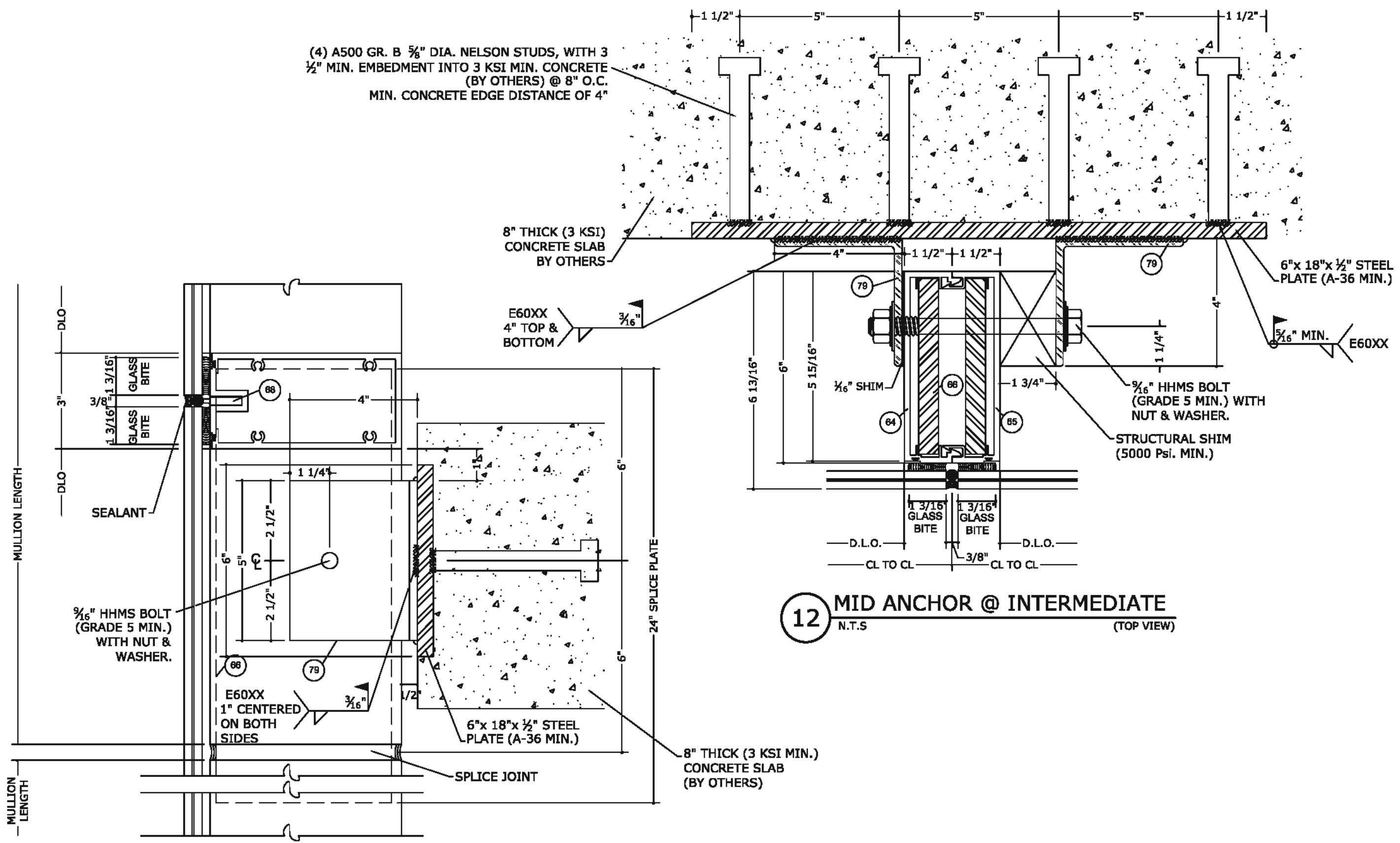
COPYRIGHT ENGINEERING EXPRESS

20-29351b

SCALE: NTS UNLESS NOTED

28

10



11 MID ANCHOR AND SPLICE
N.T.S

12 MID ANCHOR @ INTERMEDIATE
N.T.S (TOP VIEW)

NOTE:
SEE PAGE 20 FOR REQUIRED SPLICE REINFORCEMENT FOR CONDITIONS WHERE
1 SPAN IS GREATER THAN 11'-0" & PRESSURES ARE GRATER THAN 90 P.S.F.



FL#29509.2

ENGINEERING EXPRESS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.

CORAL SPRINGS, FL 33065

(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE	CHKD	DATE
INIT ISSUE	04/05/19	JEM	AJP
2020 FRC	10/13/20	CCB	AJP

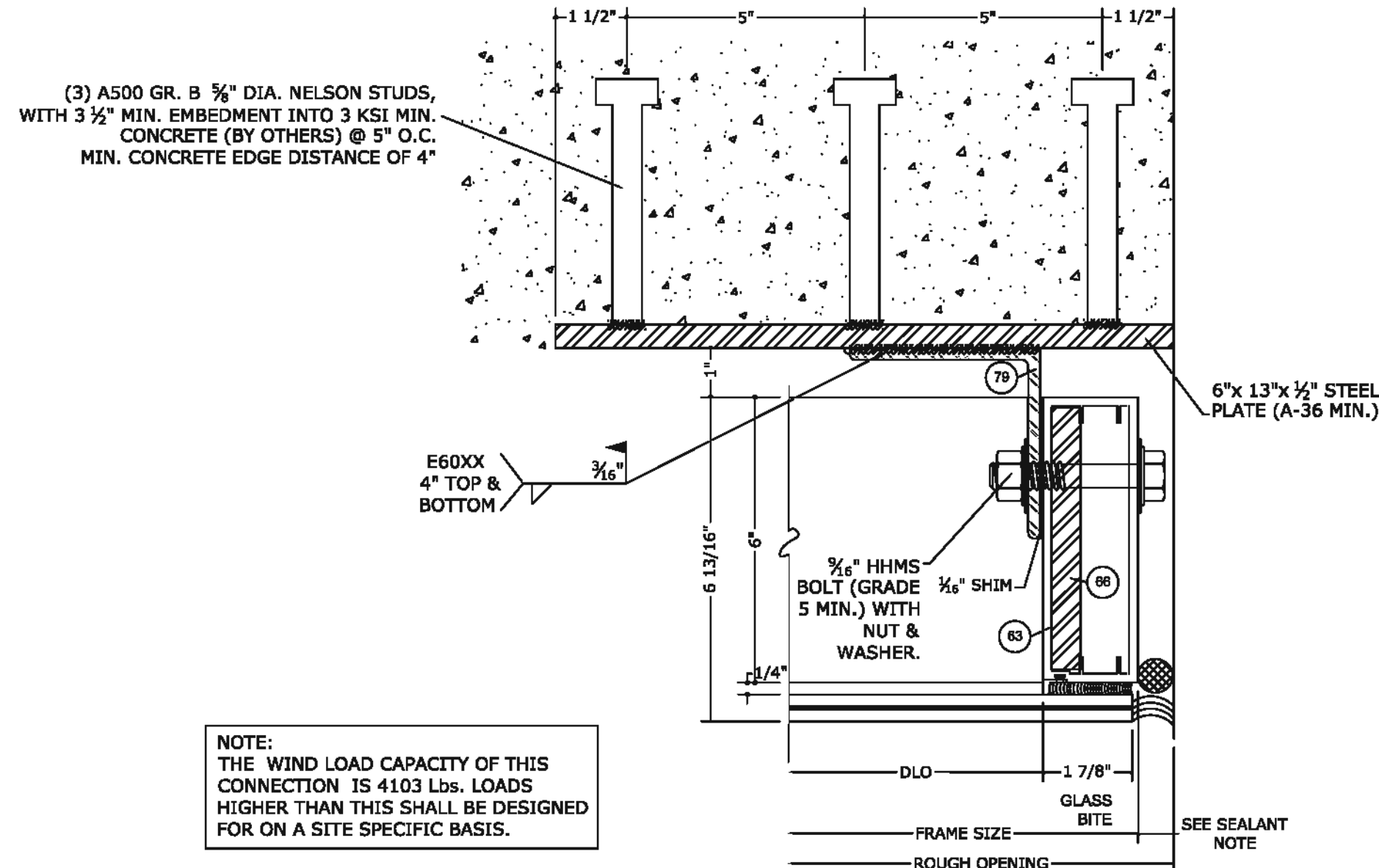
COPYRIGHT ENGINEERING EXPRESS®

20-29351b

SCALE: NTS UNLESS NOTED

11

28

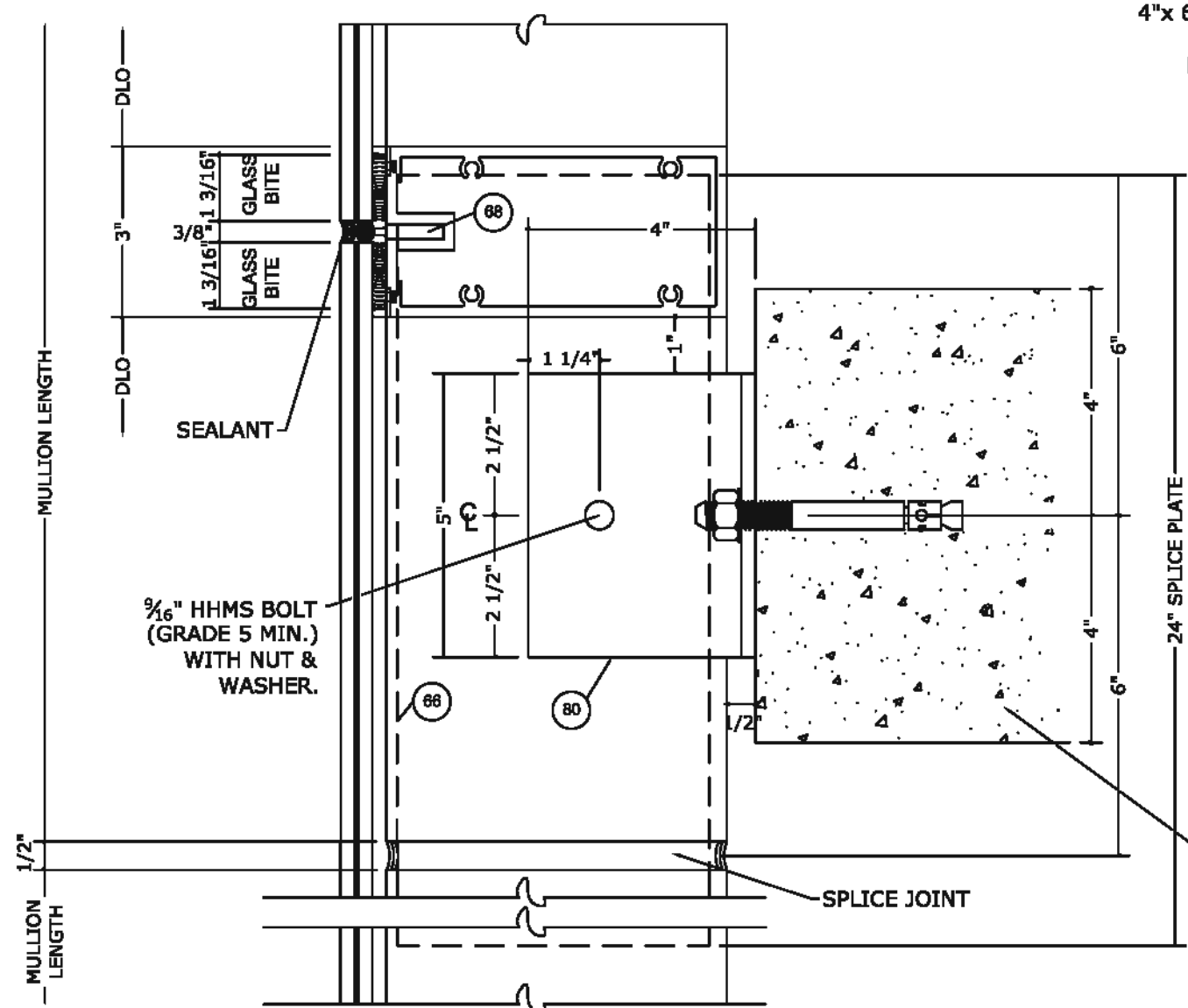


NOTE:
THE WIND LOAD CAPACITY OF THIS
CONNECTION IS 4103 Lbs. LOADS
HIGHER THAN THIS SHALL BE DESIGNED
FOR ON A SITE SPECIFIC BASIS.

13 MID ANCHOR @ JAMB
N.T.S (TOP VIEW)

SEALANT NOTE:
DESIGN SEALANT AT THE JAMB PER ASTM C1472 ON
A SPECIFIC SITE BASIS

C:\Users\joem\AppData\Local\Temp\Ac3Publish_8116120-29351 - FL29509.2 - DWG2.dwg joem 11/20/2020 - 4:54pm



14 MID ANCHOR AND SPLICE
N.T.S

NOTE:
SEE PAGE 20 FOR REQUIRED SPLICE REINFORCEMENT FOR CONDITIONS WHERE
1 SPAN IS GREATER THAN 11'-0" & PRESSURES ARE GRATER THAN 90 P.S.F.

