

# GSS- GENESIS ACCORDION SHUTTER SYSTEM-1 MAGNUM LARGE MISSILE IMPACT

## GENERAL NOTES:

1. THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF 8TH EDITION THE FLORIDA BUILDING CODE (2023) INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).
2. SHUTTER RATED FOR LARGE MISSILE IMPACT.
3. SHUTTER TESTED FOR IMPACT LEVEL D.
4. ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T6 ALLOY WITH MINIMUM YIELD STRENGTH OF Fy=31.0 KSI UNLESS IT IS SPECIFIED.
5. ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS. ANCHORS EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.
6. ANCHORING OR LOADING CONDITIONS NOT SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.
7. WOOD BUCKS BY OTHERS MUST BE SOUTHERN PINE, G = 0.55 AND MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE STRUCTURE.
8. ALL ALUMINUM BLIND RIVETS TO BE 5052 ALUMINUM ALLOY WITH ALUMINUM MANDREL.
9. ALL SCREW OR BOLTS TO BE GALVANIZED OR STAINLESS STEEL WITH 36 ksi MINIMUM YIELD STRENGTH.
10. MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE FLORIDA BUILDING CODE 8TH EDITION (2023) SECTION AS APPLICABLE.
11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE WHERE SHUTTER IS TO BE ATTACHED TO INSURE PROPER ANCHORAGE. THIS SHUTTER SHALL ONLY BE ATTACHED TO CONCRETE, BLOCK OR WOOD FRAME BUILDINGS.
12. A PERMANENT SHUTTER MANUFACTURER'S LABEL SHOULD BE PLACED ON THE EXPOSED SURFACE OF THE CENTERMATE BLADE (COMPONENT 10 ) UNDER LOCK. ONE LABEL SHALL BE PLACED FOR EVERY OPENING.  
 LABEL SHALL READ AS FOLLOWS:  
 NCCL CORPORATION  
 9960 NW 79TH AVE., HIALEAH GARDENS, FL. 33016  
 MISSILE LEVEL D - ASTM E1886, E1996 & E330  
 TAS-201, TAS-202, AND TAS-203.
13. (a) THIS PRODUCT APPROVAL DOCUMENT (P.A.D.) PREPARED BY THIS ENGINEER IS GENERIC.  
 (b) CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION INCLUDING LIFE SAFETY OF THIS PRODUCT BASED ON THIS PRODUCT APPROVAL PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT. CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.  
 THIS PRODUCT APPROVAL DOCUMENT WILL BE CONSIDERED INVALID IF MODIFIED.  
 (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.A.D. ENGINEER OF RECORD, ACTING AS DELEGATED ENGINEER TO THE P.A.D. ENGINEER, SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.  
 (e) THIS P.A.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER THAT PREPARED IT.
14. HEAD & SILL MAY BE INTERCHANGED WHERE NOTED IN MOUNTING SECTIONS TO FIT FIELD CONDITIONS.
15. WHERE EXISTING STRUCTURE IS WOOD FRAMING, WOOD FRAMING CONDITIONS VARY, FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT PLYWOOD, FASTENING TO PLYWOOD IS ACCEPTABLE ONLY FOR SIDE CLOSURE PIECES.
16. ULTIMATE LOAD OBTAINED FROM ASCE 7-22, MULTIPLY BY 0.6 SHALL BE LESS THAN OR EQUAL TO MAX. DESIGN LOAD IN THIS DOCUMENT. THE DESIGN LOADS SHOWN IN THIS DOCUMENT ARE ALLOWABLE DESIGN LOADS.
17. MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION IN ACCORDANCE WITH SECTION 1709.9.3 OF FLORIDA BUILDING CODE LABELING TO COMPLY WITH SECTION 1709.9.2.

## TYPICAL ANCHORS: (SEE CHARTS FOR ANCHOR SPACING)

- |  |  |
|--|--|
| <p><u>TYPE A.</u>    <u>1/4" DIA. TAPCON BY ITW BUILDEX</u> (Fu = 120 KSI, Fy = 92 KSI)<br/>                 INTO CONCRETE fc'=3000 PSI<br/>                 1-3/4" MIN. EMBED<br/>                 2-1/2" MIN. EDGE DISTANCE &amp; 3" MIN. O.C.</p> <p><u>TYPE A1.</u> INTO MEDIUM WIEGHT CMU<br/>                 1-1/4" MIN. EMBED<br/>                 2-1/2" MIN. EDGE DISTANCE &amp; 4" MIN O.C.</p> <p><u>TYPE B.</u>    <u>1/4"-20 CALK-IN BY 'POWERS' FASTENERS</u><br/>                 INTO CONCRETE fc'=3000 PSI<br/>                 7/8" MIN. EMBED<br/>                 3" MIN. EDGE DISTANCE &amp; 2 1/2" MIN O.C.</p> <p><u>TYPE B1.</u> INTO GROUT FILLED BLOCK OR CLAY BRICK (fm'&gt;=1500 psi)<br/>                 7/8" MIN. EMBED<br/>                 3" MIN. EDGE DISTANCE &amp; 2 1/2" MIN O.C.</p> <p><u>TYPE C.</u>    <u>1/4" CRETE-FLEX SS4 MASONRY ANCHOR BY "ELCO"</u><br/>                 INTO CONCRETE fc'=3350 PSI<br/>                 1 3/4" MIN. EMBED<br/>                 2 1/2" MIN. EDGE DISTANCE &amp; 3" MIN. O.C.</p> <p><u>TYPE C1.</u> INTO C90 CONCRETE BLOCK<br/>                 1 1/4" MIN. EMBED<br/>                 2 1/2" MIN. EDGE DISTANCE &amp; 3" MIN. O.C.</p> <p><u>TYPE D.</u>    <u>1/4" DIA. ULTRACON + BY DEWALT</u> (Fu = 164 KSI, Fy = 148 KSI)<br/>                 INTO CONCRETE fc'=3000 PSI<br/>                 1-3/4" MIN. EMBED<br/>                 2-1/2" MIN. EDGE DISTANCE &amp; 3" MIN. O.C.</p> <p><u>TYPE D1.</u> INTO GROUT FILLED BLOCK<br/>                 1-3/4" MIN. EMBED<br/>                 2-1/2" MIN. EDGE DISTANCE &amp; 4" MIN O.C.</p> <p><u>TYPE E.</u>    <u>1/4" DIA. TAPPER + CARBON STEEL PERMA-SEAL AND XINC PALTED BY "POWERS"</u><br/>                 INTO CONCRETE fc' = 3000 PSI<br/>                 1-3/4" MIN. EMBED<br/>                 2-1/2" MIN. EDGE DISTANCE &amp; 3" MIN O.C.</p> <p><u>TYPE E1.</u> INTO GFB OR C90 BLOCK<br/>                 1-3/4" MIN. EMBED<br/>                 3" MIN. EDGE DISTANCE &amp; 4" MIN O.C.</p> <p><u>TYPE F.</u>    <u>1/4" - 20 "ALL POINTS" SOLID - SET ANCHORS BY HILLMAN</u><br/>                 INTO CONCRETE fc' = 3000 PSI<br/>                 7/8" MIN. EMBED<br/>                 3" MIN. EDGE DISTANCE &amp; 3" MIN O.C.</p> <p><u>TYPE F1.</u> INTO CMU (fm=1800psi MIN.)<br/>                 7/8" MIN. EMBED<br/>                 3" MIN. EDGE DISTANCE &amp; 3" MIN O.C.</p> <p><u>TYPE G</u>    <u>1/4" DIA. LAG SCREWS</u> ( Fy = 60 KSI)<br/>                 INTO WOOD STRUCTURAL (SG=0.55 MIN)<br/>                 1-1/2" MIN. THREADED EMBED<br/>                 1" MIN. EDGE DISTANCE</p> <p><u>TYPE H.</u>    <u>1/4" ELCO DRILL FLEX</u><br/>                 INTO 1/8" MIN. THK. ALUM. (6063-T5 MIN)</p> <p><u>TYPE H1.</u> <u>1/4" ELCO DRILL FLEX</u><br/>                 INTO 1/4" MIN. THK. ALUM. (6063-T5 MIN)</p> <p><u>TYPE I</u>    <u>1/4" ELCO DRILL FLEX</u><br/>                 INTO 1/8" MIN THK. STL</p> <p><u>TYPE J.</u>    <u>5/16" DIA. ULTRACON BY DEWALT</u> (Fu = 177 KSI, Fy = 155 KSI)<br/>                 INTO CONCRETE fc'=3515 PSI<br/>                 1-3/4" MIN. EMBED<br/>                 3 1/8" MIN. EDGE DISTANCE &amp; 5" MIN. O.C.</p> | <p><u>TYPE A2.</u> INTO WOOD ( SG=0.55 MIN.)<br/>                 1-1/2" MIN. EMBED<br/>                 1" MIN. EDGE DISTANCE</p> <p><u>TYPE D2.</u> INTO WOOD (SG=0.55 MIN)<br/>                 1-1/2" MIN. EMBED<br/>                 1" MIN. EDGE DISTANCE</p> <p><u>TYPE E2.</u> INTO WOOD (SG=0.55 MIN)<br/>                 1-1/2" MIN. EMBED<br/>                 1" MIN. EDGE DISTANCE</p> |
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**LIMITATIONS OF USE**

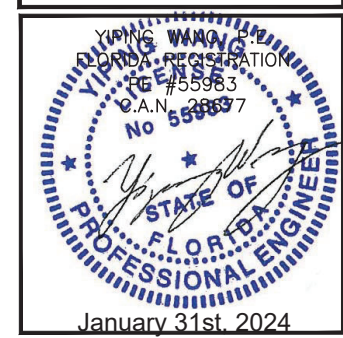
A- THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; I.e. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.E.D.

B- CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION OF THIS PRODUCT BASED ON THIS PRODUCT EVALUATION PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT.

C- THIS PRODUCT EVALUATION DOCUMENT 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.

E- THIS P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.



REVISIONS	NO.	DATE	DESCRIPTION
02	01.29.2024	UPDATE TO FBC 2024	

**MCY ENGINEERING, INC.**  
 GLAZING CONSULTANTS

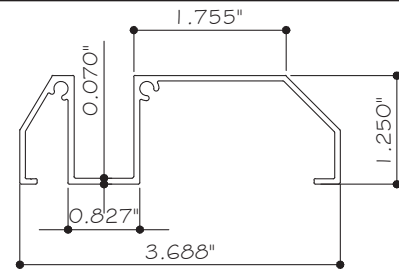
12871 MIRAMAR PKWY. STE. 301  
 MIRAMAR, FL. 33027  
 P: 305.271.0117  
 www.MCYEngineering.com

GSS GENESIS ACCORDION SHUTTER SYSTEM-1 MAGNUM

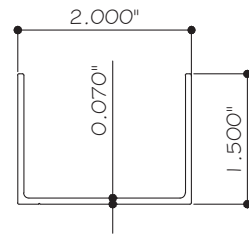
**NCCL CORPORATION**

9960 NW 79 AVE.  
 HIALEAH GARDENS, FL. 33016  
 P: (305) 883 - 9940

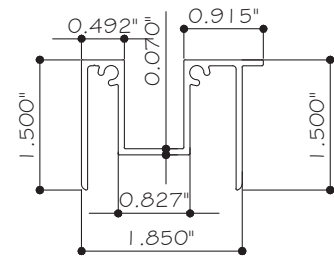
FL#17552.2	
DATE	01.29.2024
SCALE	AS NOTED
DRAWN	James
PROJECT	MCY 20-074
DRAWING NO.	
AD20-15	
1 OF 13	



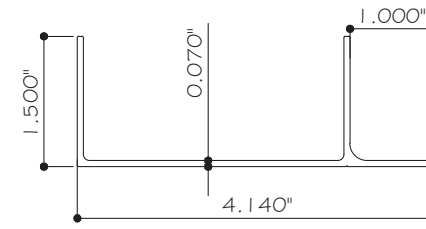
① GIC-801  
ALUMINUM 6063-T6



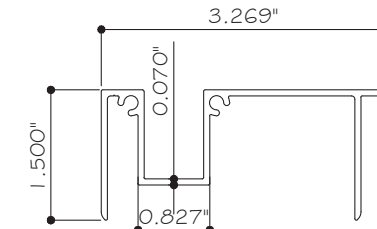
② BOTTOM TRACK BASE  
GIC-802 6063-T6



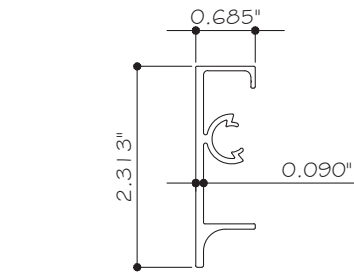
③ BOTTOM TRACK INSERT  
GIC-803 6063-T6



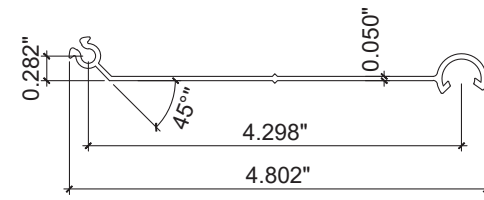
④ BOTTOM TRACK BASE  
GIC-804 6063-T6



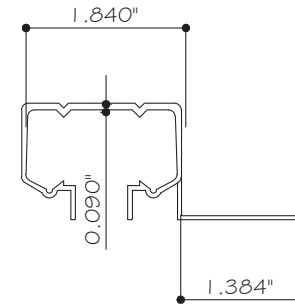
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GIC-805 6063-T6



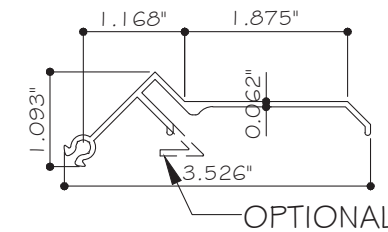
⑥ END BASE  
GIC-806 6063-T6



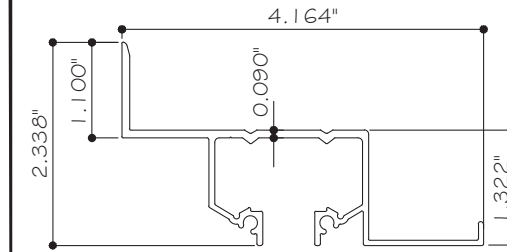
⑦ BLADE  
NFC100-07 6063-T6  
Fy = 30.6 ksi Fu = 35.1 ksi



