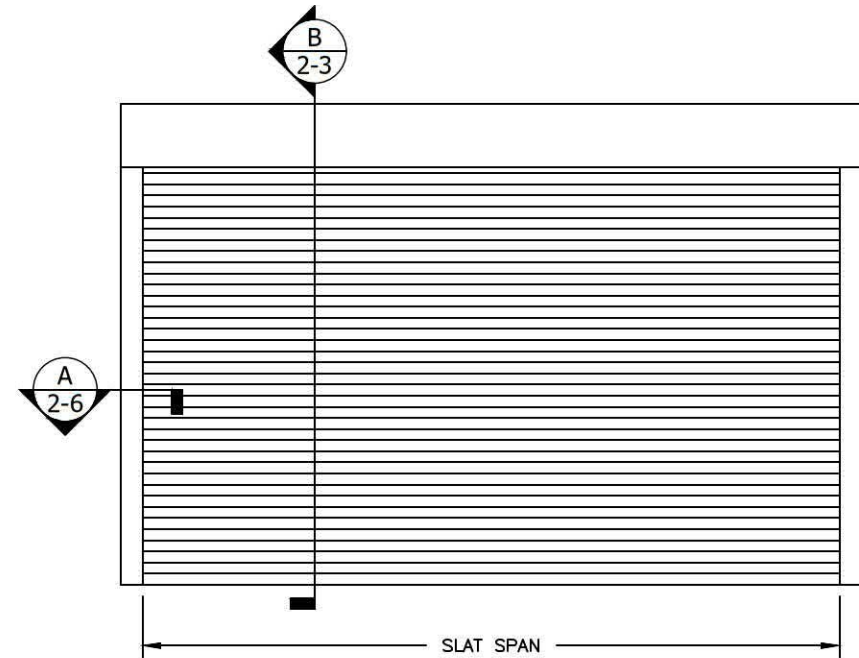
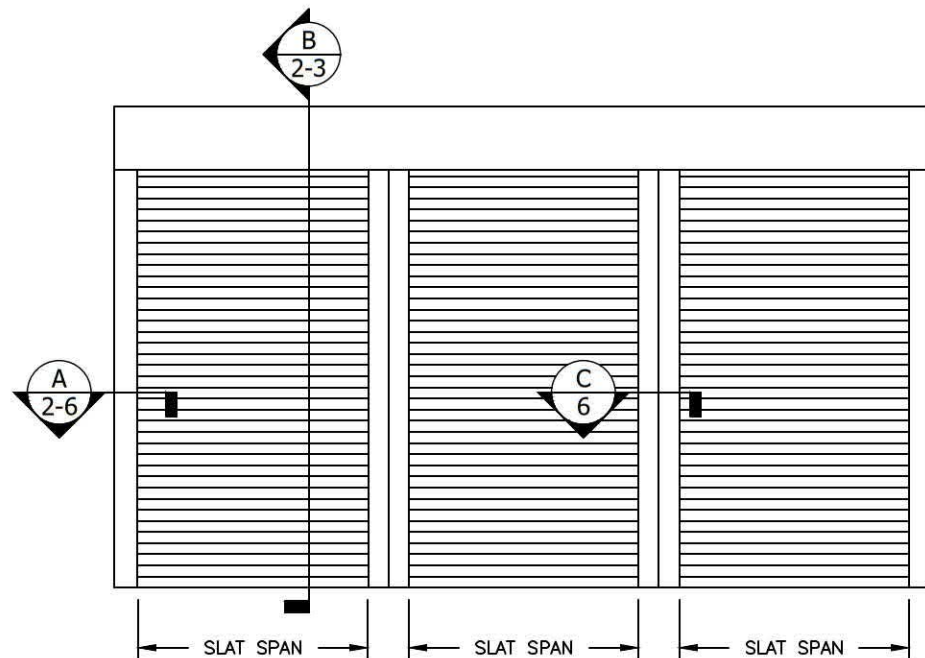




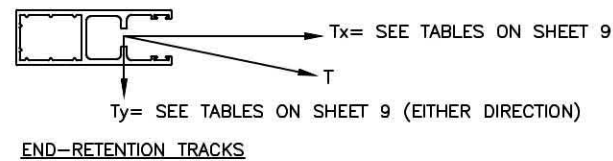
TYPICAL SINGLE UNIT ELEVATION
SINGLE SPAN UNIT INSTALLATION - N.T.S.



TYPICAL MULTIPLE UNIT ELEVATION
INTERMEDIATE MULLION REQUIRED FOR INSTALLATION - N.T.S.

GENERAL NOTES:

- TKJ ENGINEERING, LLC. HAS NO CONTROL OF THE MANUFACTURING, PERFORMANCE, OR INSTALLATION OF THIS PRODUCT. THESE GENERIC PLANS WERE ENGINEERED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICES AND TEST DATA PROVIDED BY THE MANUFACTURER.
- THE ROLL-UP SHUTTERS SHOWN ON THIS PRODUCT EVALUATION DOCUMENT HAS BEEN DESIGNED IN ACCORDANCE WITH THE 8TH EDITION (2023) FLORIDA BUILDING CODE (FBC) AND THE 2021 INTERNATIONAL BUILDING CODE (IBC). THESE ROLL-UP SHUTTERS SHALL NOT BE INSTALLED IN HIGH VELOCITY HURRICANE ZONES (MIAMI-DADE COUNTY/BROWARD COUNTY). ROLL-UP SHUTTERS INSTALLED IN WIND ZONE 4 (SEE FBC SECTION 1609.1.2.2), OR ESSENTIAL FACILITIES SHALL MEET THE MINIMUM SEPARATION TO GLASS. DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1609 OF THE ABOVE REFERENCED CODES, IN ACCORDANCE WITH ASCE 7-22, AND FOR A BASIC WIND SPEED AS REQUIRED BY THE JURISDICTION WHERE THE ROLL-UP SHUTTERS WILL BE INSTALLED. THE ROLL-UP SHUTTERS ADEQUACY FOR IMPACT, DEFLECTION, AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1609.1.2 OF THE ABOVE REFERENCED CODES AND AS PER TAS 201, 202, 203 AND ASTM E1886 & E1996 AT FENESTRATION TESTING LABORATORY, INC. (SEE LIST OF REPORTS).
- LIMITATIONS OF USE:
 - THIS PRODUCT SHALL NOT BE USED IN HIGH VELOCITY HURRICANE ZONES (SEE FBC SECTION 202),
 - THIS PRODUCT IS QUALIFIED AS "NON POROUS" THEREFORE GLASS SEPARATION IS NOT REQUIRED EXCEPT FOR THE FOLLOWING LOCATIONS.
 - ESSENTIAL FACILITIES AS DEFINED IN ASCE 7-22
 - WHERE THE SPECIFYING AUTHORITY HAS SPECIFIED OPTIONAL ADDITIONAL PASS/FAIL CRITERIA IN ACCORDANCE WITH ASTM E1996 FOR WIND ZONE 4 AS DEFINED IN ASTM E1996 WITH MODIFICATION BY THE FBC/IBC SECTION 1609.1.2.2 (FBC: LOCATIONS WITH ULTIMATE WIND SPEED GREATER THAN 170 MPH).
 - INSTALLATION IN THESE LOCATIONS SHALL MEET THE MINIMUM SEPARATION TO GLASS TABLES ON SHEET 9.
 - INSTALLATION WITH INTERMEDIATE, END, AND CORNER MULLIONS REQUIRE A FLORIDA PRODUCT APPROVAL FOR USE WITH THIS TYPE OF SHUTTER SYSTEM.
 - INSTALLATIONS SHALL NOT EXCEED THE MAXIMUM ALLOWABLE STRESS DESIGN (ASD) DESIGN RATINGS AND MAXIMUM SIZE LIMITS BELOW. ULTIMATE DESIGN WIND LOADS DETERMINED BY THE FBC AND ASCE 7-22 SHALL BE REDUCED TO ASD BY MULTIPLYING 0.6 (SEE FBC SECTION 1609.1.2.4).
 - 36 PSF MAX. PRESSURE @ 288" MAX. WIDTH
 - 120 PSF MAX. PRESSURE @ 114" MAX. WIDTH
 - SEE TABLES ON SHEETS 10 THROUGH 15
 - IMPACT LEVEL D; 9-1/4 LB LARGE MISSILE IMPACT.
 - ANCHORING OR LOADING CONDITIONS OTHER THAN THOSE SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL
 - INCREASE IN ALLOWABLE STRESS (1.33) HAS NOT BEEN INCORPORATED INTO THE DESIGN OF THIS PRODUCT.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE EXISTING STRUCTURE IS DESIGNED TO SUPPORT THE LOADS FROM THE SHUTTER SYSTEM AND MULLIONS. EXISTING STRUCTURES NOT ABLE TO SUPPORT THESE LOADS SHALL BE EVALUATED AS A SITE SPECIFIC PROJECT. SEE NOTE 4 OF PRODUCT EVALUATION NOTES.



- ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T6 ALLOY (UNLESS OTHERWISE NOTED OR CAN BE REPLACED WITH 6061-T6 ALLOY).
- SHUTTERS MAY BE MOTOR, TAPE PULLEY, OR GEAR DRIVEN.
- SHUTTER MANUFACTURE'S LABELS SHALL BE IN ACCORDANCE WITH SECTION 1709.9 OF THE FLORIDA BUILDING CODE.

PRODUCT EVALUATION NOTES:

- 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. OR WHEN LOADS ON EXISTING STRUCTURE FROM SHUTTER SYSTEM ARE DETERMINED FROM THE LABORATORY DEFLECTIONS INSTEAD OF USING LOADS PROVIDED ON SHEET 9.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE SELECTION, PURCHASE, AND INSTALLATION INCLUDING LIFE SAFETY OF THIS PRODUCT BASED ON THIS PRODUCT EVALUATION PROVIDED AND SHALL NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT.
- THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.
- 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. THE ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE P.E.D. ENGINEER, SHALL SUBMIT SITE SPECIFIC DRAWINGS FOR REVIEW.

ANCHOR & FASTENING NOTES:

- ALL FASTENERS SHALL BE CORROSION RESISTANT COATED CARBON STEEL AS PER DIN 50018 OR STAINLESS STEEL 304 OR 316 SERIES WITH 50 KSI YIELD POINT AND 90 KSI ULTIMATE TENSILE STRENGTH.
- NO EMBEDMENT INTO NON-STRUCTURAL COMPONENTS SUCH AS, STUCCO, TILE, SIDING, ETC. SHALL BE CONSIDERED AS PART OF THE EMBEDMENT.
- THE ANCHOR SPACING AND DESIGN PRESSURES ARE VALID FOR EDGE DISTANCES AND MINIMUM EMBEDMENT SHOWN ON SHEET 9. THE MINIMUM EDGE DISTANCE FOR THE 1/4-14 & 5/16-24 DRILL-FLEX SCREW IS 1/2" AND SHALL BE ATTACHED TO 6063-T6 ALUMINUM OR A36 STEEL (OR BETTER).

EVALUATION BASED ON:
FENESTRATION TESTING LABORATORY, INC.