(2) 1/2" DIA. KWIK BOLT 3 -CS
WITH 3 1/4" MIN. EMBEDMENT
INTO 3 KSI MIN. CONCRETE
(BY OTHERS)@ 4" O.C. / CLIP
MIN. CONCRETE EDGE
DISTANCE OF 2 1/2 "

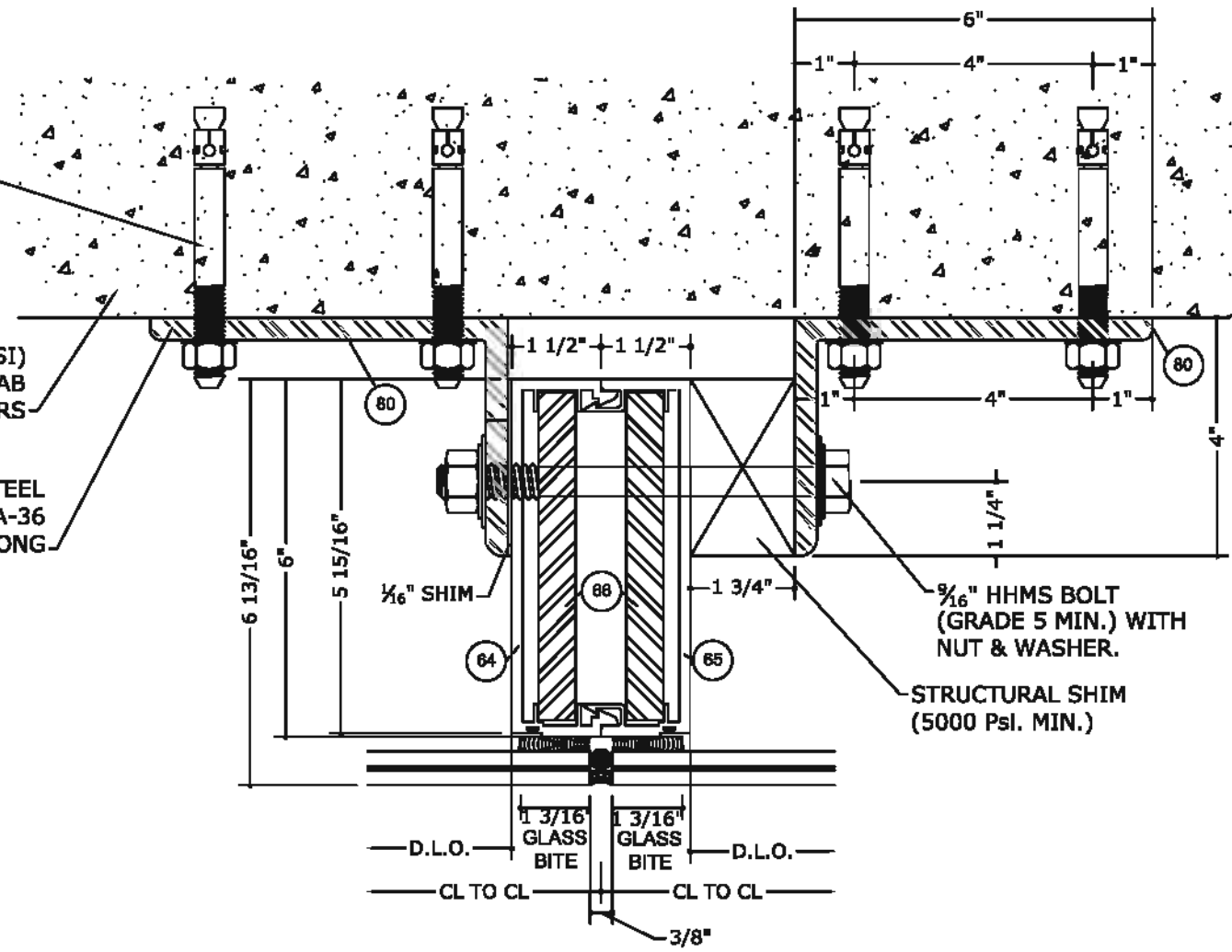
8" THICK (3 KSI)
CONCRETE SLAB
BY OTHERS

4"x 6"x 3/8" STEEL
ANGLES (A-36
MIN.) 5" LONG

8" THICK (3 KSI MIN.)
CONCRETE SLAB
(BY OTHERS)

24" SPLICE PLATE

SPLICE JOINT



15 MID ANCHOR @ INTERMEDIATE
N.T.S (TOP VIEW)

NOTE:
THE WIND LOAD CAPACITY OF THIS
CONNECTION IS 3800 lbs. LOADS
HIGHER THAN THIS SHALL BE DESIGNED
FOR ON A SITE SPECIFIC BASIS.

FRANK BENNARDO, PE
PE# 0046549 CA# 9885

FL#29509.2

ENGINEERING EXPRESS

CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE
INIT ISSUE	04/05/19
2020 FRC	10/13/20

20-29351b

SCALE: NTS UNLESS NOTED

12

28



FL#29509.2

ENGINEERING EXPRESS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(354) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.

CORAL SPRINGS, FL 33065

(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE	CHKD
INIT ISSUE	04/05/19	JEM
2020 FRC	10/13/20	CCB

COPYRIGHT ENGINEERING EXPRESS®

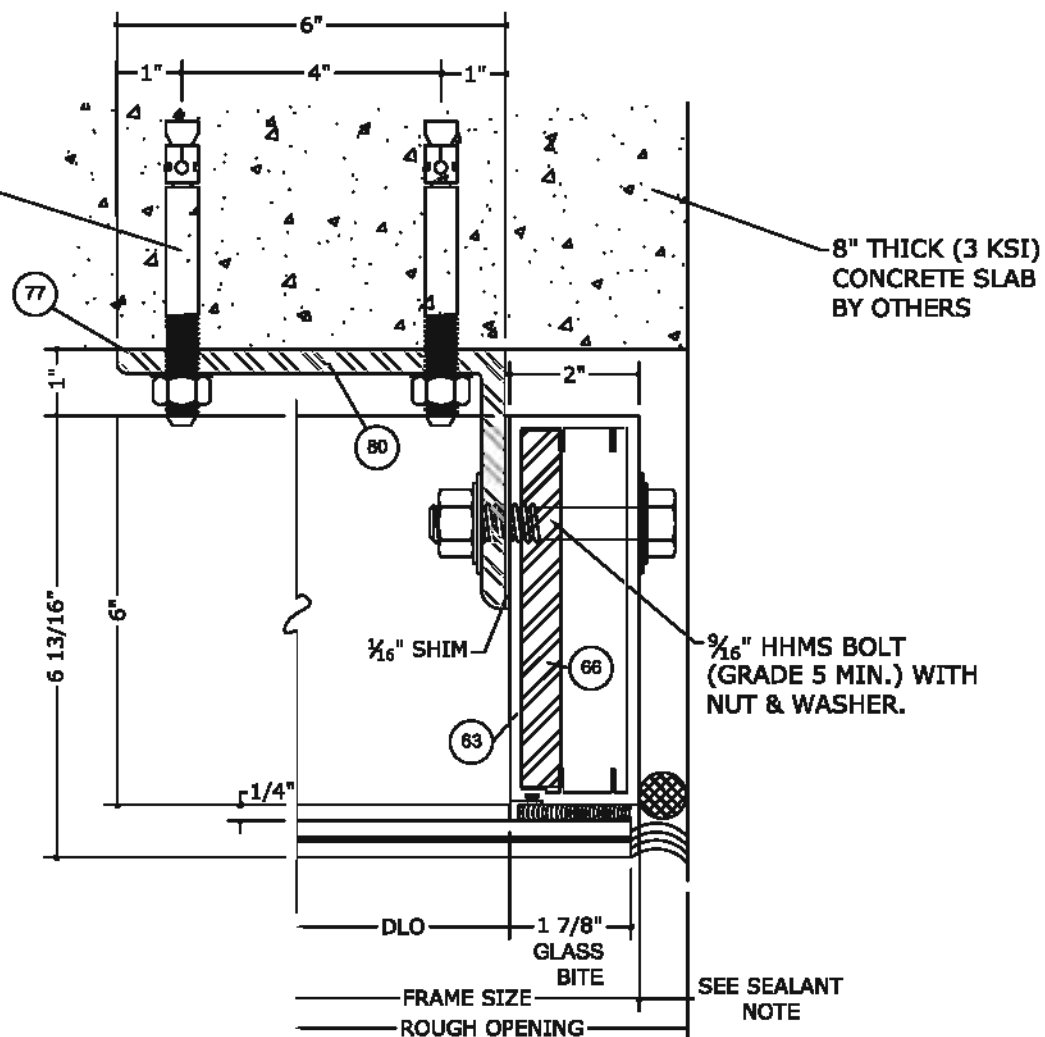
20-29351b

SCALE: NTS UNLESS NOTED

13

28

(2) 1/2" DIA. KWIK BOLT 3-CS
WITH 3 1/4" MIN. EMBEDMENT
INTO 3 KSI MIN. CONCRETE
(BY OTHERS) @ 4" O.C. / CLIP
MIN. CONCRETE EDGE
DISTANCE OF 2 1/2"



16 MID ANCHOR @ JAMB

N.T.S

(TOP VIEW)

NOTE:
THE WIND LOAD CAPACITY OF THIS
CONNECTION IS 1899 Lbs. LOADS
HIGHER THAN THIS SHALL BE DESIGNED
FOR ON A SITE SPECIFIC BASIS.

SEALANT NOTE:
DESIGN SEALANT AT THE JAMB PER ASTM C1472 ON
A SPECIFIC SITE BASIS



**ENGINEERING
EXPRESS**

CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DRWN	CHKD	DATE
UNIT ISSUE	JEM	AJP	04/05/19
2020 FBC	COB	AJP	10/13/20
-	-	-	-
-	-	-	-
-	-	-	-

OF
2

14



18 MID ANCHOR @ INTERMEDIATE

NOTE:
THE CAPACITY OF THIS WIND LOAD
CONNECTION IS 4830 Lbs. LOADS
HIGHER THAN THIS SHALL BE DESIGNED
FOR ON A SITE SPECIFIC BASIS.



FL#29509.2

ENGINEERING EXPRESS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.

CORAL SPRINGS, FL 33065

(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE	CHKD
INIT ISSUE	04/05/19	JEM
2020 FRC	10/13/20	CCB

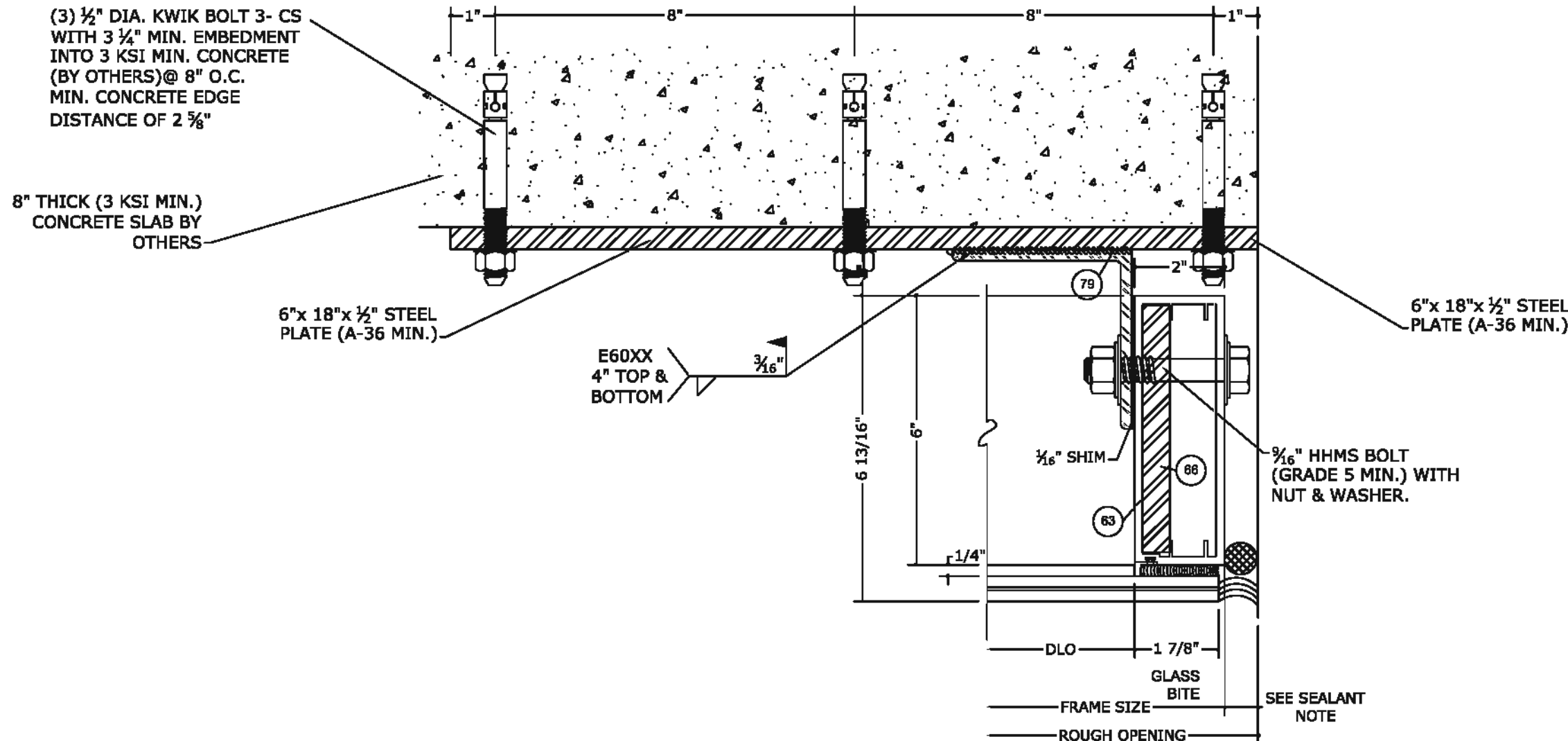
COPYRIGHT ENGINEERING EXPRESS®

20-29351b

SCALE: NTS UNLESS NOTED

15

28



NOTE:
THE CAPACITY OF THIS WIND LOAD
CONNECTION IS 4830 Lbs. LOADS
HIGHER THAN THIS SHALL BE DESIGNED
FOR ON A SITE SPECIFIC BASIS.

19

MID ANCHOR @ JAMB

N.T.S

(TOP VIEW)

SEALANT NOTE:
DESIGN SEALANT AT THE JAMB PER ASTM C1472 ON
A SPECIFIC SITE BASIS

GLASS LOADING TABLES (P.S.F.)

48 in		
HEIGHT D.L.O.		
WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F
24	120	120
30	120	120
36	120	120
42	120	120
48	119	119
54	119	119
57 1/2	119	119
60	119	119
66	119	119
72	119	119
78	119	119
84	119	119
90	119	119
96	119	119
102	119	119
108	119	119
114	119	119
120	119	119
126	119	119
132	119	119
138	119	119
140 1/2	119	119

54 in		
HEIGHT D.L.O.		
WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F
24	120	120
30	120	120
36	120	120
42	120	120
48	119	119
54	106	106
57 1/2	106	106
60	106	106
66	106	106
72	106	106
78	106	106
84	106	106
90	106	106
96	106	106
102	106	106
108	106	106
114	106	106
120	106	106
126	106	106
132	106	106
138	106	106
140 1/2	106	106

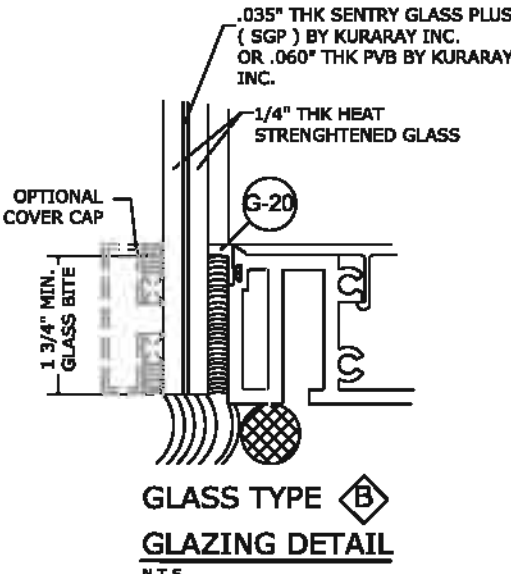
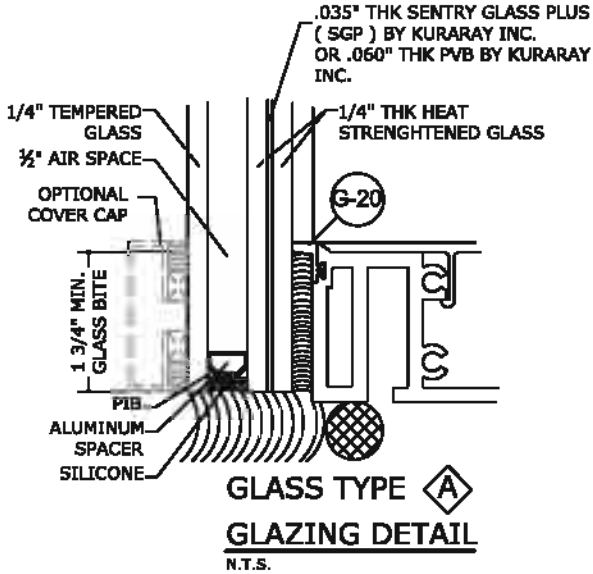
57 1/2 in.		
HEIGHT D.L.O.		
WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F
24	120	120
30	120	120
36	120	120
42	120	120
48	119	119
54	106	106
57 1/2	100	100
60	100	100
66	100	100
72	100	100
78	100	100
84	100	100
90	100	100
96	100	100
102	100	100
108	100	100
114	100	100
120	100	100
126	100	100
132	100	100
138	100	100
140 1/2	100	100