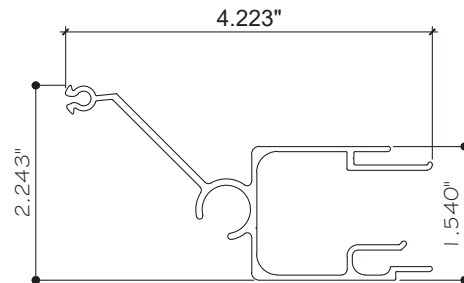
⑧ TOP TRACK  
GIC - 812 6063-T6



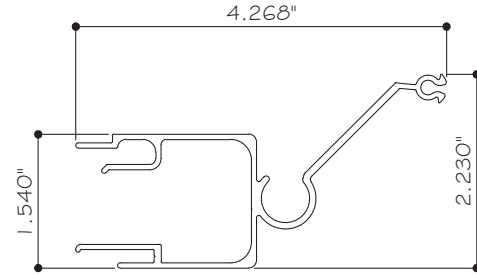
⑨ NFC100-10 6063-T6



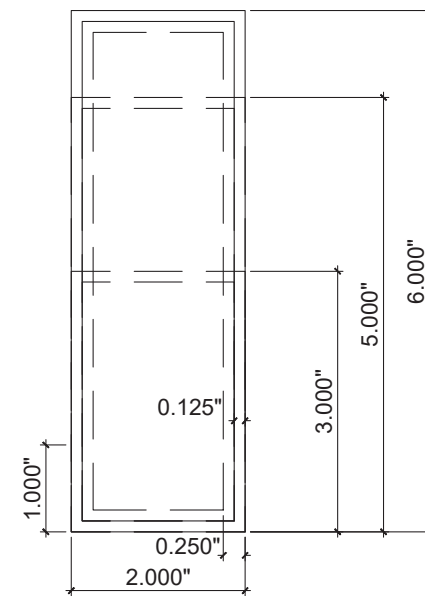
⑩ TOP TRACK  
GIC-810 6063-T6



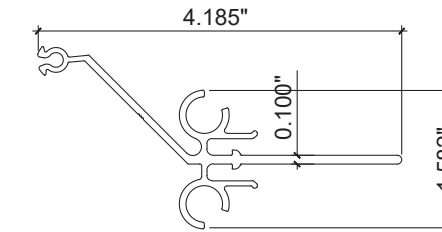
⑪ LEFT CENTER - MATE  
GIC-015 6063-T6



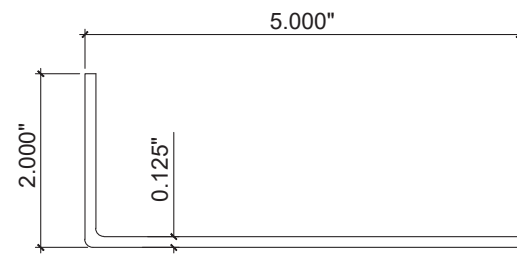
⑫ RIGHT CENTER - MATE  
GIC-016 6063-T6



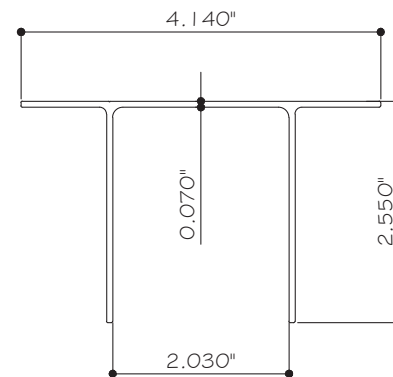
⑬ ALUMINUM TUBE  
6063-T6  
2X3X1/8\"/>



⑬ UNIMATE CENTER MATE OPTION 3  
ALUM. 6063-T6



⑭ 2\"/>



⑮ TOP TRACK BASE  
GIC - 817 6063-T6

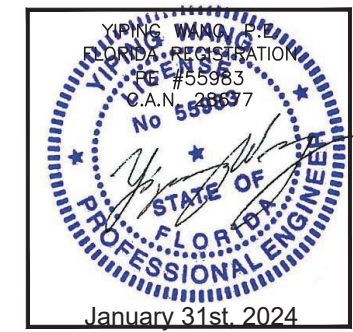
REVISIONS	
NO.	DATE DESCRIPTION
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**MCY**  
**MCY ENGINEERING, INC.**  
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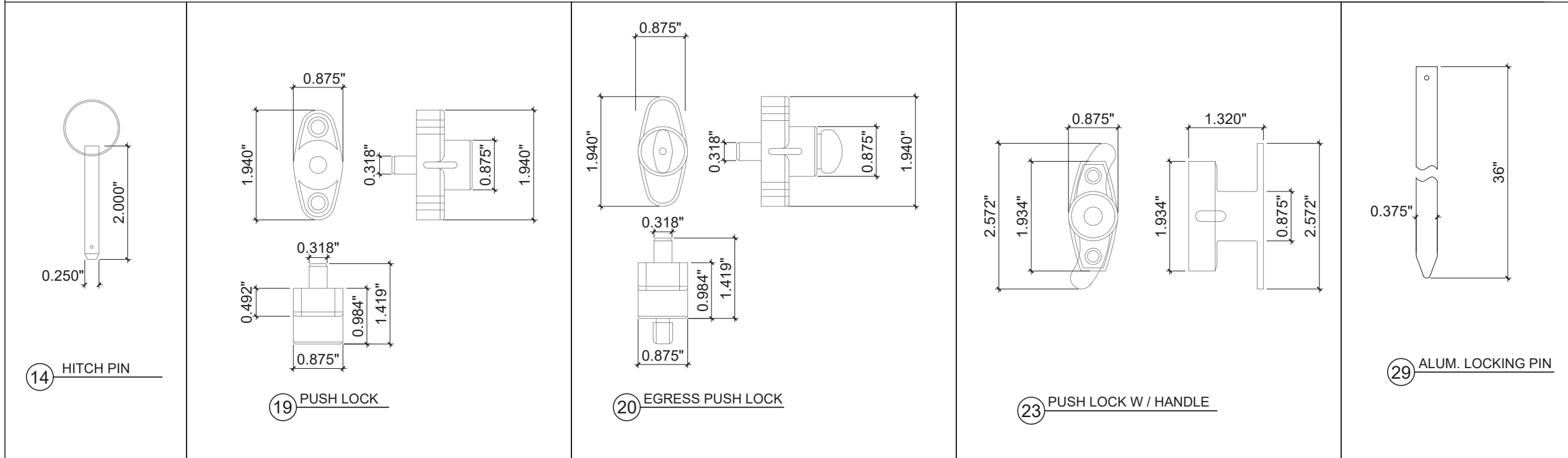
GSS GENESIS ACCORDION SHUTTER SYSTEM-1 MAGNUM  
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 9960 NW 79 AVE.  
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 P: (305) 883 - 9940

FL#17552.2

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DRAWING NO. AD20-15	
2 OF 13	



WITH UNIMATE CENTER MATES (STD- STANDARD)



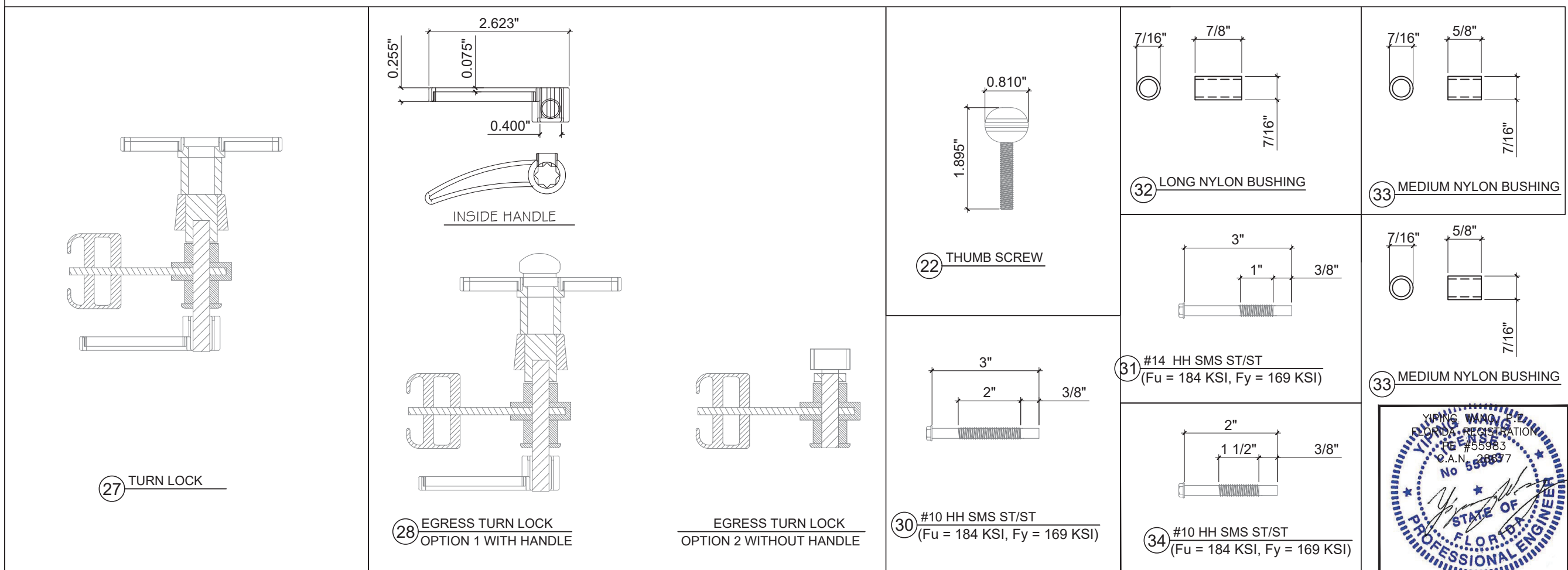
19 PUSH LOCK

20 EGRESS PUSH LOCK

23 PUSH LOCK W / HANDLE

29 ALUM. LOCKING PIN

WITH UNI-BOX CENTER MATES (HD- HEAVY DUTY )



27 TURN LOCK

28 EGRESS TURN LOCK  
OPTION 1 WITH HANDLE

EGRESS TURN LOCK  
OPTION 2 WITHOUT HANDLE

22 THUMB SCREW

30 #10 HH SMS ST/ST  
(Fu = 184 KSI, Fy = 169 KSI)

32 LONG NYLON BUSHING

31 #14 HH SMS ST/ST  
(Fu = 184 KSI, Fy = 169 KSI)

34 #10 HH SMS ST/ST  
(Fu = 184 KSI, Fy = 169 KSI)

33 MEDIUM NYLON BUSHING

33 MEDIUM NYLON BUSHING

ALL LOCKS MADE BY ALL POINTS

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YIPING WANG, P.E.  
FLORIDA REGISTRATION  
#55983  
C.A.N. 2867  
No 55983  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
January 31st, 2024

FL#17552.2

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3 OF 13	

MAX. SHUTTER SPAN (L) IN	ALLOW DESIGN LOAD	
	Pd + psf	Pd - psf
48	188	300
54	167	267
60	150	240
66	136	218
72	125	200
78	115	175
84	107	151
90	100	131
96	94	115
102	88	102
108	78	91
114	70	82
120	63	74
126	57	67
132	52	61
138	48	56
144	44	51
150	40	47
156	37	44
162	35	41
168	32	38
174	30	35
180	20	30

SEE SHEET 5 FOR CENTER MATE OPTIONS AND CONNECTION REQUIREMENTS AND DESIGN LOAD LIMITATION

**INSTRUCTION:**

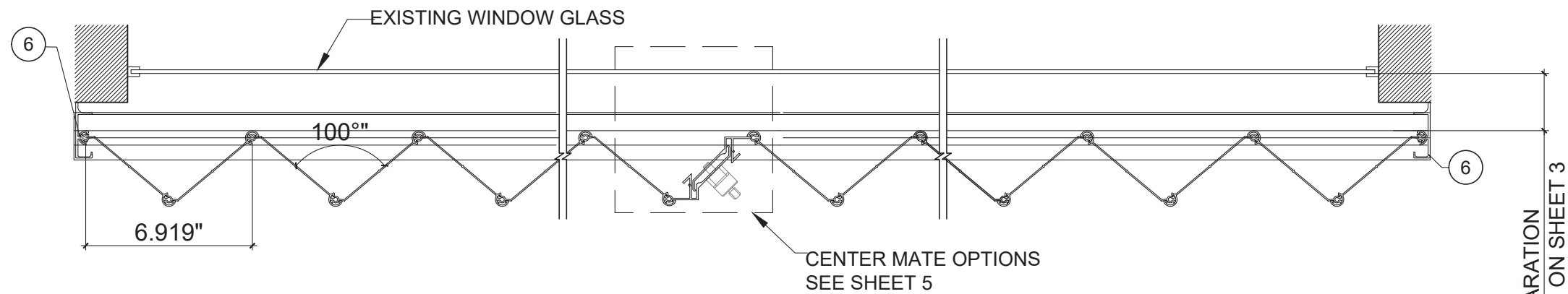
**STEP 1** DETERMINE DESIGN WIND LOAD REQUIREMENT BASED ON APPLICABLE ASCE 7 STANDARD.

**STEP 2** CHECK SHUTTER CAPACITY FOR A GIVEN SHUTTER SPAN USING CHARTS ON SHEET 4. MAX. DESIGN LOAD FROM CHART HAS TO BE EQUAL OR GREATER THAN DESIGN WIND LOAD FROM STEP 1.

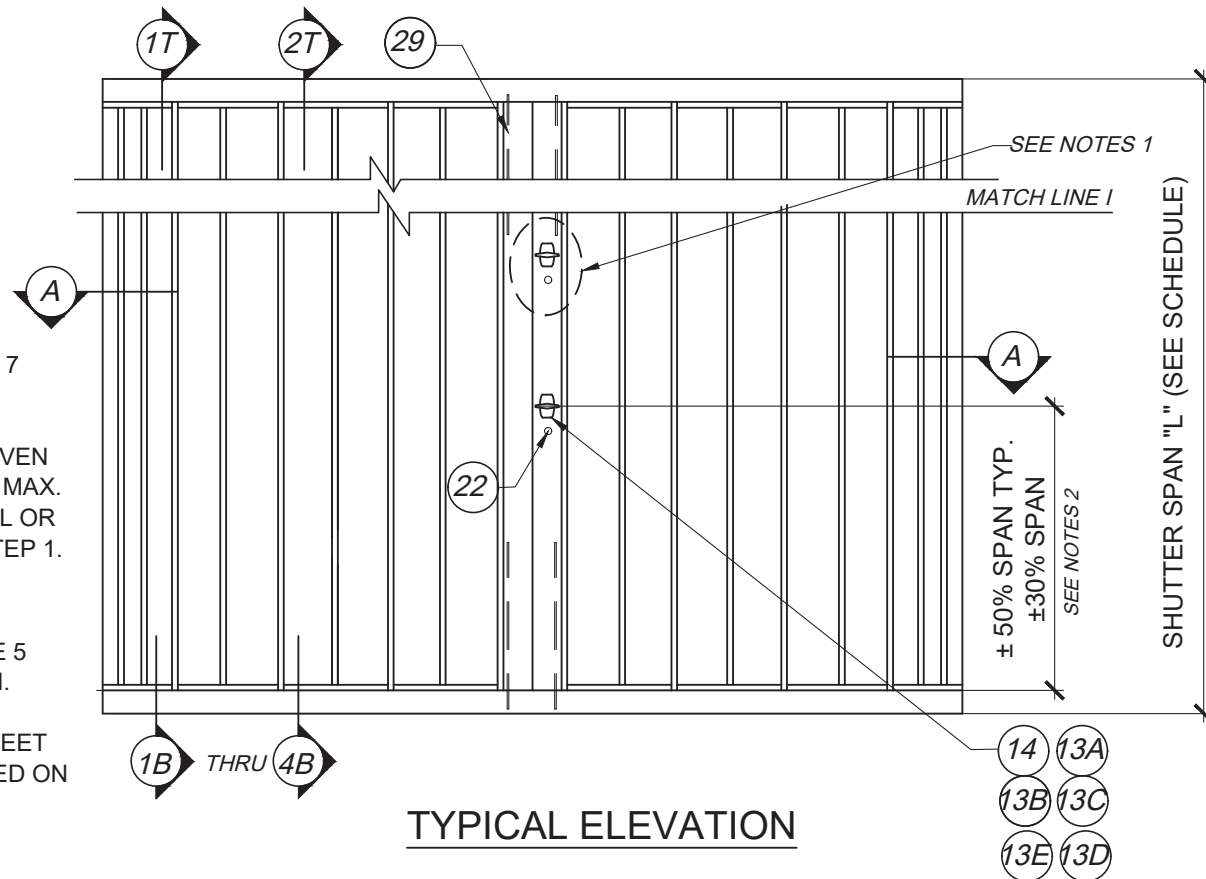
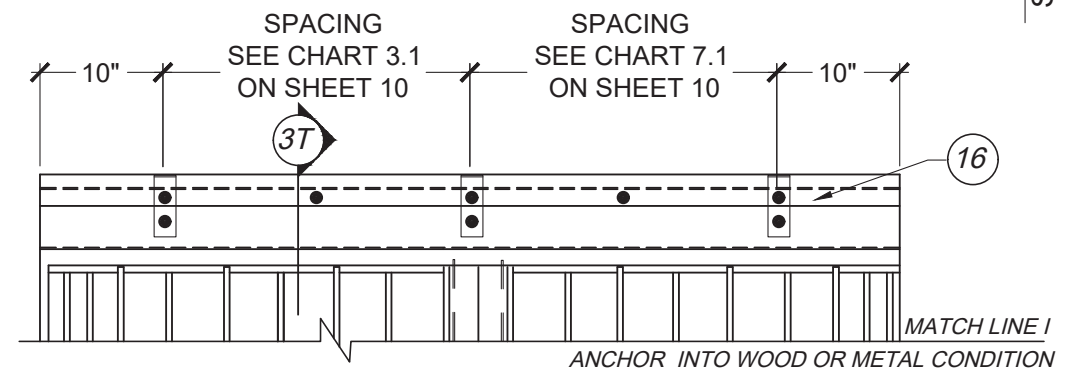
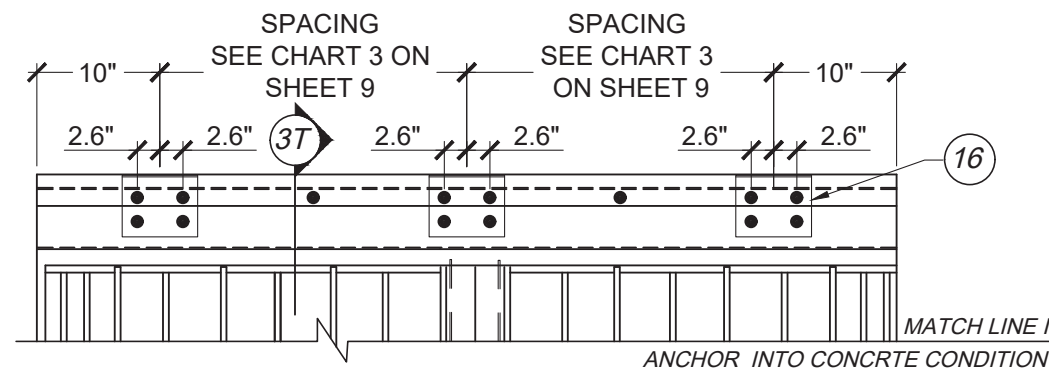
**STEP 3** SELECT CENTER MATE OPTIONS AND CONNECTION REQUIREMENT BOLTS ON PAGE 5 BASED ON DESIGN LOAD AND SHUTTER SPAN.