LABORATORY No. 5424
DATE: NOVEMBER 7, 2007
REPORT NO. 1
FILE NUMBER 07-374
TESTING PROTOCOL: TAS 201, 202, 203
MAXIMUM WIDTH TESTED=290.25"
DESIGN PRESSURE = 45.0 PSF
STRUCTURAL LOAD = 67.5 PSF
DEFLECTION @ 45.0 PSF = 19.4"
DEFLECTION @ 67.5 PSF = 26.5"
MINIMUM WIDTH TESTED=150.5"
DESIGN PRESSURE = 90.0 PSF
STRUCTURAL LOAD = 135.0 PSF
DEFLECTION @ 90.0 PSF = 5.7"
DEFLECTION @ 135.0 PSF = 9.1"

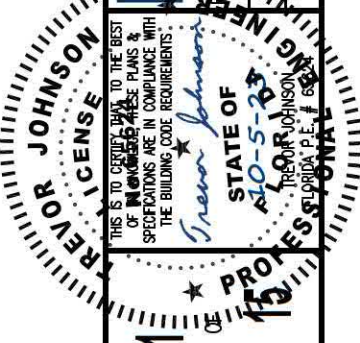
LABORATORY No. 8764 & 8778
DATE: FEBRUARY 25, 2016
PROJECT NO. 15-6193
CERT. NO. TST-157
TESTING PROTOCOL: TAS 201, 203 & ASTM E330, E1886 & E1996
MAXIMUM WIDTH TESTED= 292.5"
DESIGN PRESSURE = 40.0 PSF
STRUCTURAL LOAD = 60.0 PSF
DEFLECTION @ 40.0 PSF = 12.2"
DEFLECTION @ 60.0 PSF = 20.7"
MINIMUM WIDTH TESTED = 112.875"
DESIGN PRESSURE = 120.0 PSF
STRUCTURAL LOAD = 180.0 PSF
DEFLECTION @ 120.0 PSF = 6.7"
DEFLECTION @ 180.0 PSF = 7.8"

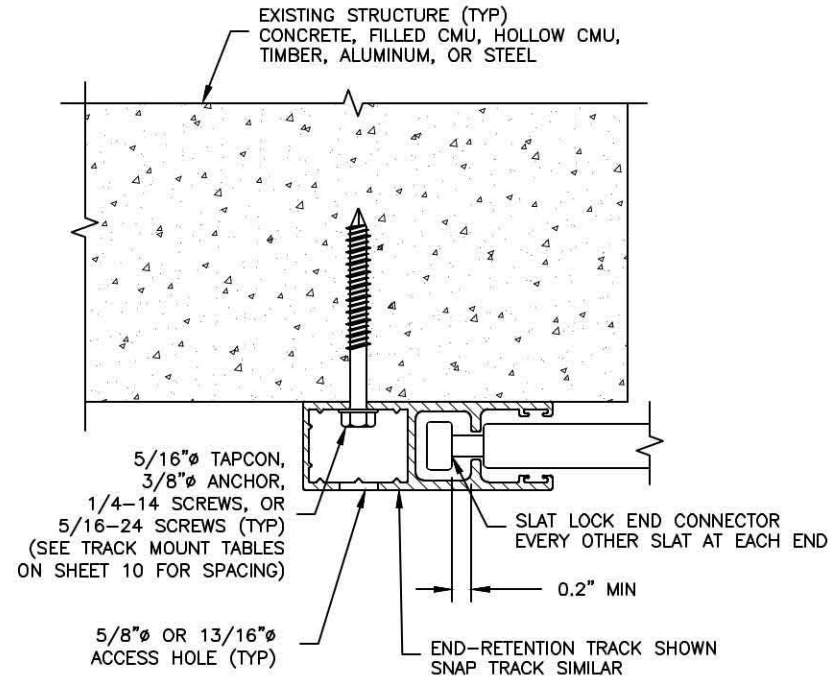
REVISIONS	DATE	#



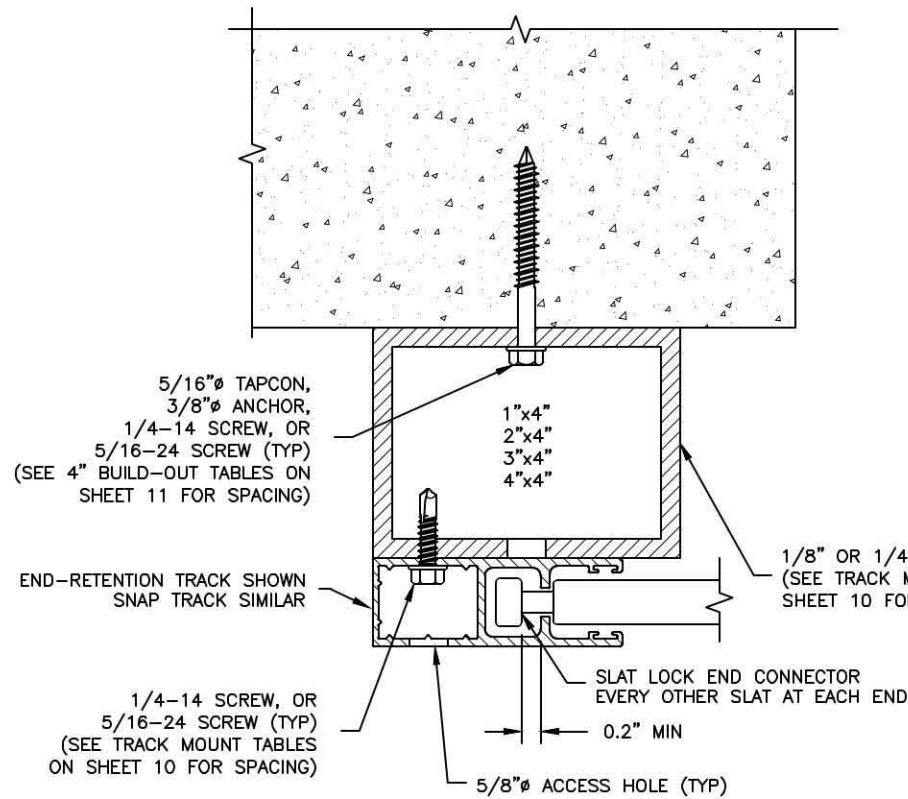
AHT 58MM SHUTTER

TKJ Engineering, LLC.	1835 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569 PH: 813.404.7649; EM: TKJENGINEERING@VERIZON.NET CERTIFICATE OF AUTHORIZATION NUMBER: 28582	PROJ. #:
DATE:	DRAWN BY:	SCALE:
10/5/23	TKJ	N.T.S.
DATE:	DRAWN BY:	SCALE:
10/5/23	TKJ	N.T.S.

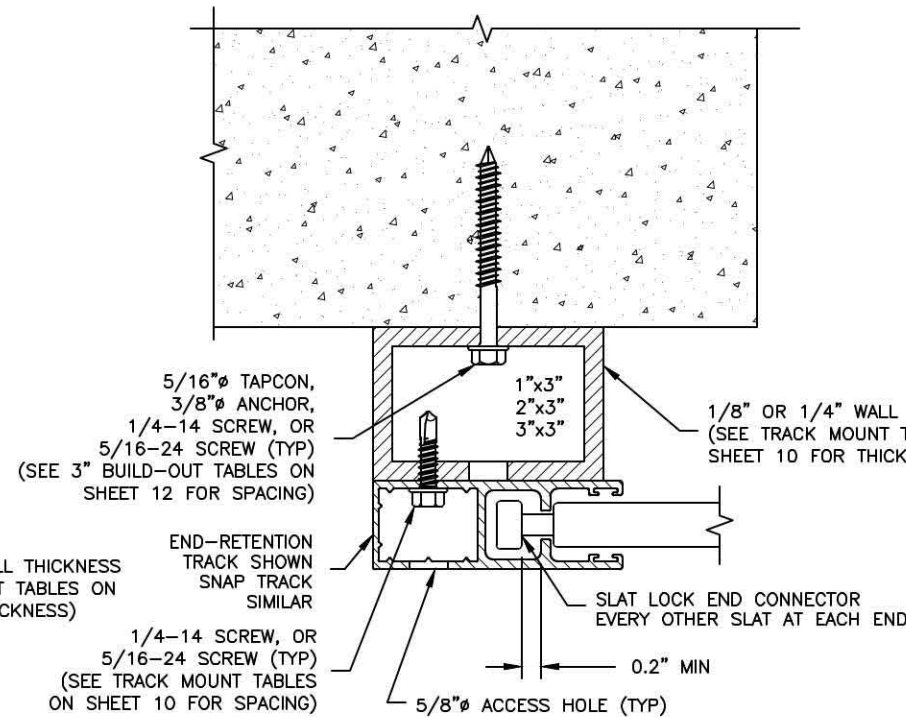




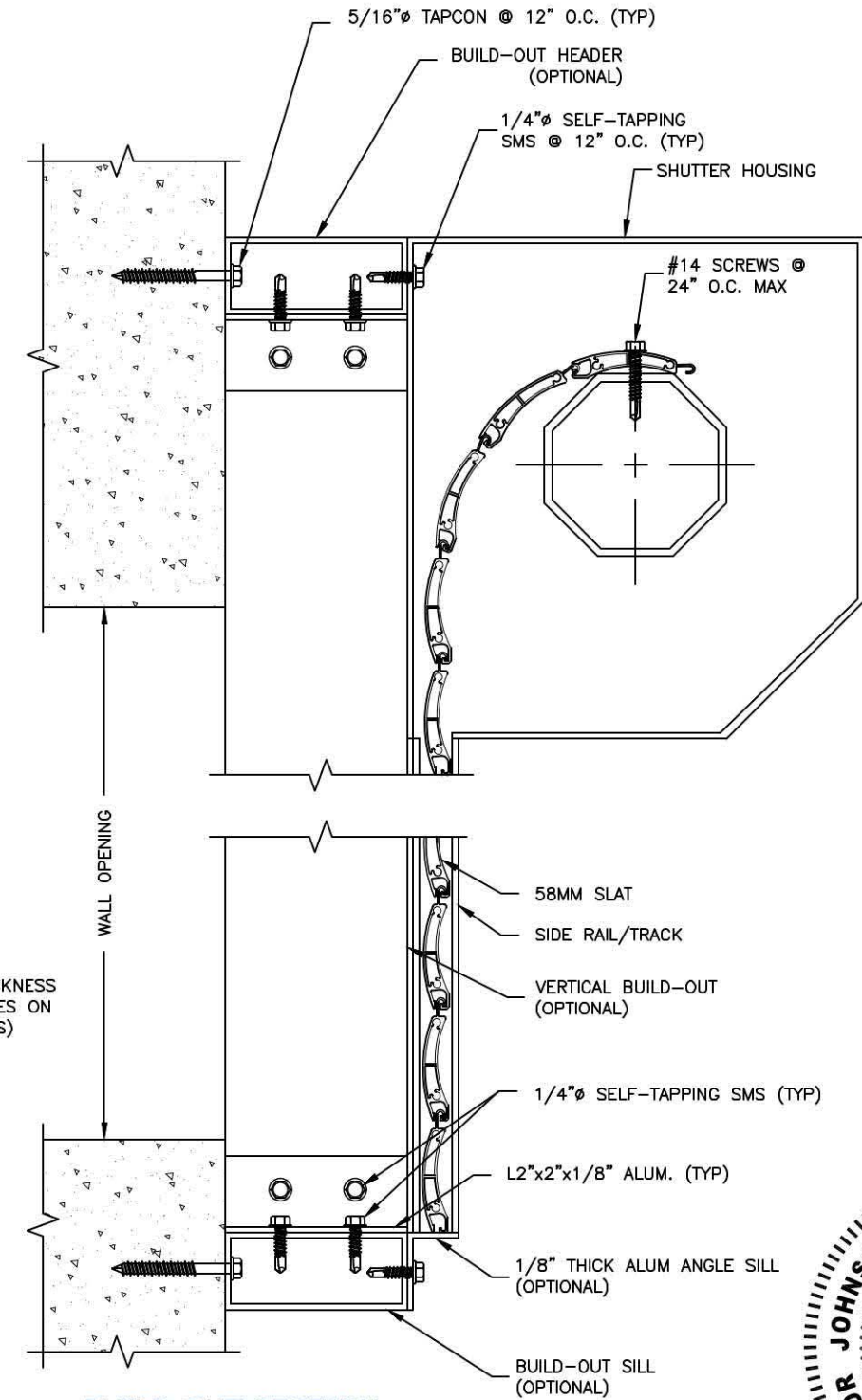
A WALL MOUNT (OPTION 1)
3 1/4" END-RETENTION TRACK - N.T.S.



A 4" BUILD-OUT (OPTION 2A)
END-RETENTION INSTALLATION - N.T.S.