60 in.		
HEIGHT D.L.O.		
WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F
24	120	120
30	120	120
36	120	120
42	120	120
48	119	119
54	106	106
57 1/2	100	100
60	95	95
66	95	95
72	95	95
78	95	95
84	95	95
90	95	95
96	95	95
102	95	95
108	95	95
114	95	95
120	95	95
126	95	95
132	95	95

66 in.		
HEIGHT D.L.O.		
WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F
24	120	120
30	120	120
36	120	120
42	120	120
48	119	119
54	106	106
57 1/2	100	100
60	95	95
66	87	87
72	87	87
78	87	87
84	87	87
90	87	87
96	87	87
102	87	87
108	87	87
114	87	87
120	87	87

72 in.		
HEIGHT D.L.O.		
WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F
24	120	120
30	120	120
36	120	120
42	120	120
48	119	119
54	106	106
57 1/2	100	100
60	95	95
66	87	87
72	79	79
78	79	79
84	79	79
90	79	79
96	79	79
102	79	79
108	79	79

78 in.		
HEIGHT D.L.O.		
WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F
24	120	120
30	120	120
36	120	120
42	120	120
48	119	119
54	106	106
57 1/2	100	100
60	95	95
66	87	87
72	79	79
78	73	73
84	73	73
90	73	73
96	73	73
102	73	73



FRANK BENNARDO, PE
PE# 0046549 CA# 9885



FL#29509.2

ENGINEERING EXPERTS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 364-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.

CORAL SPRINGS, FL 33065

(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE	CHKD	DATE
INIT ISSUE	04/05/19	AJP	
2020 FRC	10/13/20	OCB	

COPYRIGHT ENGINEERING EXPRESS®

20-29351b

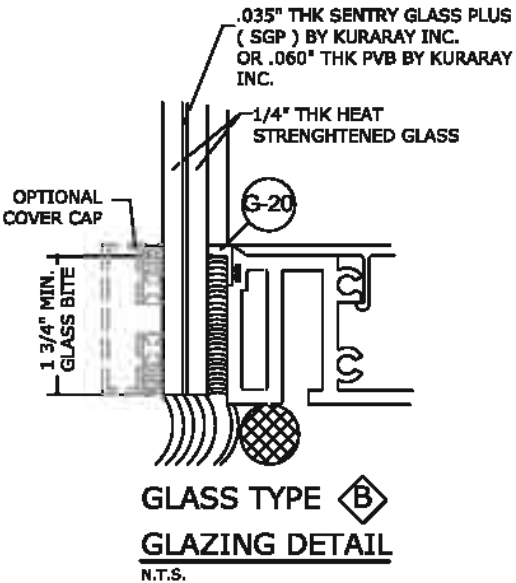
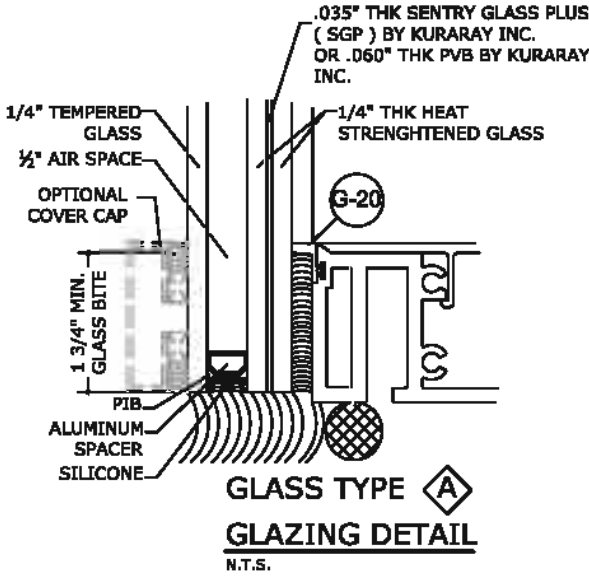
SCALE: NTS UNLESS NOTED

16 of 28

GLASS LOADING TABLES (P.S.F.)

84 in.			90 in.			96 in.			102 in.			108 in.			114 in.			120 in.		
HEIGHT D.L.O.			HEIGHT D.L.O.			HEIGHT D.L.O.			HEIGHT D.L.O.			HEIGHT D.L.O.			HEIGHT D.L.O.			HEIGHT D.L.O.		
WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F	WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F	WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F	WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F	WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F	WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F	WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F
24	120	120	24	120	120	24	120	120	24	120	120	24	120	120	24	120	120	24	120	120
30	120	120	30	120	120	30	120	120	30	120	120	30	120	120	30	120	120	30	120	120
36	120	120	36	120	120	36	120	120	36	120	120	36	120	120	36	120	120	36	120	120
42	120	120	42	120	120	42	120	120	42	120	120	42	120	120	42	120	120	42	120	120
48	119	119	48	119	119	48	119	119	48	119	119	48	119	119	48	119	119	48	119	119
54	106	106	54	106	106	54	106	106	54	106	106	54	106	106	54	106	106	54	106	106
57 1/2	100	100	57 1/2	100	100	57 1/2	100	100	57 1/2	100	100	57 1/2	100	100	57 1/2	100	100	57 1/2	100	100
60	95	95	60	95	95	60	95	95	60	95	95	60	95	95	60	95	95	60	95	95
66	87	87	66	87	87	66	87	87	66	87	87	66	87	87	66	87	87	66	87	87
72	79	79	72	79	79	72	79	79	72	79	79	72	79	79	72	79	79	72	79	79
78	73	73	78	73	73	78	73	73	78	73	73	78	73	73	78	73	73	78	73	73
84	68	68	84	68	68	84	68	68	84	68	68	84	68	68	84	68	68	84	68	68
90	68	68	90	68	68	90	68	68	90	68	68	90	68	68	90	68	68	90	68	68
96	68	68	96	68	68	96	68	68	96	68	68	96	68	68	96	68	68	96	68	68

126 in.			132 in.			138 in.			140 1/2 in.		
HEIGHT D.L.O.			HEIGHT D.L.O.			HEIGHT D.L.O.			HEIGHT D.L.O.		
WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F	WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F	WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F	WIDTH D.L.O. (in.)	(+) P.S.F	(-) P.S.F
24	120	120	24	120	120	24	120	120	24	120	120
30	120	120	30	120	120	30	120	120	30	120	120
36	120	120	36	120	120	36	120	120	36	120	120
42	120	120	42	120	120	42	120	120	42	120	120
48	119	119	48	119	119	48	119	119	48	119	119
54	106	106	54	106	106	54	106	106	54	106	106
57 1/2	100	100	57 1/2	100	100	57 1/2	100	100	57 1/2	100	100
60	95	95	60	95	95	60	95	95	60	95	95



FRANK BENNARDO, PE
PE# 0046549 CA# 9885



FL#29509.2

ENGINEERING EXPRESS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE	CHKD	DATE	CHKD
INIT ISSUE	04/05/19	JEM	AJP	
2020 FBC	10/13/20	CCB	AJP	

COPYRIGHT ENGINEERING EXPRESS®

20-29351b

SCALE: NTS UNLESS NOTED

17

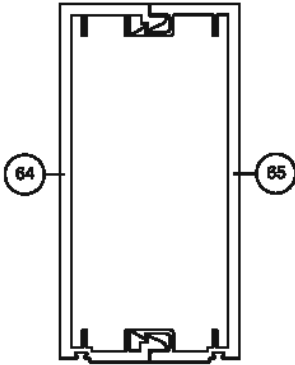
28

MULLION LOADING TABLES (P.S.F.)

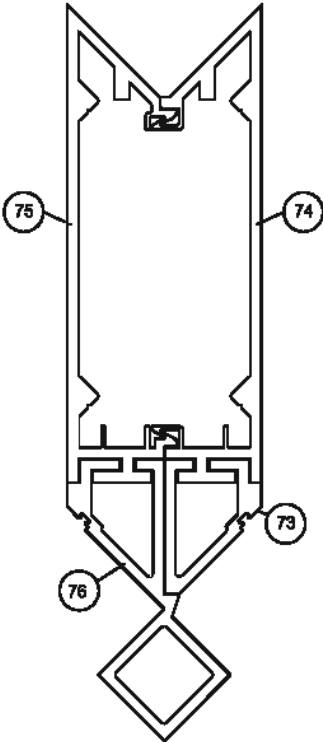
48 in			54 in			60 in.			66 in.		
SPAN LENGTH			SPAN LENGTH			SPAN LENGTH			SPAN LENGTH		
WIDTH (in.)	(+) P.S.F	(-) P.S.F	WIDTH (in.)	(+) P.S.F	(-) P.S.F	WIDTH (in.)	(+) P.S.F	(-) P.S.F	WIDTH (in.)	(+) P.S.F	(-) P.S.F
24	120	120	24	120	120	24	120	120	24	120	120
30	120	120	30	120	120	30	120	120	30	120	120
36	120	120	36	120	120	36	120	120	36	120	120
42	120	120	42	120	120	42	120	120	42	120	120
48	120	120	48	120	120	48	120	120	48	120	120
54	120	120	54	111	111	54	111	111	54	111	111
60	120	120	60	111	111	60	100	100	60	100	100
66	120	120	66	111	111	66	100	100	66	90	90
72	120	120	72	111	111	72	100	100	72	90	90
78	120	120	78	111	111	78	100	100	78	90	90
84	120	120	84	111	111	84	100	100	84	90	90
90	120	120	90	111	111	90	100	100	90	90	90
96	120	120	96	111	111	96	100	100	96	90	90

72 in.			78 in.			84 in.			90 in.		
SPAN LENGTH			SPAN LENGTH			SPAN LENGTH			SPAN LENGTH		
WIDTH (in.)	(+) P.S.F	(-) P.S.F	WIDTH (in.)	(+) P.S.F	(-) P.S.F	WIDTH (in.)	(+) P.S.F	(-) P.S.F	WIDTH (in.)	(+) P.S.F	(-) P.S.F
24	120	120	24	120	120	24	120	120	24	120	120
30	120	120	30	120	120	30	120	120	30	120	120
36	120	120	36	120	120	36	120	120	36	120	120
42	120	120	42	120	120	42	120	120	42	120	120
48	120	120	48	120	120	48	120	120	48	120	120
54	111	111	54	111	111	54	111	111	54	111	111
60	100	100	60	100	100	60	100	100	60	100	100
66	90	90	66	90	90	66	90	90	66	90	90
72	83	83	72	83	83	72	83	83	72	83	83
78	83	83	78	76	76	78	76	76	78	76	76
84	83	83	84	76	76	84	71	71	84	71	71
90	83	83	90	76	76	90	71	71	90	66	66
96	83	83	96	76	76	96	71	71	96	66	66

NON REINFORCED MULLIONS



TYPE "A"



TYPE "B"

LINEAR INTERPOLATION
BETWEEN WIDTHS OR
HEIGHTS ALLOWED.

MULLION TRIBUTARY WIDTH

$$W = \frac{W1}{2} + \frac{W2}{2}$$



FL#29509.2

**ENGINEERING
EXPRESS**
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE	CHKD	DATE
INIT ISSUE	04/05/19	JEM	AJP
2020 FBC	10/13/20	CCB	AJP

COPYRIGHT ENGINEERING EXPRESS®

20-29351b

SCALE: NTS UNLESS NOTED

MULLION LOADING TABLES (P.S.F.)

96 in.		
SPAN LENGTH		
WIDTH (In.)	(+) P.S.F	(-) P.S.F
24	120	120
30	120	120
36	120	120
42	120	120
48	120	120
54	111	111
60	100	100
66	90	90
72	83	83
78	76	76
84	71	71
90	66	66

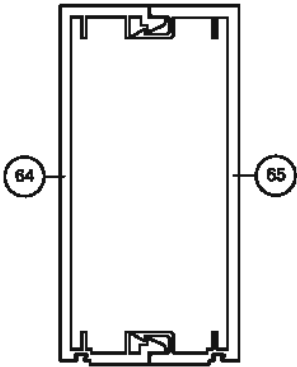
102 in.		
SPAN LENGTH		
WIDTH (In.)	(+) P.S.F	(-) P.S.F
24	120	120
30	120	120
36	120	120
42	120	120
48	120	120
54	111	111
60	100	100
66	90	90
72	83	83
78	76	76
84	71	71

108 in.		
SPAN LENGTH		
WIDTH (In.)	(+) P.S.F	(-) P.S.F
24	120	120
30	120	120
36	120	120
42	120	120
48	120	120
54	111	111
60	100	100
66	90	90
72	83	83
78	76	76

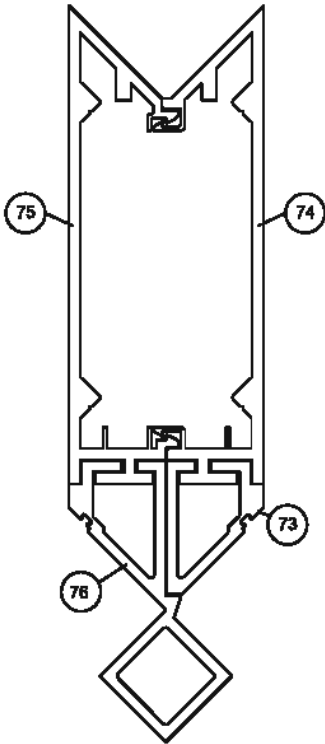
114 in.		
SPAN LENGTH		
WIDTH (In.)	(+) P.S.F	(-) P.S.F
24	120	120
30	120	120
36	120	120
42	120	120
48	120	120
54	111	111
60	100	100
66	90	90
72	83	83

120 in.		
SPAN LENGTH		
WIDTH (In.)	(+) P.S.F	(-) P.S.F
24	120	120
30	120	120
36	120	120
42	120	120
48	120	120
54	111	111
60	100	100
66	90	90
72	83	83

NON REINFORCED MULLIONS



TYPE "A"



TYPE "B"

LINEAR INTERPOLATION
BETWEEN WIDTHS OR
HEIGHTS ALLOWED.