**STEP 4** USING CHARTS ON SHEET 6 THRU SHEET 15 SELECT ANCHOR TYPE AND SPACING BASED ON DESIGN LOAD AND SHUTTER SPAN FOR THE ANCHOR DETAIL USED.

**STEP 5** THE LOWEST VALUE RESULT FROM STEP 2 TO 4 THAT EXCEED THE DESIGN LOAD FROM STEP 1 APPLY TO ENTIRE SYSTEM



**A SECTION W / STARTER AT ENDS**



**TYPICAL ELEVATION**

**NOTES 1:**

- 1) LOCK SHALL BE LOCATED WITHIN 18" OF MID-SPAN;
- 2) FOR SHUTTER SPAN ≥ 12 FT USE (2) LOCKS ( OPTION 2) AT 1/3 SPAN
- 3) LOCK (22) AND (14) USED FOR STANDARD TRACK ONLY.
- 4) LOCK (14) USED FOR SHUTTER SPAN LESS THAN 85" ONLY.
- 5) LOCK (22) MUST BE USED WHEN LOCKS (27) OR (28) ARE USED ON SHUTTER SPANS GREATER THAN 144".
- 6) LOCK PIN (29) USED WITH (15) & (9) IS OPTIONAL EXCEPT ON SHUTTER SPAN GREATER THAN 144".

MIN. SEPARATION  
SEE CHART G ON SHEET 3

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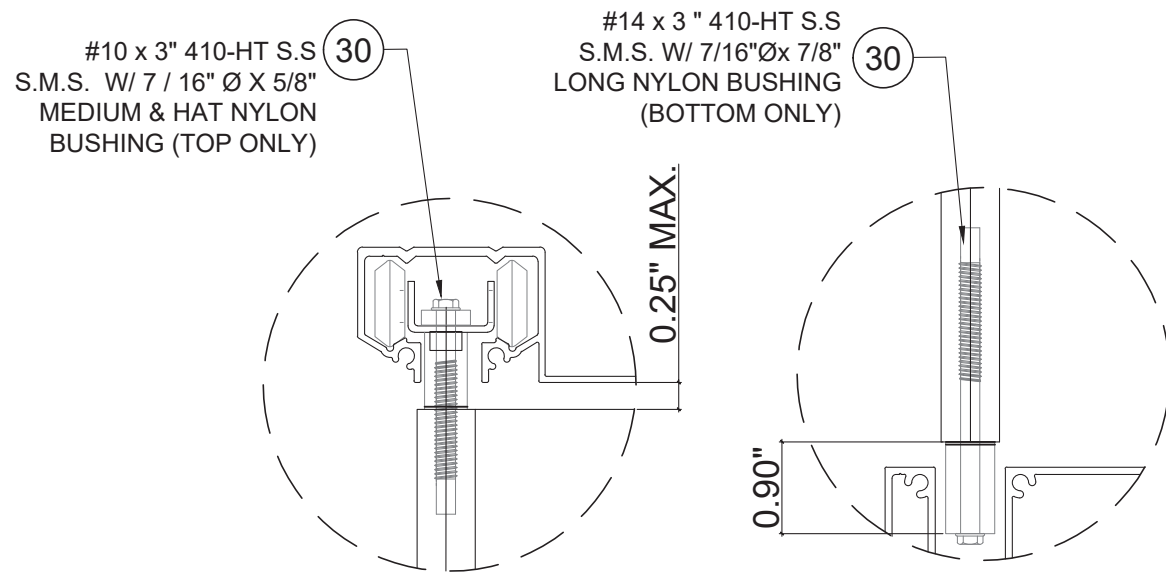
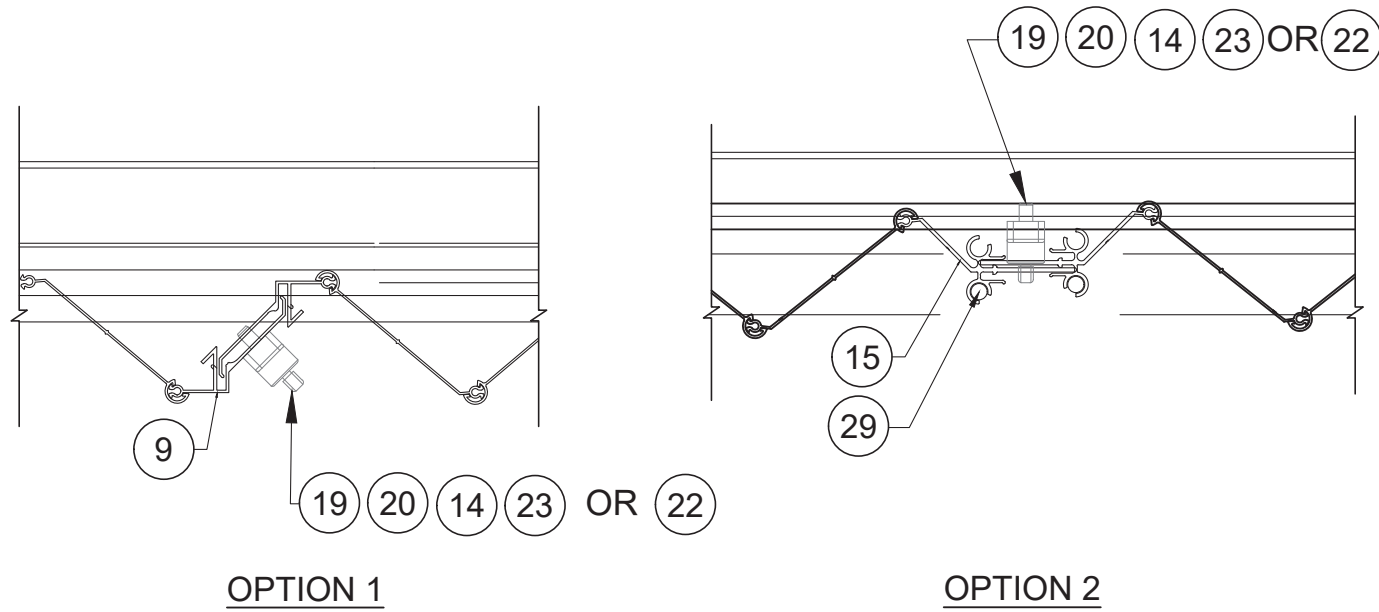
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January 31st, 2024

FL#17552.2

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PROJECT	MCY 20-074
DRAWING NO.	AD20-15
	4 OF 13

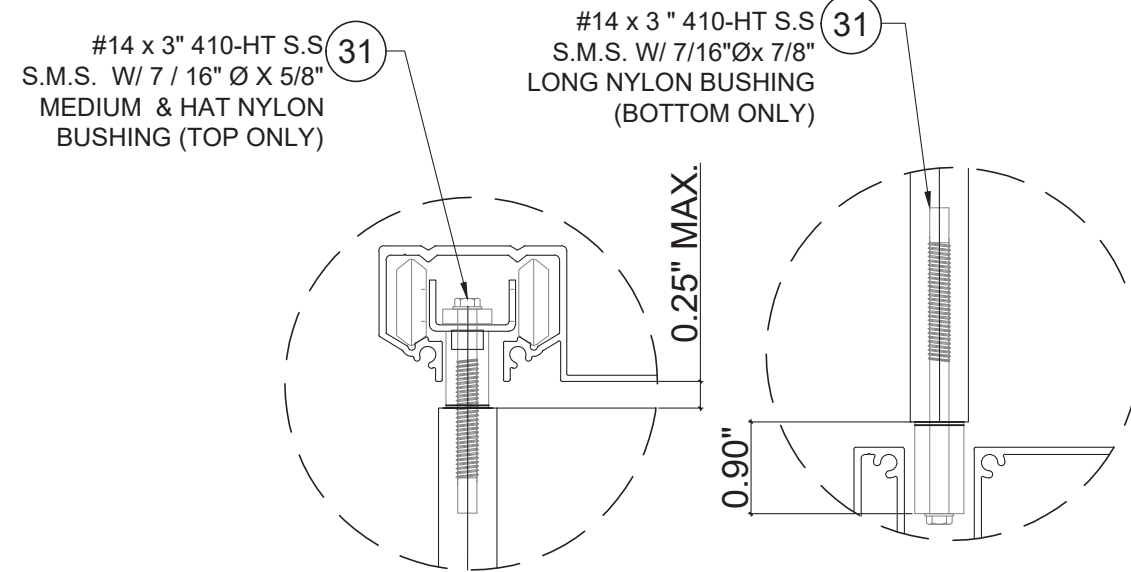
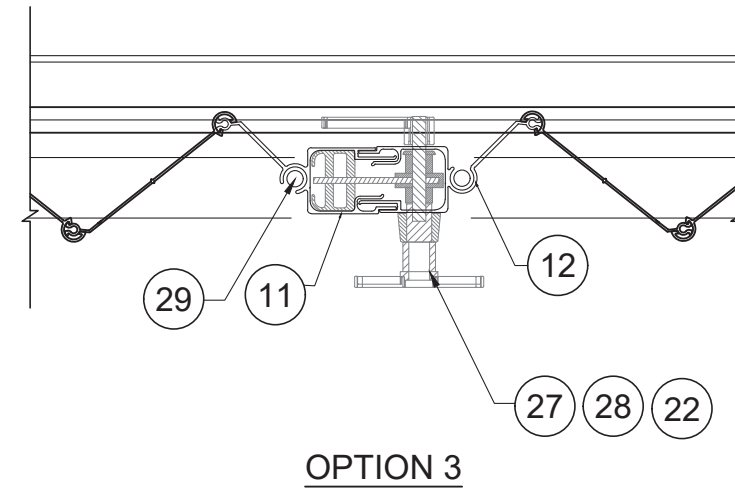
W/ UNIMATE CENTER MATES  
(STD - STANDARD)



CONNECTION TYPE  
AT TOP AND BOTTOM OF THE TRACK.

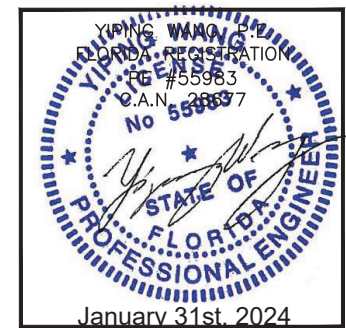
USED FOR CONDITIONS WHEN:  
Wind Load Pd <= 90 psf OR  
Span Height <= 103"

W/ UNIBOX CENTER MATES  
(HD - HEAVY DUTY)



CONNECTION TYPE  
AT TOP AND BOTTOM OF THE TRACK.

USED FOR CONDITIONS WHEN:  
Wind Load Pd > 90 psf OR  
Span Height > 103"



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GLAZING CONSULTANTS

**MCY**

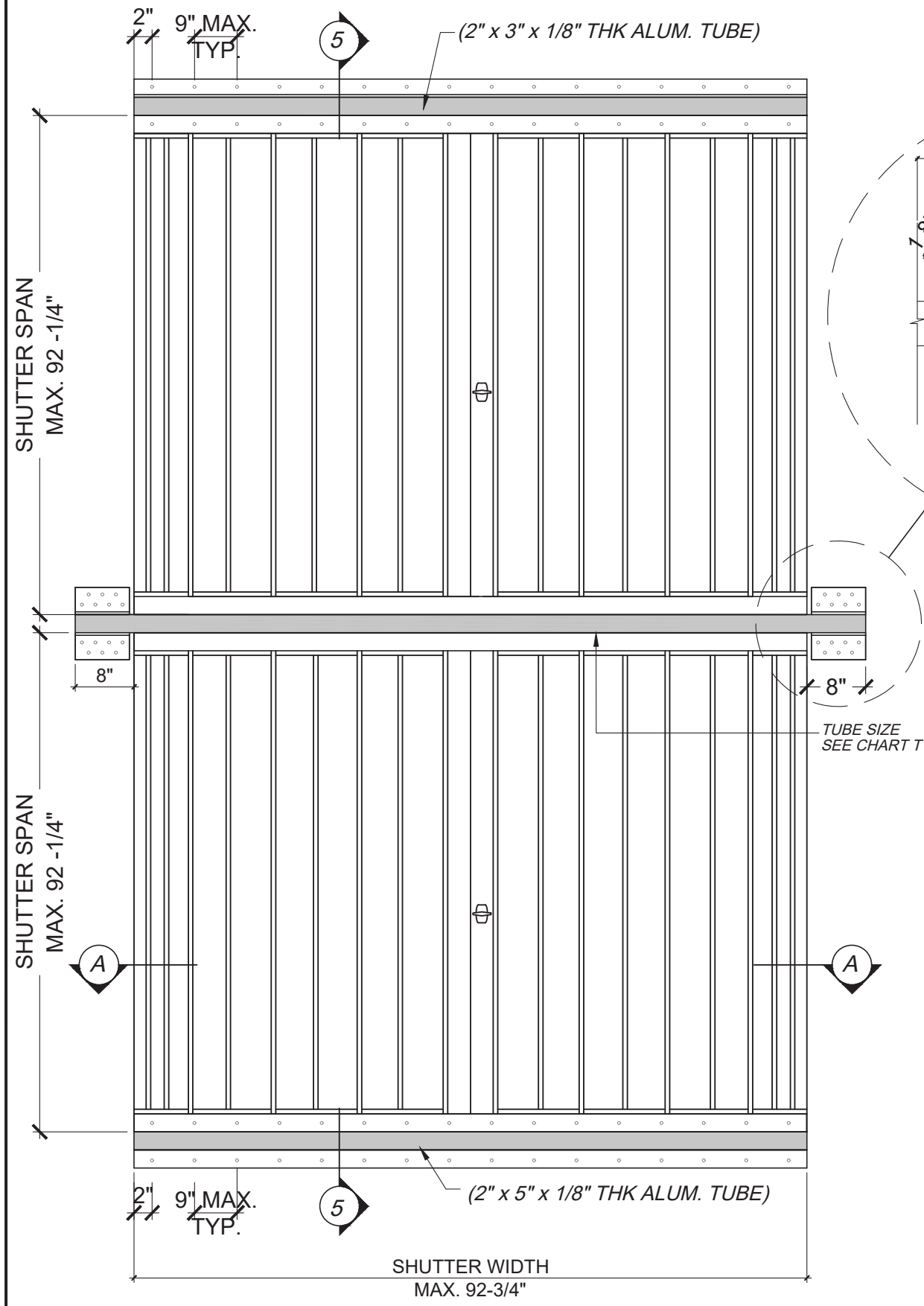
12871 MIRAMAR PKWY. STE. 301  
MIRAMAR, FL. 33027  
P: 305.271.0117  
www.MCYEngineering.com mcy@mcyengineering.com