A 3" BUILD-OUT (OPTION 2B)
END-RETENTION INSTALLATION - N.T.S.



B BUILD-OUT SECTION
END-RETENTION INSTALLATION - N.T.S.

NOTE: ACCESS HOLES FOR 3/8" ANCHORS ARE 13/16"

REV	DATE	REVISIONS
1		
2		
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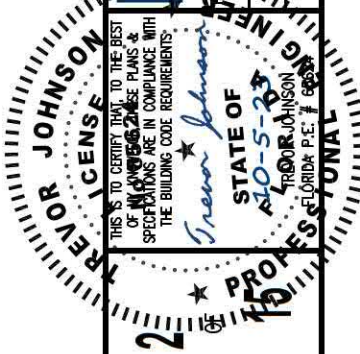
AHT
ADVANCED HURRICANE TECHNOLOGY
16501 OLD AIRPORT HAIL RD. FORT MYERS, FL 33913
PHONE: 239.260.0020; SALES@AHT-USA.NET
AHTWORLDWIDE.COM

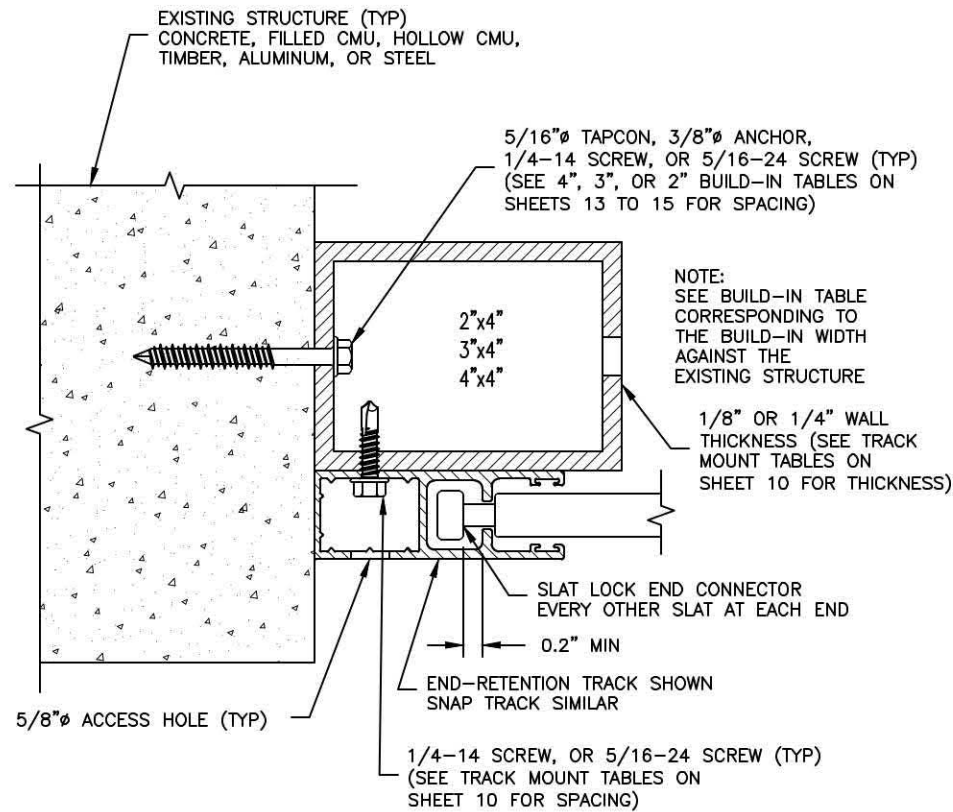
AHT 58MM SHUTTER

TKJ Engineering, LLC.

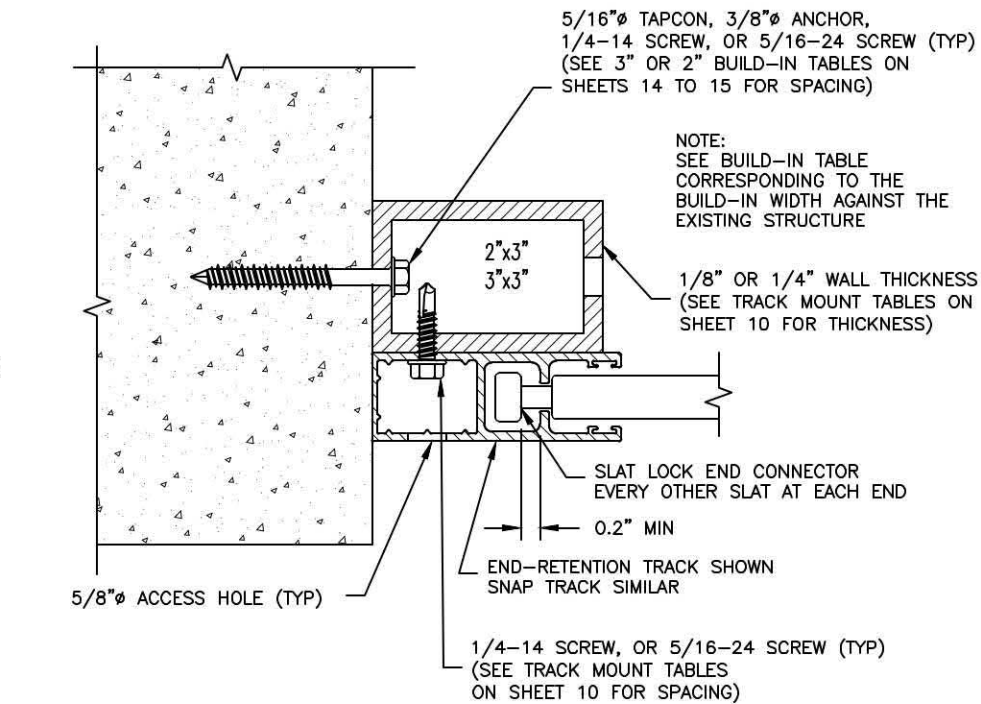
11235 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
TEL: 813.404.7649; EM: TKJENGINEERING@VERIZON.NET
CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: 10/5/23
DRAWN BY: TKJ
SCALE: N.T.S.
PROJ. #: 23-0804

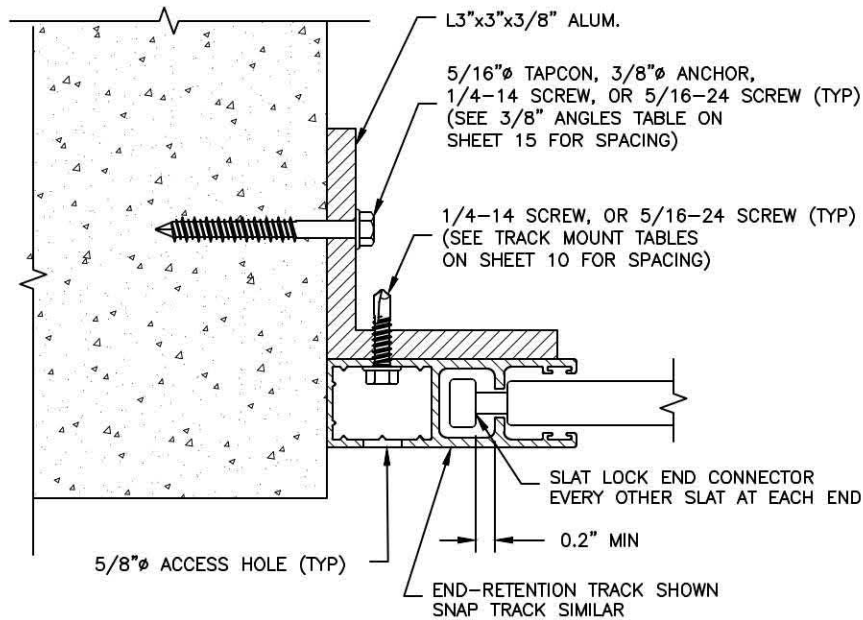




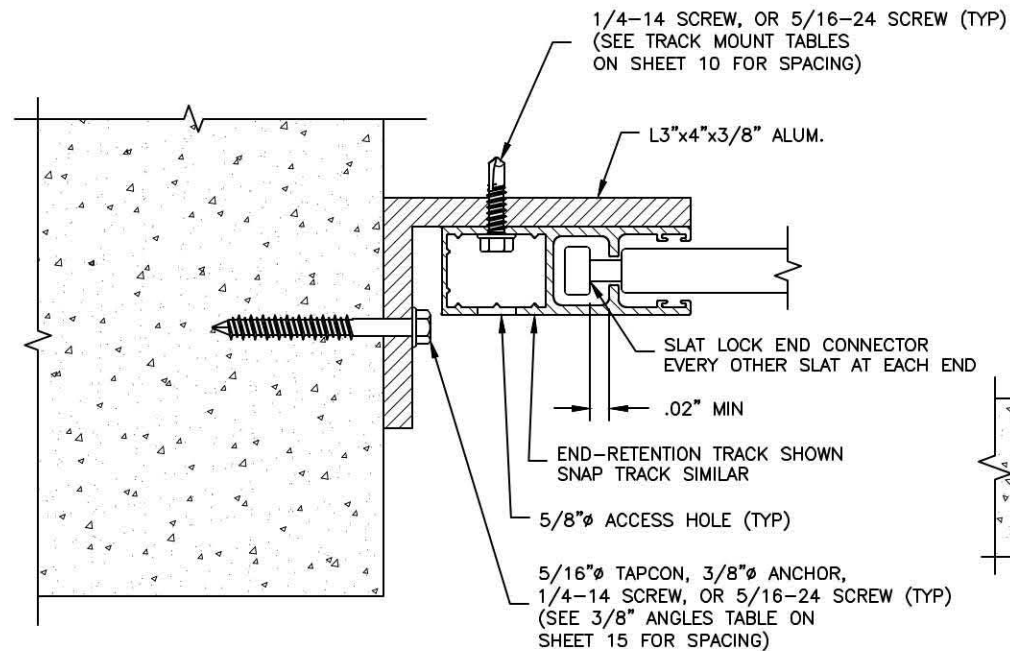
A 4", 3", OR 2" BUILD-IN (OPTION 3A)
END-RETENTION INSTALLATION - N.T.S.