MULLION TRIBUTARY WIDTH

$$W = \frac{W_1}{2} + \frac{W_2}{2}$$

FRANK BENNARDO, PE
PE# 0046549 CA# 9885



FL#29509.2

ENGINEERING EXPRESS

CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE
INIT ISSUE	04/05/19
2020 FBC	10/13/20
DRWN	CHKD
JEM	AJP
CCB	AJP

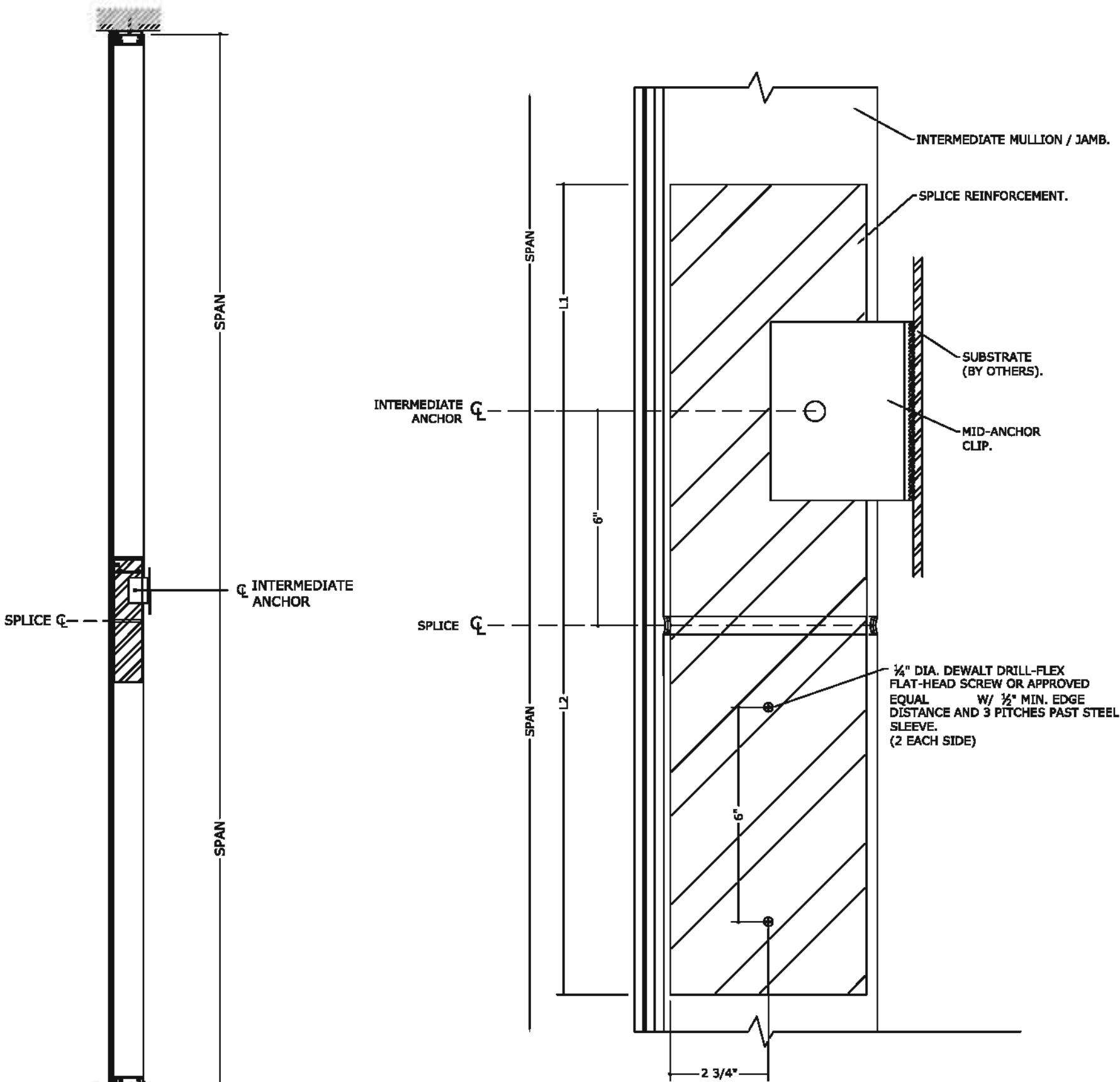
20-29351b

SCALE: NTS UNLESS NOTED

19

28

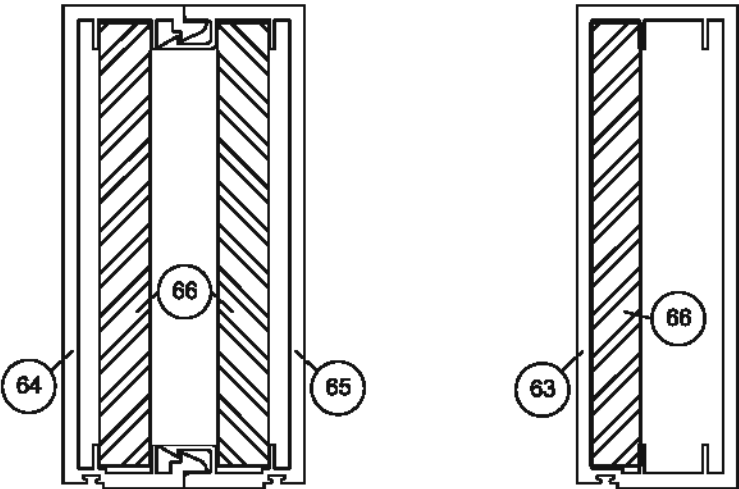
THIS PAGE IS ONLY USED WHEN CONFIGURATIONS WITH (1) SPAN IS LARGER THAN 11'-0" & PRESSURES GREATER THAN 90 P.S.F. (ASD)



SPAN RATIO	REINFORCEMENT LENGTH	
	L1 (in)	L2 (in)
1.00	6	18
1.09	18	18
1.20	25	25
1.33	28	28
1.50	32	32
1.71	36	36
2.00	32	32
2.40	28	28
3.00	24	24
4.00	20	20
6.00	12	18
12.00	6	18

*SPAN RATIO= SPAN 1 / SPAN 2, WHERE SPAN 1 IS THE LARGEST SPAN

NOTES:
* CHART CAN NOT BE INTERPOLATED.
* THIS CHART IS ONLY REQUIRED FOR CONFIGURATIONS WITH SPANS LARGER THAN 11' - 0" & PRESSURES GREATER THAN 90 P.S.F. (ASD)



TWIN SPAN SECTION

SPLICE REINFORCEMENT DIAGRAM

INTERMEDIATE MULLION

JAMB

FRANK BENNARDO, PE
PE# 0046549 CA# 9885



FL#29509.2

ENGINEERING EXPRESS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE	CHKD	DATE
INIT ISSUE	04/05/19	JEM	AJP
2020 FRC	10/13/20	CCB	AJP

COPYRIGHT ENGINEERING EXPRESS®

20-29351b

SCALE: NTS UNLESS NOTED

20 of 28

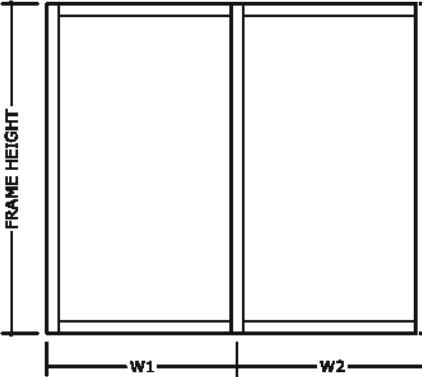
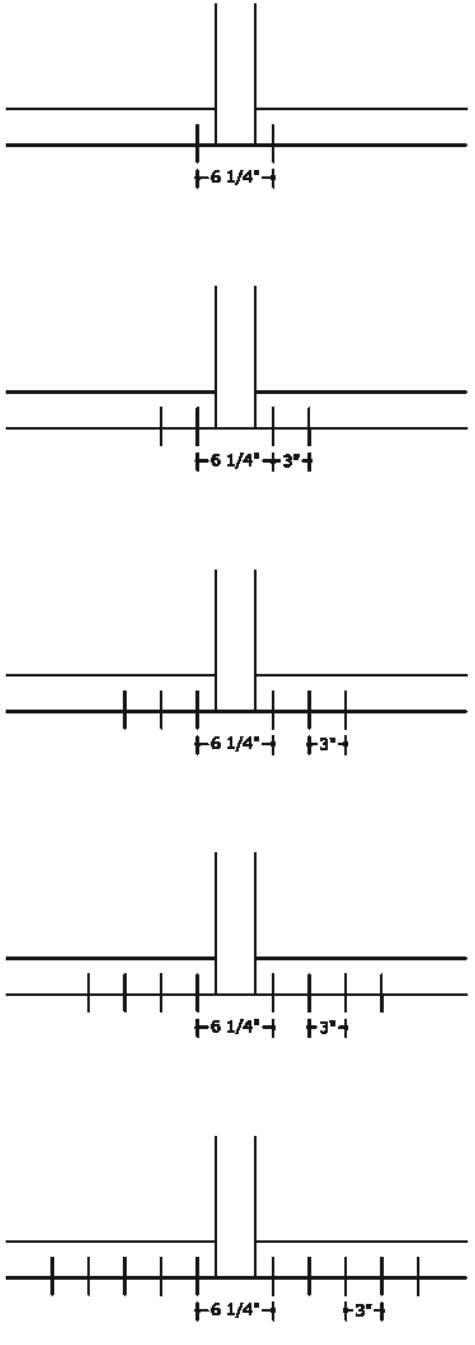
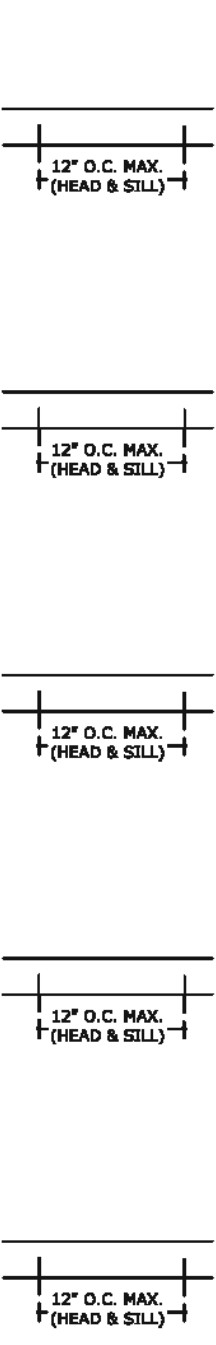
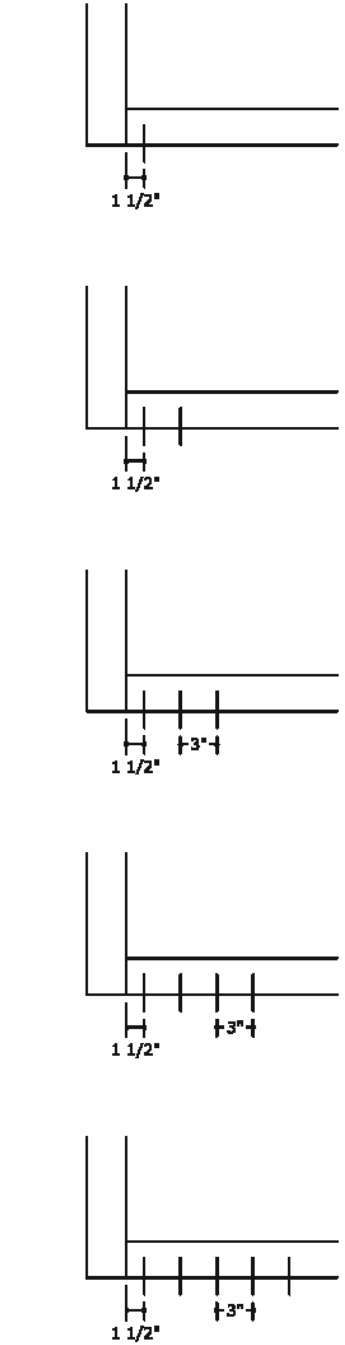
ANCHOR LOAD CAPACITY CHART 1/4" SHIM MAX - (CONDITION 1 AND CONDITION 2)

		TYPE A NUMBER OF ANCHORS AT THE CLUSTER					TYPE B NUMBER OF ANCHORS AT THE CLUSTER					TYPE C NUMBER OF ANCHORS AT THE CLUSTER				
		ALLOWABLE PRESSURE (PSF) +/-					ALLOWABLE PRESSURE (PSF) +/-					ALLOWABLE PRESSURE (PSF) +/-				
FRAME HEIGHT	WIDTH (W)	2	4	6	8	10	2	4	6	8	10	2	4	6	8	10
48	48	101	140	140	140	140	111	140	140	140	140	116	140	140	140	140
	54	90	140	140	140	140	99	140	140	140	140	103	140	140	140	140
	60	81	140	140	140	140	89	140	140	140	140	92	140	140	140	140
	66	73	140	140	140	140	81	140	140	140	140	84	140	140	140	140
	72	67	135	140	140	140	74	140	140	140	140	77	135	140	140	140
	78	62	124	140	140	140	68	137	140	140	140	71	124	140	140	140
	84	58	115	140	140	140	64	127	140	140	140	66	115	140	140	140
	90	54	108	140	140	140	59	119	140	140	140	62	108	140	140	140
	96	51	101	140	140	140	56	111	140	140	140	58	101	140	140	140
	102	48	95	140	140	140	52	105	140	140	140	54	95	140	140	140
	108	45	90	135	140	140	49	99	140	140	140	51	90	135	140	140
	114	43	85	128	140	140	47	94	140	140	140	49	85	128	140	140
54	120	40	81	121	140	140	45	89	134	140	140	46	81	121	140	140
	126	38	77	115	140	140	42	85	127	140	140	44	77	115	140	140
	132	37	73	110	140	140	40	81	121	140	140	42	73	110	140	140
	138	35	70	105	140	140	39	77	116	140	140	40	70	105	140	140
	144	34	67	101	135	140	37	74	111	140	140	39	67	101	135	140
	42	103	140	140	140	140	113	140	140	140	140	117	140	140	140	140
	48	90	140	140	140	140	99	140	140	140	140	103	140	140	140	140
	54	80	140	140	140	140	88	140	140	140	140	91	140	140	140	140
	60	72	140	140	140	140	79	140	140	140	140	82	140	140	140	140
	66	65	131	140	140	140	72	140	140	140	140	75	131	140	140	140
	72	60	120	140	140	140	66	132	140	140	140	68	120	140	140	140
	78	55	110	140	140	140	61	122	140	140	140	63	110	140	140	140
60	84	51	103	140	140	140	57	113	140	140	140	59	103	140	140	140
	90	48	96	140	140	140	53	105	140	140	140	55	96	140	140	140
	96	45	90	135	140	140	49	99	140	140	140	51	90	135	140	140
	102	42	84	127	140	140	47	93	140	140	140	48	84	127	140	140
	108	40	80	120	140	140	44	88	132	140	140	46	80	120	140	140
	114	38	76	113	140	140	42	83	125	140	140	43	76	113	140	140
	120	36	72	108	140	140	40	79	119	140	140	41	72	108	140	140
	126	34	68	103	137	140	38	75	113	140	140	39	68	103	137	140
	42	92	140	140	140	140	102	140	140	140	140	106	140	140	140	140
	48	81	140	140	140	140	89	140	140	140	140	92	140	140	140	140
	54	72	140	140	140	140	79	140	140	140	140	82	140	140	140	140
	60	65	129	140	140	140	71	140	140	140	140	74	129	140	140	140
66	66	59	118	140	140	140	65	129	140	140	140	67	118	140	140	140
	72	54	108	140	140	140	59	119	140	140	140	62	108	140	140	140
	78	50	99	140	140	140	55	110	140	140	140	57	99	140	140	140
	84	46	92	139	140	140	51	102	140	140	140	53	92	139	140	140
	90	43	86	129	140	140	47	95	140	140	140	49	86	129	140	140
	96	40	81	121	140	140	45	89	134	140	140	46	81	121	140	140
	102	38	76	114	140	140	42	84	126	140	140	43	76	114	140	140
	108	36	72	108	140	140	40	79	119	140	140	41	72	108	140	140
	114	34	68	102	136	140	37	75	112	140	140	39	68	102	136	140
	36	98	140	140	140	140	108	140	140	140	140	112	140	140	140	140
	42	84	140	140	140	140	92	140	140	140	140	96	140	140	140	140
	48	73	140	140	140	140	81	140	140	140	140	84	140	140	140	140
66	54	65	131	140	140	140	72	140	140	140	140	75	131	140	140	140
	60	59	118	140	140	140	65	129	140	140	140	67	118	140	140	140
	66	53	107	140	140	140	59	118	140	140	140	61	107	140	140	140
	72	49	98	140	140	140	54	108	140	140	140	56	98	140	140	140
	78	45	90	136	140	140	50	100	140	140	140	52	90	136	140	140
	84	42	84	126	140	140	46	92	139	140	140	48	84	126	140	140
	90	39	78	118	140	140	43	86	129	140	140	45	78	118	140	140
	96	37	73	110	140	140	40	81	121	140	140	42	73	110	140	140
	102	35	69	104	138	140	38	76	114	140	140	40	69	104	138	140