GSS GENESIS ACCORDION SHUTTER SYSTEM-1 MAGNUM

**NCCL CORPORATION**  
9960 NW 79 AVE.  
HIALEAH GARDENS, FL. 33016  
P: (305) 883 - 9940

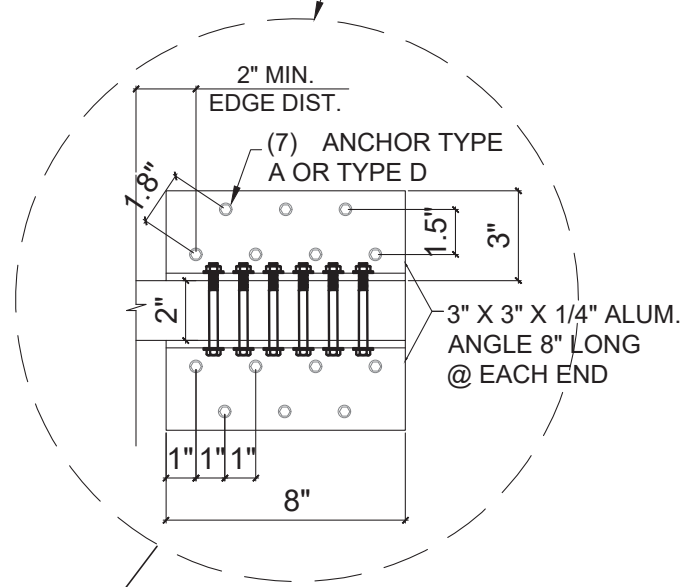
FL#17552.2

DATE	01.29.2024
SCALE	AS NOTED
DRAWN	James
PROJECT	MCY 20-074
DRAWING NO.	AD20-15
5 OF 13	



**ELEVATION**  
WITH ALUM. TUBE OPTIONS.

SEE ANCHOR DETAIL  
ON SHEET 13

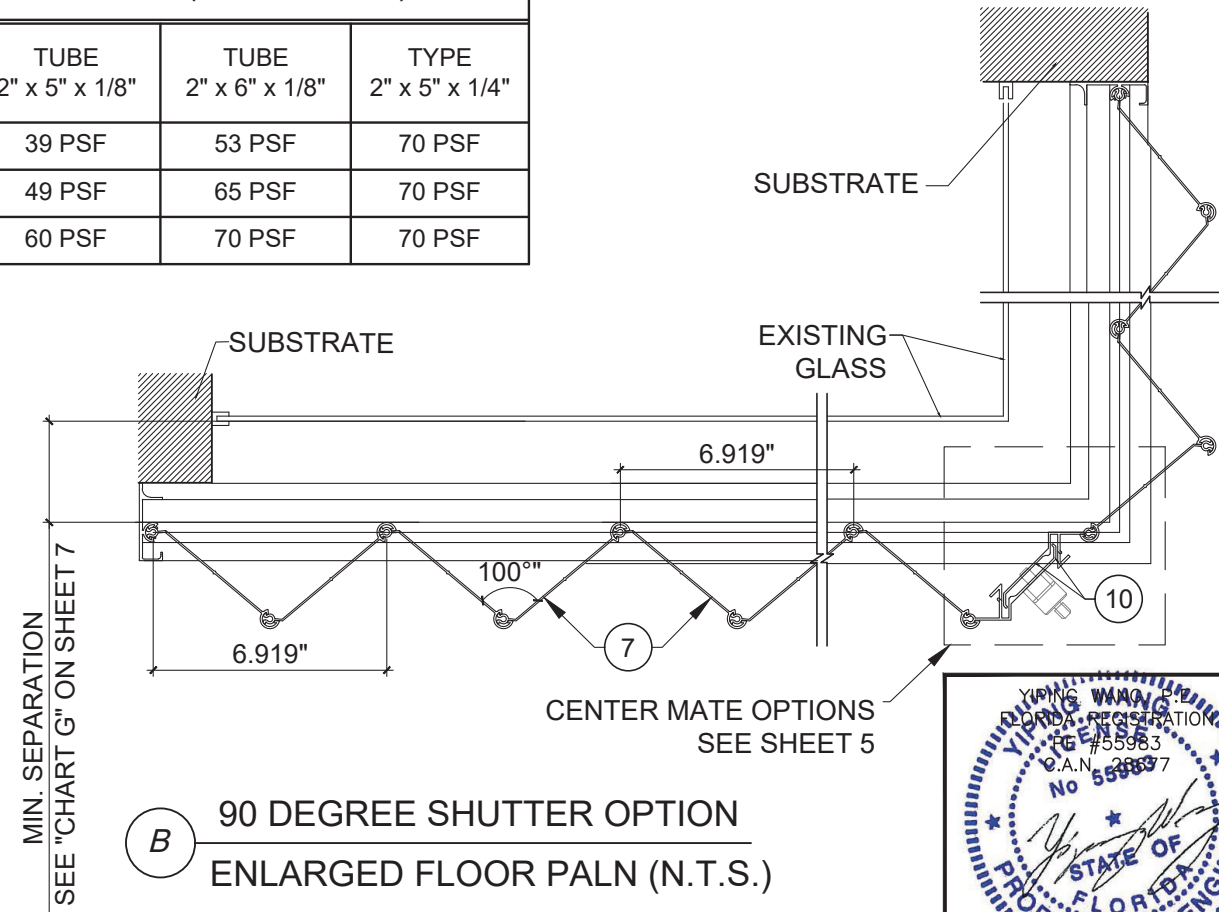


**CHART T**

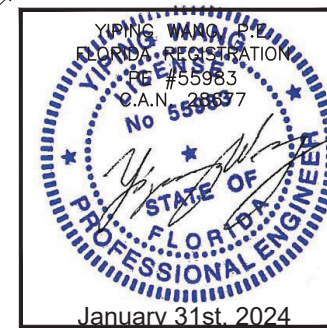
**DESIGN LOAD FOR INTERMEDIATE ALUMINUM TUBE (6063-T6 MIN.)**

SHUTTER WIDTH (IN.)	TUBE 2" x 5" x 1/8"	TUBE 2" x 6" x 1/8"	TYPE 2" x 5" x 1/4"
92.75	39 PSF	53 PSF	70 PSF
84	49 PSF	65 PSF	70 PSF
76	60 PSF	70 PSF	70 PSF

**SHUTTER ELEVATION**  
WITH 90 DEGREE OPTION



**90 DEGREE SHUTTER OPTION**  
ENLARGED FLOOR PLAN (N.T.S.)



**REVISIONS**

NO.	DATE	DESCRIPTION
02	01.29.2024	UPDATE TO PFC 2024

**MCY ENGINEERING, INC.**  
GLAZING CONSULTANTS

**MCY**

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GSS GENESIS ACCORDION SHUTTER SYSTEM-1 MAGNUM

**NCCL CORPORATION**  
9960 NW 79 AVE.  
HALEAH GARDENS, FL. 33016  
P: (305) 883 - 9940

FL#17552.2

DATE	01.29.2024
SCALE	AS NOTED
DRAWN	James
PROJECT	MCY 20-074
DRAWING NO.	AD20-15
6 OF 13	

CHART 1

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART									
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 1T (TOP)							
		CONCRETE		WOOD	CONCRETE BLOCK		ALUM (6063-T6)	STL	
		TYPE A/D/F	TYPE B/C/E	TYPE J	TYPE A2/D2/E2/G/I	TYPE A1/B1/C1	TYPE D1/E1/F1	TYPE H	TYPE I
PSF	INCH	ANCHOR SPACING (in.)							
25	60	8.0	8.0	8.0	8.0	7.9	8.0	8.0	8.0
	78	8.0	8.0	8.0	8.0	6.1	8.0	8.0	8.0
	96	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0
	114	8.0	8.0	8.0	8.0	4.2	8.0	8.0	8.0
	132	8.0	8.0	8.0	8.0	3.6	8.0	8.0	8.0
	150	8.0	8.0	8.0	8.0	3.2	7.2	7.2	8.0
	168	8.0	8.0	8.0	8.0	-	6.4	6.4	8.0
180	8.0	8.0	8.0	8.0	-	6.0	6.0	8.0	
30	60	8.0	8.0	8.0	8.0	5.3	8.0	8.0	8.0
	78	8.0	8.0	8.0	8.0	4.1	8.0	8.0	8.0
	96	8.0	8.0	8.0	8.0	3.3	7.5	7.5	8.0
	114	8.0	8.0	8.0	8.0	-	6.3	6.3	8.0
	132	8.0	7.5	8.0	8.0	-	5.5	5.5	8.0
40	60	8.0	8.0	8.0	8.0	4.0	8.0	8.0	8.0
	78	8.0	8.0	8.0	8.0	3.0	6.9	6.9	8.0
	96	8.0	7.7	8.0	8.0	-	5.6	5.6	8.0
	114	8.0	6.5	8.0	8.0	-	4.7	4.7	8.0
	132	7.4	5.6	8.0	8.0	-	-	-	8.0
50	60	8.0	8.0	8.0	8.0	3.2	7.2	7.2	8.0
	78	8.0	7.6	8.0	8.0	-	5.6	5.6	8.0
	96	8.0	6.2	8.0	8.0	-	4.5	4.5	8.0
	114	6.8	5.2	8.0	8.0	-	-	-	8.0
	132	5.9	4.5	8.0	8.0	-	-	-	8.0
60	60	8.0	8.0	8.0	8.0	-	6.0	6.0	8.0
	78	8.0	6.3	8.0	8.0	-	4.6	4.6	8.0
	96	6.8	5.1	8.0	8.0	-	-	-	8.0
	120	5.4	4.1	8.0	7.4	-	-	-	7.4
	144	4.5	3.4	7.2	6.2	-	-	-	6.2
70	60	8.0	7.0	8.0	8.0	-	6.4	6.4	8.0
	78	7.1	5.4	8.0	8.0	-	5.7	5.7	8.0
	96	5.8	4.4	8.0	7.9	-	5.2	5.2	7.9
	114	4.9	3.7	7.8	6.7	-	-	-	6.7
	126	4.4	3.4	7.0	6.0	-	-	-	6.0
75	60	8.0	8.0	8.0	8.0	-	6.0	6.0	8.0
	78	7.2	5.5	8.0	8.0	-	6.0	6.0	8.0
	84	6.2	4.7	8.0	8.0	-	4.8	4.8	8.0
	96	5.4	4.1	8.0	7.4	-	-	-	7.4
	108	4.8	3.6	7.7	6.6	-	-	-	6.6
80	60	8.0	6.2	8.0	8.0	-	6.0	6.0	8.0
	78	6.2	4.7	8.0	8.0	-	4.8	4.8	8.0
	96	5.1	3.8	8.0	6.9	-	-	-	6.9
	126	3.9	-	6.2	5.3	-	-	-	5.3
	132	3.7	-	5.9	5.0	-	-	-	5.0
90	60	7.2	5.5	8.0	8.0	-	5.6	5.6	8.0
	78	5.5	4.2	8.0	7.6	-	4.5	4.5	7.6
	96	4.5	3.4	7.2	6.2	-	-	-	6.2
	126	3.4	-	5.5	4.7	-	-	-	4.7

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART									
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 1T (TOP)							
		CONCRETE		WOOD	CONCRETE BLOCK		ALUM (6063-T6)	STL	
		TYPE A/D/F	TYPE B/C/E	TYPE J	TYPE A2/D2/E2/G/I	TYPE A1/B1/C1	TYPE D1/E1/F1	TYPE H	TYPE I
PSF	INCH	ANCHOR SPACING (in.)							
100	60	6.5	4.9	8.0	8.0	-	-	-	8.0
	72	5.4	4.1	8.0	7.4	-	-	-	7.4
	84	4.6	3.5	7.4	6.3	-	-	-	6.3
	96	4.1	3.1	6.5	5.6	-	-	-	5.6
	122	3.2	-	5.1	4.4	-	-	-	4.4
120	60	5.4	4.1	8.0	7.4	-	-	-	7.4
	72	4.5	3.4	7.2	6.2	-	-	-	6.2
	84	3.9	-	6.2	5.3	-	-	-	5.3
	96	3.4	-	5.4	4.6	-	-	-	4.6
140	60	4.6	3.5	7.4	6.3	-	-	-	6.3
	72	3.9	-	6.2	5.3	-	-	-	5.3
	84	3.3	-	5.3	4.5	-	-	-	4.5
	96	-	-	-	4.0	-	-	-	4.0
	109	-	-	-	3.5	-	-	-	3.5
160	60	4.1	3.1	6.5	5.6	-	-	-	5.6
	72	3.4	-	5.4	4.6	-	-	-	4.6
	84	-	-	-	4.0	-	-	-	4.0
	96	-	-	-	3.5	-	-	-	3.5
	103	-	-	-	3.2	-	-	-	3.2
180	48	4.5	3.4	7.2	6.2	-	-	-	6.2
	60	3.6	-	5.8	4.9	-	-	-	4.9
	72	3.0	-	4.1	4.1	-	-	-	4.1
	84	-	-	-	3.5	-	-	-	3.5
	97	-	-	-	3.0	-	-	-	3.0
200	48	4.1	3.1	6.5	5.6	-	-	-	5.6
	60	3.2	-	5.2	4.4	-	-	-	4.4
	72	-	-	-	3.7	-	-	-	3.7
	84	-	-	-	3.2	-	-	-	3.2
	92	-	-	-	-	-	-	-	-
220	48	3.7	-	5.9	5.0	-	-	-	5.0
	60	-	-	-	4.0	-	-	-	4.0
	72	-	-	-	3.4	-	-	-	3.4
	88	-	-	-	-	-	-	-	-
	48	3.4	-	5.4	4.6	-	-	-	4.6
240	60	-	-	-	3.7	-	-	-	3.7
	72	-	-	-	3.1	-	-	-	3.1
	82	-	-	-	-	-	-	-	-
	48	3.1	-	-	4.3	-	-	-	4.3
260	54	3.0	-	-	4.1	-	-	-	4.1
	60	-	-	-	3.4	-	-	-	3.4
	76	-	-	-	-	-	-	-	-
280	48	-	-	-	4.0	-	-	-	4.0
	54	-	-	-	3.8	-	-	-	3.8
	60	-	-	-	3.2	-	-	-	3.2
300	48	-	-	-	3.7	-	-	-	3.7
	54	-	-	-	3.3	-	-	-	3.3
	60	-	-	-	-	-	-	-	-

DIRECT CONNECTION OPTION

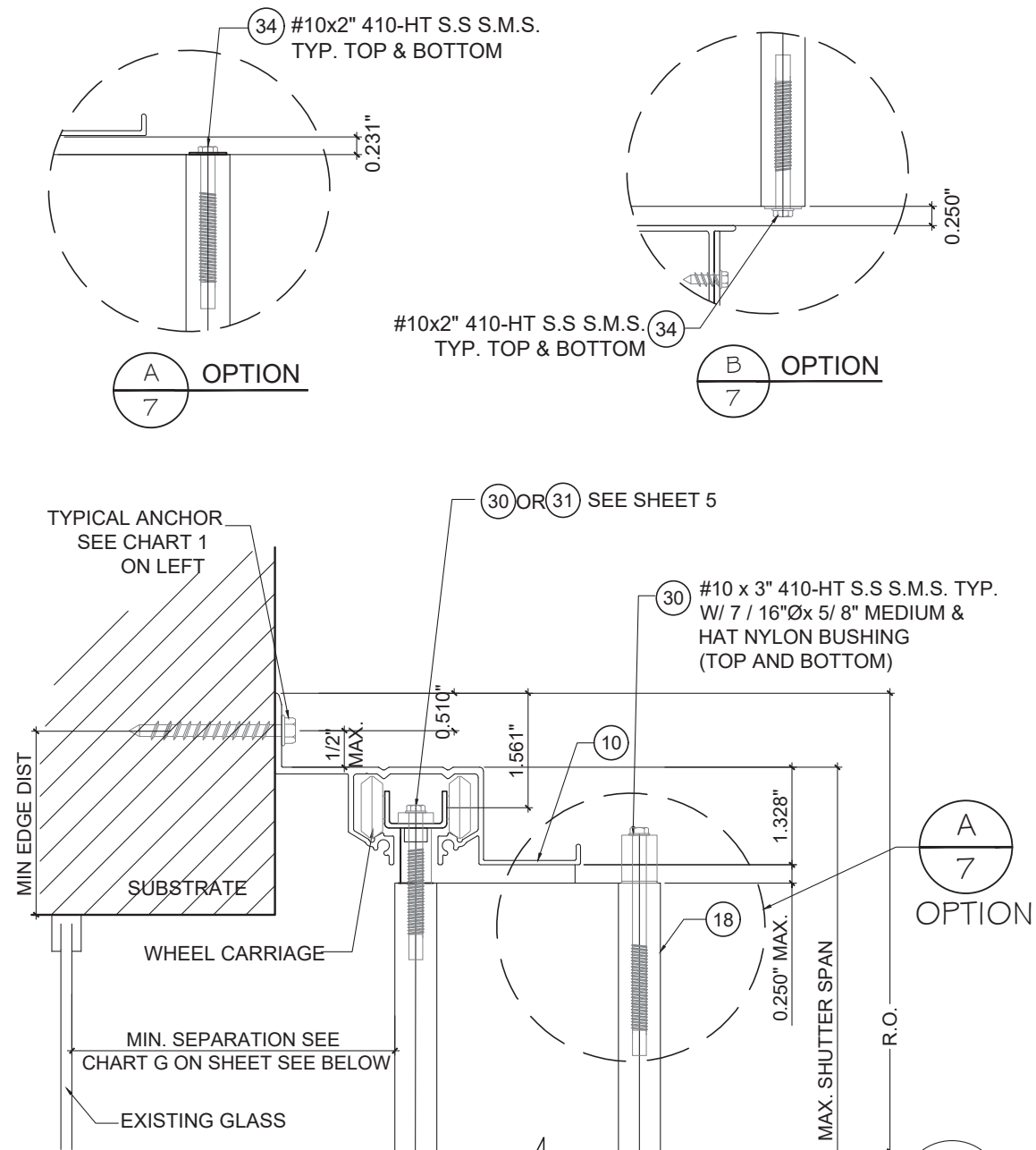
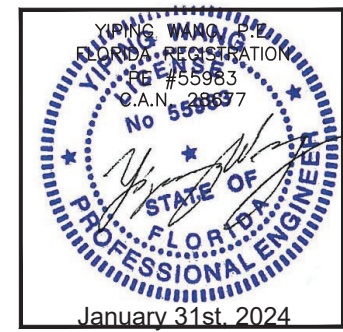