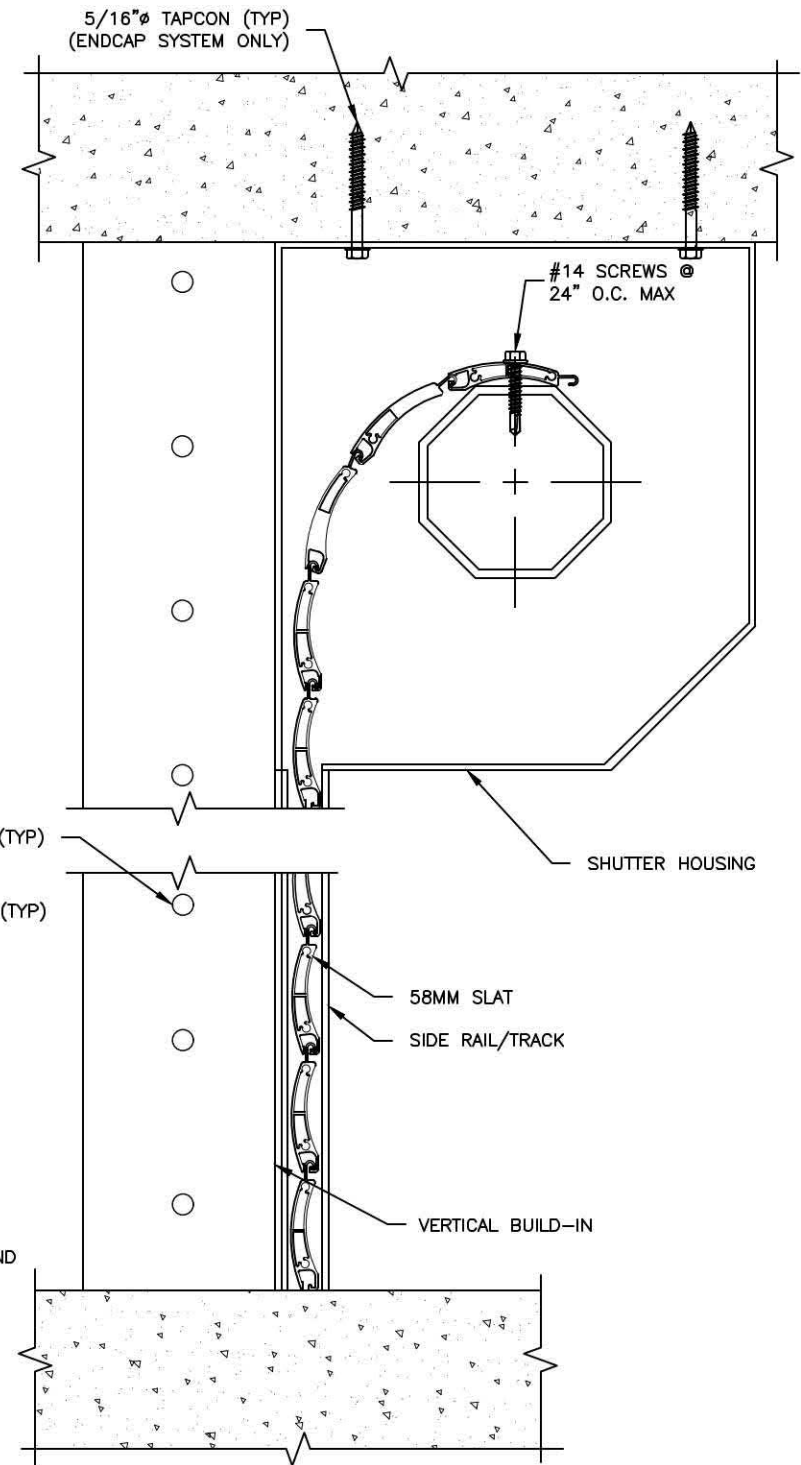
A 3", OR 2" BUILD-IN (OPTION 3B)
END-RETENTION INSTALLATION - N.T.S.



A L3x3x3/8 ANGLE BUILD-IN (OPTION 4A)
END-RETENTION INSTALLATION - N.T.S.



A L3x4x3/8 ANGLE BUILD-IN (OPTION 4B)
END-RETENTION INSTALLATION - N.T.S.



B BUILD-IN SECTION
END-RETENTION INSTALLATION - N.T.S.

NOTE: ACCESS HOLES FOR 3/8" ANCHORS ARE 13/16"Ø

REV	DATE	REVISIONS

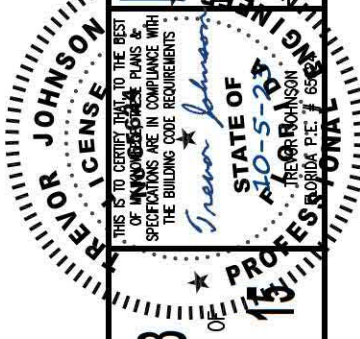


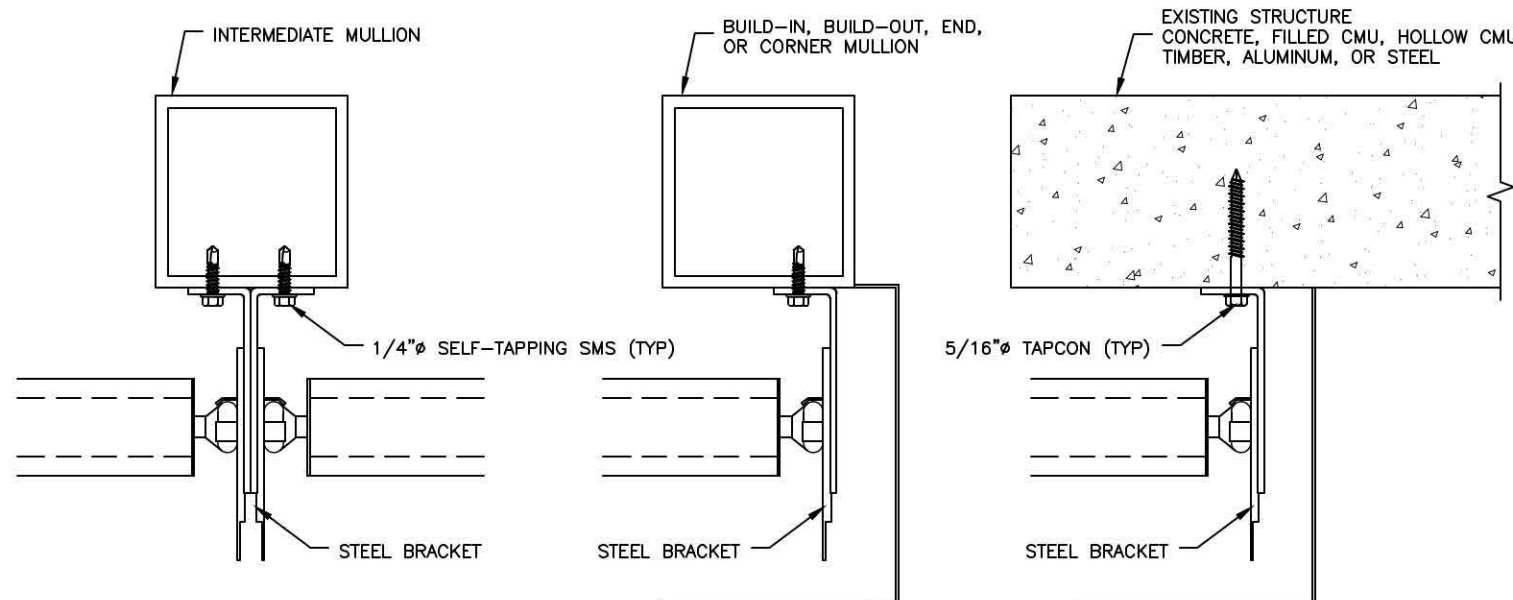
AHT 58MM SHUTTER

TKJ Engineering, LLC.

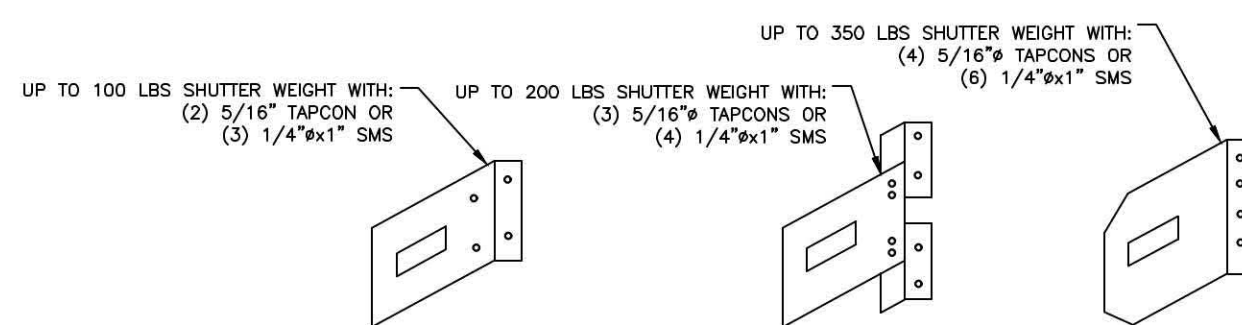
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TEL: 313.404.7649; EM: TKJENGINEERING@VERIZON.NET
CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: 10/5/23
DRAWN BY: TKJ
SCALE: N.T.S.
PROJ. #: 23-0804

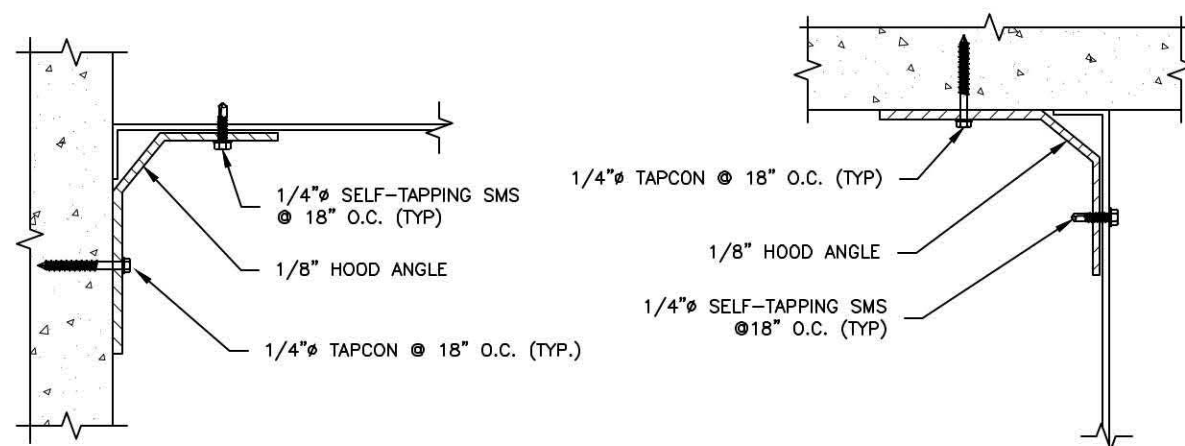




MOUNTING BRACKET INSTALLATION
END-RETENTION INSTALLATION - N.T.S.