ANCHORS AT JAMB

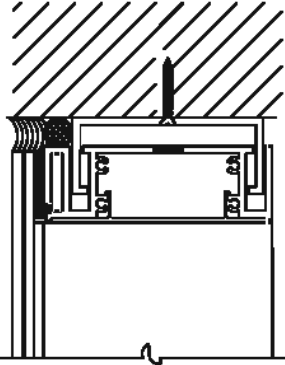
ANCHORS BETWEEN CLUSTERS

ANCHORS AT INTERMEDIATE

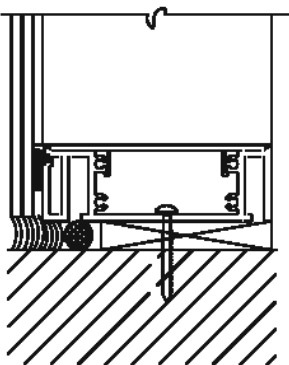


WIDTH (W) = $\frac{W1 + W2}{2}$
WIDTH (W) = W1 (AT FRAME JAMBS)

CONDITION 1 HEAD/SILL
WITH SUB BUCK (1/4" MAX SHIM)



CONDITION 2 HEAD/SILL
WITHOUT SUB BUCK (1/4" MAX SHIM)



FRANK BENNARDO, PE
PE# 0046549 CA# 9885



FL#29509.2

ENGINEERING EXPRESS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 356-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE	CHKD	DATE
INIT ISSUE	04/05/19	JEM	AJP
2020 FBC	10/13/20	OCB	AJP

COPYRIGHT ENGINEERING EXPRESS®

20-29351b

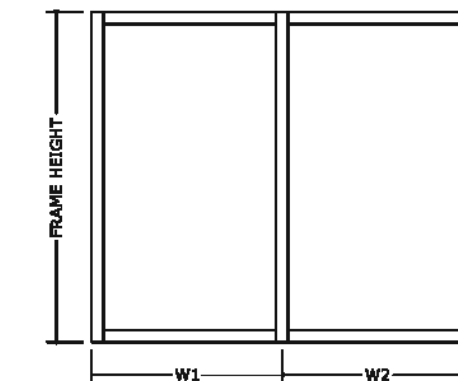
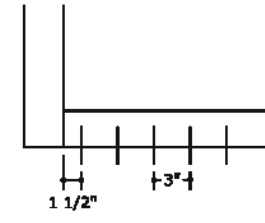
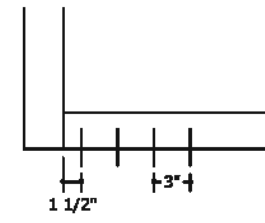
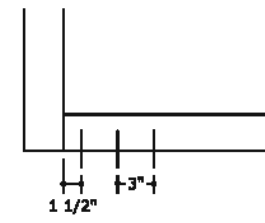
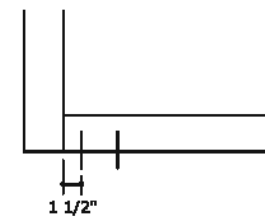
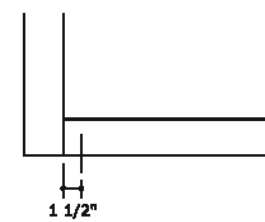
SCALE: NTS UNLESS NOTED

21

ANCHOR LOAD CAPACITY CHART 1/4" SHIM MAX - (CONDITION 1 AND CONDITION 2)

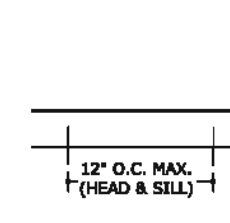
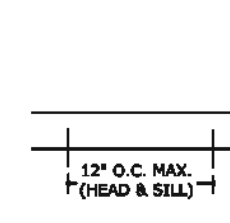
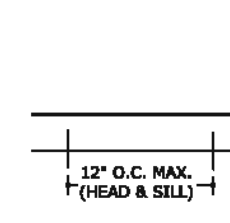
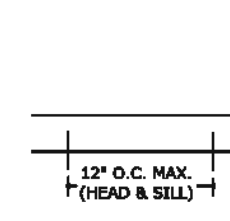
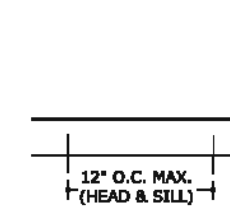
FRAME HEIGHT	WIDTH (W)	TYPE A NUMBER OF ANCHORS AT THE CLUSTER					TYPE B NUMBER OF ANCHORS AT THE CLUSTER				TYPE C NUMBER OF ANCHORS AT THE CLUSTER				
		ALLOWABLE PRESSURE (PSF) +/-					ALLOWABLE PRESSURE (PSF) +/-				ALLOWABLE PRESSURE (PSF) +/-				
		2	4	6	8	10	2	4	6	8	2	4	6	8	10
72	24	135	140	140	140	140	140	140	140	140	140	140	140	140	140
	30	108	140	140	140	140	119	140	140	140	123	140	140	140	140
	36	90	140	140	140	140	99	140	140	140	103	140	140	140	140
	42	77	140	140	140	140	85	140	140	140	88	140	140	140	140
	48	67	135	140	140	140	74	140	140	140	77	135	140	140	140
	54	60	120	140	140	140	66	132	140	140	68	120	140	140	140
	60	54	108	140	140	140	59	119	140	140	62	108	140	140	140
	66	49	98	140	140	140	54	108	140	140	56	98	140	140	140
	72	45	90	135	140	140	49	99	140	140	51	90	135	140	140
	78	41	83	124	140	140	46	91	137	140	47	83	124	140	140
78	84	38	77	115	140	140	42	85	127	140	44	77	115	140	140
	90	36	72	108	140	140	40	79	119	140	41	72	108	140	140
	96	34	67	101	135	140	37	74	111	140	39	67	101	135	140
	24	124	140	140	140	140	137	140	140	140	140	140	140	140	140
	30	99	140	140	140	140	110	140	140	140	114	140	140	140	140
	36	83	140	140	140	140	91	140	140	140	95	140	140	140	140
	30	99	140	140	140	140	110	140	140	140	114	140	140	140	140
	36	83	140	140	140	140	91	140	140	140	95	140	140	140	140
	42	71	140	140	140	140	78	140	140	140	81	140	140	140	140
	48	62	124	140	140	140	68	137	140	140	71	124	140	140	140
84	54	55	110	140	140	140	61	122	140	140	63	110	140	140	140
	60	50	99	140	140	140	55	110	140	140	57	99	140	140	140
	66	45	90	136	140	140	50	100	140	140	52	90	136	140	140
	72	41	83	124	140	140	46	91	137	140	47	83	124	140	140
	78	38	76	115	140	140	42	84	126	140	44	76	115	140	140
	84	36	71	107	140	140	39	78	117	140	41	71	107	140	140
	24	115	140	140	140	140	127	140	140	140	132	140	140	140	140
	30	92	140	140	140	140	102	140	140	140	106	140	140	140	140
	36	77	140	140	140	140	85	140	140	140	88	140	140	140	140
	42	66	132	140	140	140	73	140	140	140	75	132	140	140	140
90	48	58	115	140	140	140	64	127	140	140	66	115	140	140	140
	54	51	103	140	140	140	57	113	140	140	59	103	140	140	140
	60	46	92	139	140	140	51	102	140	140	53	92	139	140	140
	66	42	84	126	140	140	46	92	139	140	48	84	126	140	140
	72	38	77	115	140	140	42	85	127	140	44	77	115	140	140
	78	36	71	107	140	140	39	78	117	140	41	71	107	140	140
	24	108	140	140	140	140	119	140	140	140	123	140	140	140	140
	30	86	140	140	140	140	95	140	140	140	99	140	140	140	140
	36	72	140	140	140	140	79	140	140	140	82	140	140	140	140
	42	62	123	140	140	140	68	136	140	140	70	123	140	140	140
96	48	54	108	140	140	140	59	119	140	140	62	108	140	140	140
	54	48	96	140	140	140	53	105	140	140	55	96	140	140	140
	60	43	86	129	140	140	47	95	140	140	49	86	129	140	140
	66	39	78	118	140	140	43	86	129	140	45	78	118	140	140
	72	36	72	108	140	140	40	79	119	140	41	72	108	140	140
	24	101	140	140	140	140	111	140	140	140	116	140	140	140	140
	30	81	140	140	140	140	89	140	140	140	92	140	140	140	140
	36	67	135	140	140	140	74	140	140	140	77	135	140	140	140
	42	58	115	140	140	140	64	127	140	140	66	115	140	140	140
	48	51	101	140	140	140	56	111	140	140	58	101	140	140	140
102	54	45	90	135	140	140	49	99	140	140	51	90	135	140	140
	60	40	81	121	140	140	45	89	134	140	46	81	121	140	140
	66	37	73	110	140	140	40	81	121	140	42	73	110	140	140
	72	34	67	101	135	140	37	74	111	140	39	67	101	135	140
	24	95	140	140	140	140	105	140	140	140	109	140	140	140	140
	30	76	140	140	140	140	84	140	140	140	87	140	140	140	140
	36	63	127	140	140	140	70	140	140	140	72	127	140	140	140
	42	54	109	140	140	140	60	120	140	140	62	109	140	140	140
	48	48	95	140	140	140	52	105	140	140	54	95	140	140	140
	54	42	84	127	140	140	47	93	140	140	48	84	127	140	140
	60	38	76	114	140	140	42	84	126	140	43	76	114	140	140
	66	35	69	104	138	140	38	76	114	140	40	69	104	138	140

ANCHORS AT JAMB

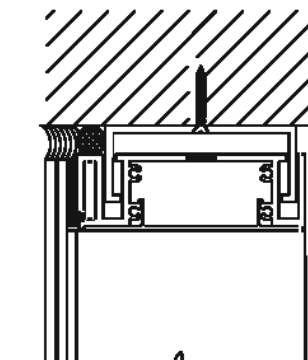


WIDTH (W) = $\frac{W1 + W2}{2}$
 WIDTH (W) = W1 (AT FRAME JAMBS)

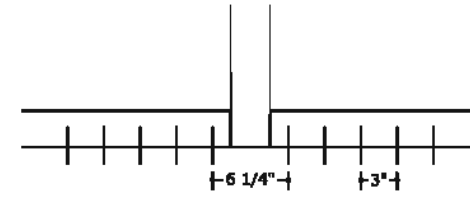
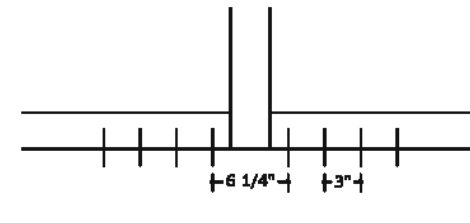
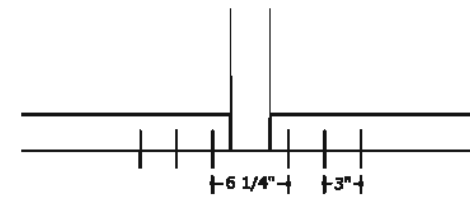
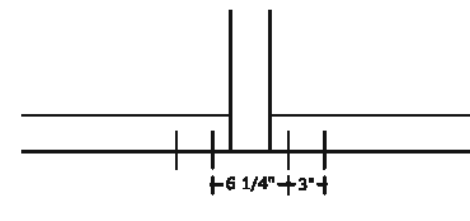
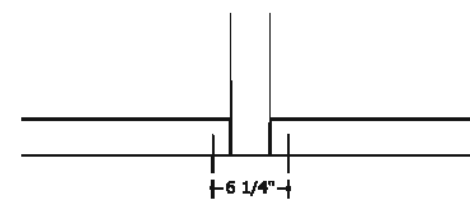
ANCHORS BETWEEN CLUSTERS



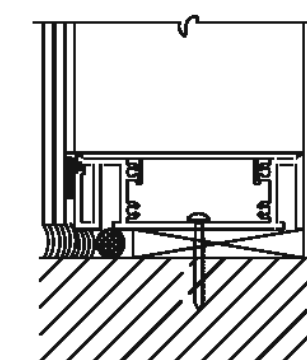
CONDITION 1 HEAD/SILL
 WITH SUB BUCK (3/4" MAX SHIM)



ANCHORS AT INTERMEDIATE



CONDITION 2 HEAD/SILL
 WITHOUT SUB BUCK (3/4" MAX SHIM)



FRANK BENNARDO, PE
 PE# 0046549 CA# 9885



FL#29509.2

ENGINEERING EXPRESS
 CORPORATE OFFICE:
 160 SW 12th AVE, SUITE 106
 DEERFIELD BEACH, FL 33442
 (954) 354-0660 | (866) 356-9999
 TEAM@ENGINEERINGEXPRESS.COM
 ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS
 3776 NW 124TH AVE.
 CORAL SPRINGS, FL 33065
 (754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
 FLORIDA STATE APPROVAL

REMARKS	DATE	CHKD	DATE
INIT ISSUE	04/05/19	JEM	AJP
2020 FBC	10/13/20	OCB	AJP

COPYRIGHT ENGINEERING EXPRESS®

20-29351b

SCALE: NTS UNLESS NOTED

ANCHOR LOAD CAPACITY CHART 1/4" SHIM MAX - (CONDITION 1 AND CONDITION 2)