CHART G

MIN. GLASS SEPARATION CHART	
SHUTTER SPAN	SEPARATION
SPAN ≤ 60"	1½"
60" < SPAN ≤ 90"	2¼"
90" < SPAN ≤ 120"	3½"
120" < SPAN ≤ 144"	3¾"
144" < SPAN ≤ 168"	4"
168" < SPAN ≤ 180"	4½"



NO.	DATE	DESCRIPTION
02	01.29.2024	UPDATE TO FBC 2024

**MCY ENGINEERING, INC.**  
 GLAZING CONSULTANTS  
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GSS GENESIS ACCORDION SHUTTER SYSTEM-1 MAGNUM  
**NCCL CORPORATION**  
 9960 NW 79 AVE.  
 HIALEAH GARDENS, FL. 33016  
 P: (305) 883 - 9940

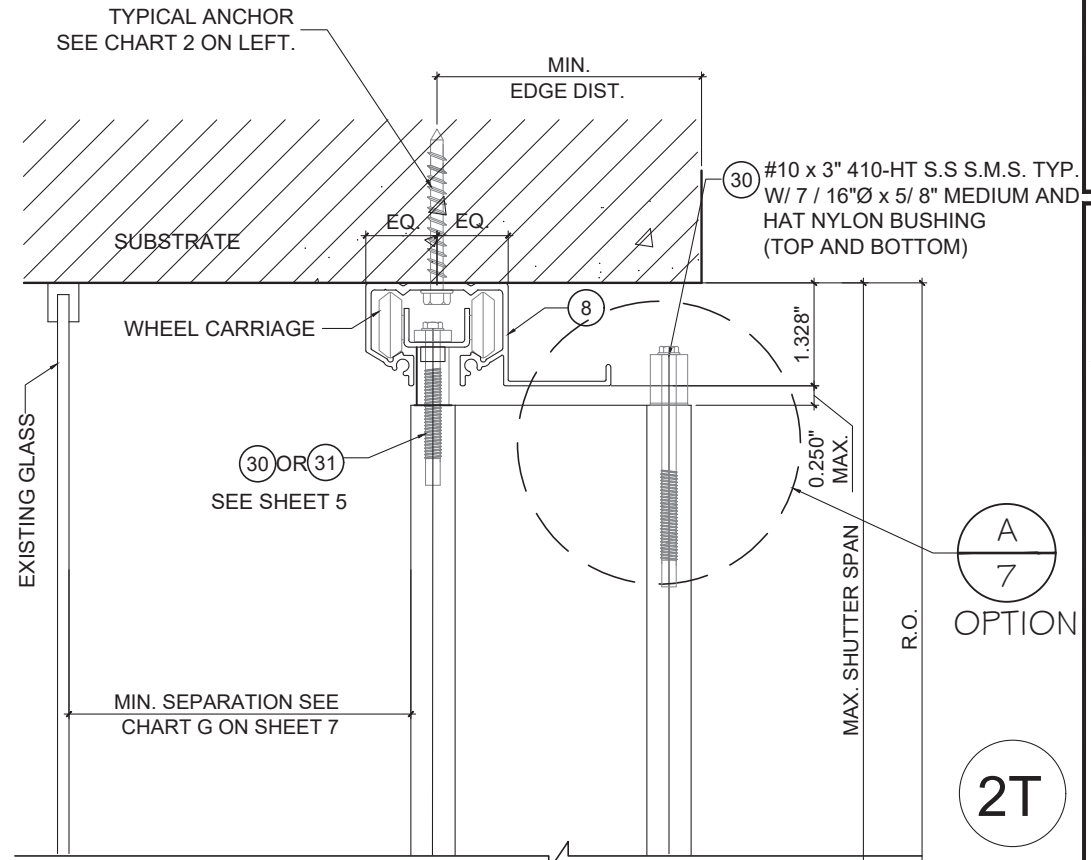
FL#17552.2

DATE	01.29.2024
SCALE	AS NOTED
DRAWN	James
PROJECT	MCY 20-074
DRAWING NO.	AD20-15
7 OF 13	

CHART 2

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART									
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 2T							
		CONCRETE		CONCRETE BLOCK		WOOD	ALUM (6063-T6)	STL	
		ANCHOR SPACING (in.)							
PSF	INCH	TYPE A, D, F	TYPE B/C/E	TYPE J	TYPE A1, B1, C1	TYPE D1, E1, F1	TYPE A2, D2, E2, G	TYPE H	TYPE I
25	60	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	78	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	96	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	114	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	132	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	150	10.0	10.0	10.0	9.9	10.0	10.0	10.0	10.0
	168	10.0	10.0	10.0	8.8	10.0	10.0	10.0	10.0
	180	10.0	10.0	10.0	8.2	10.0	10.0	10.0	10.0
30	60	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	78	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	96	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	114	10.0	10.0	10.0	8.8	10.0	10.0	10.0	10.0
	132	10.0	10.0	10.0	7.6	10.0	10.0	10.0	10.0
	150	10.0	10.0	10.0	6.7	8.8	10.0	10.0	10.0
40	60	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	78	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	96	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	114	10.0	10.0	10.0	8.8	10.0	10.0	10.0	10.0
	132	10.0	10.0	10.0	7.6	10.0	9.5	10.0	10.0
	150	10.0	10.0	10.0	6.7	8.8	8.4	10.0	10.0
50	60	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	78	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	96	10.0	10.0	10.0	8.6	10.0	10.0	10.0	10.0
	114	10.0	10.0	10.0	7.2	9.4	8.9	10.0	10.0
	132	10.0	10.0	10.0	6.2	8.2	7.7	10.0	10.0
	144	10.0	10.0	10.0	5.4	7.0	6.6	10.0	10.0
60	60	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	78	10.0	10.0	10.0	9.0	10.0	10.0	10.0	10.0
	96	10.0	10.0	10.0	7.3	9.5	8.8	10.0	10.0
	120	10.0	10.0	10.0	5.8	7.6	7.1	10.0	10.0
	132	10.0	10.0	10.0	4.9	6.3	5.9	10.0	10.0
70	60	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
	78	10.0	10.0	10.0	7.8	10.0	9.3	10.0	10.0
	96	10.0	10.0	10.0	6.3	8.2	7.6	10.0	10.0
	108	10.0	10.0	10.0	5.3	6.9	6.4	10.0	10.0
	120	10.0	10.0	10.0	4.8	6.2	5.8	10.0	10.0
	126	10.0	10.0	10.0	4.5	5.8	5.4	10.0	10.0
75	72	10.0	10.0	10.0	7.9	10.0	9.5	10.0	10.0
	84	10.0	10.0	10.0	6.8	8.7	8.1	10.0	10.0
	96	10.0	10.0	10.0	5.9	7.6	7.1	10.0	10.0
	108	10.0	10.0	10.0	5.3	6.8	6.3	10.0	10.0
	120	10.0	10.0	10.0	4.7	6.1	5.7	10.0	10.0
80	132	9.7	9.8	10.0	4.3	5.6	5.2	10.0	10.0
	60	10.0	10.0	10.0	8.9	10.0	10.0	10.0	10.0
	78	10.0	10.0	10.0	6.9	8.8	8.2	10.0	10.0
	96	10.0	10.0	10.0	5.6	7.2	6.7	10.0	10.0
	126	8.5	9.2	10.0	4.3	5.5	5.1	10.0	10.0
90	132	8.1	8.8	10.0	4.1	5.2	4.8	10.0	10.0
	60	10.0	10.0	10.0	8.0	10.0	9.5	10.0	10.0
	78	10.0	10.0	10.0	6.2	7.9	7.3	10.0	10.0
	126	7.6	8.2	10.0	-	4.9	4.5	10.0	10.0

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART									
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 2T							
		CONCRETE		CONCRETE BLOCK		WOOD	ALUM (6063-T6)	STL	
		ANCHOR SPACING (in.)							
PSF	INCH	TYPE A, D, F	TYPE B/C/E	TYPE J	TYPE A1, B1, C1	TYPE D1, E1, F1	TYPE A2, D2, E2, G	TYPE H	TYPE I
100	60	10.0	10.0	10.0	7.3	9.3	8.5	10.0	10.0
	72	10.0	10.0	10.0	6.1	7.7	7.1	10.0	10.0
	84	10.0	10.0	10.0	5.2	6.6	6.1	10.0	10.0
	96	9.0	9.8	10.0	4.5	5.8	5.3	10.0	10.0
	122.4	7.1	7.7	10.0	-	4.5	4.2	10.0	10.0
120	60	10.0	10.0	10.0	6.1	7.8	7.1	10.0	10.0
	72	10.0	10.0	10.0	5.1	6.5	5.9	10.0	10.0
	84	8.6	9.4	10.0	4.4	5.6	5.1	10.0	10.0
	96	7.5	8.2	10.0	3.8	4.9	4.5	10.0	10.0
140	115.2	6.3	6.8	10.0	3.2	4.0	3.7	9.8	10.0
	60	10.0	10.0	10.0	5.3	6.7	6.1	10.0	10.0
	72	8.6	9.4	10.0	4.4	5.6	5.1	10.0	10.0
	84	7.4	8.1	10.0	3.8	4.8	4.4	10.0	10.0
	96	6.5	7.1	10.0	3.3	4.2	3.8	10.0	10.0
160	109.2	5.7	6.2	10.0	-	-	3.4	8.9	10.0
	60	9.1	9.9	10.0	4.6	5.9	5.4	10.0	10.0
	72	7.6	8.3	10.0	3.9	4.9	4.5	10.0	10.0
	84	6.5	7.1	10.0	3.3	4.2	3.8	10.0	10.0
	96	5.7	6.2	10.0	-	-	3.4	9.0	10.0
180	103.2	5.3	5.8	10.0	-	-	3.1	8.3	10.0
	48	10.0	10.0	10.0	5.2	6.5	6.0	10.0	10.0
	60	8.1	8.9	10.0	4.1	5.2	4.8	10.0	10.0
	72	6.8	7.4	10.0	3.5	4.4	4.0	10.0	10.0
	84	5.8	6.3	10.0	-	-	3.4	9.2	10.0
200	97.2	5.0	5.5	10.0	-	-	-	7.9	10.0
	48	9.1	10.0	10.0	4.7	5.9	5.4	10.0	10.0
	60	7.3	8.0	10.0	3.7	4.7	4.3	10.0	10.0
	72	6.1	6.7	10.0	3.1	-	3.6	9.7	10.0
	84	5.2	5.7	10.0	-	-	3.1	8.3	10.0
220	92.4	4.7	5.3	10.0	-	-	-	7.5	9.9
	48	8.3	9.1	10.0	4.3	5.4	4.9	10.0	10.0
	60	6.7	7.3	10.0	3.4	4.3	3.9	10.0	10.0
	72	5.5	6.1	10.0	-	-	3.3	8.8	10.0
	87.6	4.6	5.2	10.0	-	-	-	7.2	9.5
240	48	7.6	8.3	10.0	3.9	4.9	4.5	10.0	10.0
	60	6.1	6.7	10.0	3.1	-	3.6	9.7	10.0
	72	5.1	5.6	10.0	-	-	-	8.1	10.0
	81.6	4.5	5.1	10.0	-	-	-	7.1	9.4
	48	7.0	7.7	10.0	3.6	4.6	4.1	10.0	10.0
260	54	6.8	7.4	10.0	3.5	4.4	4.0	10.0	10.0
	60	5.6	6.2	10.0	-	3.6	3.3	9.0	10.0
	76.2	4.4	4.9	10.0	-	-	-	7.1	9.3
	48	6.6	7.2	10.0	3.4	4.2	3.8	10.0	10.0
	54	6.3	6.9	10.0	3.2	4.0	3.7	10.0	10.0
280	60	5.2	5.7	10.0	-	3.4	3.1	8.4	10.0
	69.36	4.5	5.0	10.0	-	-	-	7.2	9.5
	48	6.1	6.7	10.0	3.2	4.0	3.6	9.8	10.0
	54	5.4	6.0	10.0	-	3.5	3.2	8.7	10.0
	60	4.9	5.4	10.0	-	3.2	-	7.8	10.0



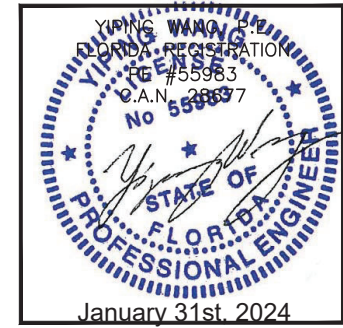
REVISIONS	NO.	DATE	DESCRIPTION
	02	01.29.2024	UPDATE TO FBC 2024

**MCY**  
**MCY ENGINEERING, INC.**  
 GLAZING CONSULTANTS  
 12871 MIRAMAR PKWY. STE. 301  
 MIRAMAR, FL 33027  
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GSS GENESIS ACCORDION SHUTTER SYSTEM-1 MAGNUM  
**NCCL CORPORATION**  
 9960 NW 79 AVE.  
 HIALEAH GARDENS, FL. 33016  
 P: (305) 883 - 9940