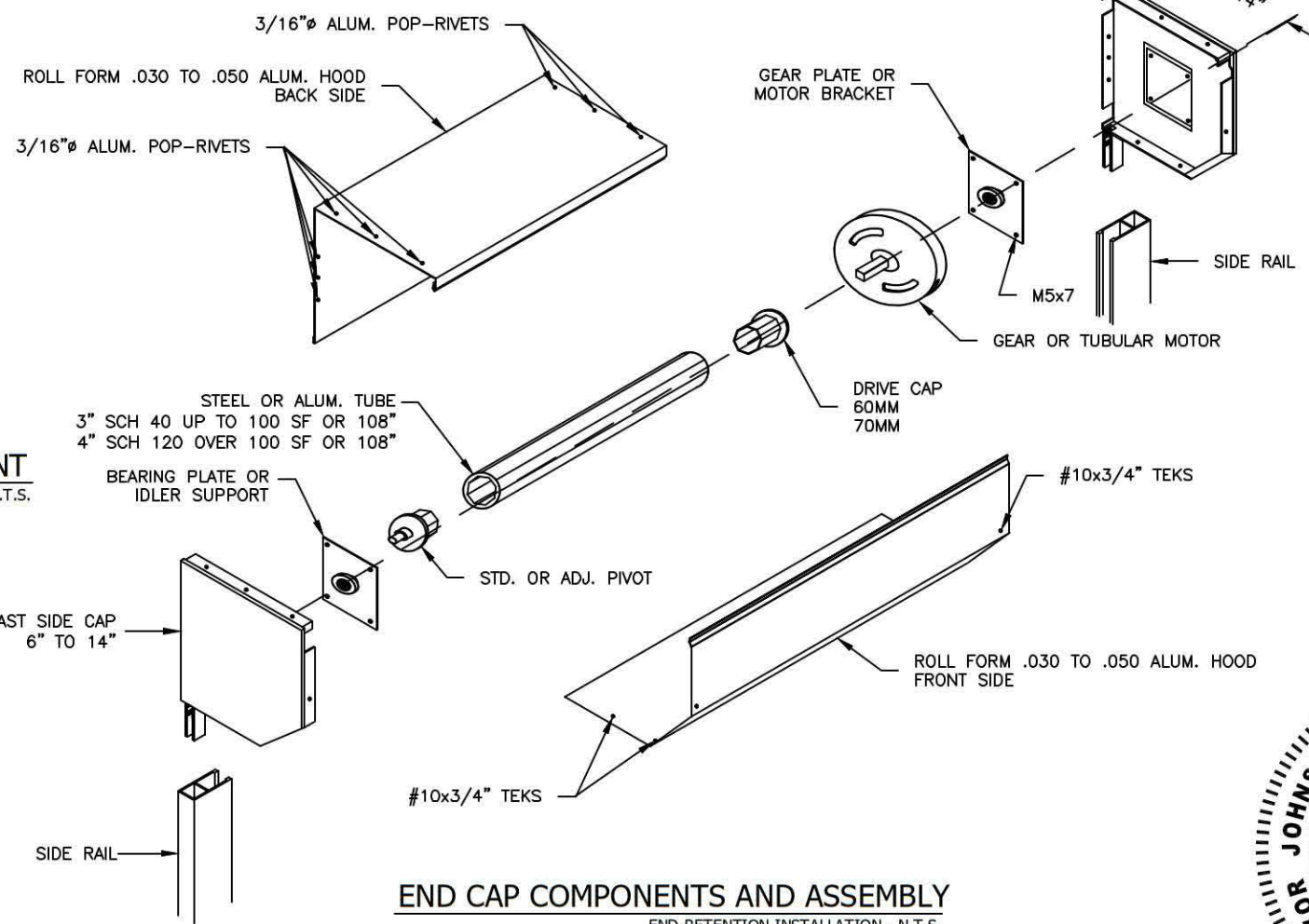


MOUNTING BRACKET
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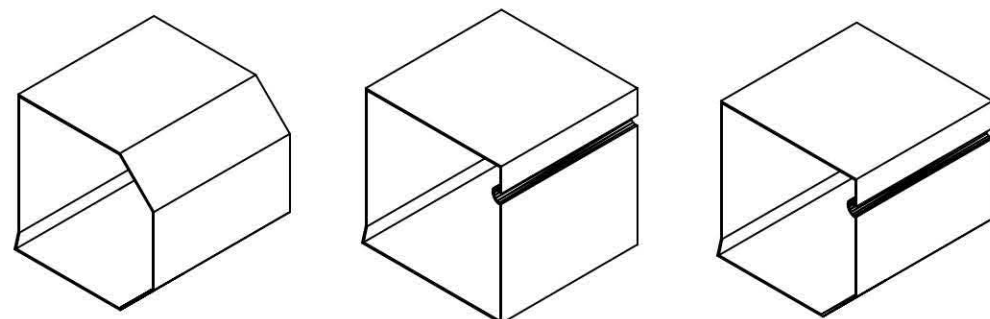


CUSTOM HOOD WALL ATTACHMENT
END-RETENTION INSTALLATION - N.T.S.

CUSTOM HOOD CEILING ATTACHMENT
END-RETENTION INSTALLATION - N.T.S.



END CAP COMPONENTS AND ASSEMBLY
END-RETENTION INSTALLATION - N.T.S.



ALUMINUM HOOD COVER
END-RETENTION INSTALLATION - N.T.S.

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ADVANCED HURRICANE TECHNOLOGY
16501 OLD AIRPORT HALL RD, FORT MYERS, FL 33913
PHONE: 239.260.0020; SALES@AHT-USA.NET
AHTWORLDWIDE.COM

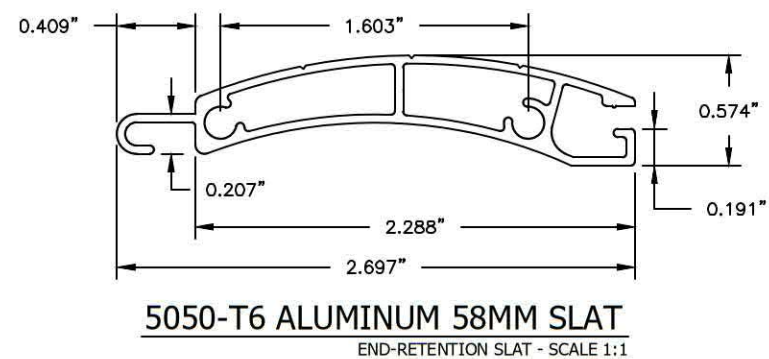
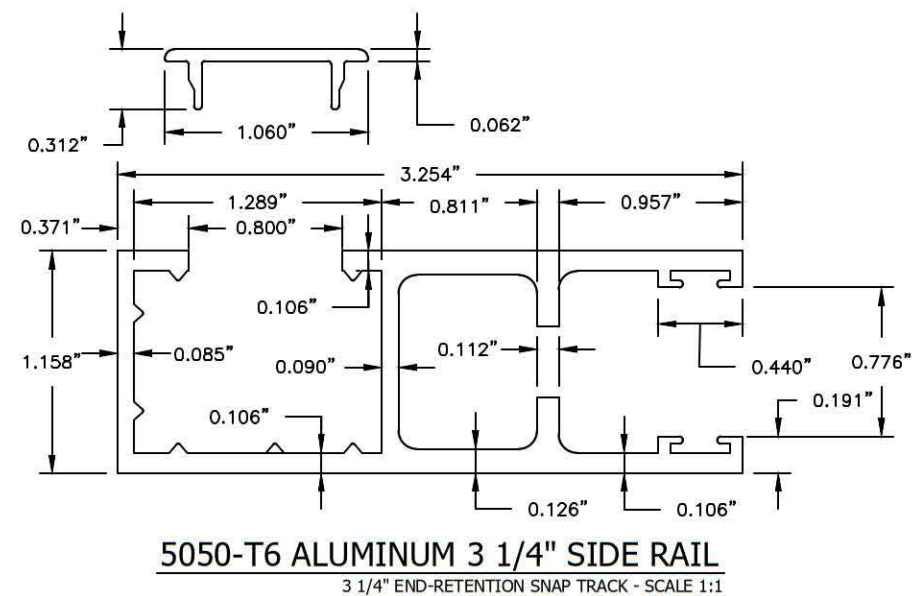
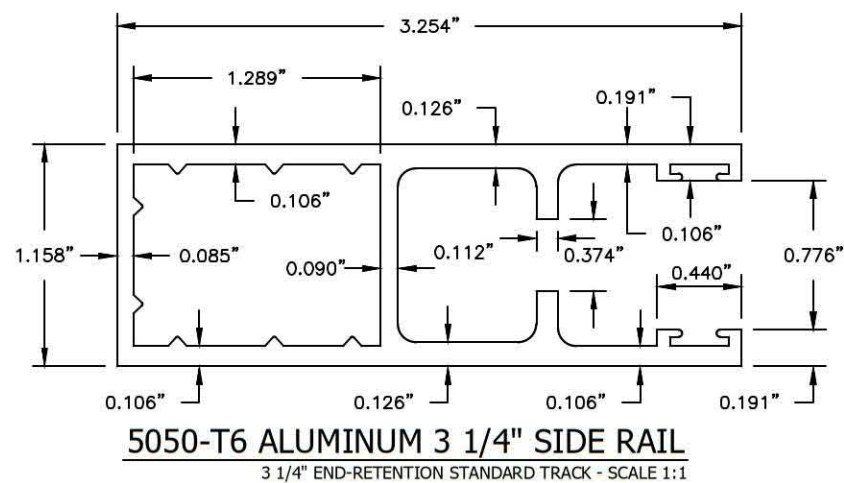
AHT 58MM SHUTTER

DATE	DRAWN BY	SCALE	PROJ. #
10/5/23	TKJ	N.T.S.	23-0804

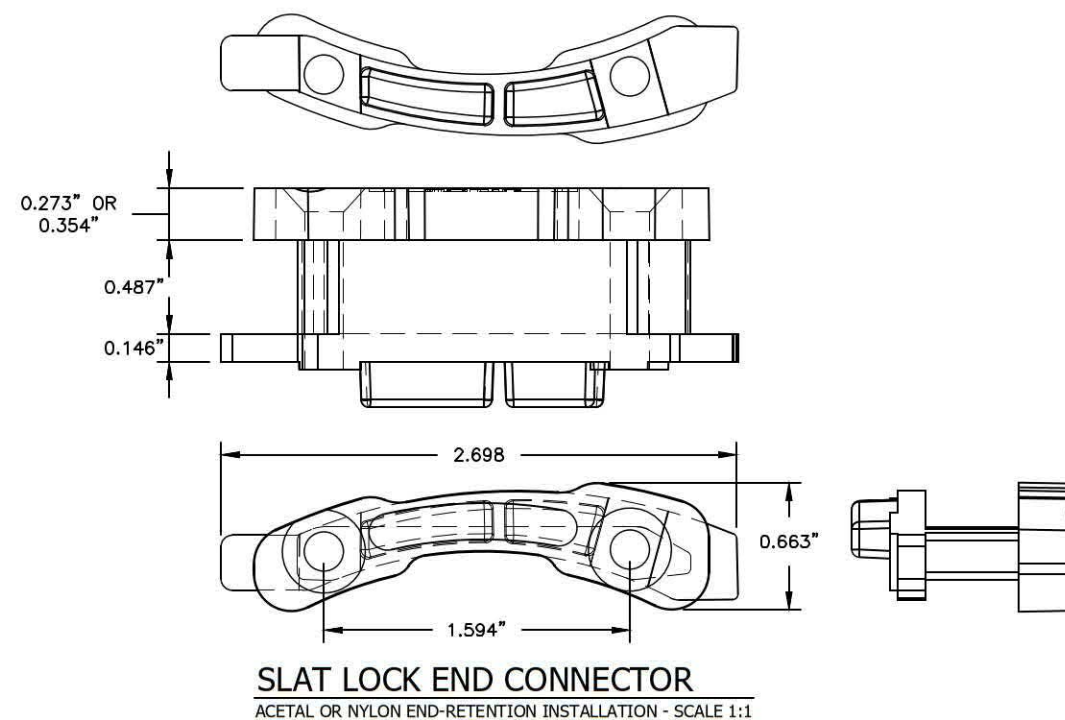
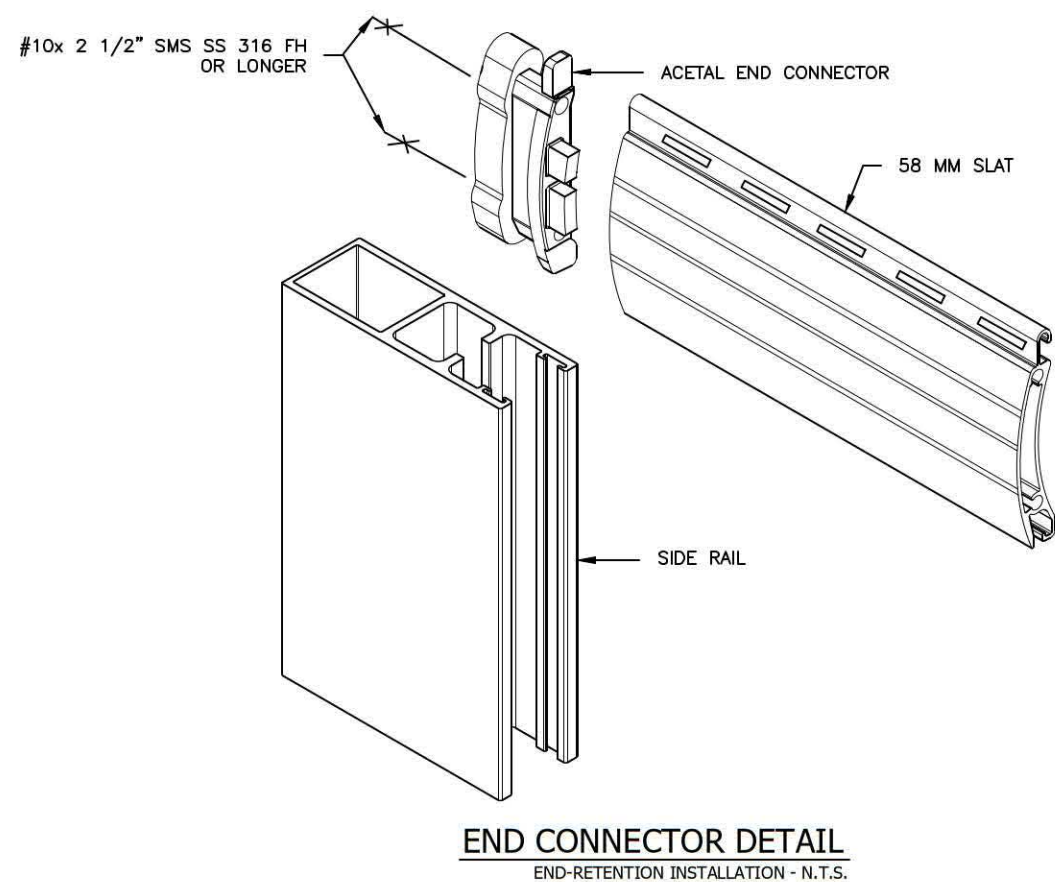
TK Engineering, LLC.
11835 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
PH: 813.404.7649; EM: TKENGINEERING@VERIZON.NET
CERTIFICATE OF AUTHORIZATION NUMBER: 28582

THIS IS TO CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THESE PLANS & SPECIFICATIONS ARE IN COMPLIANCE WITH THE BUILDING CODE REQUIREMENTS.