		TYPE A NUMBER OF ANCHORS AT THE CLUSTER					TYPE B NUMBER OF ANCHORS AT THE CLUSTER				TYPE C NUMBER OF ANCHORS AT THE CLUSTER				
		ALLOWABLE PRESSURE (PSF) +/-					ALLOWABLE PRESSURE (PSF) +/-				ALLOWABLE PRESSURE (PSF) +/-				
FRAME HEIGHT	WIDTH (W)	2	4	6	8	10	2	4	6	8	2	4	6	8	10
108	24	90	140	140	140	140	99	140	140	140	103	140	140	140	140
	30	72	140	140	140	140	79	140	140	140	82	140	140	140	140
	36	60	120	140	140	140	66	132	140	140	68	120	140	140	140
	42	51	103	140	140	140	57	113	140	140	59	103	140	140	140
	48	45	90	135	140	140	49	99	140	140	51	90	135	140	140
114	54	40	80	120	140	140	44	88	132	140	46	80	120	140	140
	24	85	140	140	140	140	94	140	140	140	97	140	140	140	140
	30	68	136	140	140	140	75	140	140	140	78	136	140	140	140
	36	57	113	140	140	140	62	125	140	140	65	113	140	140	140
	42	49	97	140	140	140	54	107	140	140	56	97	140	140	140
120	48	43	85	128	140	140	47	94	140	140	49	85	128	140	140
	54	38	76	113	140	140	42	83	125	140	43	76	113	140	140
	60	34	68	102	136	140	37	75	112	140	39	68	102	136	140
	24	81	140	140	140	140	89	140	140	140	92	140	140	140	140
	30	65	129	140	140	140	71	140	140	140	74	129	140	140	140
126	36	54	108	140	140	140	59	119	140	140	62	108	140	140	140
	42	46	92	139	140	140	51	102	140	140	53	92	139	140	140
	48	40	81	121	140	140	45	89	134	140	46	81	121	140	140
	54	36	72	108	140	140	40	79	119	140	41	72	108	140	140
	24	77	140	140	140	140	85	140	140	140	88	140	140	140	140
132	30	62	123	140	140	140	68	136	140	140	70	123	140	140	140
	36	51	103	140	140	140	57	113	140	140	59	103	140	140	140
	42	44	88	132	140	140	48	97	140	140	50	88	132	140	140
	48	38	77	115	140	140	42	85	127	140	44	77	115	140	140
	24	73	140	140	140	140	81	140	140	140	84	140	140	140	140
138	30	59	118	140	140	140	65	129	140	140	67	118	140	140	140
	36	49	98	140	140	140	54	108	140	140	56	98	140	140	140
	42	42	84	126	140	140	46	92	139	140	48	84	126	140	140
	48	37	73	110	140	140	40	81	121	140	42	73	110	140	140
	24	70	140	140	140	140	77	140	140	140	80	140	140	140	140
144	30	56	112	140	140	140	62	124	140	140	64	112	140	140	140
	36	47	94	140	140	140	52	103	140	140	54	94	140	140	140
	42	40	80	120	140	140	44	88	133	140	46	80	120	140	140
	48	35	70	105	140	140	39	77	116	140	40	70	105	140	140
	24	67	135	140	140	140	74	140	140	140	77	135	140	140	140
	30	54	108	140	140	140	59	119	140	140	62	108	140	140	140
	36	45	90	135	140	140	49	99	140	140	51	90	135	140	140
	42	38	77	115	140	140	42	85	127	140	44	77	115	140	140
	48	34	67	101	135	140	37	74	111	140	39	67	101	135	140

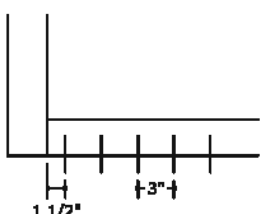
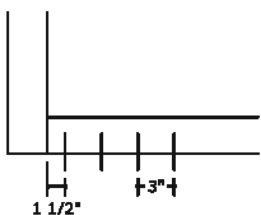
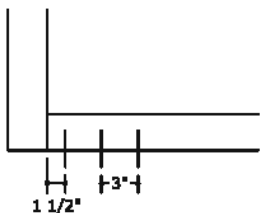
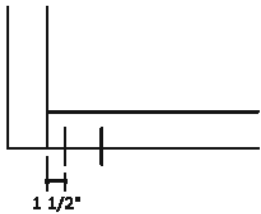
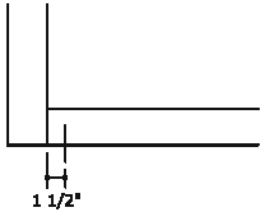
TYPICAL ANCHOR TYPES:

TYPE A - 5/16" DEWALT ULTRACON OR EQUAL, 1 1/2" MIN ENGAGEMENT INTO SOUTHERN YELLOW PINE #2 WOOD (SG=0.55 MIN.) WITH 1-1/4" MIN EDGE DISTANCE

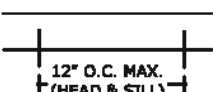
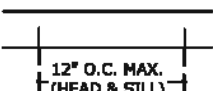
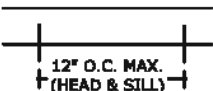
TYPE B - 5/16" DEWALT ULTRACON OR EQUAL, 2" EFFECTIVE EMBEDMENT INTO 3000 PSI CONCRETE MIN. WITH 2 1/2" EDGE DISTANCE

TYPE C - 5/16" -24 DEWALT DRILLFLEX OR EQUAL, ENGAGING 5 PITCHES PASSED THE THREAD PLANE INTO 1/8" ALUMINUM (6063-T5 MIN) OR 1/8" STEEL (A36 MIN), 3/4" MIN EDGE DISTANCE

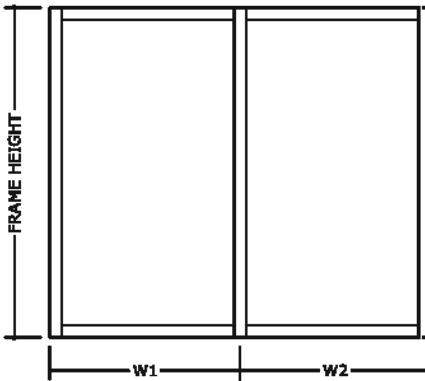
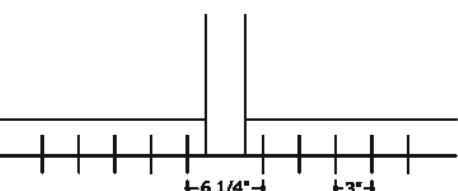
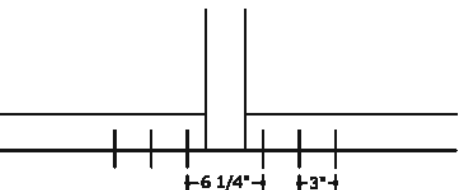
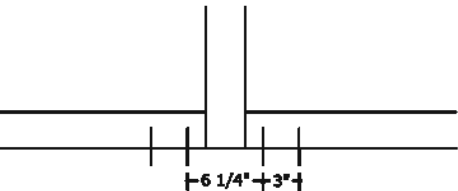
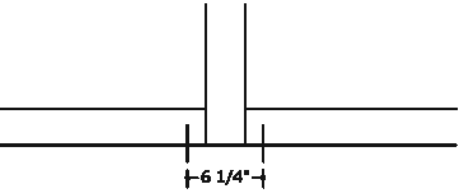
ANCHORS AT JAMB



ANCHORS BETWEEN CLUSTERS

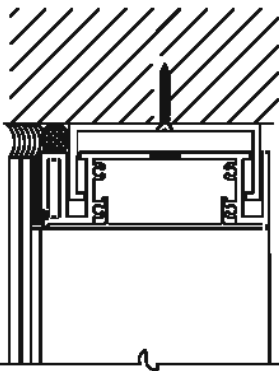


ANCHORS AT INTERMEDIATE

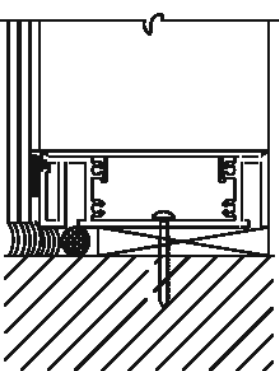


WIDTH (W) = $\frac{W1 + W2}{2}$
WIDTH (W) = W1 (AT FRAME JAMBS)

CONDITION 1 HEAD/SILL
WITH SUB BUCK (3/4" MAX SHIM)



CONDITION 2 HEAD/SILL
WITHOUT SUB BUCK (3/4" MAX SHIM)



FRANK BENNARDO, PE
PE# 0046549 CA# 9885



FL#29509.2

ENGINEERING
EXPRESS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (888) 356-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS
3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287
7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

DATE	CHKD	DATE
04/05/19	JEM	04/05/19
10/13/20	OCB	10/13/20
2020 FBC		

COPYRIGHT ENGINEERING EXPRESS®

20-29351b

SCALE: NTS UNLESS NOTED

ANCHOR LOAD CAPACITY CHARTS FOR 3/8" SHIM MAX - (CONDITION 2 ONLY)

		TYPE A,B,C NUMBER OF ANCHORS AT THE CLUSTER				
FRAME HEIGHT	WIDTH (W)	ALLOWABLE PRESSURE (PSF) +/-				
		2	4	6	8	10
48	48	90	140	140	140	140
	54	80	140	140	140	140
	60	72	140	140	140	140
	66	66	131	140	140	140
	72	60	120	140	140	140
	78	56	111	140	140	140
	84	52	103	140	140	140
	90	48	96	140	140	140
	96	45	90	135	140	140
	102	42	85	127	140	140
	108	40	80	120	140	140
	114	38	76	114	140	140
	120	36	72	108	140	140
	126	34	69	103	138	140
54	132	33	66	98	131	140
	138	31	63	94	126	140
	144	30	60	90	120	140
	42	92	140	140	140	140
	48	80	140	140	140	140
	54	71	140	140	140	140
	60	64	128	140	140	140
	66	58	117	140	140	140
	72	53	107	140	140	140
	78	49	99	140	140	140
	84	46	92	138	140	140
	90	43	86	128	140	140
	96	40	80	120	140	140
	102	38	76	113	140	140
60	108	36	71	107	140	140
	114	34	68	101	135	140
	120	32	64	96	128	140
	126	31	61	92	122	140
	42	83	140	140	140	140
	48	72	140	140	140	140
	54	64	128	140	140	140
	60	58	116	140	140	140
	66	53	105	140	140	140
	72	48	96	140	140	140
	78	44	89	133	140	140
	84	41	83	124	140	140
	90	39	77	116	140	140
	96	36	72	108	140	140
	102	34	68	102	136	140
	108	32	64	96	128	140
	114	30	61	91	122	140

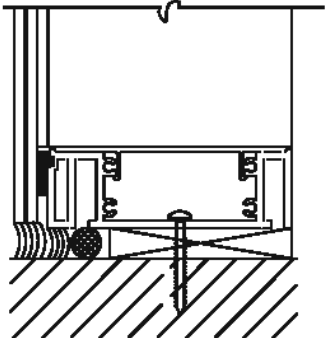
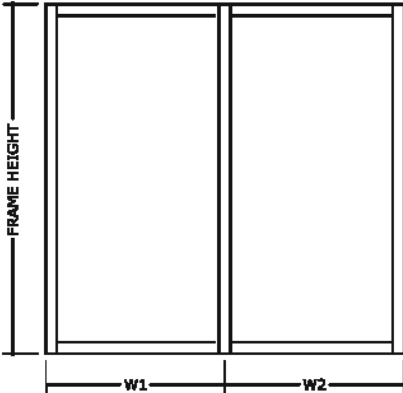
		TYPE A,B,C NUMBER OF ANCHORS AT THE CLUSTER				
FRAME HEIGHT	WIDTH (W)	ALLOWABLE PRESSURE (PSF) +/-				
		2	4	6	8	10
66	36	88	140	140	140	140
	42	75	140	140	140	140
	48	66	131	140	140	140
	54	58	117	140	140	140
	60	53	105	140	140	140
	66	48	95	140	140	140
	72	44	88	131	140	140
	78	40	81	121	140	140
	84	38	75	113	140	140
	90	35	70	105	140	140
	96	33	66	98	131	140
	102	31	62	93	124	140
	24	120	140	140	140	140
	30	96	140	140	140	140
72	36	80	140	140	140	140
	42	69	138	140	140	140
	48	60	120	140	140	140
	54	53	107	140	140	140
	60	48	96	140	140	140
	66	44	88	131	140	140
	72	40	80	120	140	140
	78	37	74	111	140	140
	84	34	69	103	138	140
	90	32	64	96	128	140
	96	30	60	90	120	140
	24	111	140	140	140	140
	30	89	140	140	140	140
	36	74	140	140	140	140
78	30	89	140	140	140	140
	36	74	140	140	140	140
	42	63	127	140	140	140
	48	56	111	140	140	140
	54	49	99	140	140	140
	60	44	89	133	140	140
	66	40	81	121	140	140
	72	37	74	111	140	140
	78	34	68	103	137	140
	84	32	63	95	127	140

		TYPE A,B,C NUMBER OF ANCHORS AT THE CLUSTER				
FRAME HEIGHT	WIDTH (W)	ALLOWABLE PRESSURE (PSF) +/-				
		2	4	6	8	10
84	24	103	140	140	140	140
	30	83	140	140	140	140
	36	69	138	140	140	140
	42	59	118	140	140	140
	48	52	103	140	140	140
	54	46	92	138	140	140
	60	41	83	124	140	140
	66	38	75	113	140	140
	72	34	69	103	138	140
	78	32	63	95	127	140
	24	96	140	140	140	140
	30	77	140	140	140	140
	36	64	128	140	140	140
	42	55	110	140	140	140
90	48	48	96	140	140	140
	54	43	86	128	140	140
	60	39	77	116	140	140
	66	35	70	105	140	140
	72	32	64	96	128	140
	24	90	140	140	140	140
	30	72	140	140	140	140
	36	60	120	140	140	140
	42	52	103	140	140	140
	48	45	90	135	140	140
	54	40	80	120	140	140
	60	36	72	108	140	140
	66	33	66	98	131	140
	72	30	60	90	120	140
96	24	85	140	140	140	140
	30	68	136	140	140	140
	36	57	113	140	140	140
	42	49	97	140	140	140
	48	42	85	127	140	140
	54	38	76	113	140	140
	60	34	68	102	136	140
	66	31	62	93	124	140
	24	80	140	140	140	140
	30	64	128	140	140	140
	36	53	107	140	140	140
	42	46	92	138	140	140
	48	40	80	120	140	140
	54	36	71	107	140	140
102	24	85	140	140	140	140
	30	68	136	140	140	140
	36	57	113	140	140	140
	42	49	97	140	140	140
	48	42	85	127	140	140
	54	38	76	113	140	140
	60	34	68	102	136	140
	66	31	62	93	124	140
	24	80	140	140	140	140
	30	64	128	140	140	140
	36	53	107	140	140	140
	42	46	92	138	140	140
	48	40	80	120	140	140
	54	36	71	107	140	140
108	24	85	140	140	140	140
	30	68	136	140	140	140
	36	57	113	140	140	140
	42	49	97	140	140	140
	48	42	85	127	140	140
	54	38	76	113	140	140
	60	34	68	102	136	140
	66	31	62	93	124	140
	24	80	140	140	140	140
	30	64	128	140	140	140
	36	53	107	140	140	140
	42	46	92	138	140	140
	48	40	80	120	140	140
	54	36	71	107	140	140