FL#17552.2

DATE	01.29.2024
SCALE	AS NOTED
DRAWN	James
PROJECT	MCY 20-074
DRAWING NO.	AD20-15
8 OF 13	





**CHART 3**

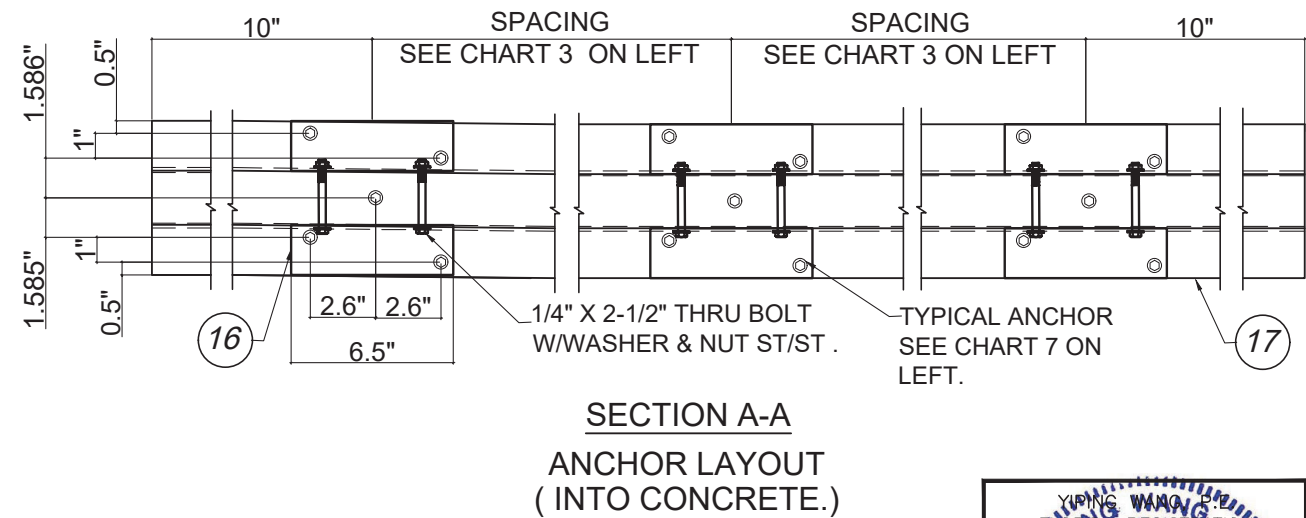
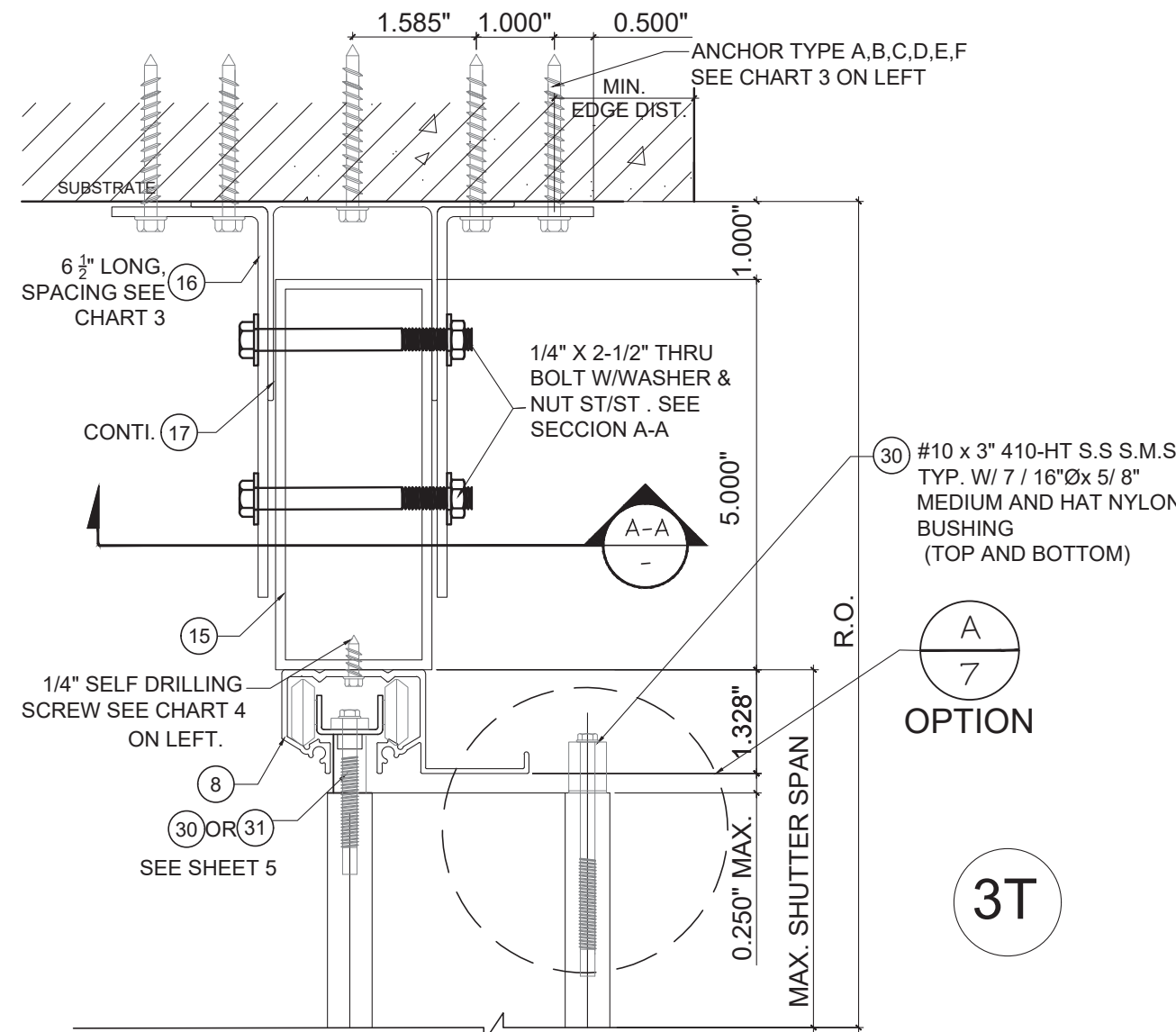
DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART				
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 3T		
		CONCRETE		
PSF	INCH	ANCHOR SPACING (in.)		
		TYPE A, D, F	TYPE B, C, E	
25	60	25.0	25.0	
	78	25.0	25.0	
	96	25.0	25.0	
	114	25.0	25.0	
	132	25.0	25.0	
	150	25.0	25.0	
	168	25.0	25.0	
30	180	25.0	23.4	
	60	25.0	25.0	
	78	25.0	25.0	
	96	25.0	25.0	
	114	25.0	24.8	
	132	25.0	21.4	
	150	25.0	18.8	
40	168	25.0	17.4	
	60	25.0	25.0	
	78	25.0	25.0	
	96	25.0	25.0	
	114	25.0	24.8	
	132	25.0	21.4	
	150	22.5	18.8	
50	168	20.0	17.4	
	60	25.0	25.0	
	78	25.0	25.0	
	96	25.0	24.1	
	114	24.2	20.3	
	132	20.9	17.6	
	156	17.7	15.1	
60	60	25.0	25.0	
	78	25.0	25.0	
	96	24.3	20.5	
	120	19.4	16.4	
	144	16.2	13.6	
	70	60	25.0	25.0
		78	25.0	21.9
96		21.1	17.8	
114		17.7	15.0	
126		16.1	13.5	
135		15.0	12.6	
75		72	25.0	22.2
	84	22.6	19.0	
	96	19.8	16.7	
	108	17.6	14.8	
	120	15.8	13.3	
	90	60	25.0	22.5
		78	20.5	17.3
96		16.6	14.1	
126		12.7	10.7	
100	60	24.1	20.4	
	72	20.1	17.0	
	84	17.2	14.5	
	96	15.1	12.7	
122	11.8	10.0		

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART				
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 3T		
		CONCRETE		
PSF	INCH	ANCHOR SPACING (in.)		
		TYPE A, D, F	TYPE B, C, E	
120	60	20.2	17.1	
	72	16.9	14.3	
	84	14.5	12.2	
	96	12.6	10.7	
	115	10.5	8.9	
	140	60	17.4	14.8
		72	14.5	12.3
84		12.5	10.6	
96		10.9	9.2	
109		9.6	8.1	
160		60	15.3	13.0
		72	12.8	10.8
	84	11.0	9.3	
	96	9.6	8.1	
	103	8.9	-	
	180	48	17.1	14.5
		60	13.7	11.6
72		11.4	9.7	
84		9.8	8.3	
97		8.4	-	
200		48	15.4	13.1
		60	12.3	10.5
	72	10.3	8.7	
	84	8.8	-	
	92	8.0	-	
	220	48	14.1	11.9
		60	11.2	9.5
72		9.4	-	
88		-	-	
240		48	12.9	10.9
		60	10.3	8.8
		72	8.6	-
	82	-	-	
	260	48	11.9	10.1
		54	11.5	9.7
		60	9.6	8.1
76		-	-	
280		48	11.1	9.4
		54	10.6	9.0
		60	8.9	-
	69	-	-	
	300	48	10.4	8.8
		54	9.2	-
		60	8.3	-

**CHART 4**

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART		
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 3T
		ALUM (6063-T6)
PSF	INCH	ANCHOR SPACING (in.)
		TYPE H
25	60	10.0
	78	10.0
	96	10.0
	114	10.0
	132	10.0
	150	10.0
	168	10.0
30	180	10.0
	60	10.0
	78	10.0
	96	10.0
	114	10.0
	132	10.0
	150	10.0
40	180	10.0
	60	10.0
	78	10.0
	96	10.0
	114	10.0
	132	10.0
	150	10.0
50	180	10.0
	60	10.0
	78	10.0
	96	10.0
	114	10.0
	132	10.0
	144	10.0
60	60	10.0
	78	10.0
	96	10.0
	120	10.0
	132	10.0
	144	10.0
	160	10.0
70	60	10.0
	78	10.0
	96	10.0
	108	10.0
	120	10.0
	126	10.0
	144	10.0
75	72	10.0
	84	10.0
	96	10.0
	108	10.0
	120	10.0
	132	10.0
	144	10.0
80	60	10.0
	78	10.0
	96	10.0
	126	10.0
90	60	10.0
	78	10.0
	96	10.0
126	10.0	

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART			
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 3T	
		ALUM (6063-T6)	
PSF	INCH	ANCHOR SPACING (in.)	
		TYPE H	
100	60	10.0	
	72	10.0	
	84	10.0	
	96	10.0	
	122.4	10.0	
	120	60	10.0
		72	10.0
84		10.0	
96		10.0	
115.2		9.8	
140		60	10.0
		72	10.0
	84	10.0	
	96	10.0	
	109.2	8.9	
	160	60	10.0
		72	10.0
84		10.0	
96		10.0	
103.2		8.3	
180		48	10.0
		60	10.0
	72	10.0	
	84	9.0	
	103.2	8.3	
	200	48	10.0
		60	10.0
72		10.0	
84		9.2	
97.2		7.9	
220		48	10.0
		60	10.0
	72	10.0	
	84	8.3	
	92.4	7.5	
	240	48	10.0
		60	10.0
72		10.0	
84		8.8	
87.6		7.2	
260		48	10.0
		60	9.7
	72	8.1	
	81.6	7.1	
	48	10.0	
	54	10.0	
	60	9.0	
280	48	10.0	
	54	10.0	
	60	8.4	
	69.36	7.2	
	48	9.8	
	54	8.7	
	60	7.8	



**SECTION A-A  
ANCHOR LAYOUT  
( INTO CONCRETE.)**

REVISIONS	
NO.	DESCRIPTION
02	01.29.2024 UPDATE TO FBC 2024

**MCY ENGINEERING, INC.**  
GLAZING CONSULTANTS  
12871 MIRAMAR PKWY. STE. 301  
MIRAMAR, FL 33027  
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**NCCL CORPORATION**  
9960 NW 79 AVE.  
HALEAH GARDENS, FL 33016  
P: (305) 883 - 9940

YIPING WANG, P.E.  
FLORIDA REGISTRATION  
#55983  
C.A.N. 28637  
No 55983  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
January 31st, 2024

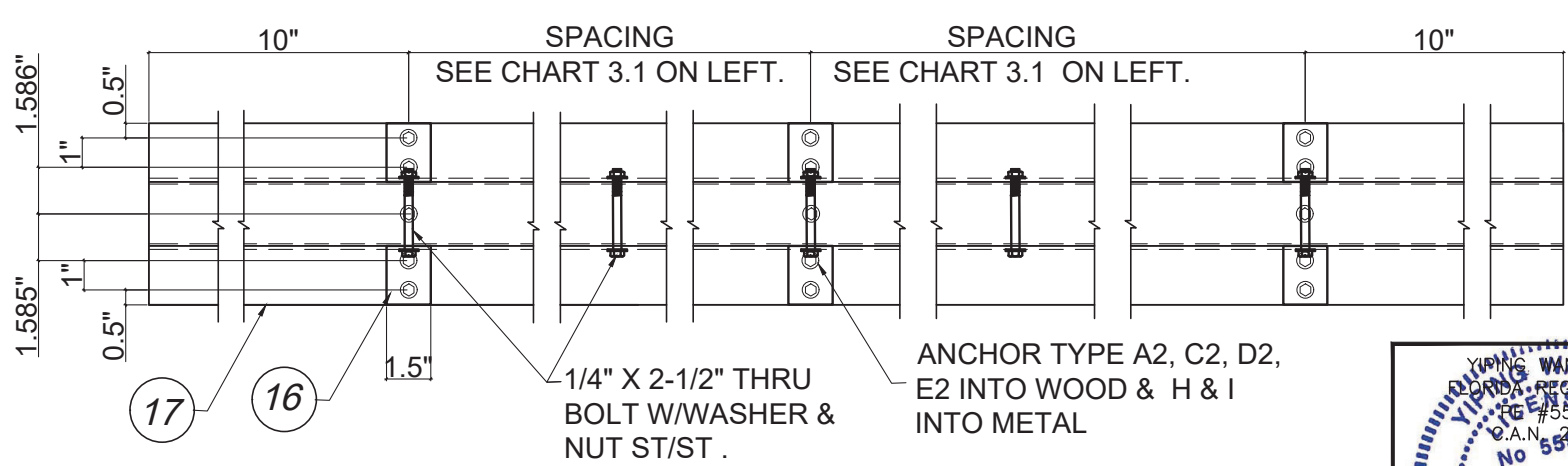
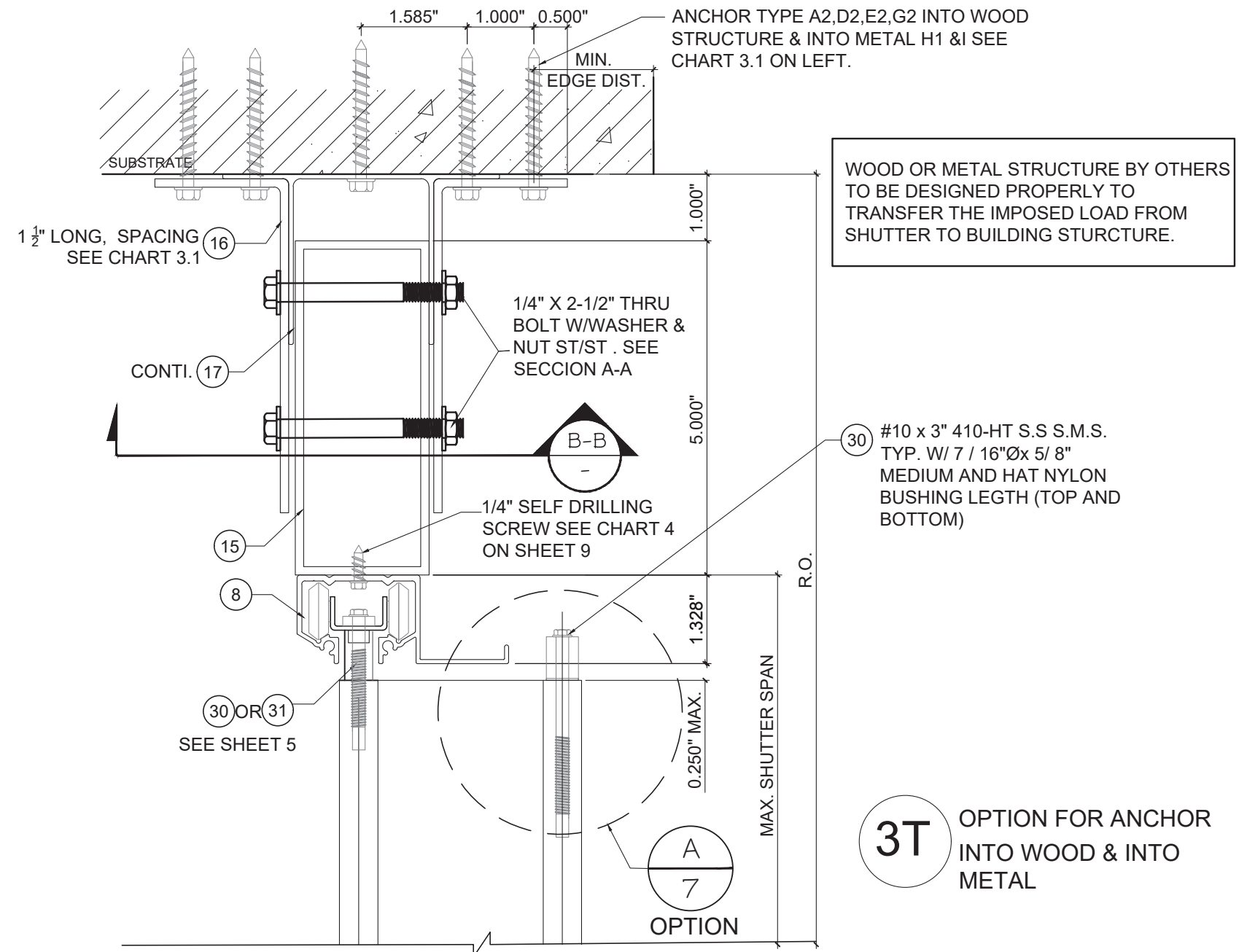
FL#17552.2