Travis Johnson
STATE OF FLORIDA
PROFESSIONAL ENGINEER
No. 105523
EXPIRATION DATE 12/31/2024



NOTES: MODULES OF ELASTICITY E = 10,100 KSI
MOMENT OF INERTIA I = .041 IN⁴/FT
SECTIONAL AREA A = 1.606 IN²/FT
SLACK (SLIP) Slack = .25±.04 IN



REVISIONS	
#	DATE

ADVANCED HURRICANE TECHNOLOGY
16501 OLD AIRPORT HAIL RD, FORT MYERS, FL 33913
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AHTWORLDWIDE.COM

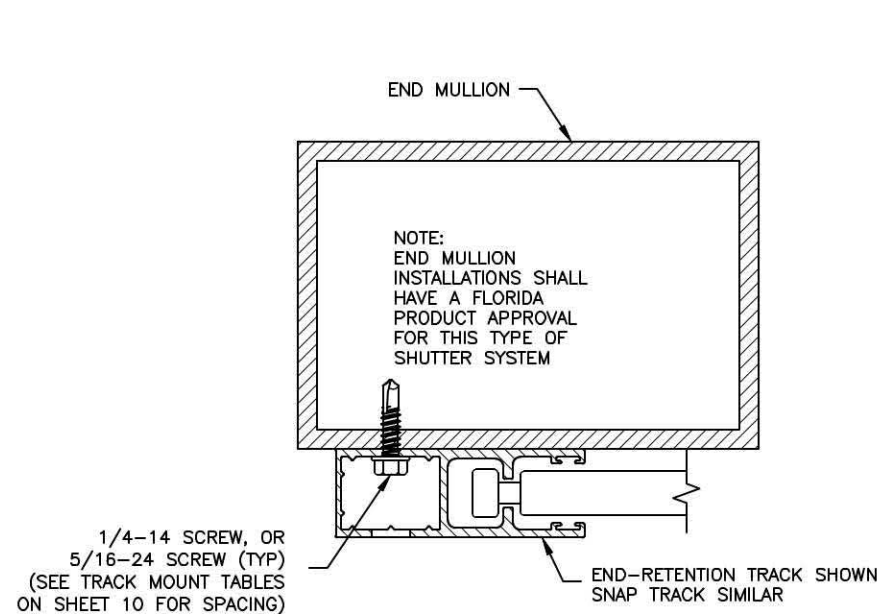
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TKJ Engineering, LLC.
11835 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
PH: 281.340.4764; EM: TKJENGINEERING@VERIZON.NET
CERTIFICATE OF AUTHORIZATION NUMBER: 28582

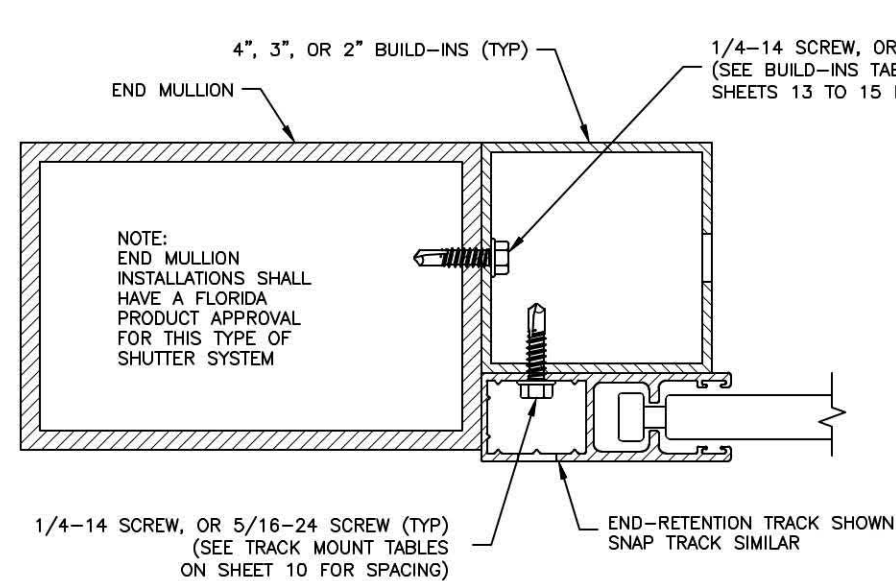
DATE:	DRAWN BY:	SCALE:	PROJ. #:
10/5/23	TKJ	N.T.S	23-0804

THIS IS TO CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE PLANS & SPECIFICATIONS ARE IN COMPLIANCE WITH THE BUILDING CODE REQUIREMENTS.

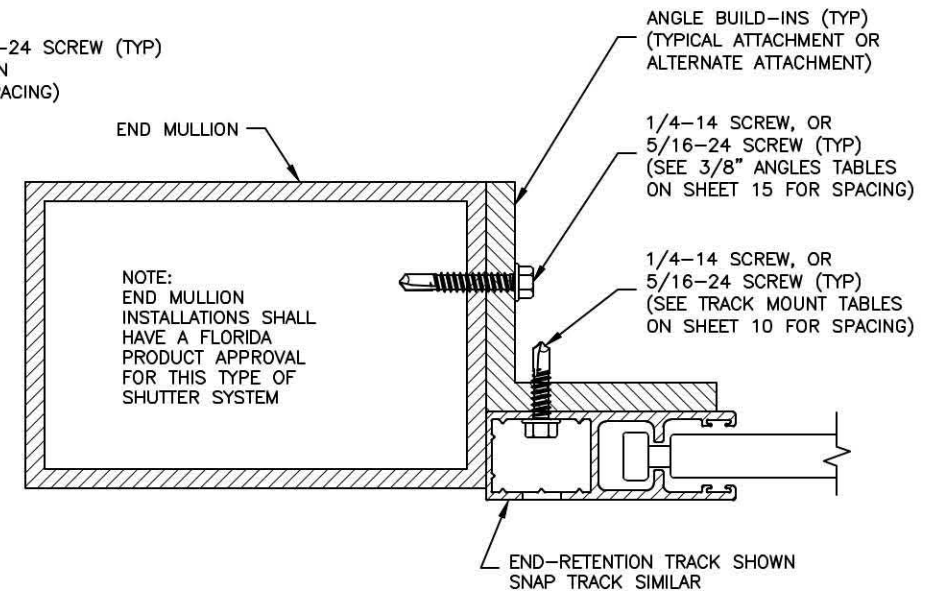
Trevor Johnson
STATE OF FLORIDA
40-5-23
Trevor Johnson
PROFESSIONAL ENGINEER
FL 0000000000



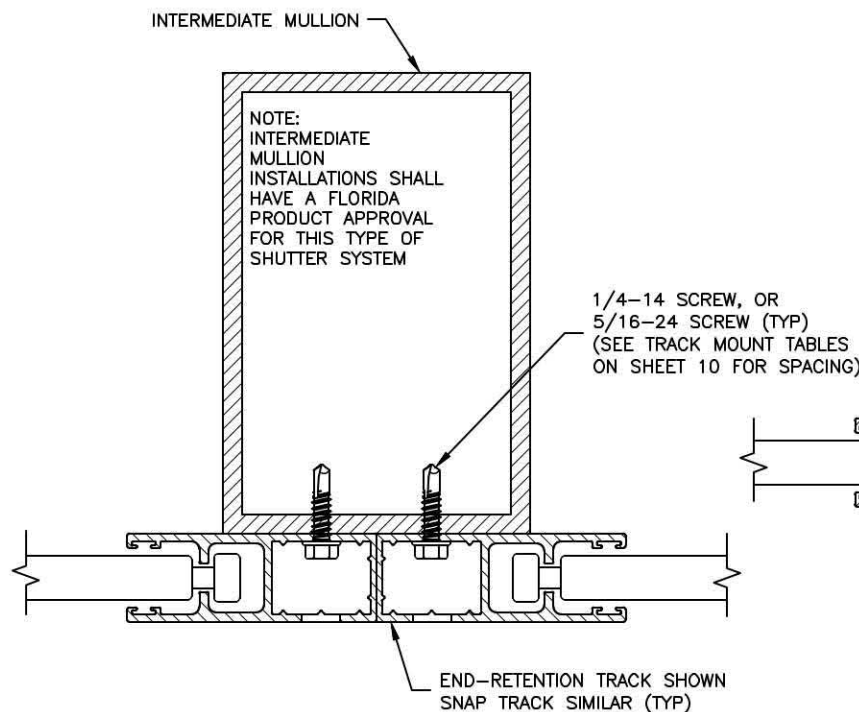
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END-RETENTION INSTALLATION - N.T.S.



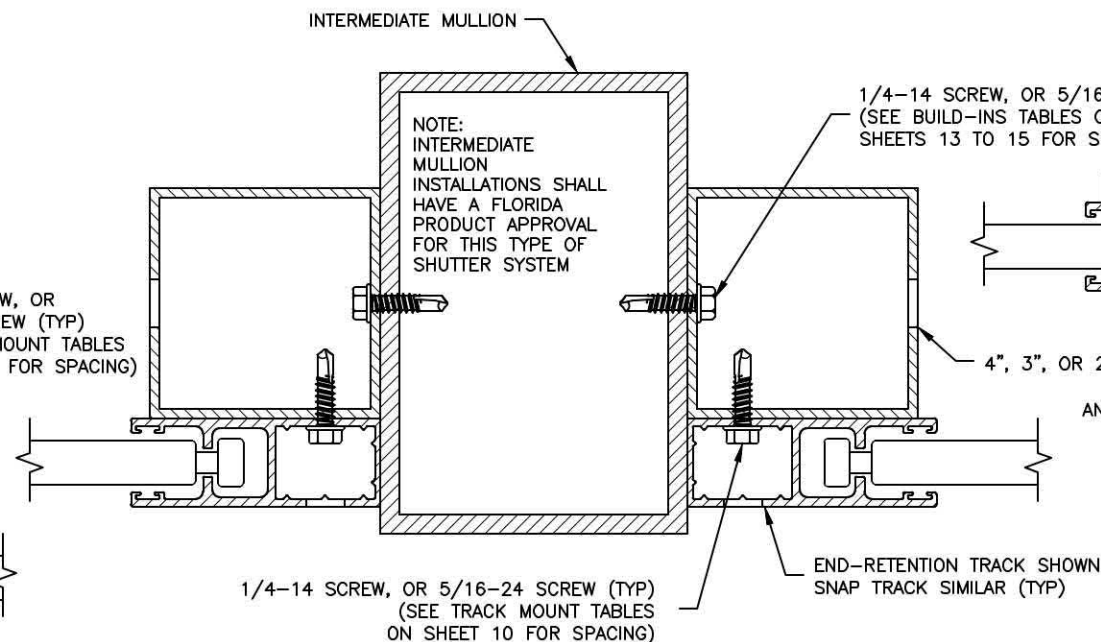
A END MULLION W/ BUILD-INS (OPTION 5B)
END-RETENTION INSTALLATION - N.T.S.