		TYPE A,B,C NUMBER OF ANCHORS AT THE CLUSTER				
FRAME HEIGHT	WIDTH (W)	ALLOWABLE PRESSURE (PSF) +/-				
		2	4	6	8	10
114	24	76	140	140	140	140
	30	61	122	140	140	140
	36	51	101	140	140	140
	42	43	87	130	140	140
	48	38	76	114	140	140
	54	34	68	101	135	140
	60	30	61	91	122	140
	24	72	140	140	140	140
120	30	58	116	140	140	140
	36	48	96	140	140	140
	42	41	83	124	140	140
	48	36	72	108	140	140
	54	32	64	96	128	140
	24	69	138	140	140	140
126	30	55	110	140	140	140
	36	46	92	138	140	140
	42	39	79	118	140	140
	48	34	69	103	138	140
	24	66	131	140	140	140
	30	53	105	140	140	140
132	36	44	88	131	140	140
	42	38	75	113	140	140
	48	33	66	98	131	140
	24	63	126	140	140	140
	30	50	100	140	140	140
	36	42	84	126	140	140
138	42	36	72	108	140	140
	48	31	63	94	126	140
	24	60	120	140	140	140
	30	48	96	140	140	140
	36	40	80	120	140	140
	42	34	69	103	138	140
144	48	30	60	90	120	140

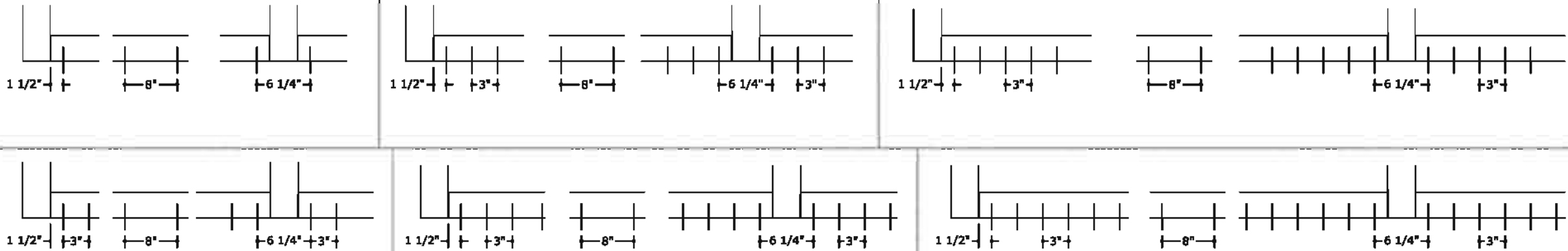
WIDTH (W) = $\frac{W1 + W2}{2}$

WIDTH (W) = W1 (AT
FRAME JAMBS)



CONDITION 2 HEAD/SILL
WITHOUT SUB BUCK (3/8" MAX SHIM)

ANCHOR LAYOUT FOR FRAME ENDS, BALANCE SPACING AND INTERMEDIATE MULLIONS WITH 3/8" MAX SHIM SPACING



FRANK BENNARDO, PE

ANCHOR LOAD CAPACITY CHARTS FOR 3/4" SHIM MAX - (CONDITION 2 ONLY)

		TYPE A, B, C NUMBER OF ANCHORS AT THE CLUSTER					
		ALLOWABLE PRESSURE (PSF) +/-					
FRAME HEIGHT	WIDTH (W)	2	4	6	8	10	12
48	48	50	101	140	140	140	140
	54	45	89	134	140	140	140
	60	40	80	121	140	140	140
	66	37	73	110	140	140	140
	72	34	67	101	134	140	140
	78	31	62	93	124	140	140
	84	29	57	86	115	140	140
	90	27	54	80	107	134	140
	96	25	50	75	101	126	140
	102	24	47	71	95	118	140
	108	22	45	67	89	112	134
	114	21	42	63	85	106	127
	120	20	40	60	80	101	121
	126	19	38	57	77	96	115
54	132	18	37	55	73	91	110
	138	17	35	52	70	87	105
	144	17	34	50	67	84	101
	42	51	102	140	140	140	140
	48	45	89	134	140	140	140
	54	40	79	119	140	140	140
	60	36	71	107	140	140	140
	66	32	65	97	130	140	140
	72	30	60	89	119	140	140
	78	27	55	82	110	137	140
	84	26	51	77	102	128	140
	90	24	48	71	95	119	140
	96	22	45	67	89	112	134
	102	21	42	63	84	105	126
60	108	20	40	60	79	99	119
	114	19	38	56	75	94	113
	120	18	36	54	71	89	107
	126	17	34	51	68	85	102
	42	46	92	138	140	140	140
	48	40	80	121	140	140	140
	54	36	71	107	140	140	140
	60	32	64	96	129	140	140
	66	29	58	88	117	140	140
	72	27	54	80	107	134	140
	78	25	49	74	99	124	140
	84	23	46	69	92	115	138
	90	21	43	64	86	107	129
	96	20	40	60	80	101	121
	102	19	38	57	76	95	114
	108	18	36	54	71	89	107
	114	17	34	51	68	85	102

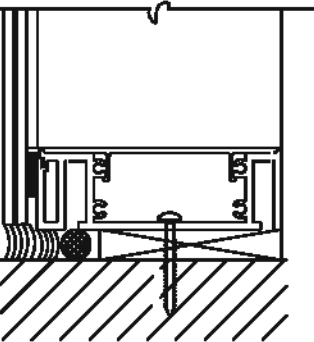
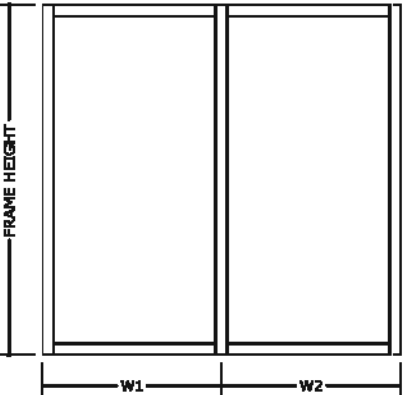
		TYPE A, B, C NUMBER OF ANCHORS AT THE CLUSTER					
		ALLOWABLE PRESSURE (PSF) +/-					
FRAME HEIGHT	WIDTH (W)	2	4	6	8	10	12
66	36	49	97	140	140	140	140
	42	42	84	125	140	140	140
	48	37	73	110	140	140	140
	54	32	65	97	130	140	140
	60	29	58	88	117	140	140
	66	27	53	80	106	133	140
	72	24	49	73	97	122	140
	78	22	45	67	90	112	135
	84	21	42	63	84	104	125
	90	19	39	58	78	97	117
	96	18	37	55	73	91	110
	102	17	34	52	69	86	103
	24	67	134	140	140	140	140
	30	54	107	140	140	140	140
72	36	45	89	134	140	140	140
	42	38	77	115	140	140	140
	48	34	67	101	134	140	140
	54	30	60	89	119	140	140
	60	27	54	80	107	134	140
	66	24	49	73	97	122	140
	72	22	45	67	89	112	134
	78	21	41	62	82	103	124
	84	19	38	57	77	96	115
	90	18	36	54	71	89	107
	96	17	34	50	67	84	101
	24	62	124	140	140	140	140
	30	49	99	140	140	140	140
	36	41	82	124	140	140	140
78	30	49	99	140	140	140	140
	36	41	82	124	140	140	140
	42	35	71	106	140	140	140
	48	31	62	93	124	140	140
	54	27	55	82	110	137	140
	60	25	49	74	99	124	140
	66	22	45	67	90	112	135
	72	21	41	62	82	103	124
	78	19	38	57	76	95	114
	84	18	35	53	71	88	106

		TYPE A, B, C NUMBER OF ANCHORS AT THE CLUSTER					
		ALLOWABLE PRESSURE (PSF) +/-					
FRAME HEIGHT	WIDTH (W)	2	4	6	8	10	12
84	24	57	115	140	140	140	140
	30	46	92	138	140	140	140
	36	38	77	115	140	140	140
	42	33	66	98	131	140	140
	48	29	57	86	115	140	140
	54	26	51	77	102	128	140
	60	23	46	69	92	115	138
	66	21	42	63	84	104	125
	72	19	38	57	77	96	115
	78	18	35	53	71	88	106
	24	54	107	140	140	140	140
	30	43	86	129	140	140	140
	36	36	71	107	140	140	140
	42	31	61	92	123	140	140
90	48	27	54	80	107	134	140
	54	24	48	71	95	119	140
	60	21	43	64	86	107	129
	66	19	39	58	78	97	117
	72	18	36	54	71	89	107
	24	50	101	140	140	140	140
	30	40	80	121	140	140	140
	36	34	67	101	134	140	140
	42	29	57	86	115	140	140
	48	25	50	75	101	126	140
	54	22	45	67	89	112	134
	60	20	40	60	80	101	121
	66	18	37	55	73	91	110
	72	17	34	50	67	84	101
96	24	47	95	140	140	140	140
	30	38	76	114	140	140	140
	36	32	63	95	126	140	140
	42	27	54	81	108	135	140
	48	24	47	71	95	118	140
	54	21	42	63	84	105	126
	60	19	38	57	76	95	114
	66	17	34	52	69	86	103
	24	45	89	134	140	140	140
	30	36	71	107	140	140	140
	36	30	60	89	119	140	140
	42	26	51	77	102	128	140
	48	22	45	67	89	112	134
	54	20	40	60	79	99	119

		TYPE A, B, C NUMBER OF ANCHORS AT THE CLUSTER					
		ALLOWABLE PRESSURE (PSF) +/-					
FRAME HEIGHT	WIDTH (W)	2	4	6	8	10	12
114	24	42	85	127	140	140	140
	30	34	68	102	135	140	140
	36	28	56	85	113	140	140
	42	24	48	73	97	121	140
	48	21	42	63	85	106	127
	54	19	38	56	75	94	113
120	60	17	34	51	68	85	102
	24	40	80	121	140	140	140
	30	32	64	96	129	140	140
	36	27	54	80	107	134	140
	42	23	46	69	92	115	138
	48	20	40	60	80	101	121
126	54	18	36	54	71	89	107
	24	38	77	115	140	140	140
	30	31	61	92	123	140	140
	36	26	51	77	102	128	140
	42	22	44	66	88	109	131
	48	19	38	57	77	96	115
132	24	37	73	110	140	140	140
	30	29	58	88	117	140	140
	36	24	49	73	97	122	140
	42	21	42	63	84	104	125
	48	18	37	55	73	91	110
	24	35	70	105	140	140	140
138	30	28	56	84	112	140	140
	36	23	47	70	93	117	140
	42	20	40	60	80	100	120
	48	17	35	52	70	87	105
	24	34	67	101	134	140	140
	30	27	54	80	107	134	140
144	36	22	45	67	89	112	134
	42	19	38	57	77	96	115
	48	17	34	50	67	84	101

WIDTH (W) = $\frac{W1 + W2}{2}$

WIDTH (W) = W1 (AT FRAME JAMBS)



CONDITION 2 HEAD/SILL
WITHOUT SUB BUCK (3/4" MAX SHIM)

FRANK BENNARDO, PE
PE# 0046549 CA# 9885



FL#29509.2

ENGINEERING EXPERTS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.

CORAL SPRINGS, FL 33065

(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE	CHKD	DATE
INIT ISSUE	04/05/19	JEM	AJP
2020 FRC	10/13/20	CCB	AJP

COPYRIGHT ENGINEERING EXPRESS®

20-29351b



FL#29509.2

ENGINEERING EXPRESS
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

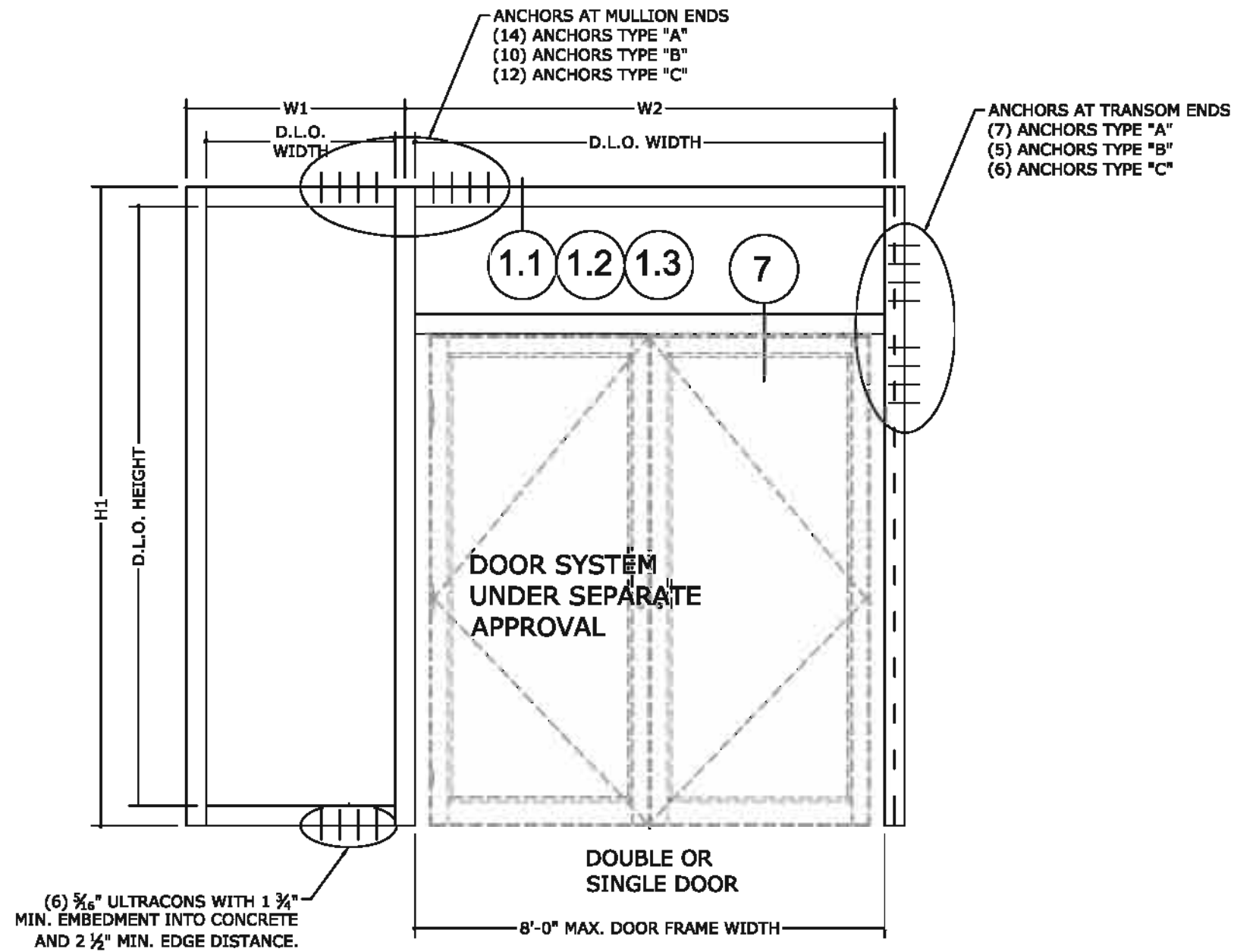
REMARKS	DATE	CHKD	DATE
INIT ISSUE	04/05/19	JEM	AJP
2020 FRC	10/13/20	CCB	AJP