DATE	01.29.2024
SCALE	AS NOTED
DRAWN	James
PROJECT	MCY 20-074
DRAWING NO.	AD20-15
9 OF 13	

CHART 3.1

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART					
MAX. DESIGN LOAD	SHUTTER SPAN	WOOD		METAL	
		TYPE A2, D2, E2, G	TYPE H1 & I	TYPE A2, D2, E2, G	TYPE H1 & I
PSF	INCH				
25	60	25.0	25.0		
	78	25.0	25.0		
	96	25.0	25.0		
	114	25.0	25.0		
	132	25.0	25.0		
	150	25.0	25.0		
	168	25.0	25.0		
30	60	25.0	25.0		
	78	25.0	25.0		
	96	25.0	25.0		
	114	25.0	25.0		
	132	25.0	25.0		
	150	25.0	25.0		
	168	25.0	25.0		
40	60	25.0	25.0		
	78	25.0	25.0		
	96	25.0	25.0		
	114	25.0	25.0		
	132	25.0	25.0		
	150	22.9	25.0		
	168	21.2	25.0		
50	60	25.0	25.0		
	78	25.0	25.0		
	96	25.0	25.0		
	114	24.5	25.0		
	132	21.1	25.0		
	156	18.2	25.0		
	180	15.0	25.0		
60	60	25.0	25.0		
	78	25.0	25.0		
	96	24.5	25.0		
	120	19.6	25.0		
	144	16.3	23.3		
	168	13.0	21.0		
	180	11.0	19.0		
70	60	25.0	25.0		
	78	25.0	25.0		
	96	21.1	25.0		
	114	17.8	25.0		
	126	16.1	23.1		
	135	15.0	21.6		
	144	14.0	20.0		
75	60	25.0	25.0		
	78	22.6	25.0		
	96	19.8	25.0		
	108	17.6	25.0		
	120	15.8	22.8		
	132	14.5	21.5		
	144	13.5	20.5		
90	60	25.0	25.0		
	78	20.4	25.0		
	96	16.6	24.0		
	126	12.6	18.3		
	150	10.0	15.0		
	168	9.0	14.0		
	180	8.0	13.0		
100	60	24.0	25.0		
	72	20.0	25.0		
	84	17.1	24.9		
	96	15.0	21.8		
	108	13.0	19.0		
	120	11.5	17.5		
	132	10.5	16.5		

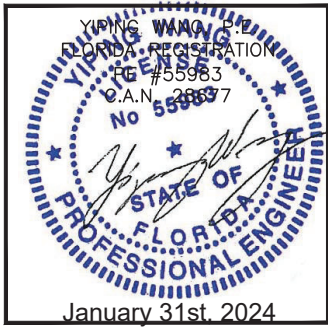
DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART						
MAX. DESIGN LOAD	SHUTTER SPAN	WOOD		METAL		
		TYPE A2, D2, E2, G	TYPE H1 & I	TYPE A2, D2, E2, G	TYPE H1 & I	
PSF	INCH					
120	60	20.1	25.0			
	72	16.7	24.4			
	84	14.4	20.9			
	96	12.6	18.3			
	115	10.5	15.3			
	140	60	17.3	25.0		
		72	14.4	21.1		
84		12.3	18.1			
96		10.8	15.8			
109		9.5	13.9			
160		60	15.2	22.2		
		72	12.6	18.5		
	84	10.8	15.9			
	96	9.5	13.9			
	103	8.8	12.9			
	180	48	16.9	24.8		
		60	13.5	19.8		
72		11.3	16.5			
84		9.7	14.2			
97		8.3	12.2			
200		48	15.2	22.4		
		60	12.2	17.9		
	72	10.2	14.9			
	84	8.7	12.8			
	92	7.9	11.6			
	220	48	13.9	20.4		
		60	11.1	16.3		
72		9.2	13.6			
88		7.6	11.2			
240		48	12.7	18.7		
		60	10.2	15.0		
		72	8.5	12.5		
	82	7.5	11.0			
	260	48	11.8	17.3		
		54	11.3	16.7		
		60	9.4	13.9		
76		7.4	10.9			
280		48	10.9	16.1		
		54	10.5	15.4		
		60	8.7	12.9		
	69	7.6	11.2			
	300	48	10.2	15.1		
		54	9.1	13.4		
		60	8.2	12.1		



SECTION B-B  
ANCHOR LAYOUT  
( INTO WOOD OR METAL STRUCTURE)

WOOD OR METAL STRUCTURE BY OTHERS TO BE DESIGNED PROPERLY TO TRANSFER THE IMPOSED LOAD FROM SHUTTER TO BUILDING STRUCTURE.

3T OPTION FOR ANCHOR INTO WOOD & INTO METAL



NO.	DATE	DESCRIPTION
02	01.29.2024	UPDATE TO PBC 2024

**MCY ENGINEERING, INC.**  
GLAZING CONSULTANTS  
12871 MIRAMAR PKWY. STE. 301  
MIRAMAR, FL 33027  
P: 305.271.0117  
www.MCYEngineering.com

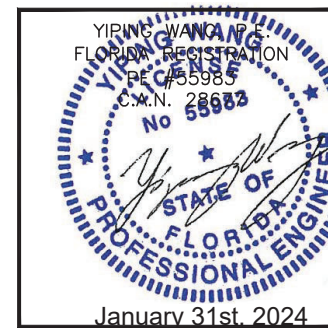
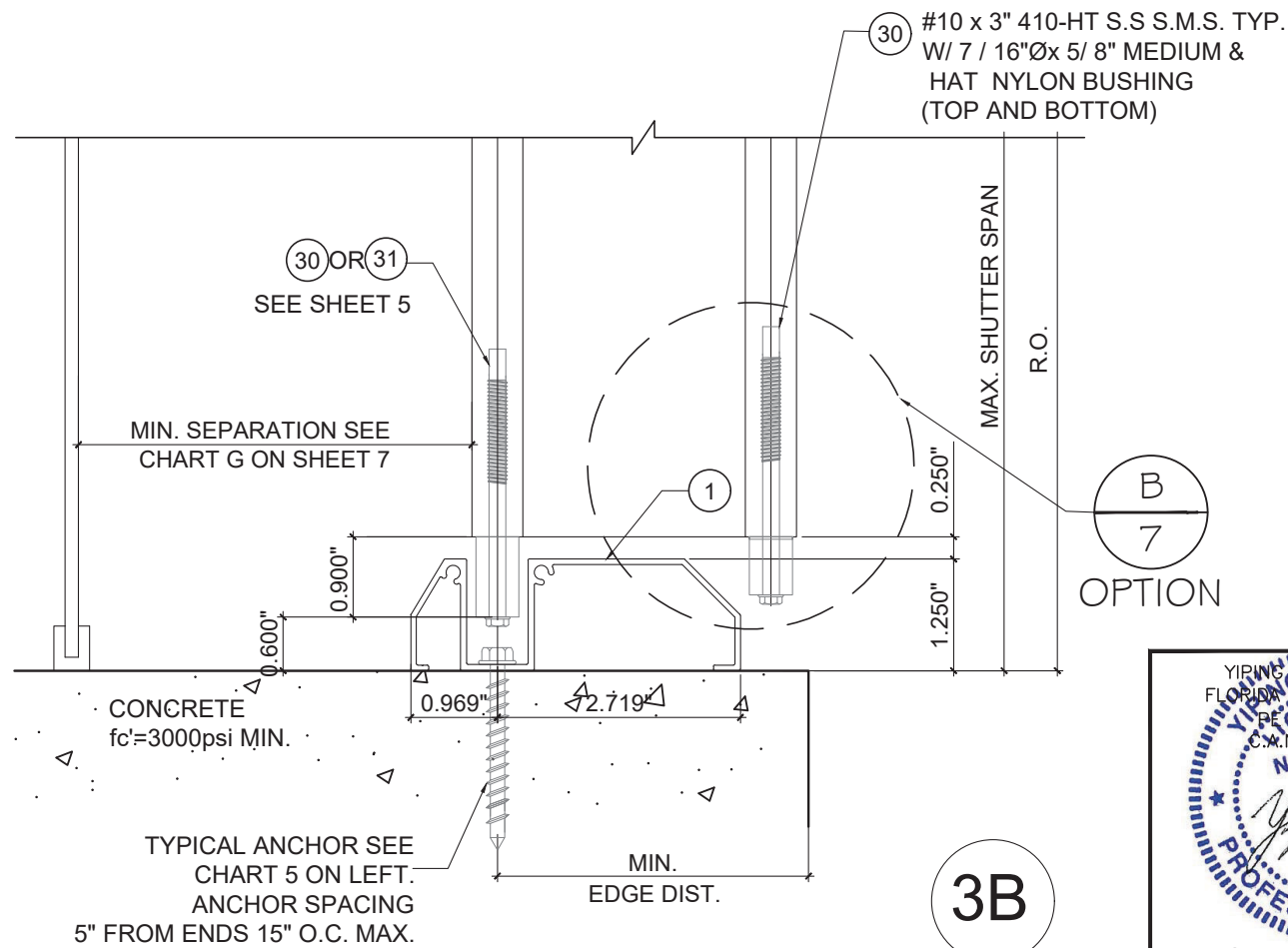
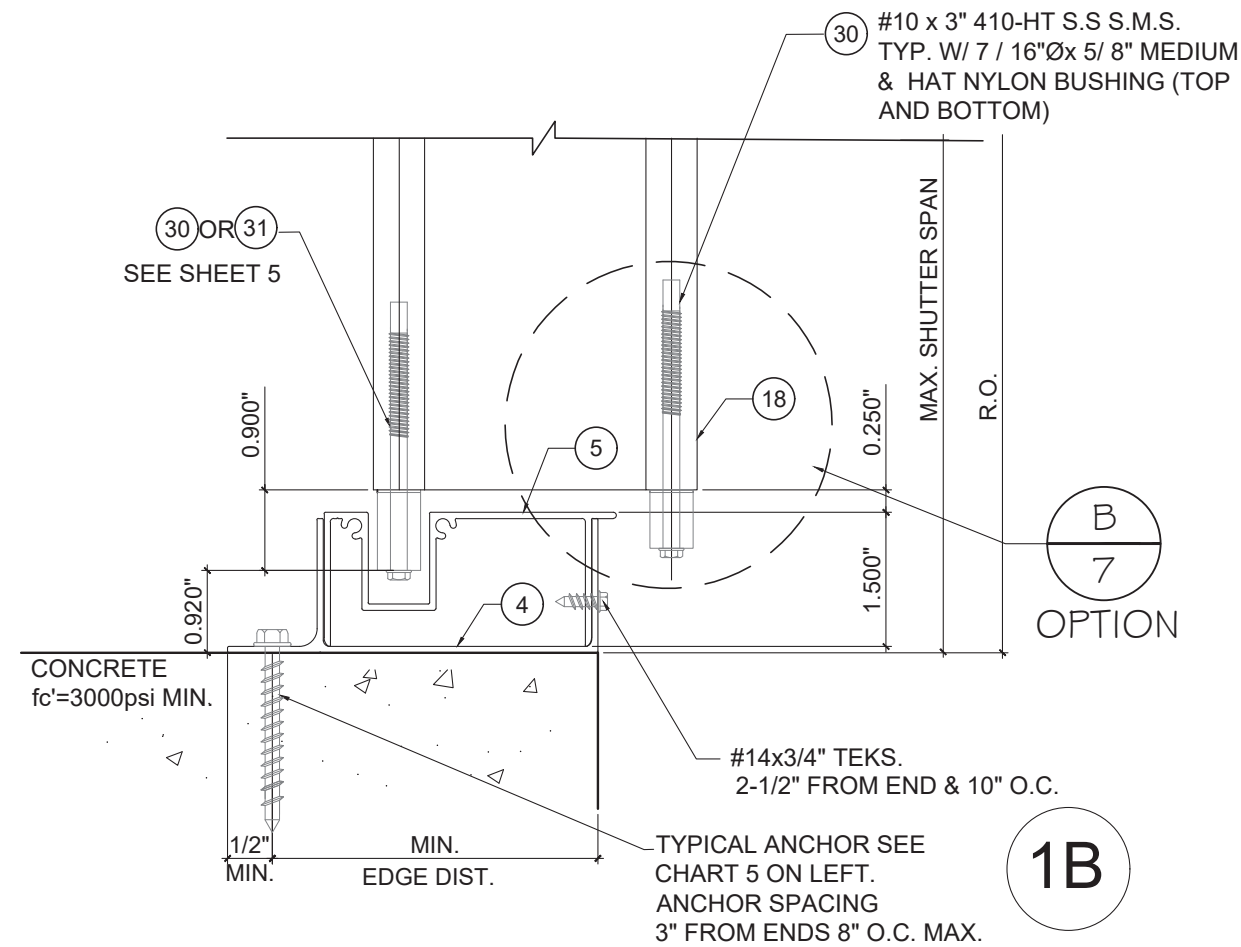
GSS GENESIS ACCORDION SHUTTER SYSTEM-1 MAGNUM  
**NCCL CORPORATION**  
9960 NW 79 AVE.  
HALEAH GARDENS, FL. 33016  
P: (305) 883 - 9940

FL#17552.2
DATE: 01.29.2024
SCALE: AS NOTED
DRAWN: James
PROJECT: MCY 20-074
DRAWING NO. AD20-15
10 OF 13

CHART 5

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART					
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 1B		DETAIL 3B	
		CONCRETE			
		ANCHOR SPACING (in.)			
PSF	INCH	TYPE A/D/F B/C/E	TYPE J	TYPE A/D/F B/C/E	TYPE J
25	132	8.0	8.0	15.0	15.0
	150	8.0	8.0	15.0	15.0
	168	8.0	8.0	15.0	15.0
	180	8.0	8.0	15.0	15.0
30	114	8.0	8.0	15.0	15.0
	132	8.0	8.0	15.0	15.0
	150	8.0	8.0	15.0	15.0
40	114	8.0	8.0	15.0	15.0
	132	8.0	8.0	15.0	15.0
	150	8.0	8.0	14.8	15.0
50	162	8.0	8.0	13.7	15.0
	96	8.0	8.0	15.0	15.0
	114	8.0	8.0	15.0	15.0
60	132	8.0	8.0	13.5	15.0
	144	8.0	8.0	12.4	15.0
	78	8.0	8.0	15.0	15.0
70	96	8.0	8.0	15.0	15.0
	108	8.0	8.0	11.8	15.0
	120	8.0	8.0	10.6	15.0
75	126	8.0	8.0	10.1	15.0
	72	8.0	8.0	15.0	15.0
	84	8.0	8.0	14.1	15.0
80	96	8.0	8.0	12.4	15.0
	108	8.0	8.0	11.0	15.0
	120	8.0	8.0	9.9	15.0
90	132	8.0	8.0	9.0	15.0
	60	8.0	8.0	15.0	15.0
	78	8.0	8.0	14.3	15.0
100	96	8.0	8.0	11.6	15.0
	126	8.0	8.0	8.8	15.0
	132	8.0	8.0	8.4	15.0
120	60	8.0	8.0	15.0	15.0
	78	8.0	8.0	12.7	15.0
	96	8.0	8.0	10.3	15.0
140	126	7.8	8.0	7.8	15.0
	60	8.0	8.0	14.8	15.0
	72	8.0	8.0	12.4	15.0
140	84	8.0	8.0	10.6	15.0
	96	8.0	8.0	9.3	15.0
	122	7.3	8.0	7.3	15.0
140	60	8.0	8.0	12.4	15.0
	72	8.0	8.0	10.3	15.0
	84	8.0	8.0	8.8	15.0
140	96	7.7	8.0	7.7	15.0
	115	6.4	8.0	6.4	15.0
	60	8.0	8.0	10.6	15.0
140	72	8.0	8.0	8.8	15.0
	84	7.6	8.0	7.6	15.0
	96	6.6	8.0	6.6	15.0
140	109	5.8	8.0	5.8	15.0