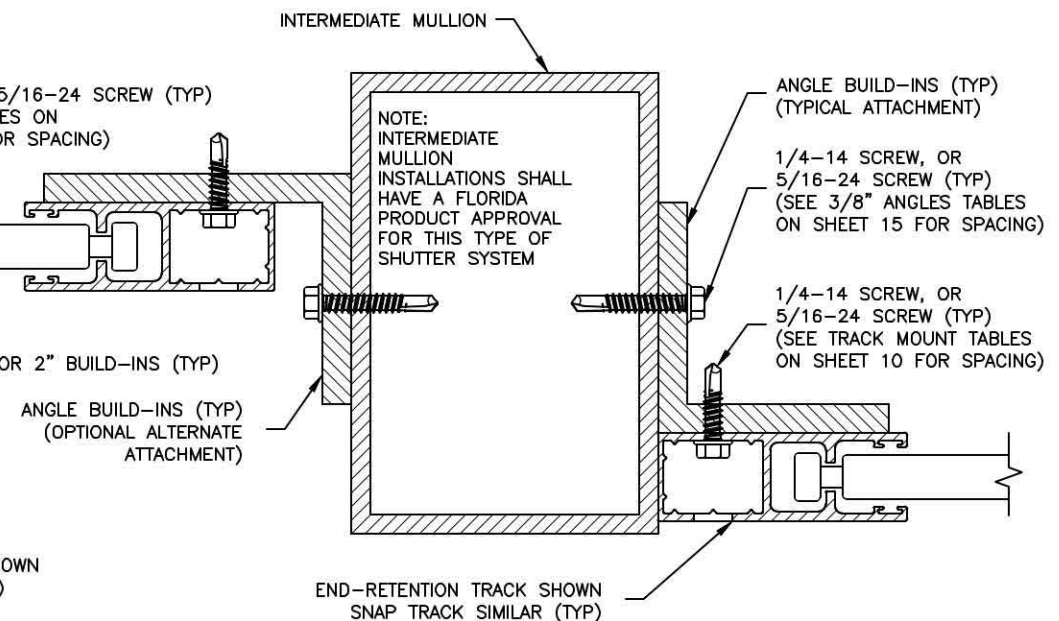
A END MULLION W/ ANGLES (OPTION 5C)
END-RETENTION INSTALLATION - N.T.S.



C TYPICAL INT. MULLION (OPTION 6A)
END-RETENTION INSTALLATION - N.T.S.



C INT. MULLION W/ BUILD-INS (OPTION 6B)
END-RETENTION INSTALLATION - N.T.S.



C INT. MULLION W/ ANGLES (OPTION 6C)
END-RETENTION INSTALLATION - N.T.S.

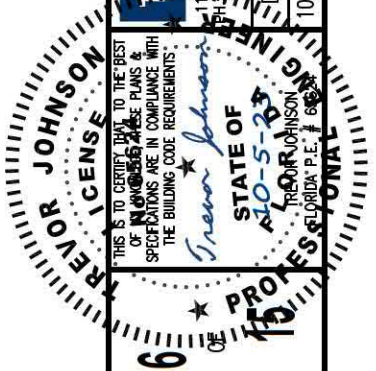
REVISIONS	DATE	#

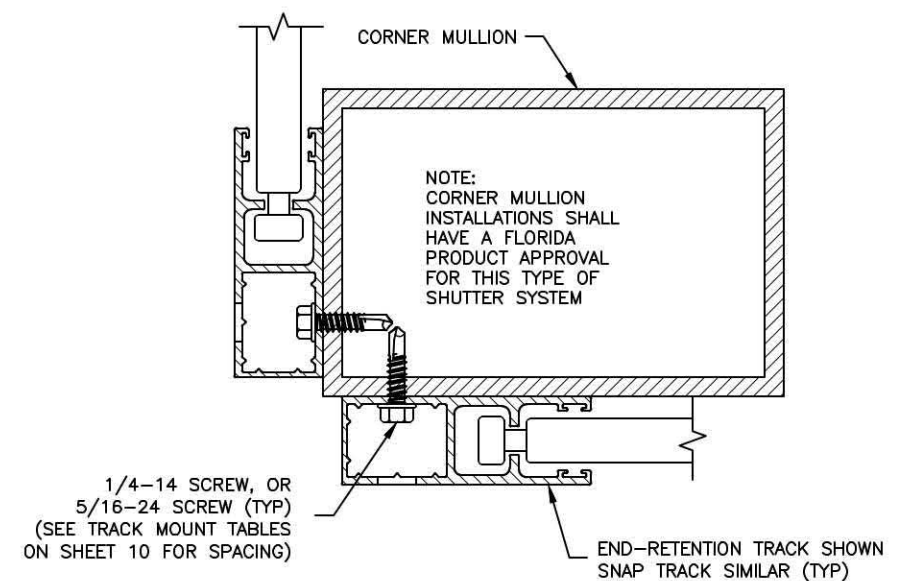


AHT 58MM SHUTTER

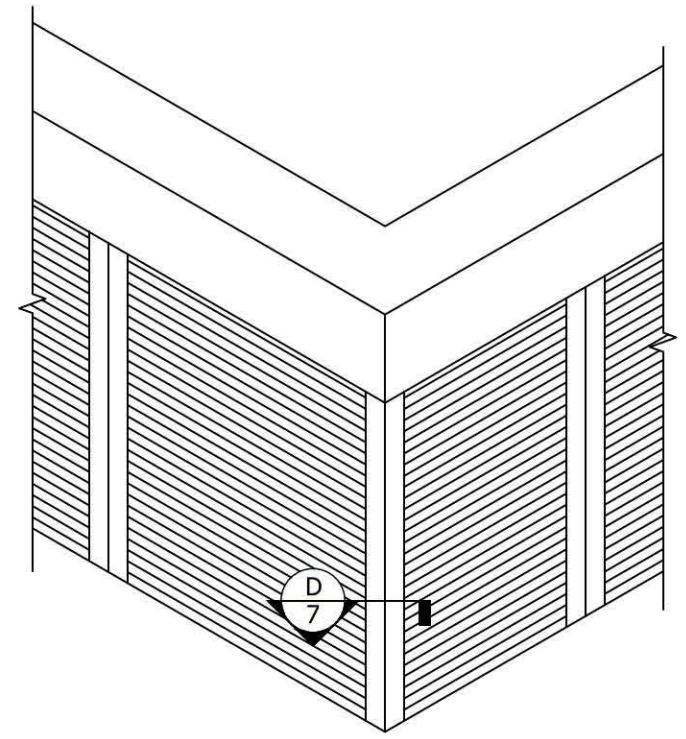
TKJ Engineering, LLC.

1335 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569	PROJ. #:
PH: 813.404.7649; EM: TKJENGINEERING@VERIZON.NET	SCALE:
CERTIFICATE OF AUTHORIZATION NUMBER: 28582	DRAWN BY: TKJ
DATE: 10/5/23	N.T.S.
DATE: 10/5/23	PROJ. #:
DATE: 10/5/23	23-0804

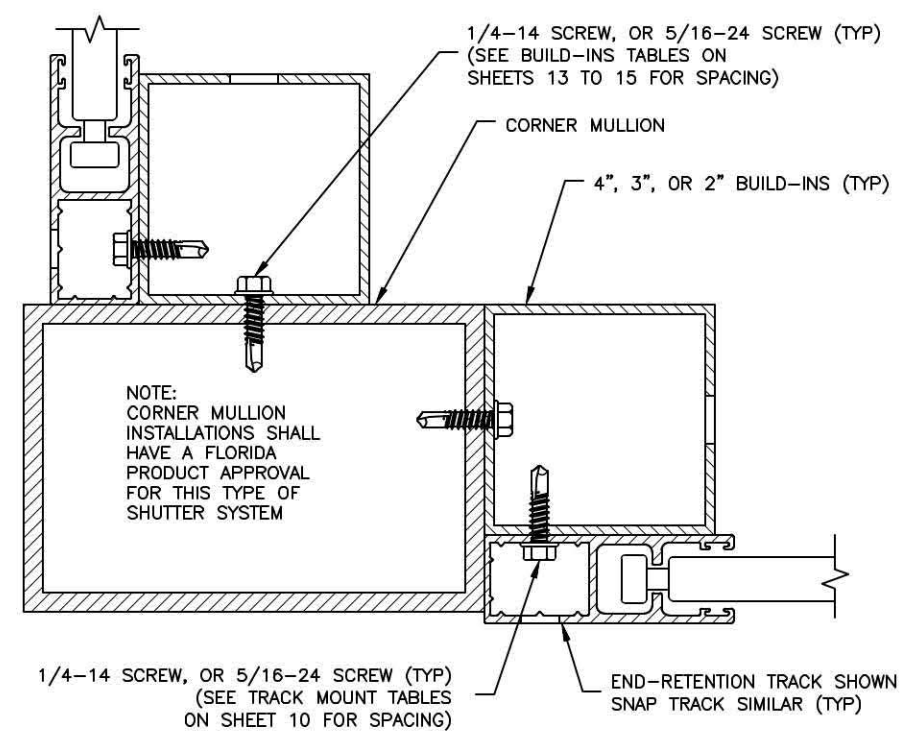




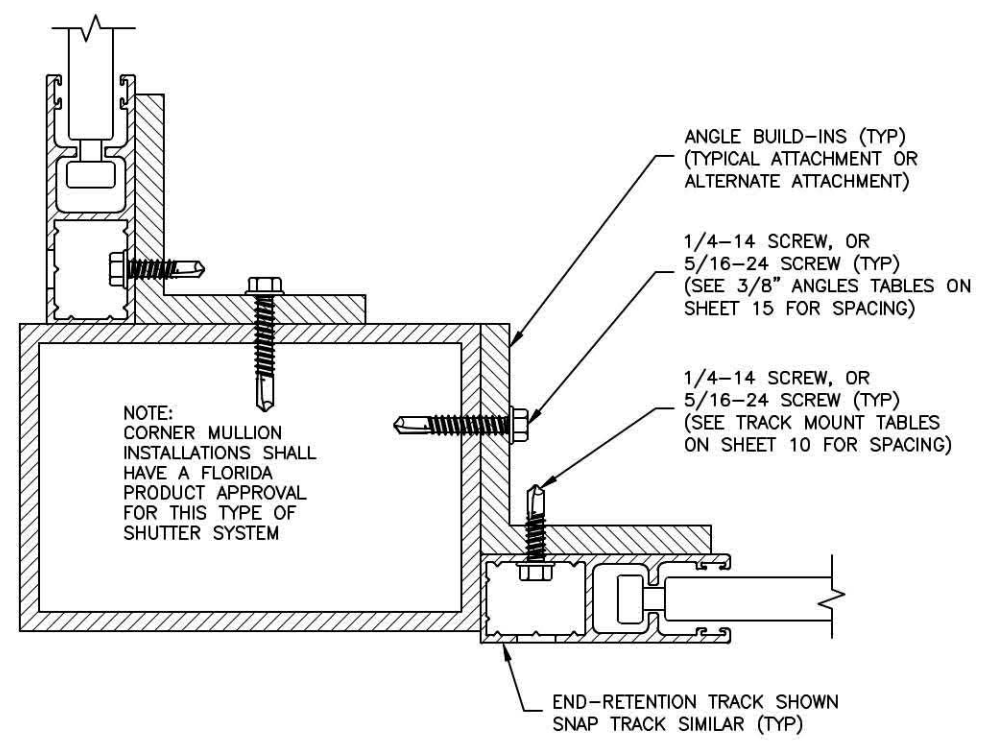
D TYPICAL CORNER MULLION (OPTION 7A)
END-RETENTION INSTALLATION - N.T.S.



CORNER MULLION ELEVATION
SINGLE OR MULTIPLE MULLION INSTALLATIONS - N.T.S.