COPYRIGHT ENGINEERING EXPRESS®

20-29351b

SCALE: NTS UNLESS NOTED

26



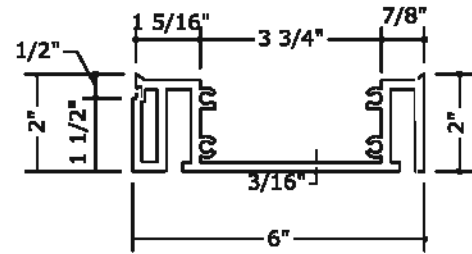
TYPICAL ANCHOR TYPES:

TYPE A - $\frac{5}{16}$ " DEWALT ULTRAICON OR EQUAL, $1\frac{1}{2}$ " MIN ENGAGEMENT INTO SOUTHERN YELLOW PINE #2 WOOD (SG=0.55 MIN.) WITH $1\frac{1}{4}$ " MIN EDGE DISTANCE

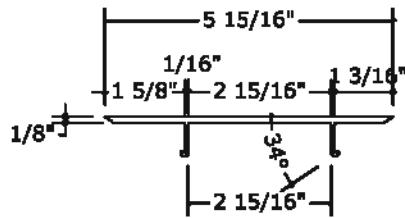
TYPE B - $\frac{5}{16}$ " DEWALT ULTRAICON OR EQUAL, 2" EFFECTIVE EMBEDMENT INTO 3000 PSI CONCRETE MIN. WITH $2\frac{1}{2}$ " EDGE DISTANCE

TYPE C - $\frac{5}{16}$ -24 DEWALT DRILLFLEX OR EQUAL, ENGAGING 5 PITCHES PASSED THE THREAD PLANE INTO $\frac{1}{8}$ " ALUMINUM (6063-T5 MIN) OR $\frac{1}{8}$ " STEEL (A36 MIN), $\frac{3}{4}$ " MIN EDGE DISTANCE

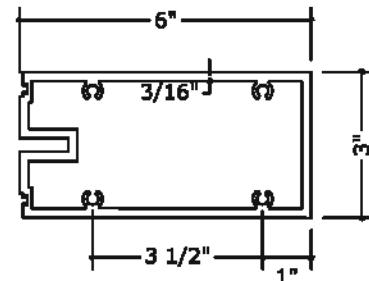
PARTS LIST



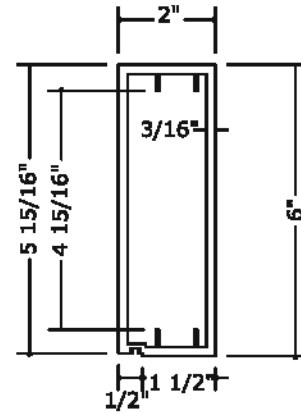
60 HEAD & SILL HORIZONTAL



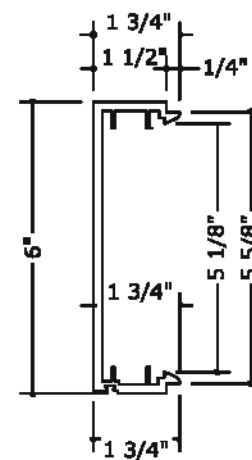
61 INTERIOR TRIM



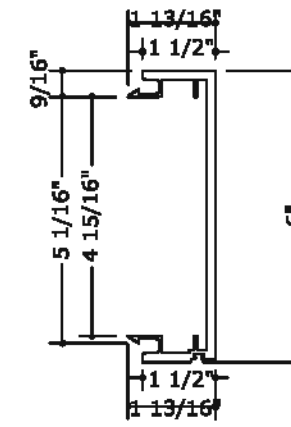
62 HORIZONTAL MULLION



63 VERTICAL JAMB MULLION



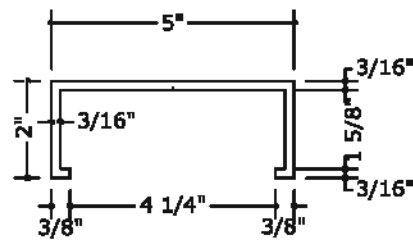
64 VERTICAL MULLION



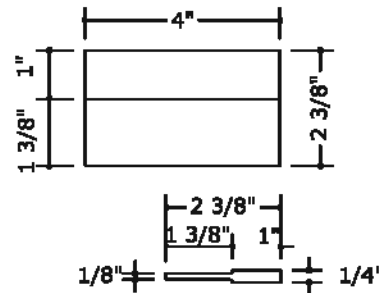
65 VERTICAL MULLION



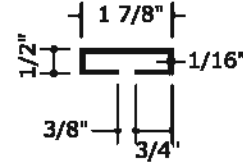
66 STEEL REINFORCING (A-36 STEEL)



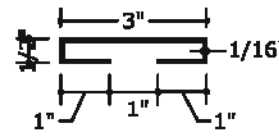
67 SUB-BUCK



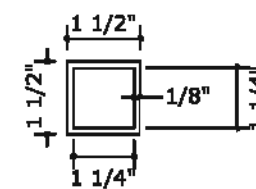
68 GLASS SUPPORT PLATE



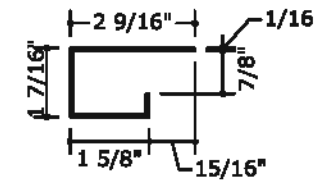
69 EXTERIOR CAP



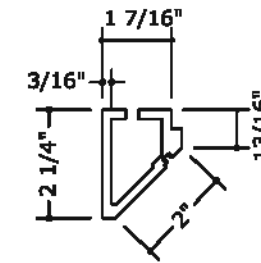
70 EXTERIOR CAP



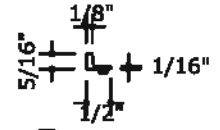
71 ALUM TUBE



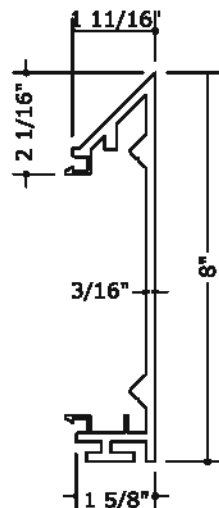
72 EXTERIOR CAP



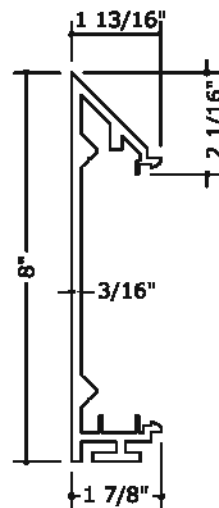
73 90° CORNER CAP ADAPTOR



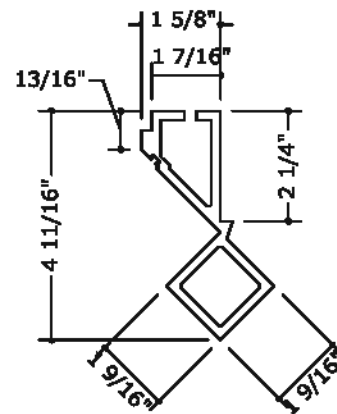
G-20 GASKET



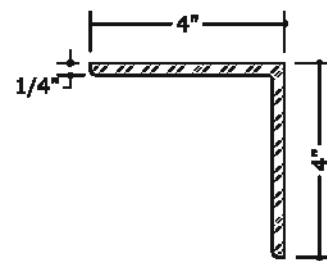
74 90° CORNER MULLION



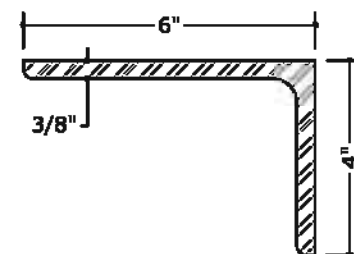
75 90° CORNER MULLION



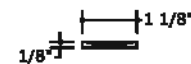
75 90° CORNER CAP



79 STEEL ANGLE



80 STEEL ANGLE



81 SETTING BLOK

ALL ALUMINUM ALLOY TO BE: 6005-T6

PARTS LIST			
	PART	MATERIAL	PART No.
1	HEAD / SILL MEMBER	ALU 6005-T6	60
2	INTERIOR TRIM COVER	ALU 6005-T6	61
3	HORINZONTAL INTERMEDIATE MULLION	ALU 6005-T6	62
4	JAMB MULLION	ALU 6005-T6	63
5	VERTICAL MULLION	ALU 6005-T6	64
6	VERTICAL MULLION	ALU 6005-T6	65
7	STEEL REINFORCEMENT	A-36 MIN.	66
8	SUB-BUCK	ALU 6005-T6	67
9	GLASS SUPPORT PLATE	ALU 6005-T6	68
10	EXTERIOR CAP	ALU 6005-T6	69
11	EXTERIOR CAP	ALU 6005-T6	70
12	ALUMINUM TUBE FILLER	ALU 6005-T6	71
13	EXTERIOR CAP	ALU 6005-T6	72
14	90° CORNER CAP ADAPTOR	ALU 6005-T6	73
15	90° CORNER MULLION	ALU 6005-T6	74
16	90° CORNER MULLION	ALU 6005-T6	75
17	90° CORNER CAP	ALU 6005-T6	76
18	EPDM GASKET - DUROMETER -	RUBBER	G-20
19	1/4" - 14 x 1 1/2" DRILL FLEX STRUCTURAL SELF DRILLINGSCREWS 3/8" FLEX WASHER HEAD		77
20	1/4" - 14 x 3/4" DRILL FLEX STRUCTURAL SELF DRILLINGSCREWS 3/8" FLEX WASHER HEAD		78
21	4"x 4"x 1/4" STEEL ANGLE 5" LONG	A-36 MIN.	79
22	4"x 6"x 3/8" STEEL ANGLE 5" LONG	A-36 MIN.	80
23	SETTING BLOCK (1/8" x 1 1/8") AT 1/4 POINTS	EPDM	81

FRANK BENNARDO, PE
PE# 0046549 CA# 9885



FL#29509.2

ENGINEERING EXPERT
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS

3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DATE	CHKD	DATE
INIT	04/05/19	AJP	
2020 FRC	10/13/20	OCB	

COPYRIGHT ENGINEERING EXPRESS®

20-29351b

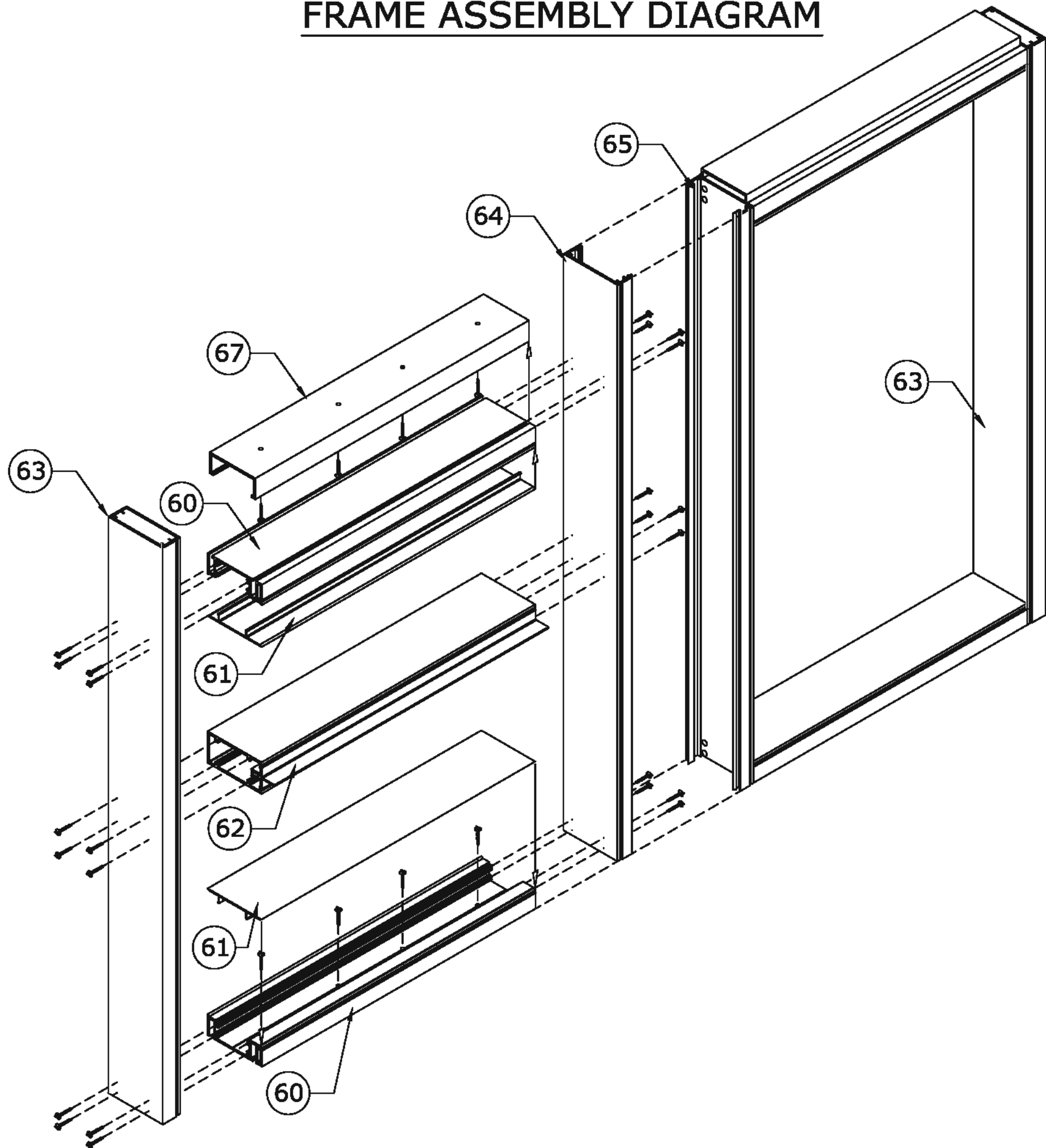
SCALE: NTS UNLESS NOTED

27

28

27

FRAME ASSEMBLY DIAGRAM



FRANK BENNARDO, PE
PE# 0046549 CA# 9885



FL#29509.2



CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
(954) 354-0660 | (866) 396-9999
TEAM@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM

UNITED GLASS SYSTEMS
3776 NW 124TH AVE.
CORAL SPRINGS, FL 33065
(754) 227-5287

7000 SG-TS SERIES ALUMINUM WINDOW WALL
FLORIDA STATE APPROVAL

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	JEM	AJP	04/05/19
2020 FRC	CCB	AJP	10/13/20

COPYRIGHT ENGINEERING EXPRESS®

20-29351b

SCALE: NTS UNLESS NOTED

28