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART					
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 1B		DETAIL 3B	
		CONCRETE			
		ANCHOR SPACING (in.)			
PSF	INCH	TYPE A/D/F B/C/E	TYPE J	TYPE A/D/F B/C/E	TYPE J
160	60	8.0	8.0	9.3	15.0
	72	7.7	8.0	7.7	15.0
	84	6.6	8.0	6.6	15.0
	96	5.8	8.0	5.8	15.0
180	103	5.4	8.0	5.4	14.8
	48	8.0	8.0	10.3	15.0
	60	8.0	8.0	8.2	15.0
200	72	6.9	8.0	6.9	15.0
	84	5.9	8.0	5.9	15.0
	97	5.1	8.0	5.1	14.0
220	48	8.0	8.0	9.3	15.0
	60	7.4	8.0	7.4	15.0
	72	6.2	8.0	6.2	15.0
240	84	5.3	8.0	5.3	14.6
	92	4.8	8.0	4.8	13.2
	48	8.0	8.0	8.4	15.0
260	60	6.7	8.0	6.7	15.0
	72	5.6	8.0	5.6	15.0
	88	4.6	8.0	4.6	12.7
280	48	7.7	8.0	7.7	15.0
	60	6.2	8.0	6.2	15.0
	72	5.2	8.0	5.2	14.2
300	82	4.5	8.0	4.5	12.5
	48	7.1	8.0	7.1	15.0
	54	6.3	8.0	6.3	15.0
300	60	5.7	8.0	5.7	15.0
	76	4.5	8.0	4.5	12.4
	48	6.6	8.0	6.6	15.0
300	54	5.9	8.0	5.9	15.0
	60	5.3	8.0	5.3	14.6
	69	4.6	8.0	4.6	12.6
300	48	6.2	8.0	6.2	15.0
	54	5.5	8.0	5.5	15.0
	60	4.9	8.0	4.9	13.6



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GSS GENESIS ACCORDION SHUTTER SYSTEM-1 MAGNUM

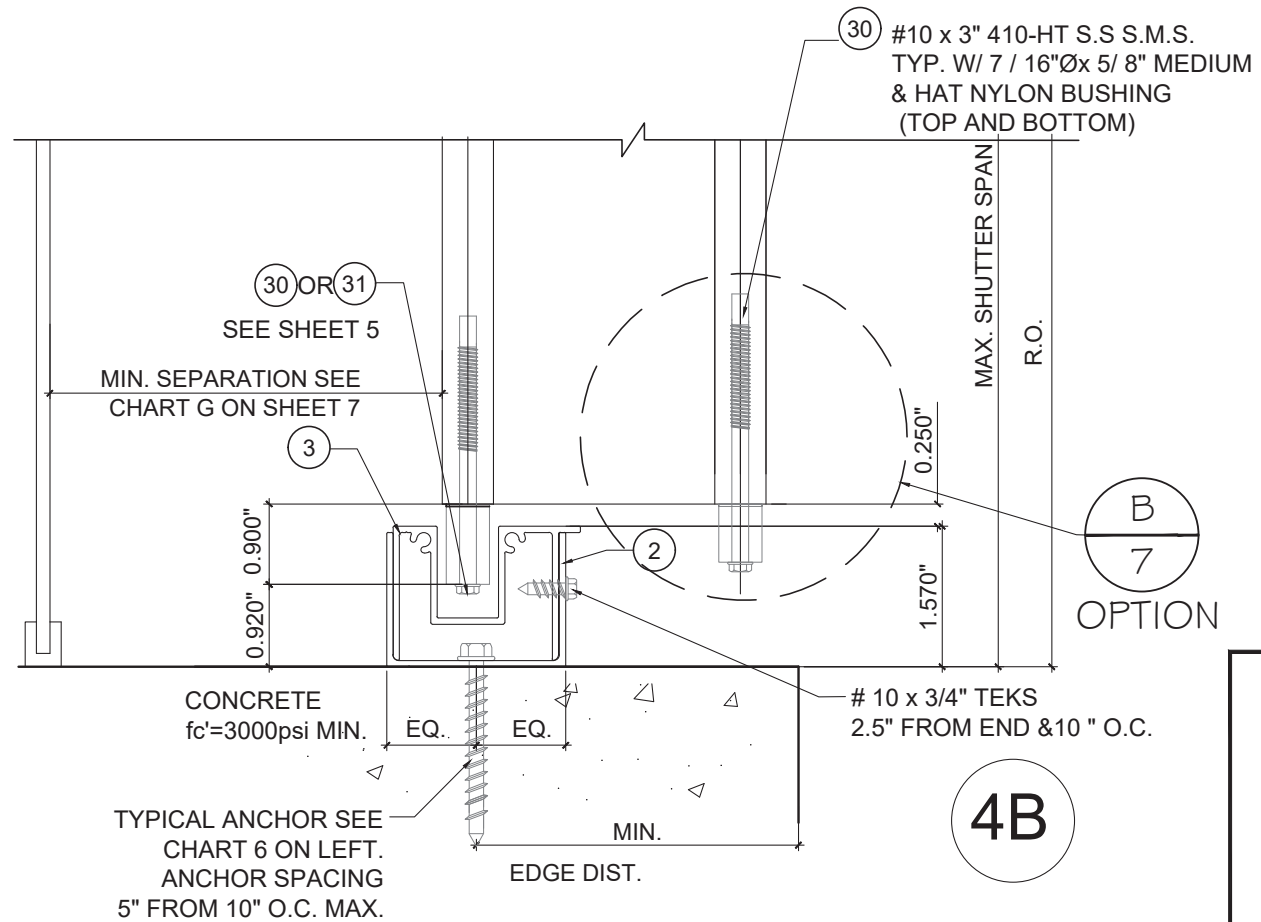
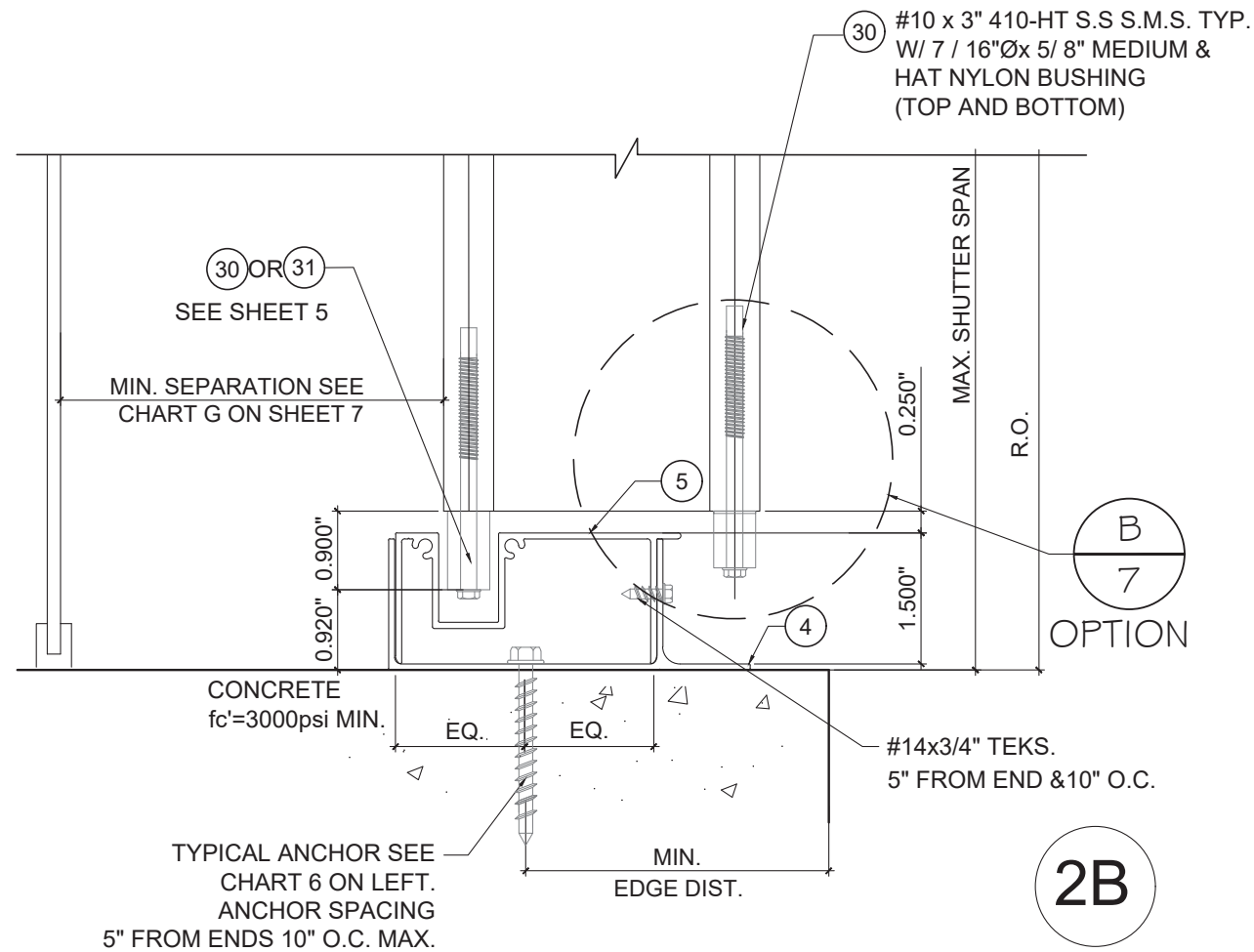
**NCCL CORPORATION**  
9960 NW 79 AVE.  
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FL#17552.2
DATE: 01.29.2024
SCALE: AS NOTED
DRAWN: James
PROJECT: MCY 20-074
DRAWING NO. AD20-15
11 OF 13

**CHART 6**

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART				
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 2B & 4B		
		CONCRETE		
		ANCHOR SPACING (in.)		
PSF	INCH	TYPE A/D/F B/C/E	TYPE J	
25	132	10.0	10.0	
	150	10.0	10.0	
	168	10.0	10.0	
	180	10.0	10.0	
30	114	10.0	10.0	
	132	10.0	10.0	
	150	10.0	10.0	
40	114	10.0	10.0	
	132	10.0	10.0	
	150	10.0	10.0	
50	96	10.0	10.0	
	114	10.0	10.0	
	132	10.0	10.0	
	144	10.0	10.0	
60	78	10.0	10.0	
	96	10.0	10.0	
	120	10.0	10.0	
	132	10.0	10.0	
70	60	10.0	10.0	
	78	10.0	10.0	
	96	10.0	10.0	
	108	10.0	10.0	
	120	10.0	10.0	
75	72	10.0	10.0	
	84	10.0	10.0	
	96	10.0	10.0	
	108	10.0	10.0	
	120	9.9	10.0	
80	60	10.0	10.0	
	78	10.0	10.0	
	96	10.0	10.0	
	126	8.8	10.0	
90	60	10.0	10.0	
	78	10.0	10.0	
	96	10.0	10.0	
	126	7.8	10.0	
100	60	10.0	10.0	
	72	10.0	10.0	
	84	10.0	10.0	
	96	9.3	10.0	
120	60	10.0	10.0	
	72	10.0	10.0	
	84	8.8	10.0	
	96	7.7	10.0	
	115	6.4	10.0	

DESIGN LOAD VS SPAN AND ANCHOR SPACING CHART				
MAX. DESIGN LOAD	SHUTTER SPAN	DETAIL 2B & 4B		
		CONCRETE		
		ANCHOR SPACING (in.)		
PSF	INCH	TYPE A/D/F B/C/E	TYPE J	
140	60	10.0	10.0	
	72	8.8	10.0	
	84	7.6	10.0	
	96	6.6	10.0	
160	109	5.8	10.0	
	60	9.3	10.0	
	72	7.7	10.0	
180	84	6.6	10.0	
	96	5.8	10.0	
	103	5.4	10.0	
200	48	10.0	10.0	
	60	8.2	10.0	
	72	6.9	10.0	
	84	5.9	10.0	
220	48	9.3	10.0	
	60	7.4	10.0	
	72	6.2	10.0	
	84	5.3	10.0	
240	92	4.8	10.0	
	48	8.4	10.0	
	60	6.7	10.0	
260	72	5.6	10.0	
	88	4.6	10.0	
	60	6.2	10.0	
280	72	5.2	10.0	
	82	4.5	10.0	
	48	7.1	10.0	
300	54	6.3	10.0	
	60	5.7	10.0	
	76	4.5	10.0	
300	48	6.6	10.0	
	54	5.9	10.0	
	60	5.3	10.0	
300	48	6.2	10.0	
	54	5.5	10.0	
	60	4.9	10.0	

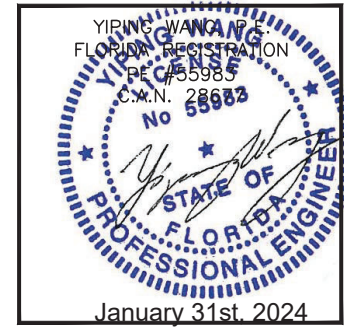


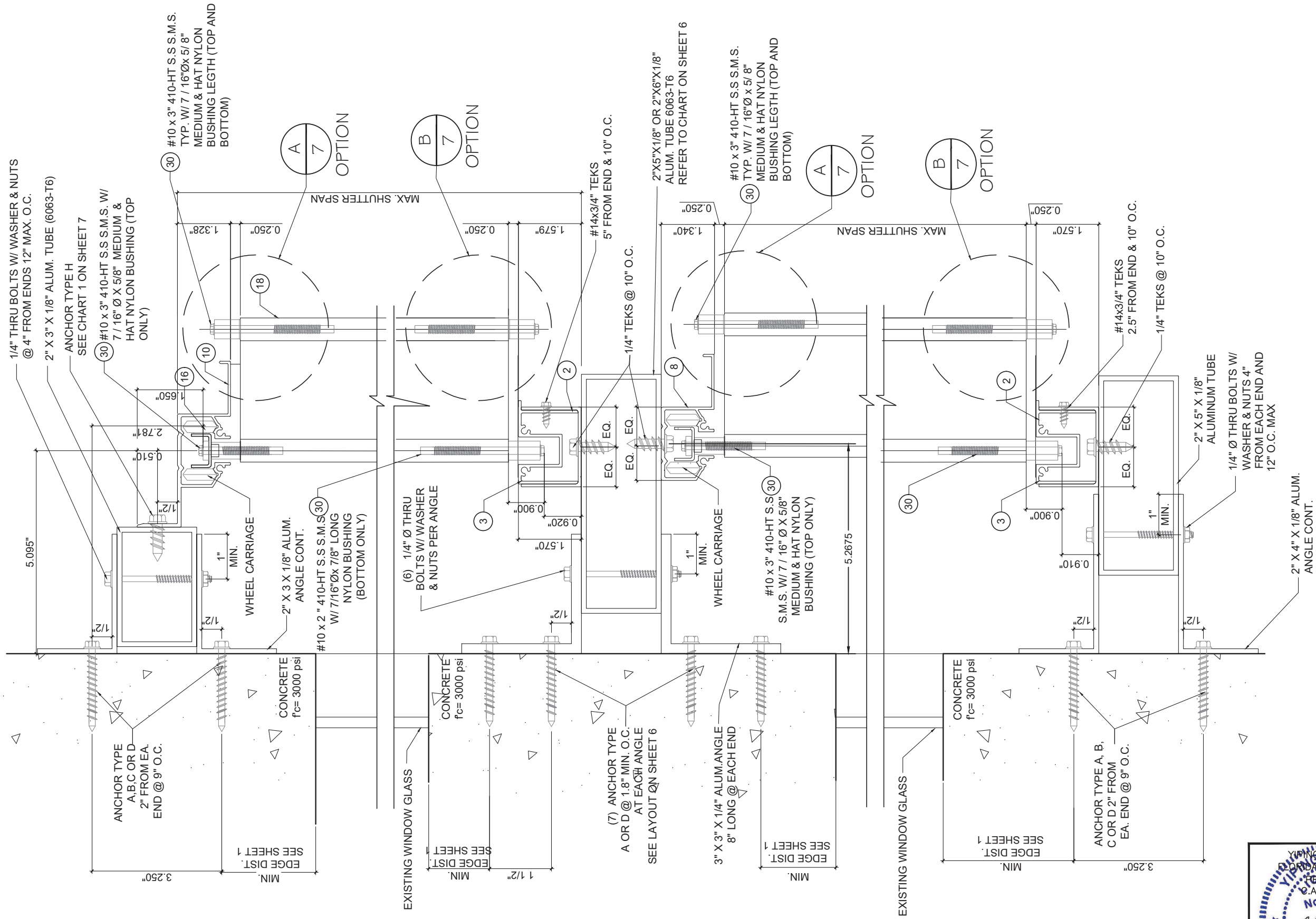
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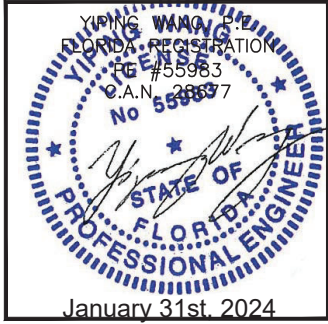
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12 OF 13





**5** B.O WALL MOUNTING INSTALLATION  
HEAVY DUTY TRACK



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PROJECT	MCY 20-074
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