D CORNER MULLION W/ BUILD-INS (OPTION 7B)
END-RETENTION INSTALLATION - N.T.S.



D CORNER MULLION W/ ANGLES (OPTION 7C)
END-RETENTION INSTALLATION - N.T.S.

REVISIONS	DATE	#



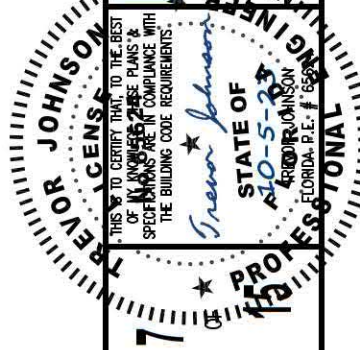
ADVANCED HURRICANE TECHNOLOGY
16501 OLD AIRPORT HAIL RD, FORT MYERS, FL 33913
PHONE: 239.260.0020; SALES@AHT-USA.NET
AHTWORLDWIDE.COM

AHT 58MM SHUTTER



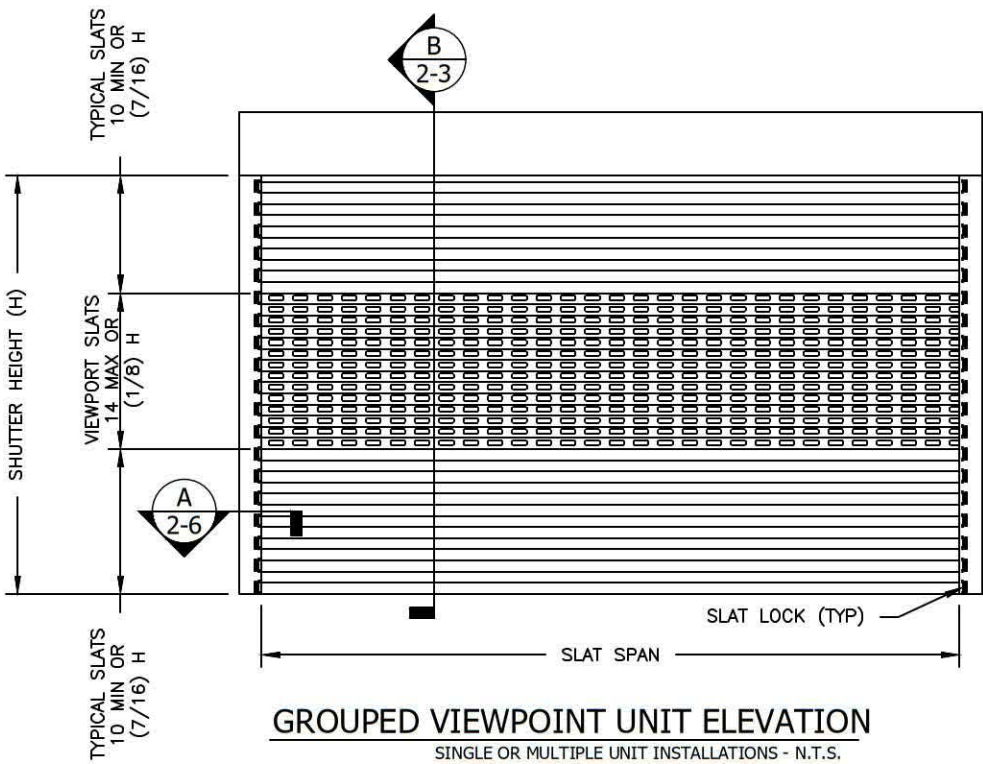
TKI Engineering, LLC.
11855 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
PH: 813.404.7649; EM: TKIENGINEERING@VERIZON.NET
CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE:	DRAWN BY:	SCALE:	PROJ. #:
10/5/23	TKJ	N.T.S.	23-0804

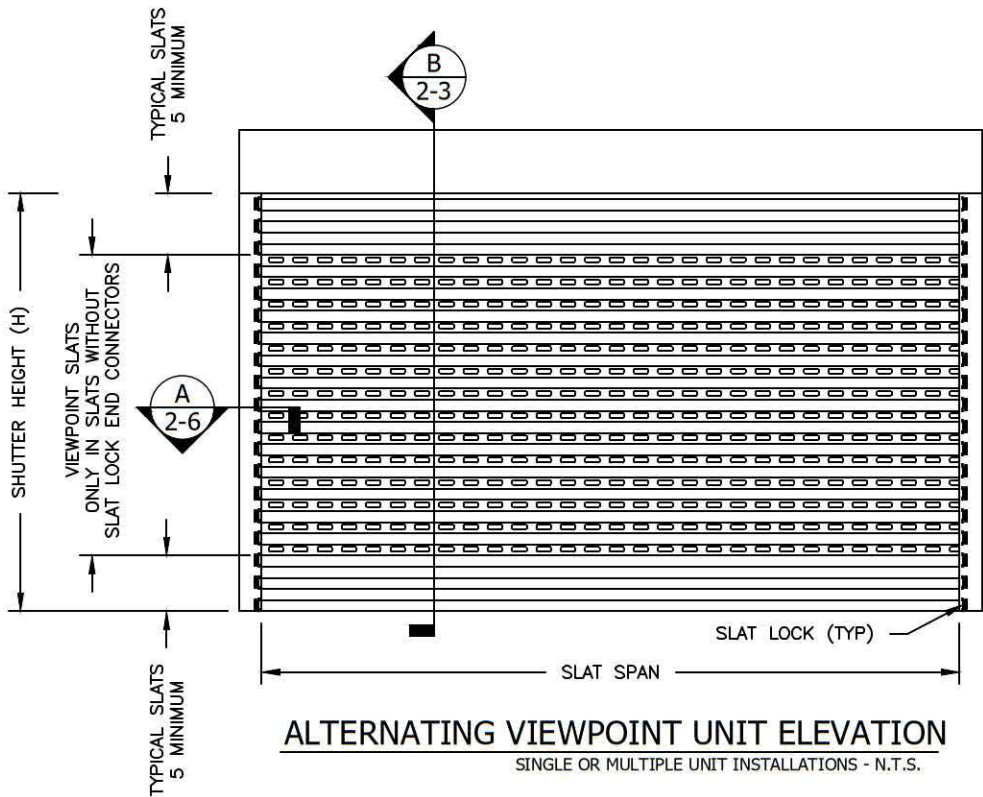


TREVOR JOHNSON
PROFESSIONAL ENGINEER
STATE OF FLORIDA
LICENSE NO. 10-5-23
P.E. F 6554

THIS IS TO CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THESE PLANS & SPECIFICATIONS ARE IN COMPLIANCE WITH THE BUILDING CODE REQUIREMENTS.

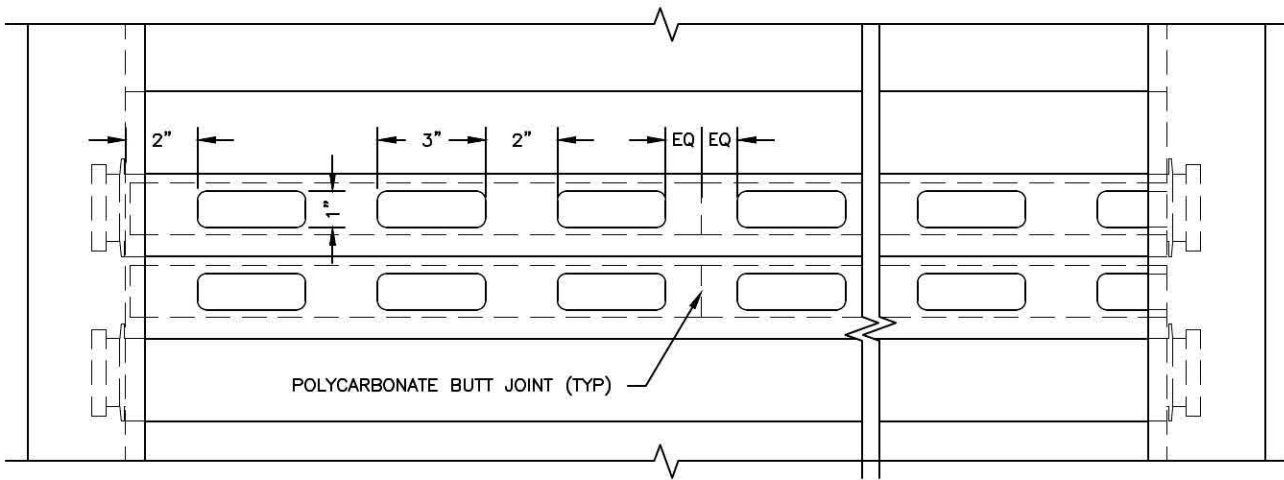


GROUPED VIEWPOINT UNIT ELEVATION
SINGLE OR MULTIPLE UNIT INSTALLATIONS - N.T.S.

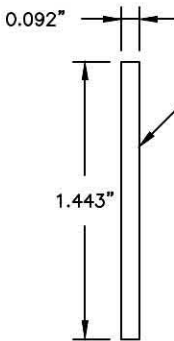


ALTERNATING VIEWPOINT UNIT ELEVATION
SINGLE OR MULTIPLE UNIT INSTALLATIONS - N.T.S.

NOTE: FOR ATTACHMENT DETAILS SEE SHEETS 2 THRU 7



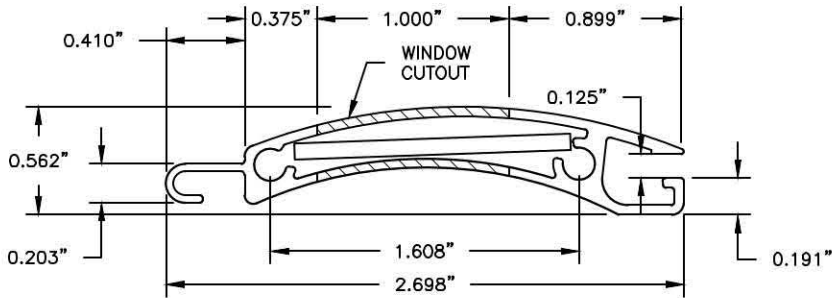
TYPICAL VIEWPOINT WINDOW DETAIL
GROUPED CONFIGURATION SHOWN ALTERNATING SIMILAR - N.T.S.



NOTES:

TENSILE YIELD STRENGTH	ASTM D638	9,500 PSI
FLEXURAL STRENGTH AT YIELD	ASTM D790	13,400 PSI
FLEXURAL MODULUS	ASTM D790	345,000 PSI
NOTCHED IZOD	ASTM D256	17 FT-LB/IN
SMOKE DENSITY	ASTM D2843	64.5% MAX
RATE OF BURNING	ASTM D635	C-1 CLASS
SELF IGNITION	ASTM D1929	980° F
TENSILE STRENGTH AFTER WEATHERING	ASTM D638	8,840 PSI
TENSILE STRENGTH BEFORE WEATHERING	ASTM D638	8,880 PSI
SPECIFIC GRAVITY	ASTM D792	0.043 LB/IN ³

POLYCARBONATE VIEWPOINT WINDOW
SABIC INNOVATIVE PLASTIC LEXAN 103 RESIN - SCALE 1:1



6063-T6 ALUMINUM 58MM SLAT
END-RETENTION VIEWPOINT SLAT - SCALE 1:1

#	DATE	REVISIONS



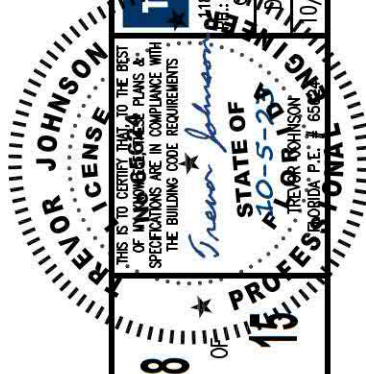
ADVANCED HURRICANE TECHNOLOGY
16501 OLD AIRPORT HAIL RD, FORT MYERS, FL 33913
PHONE: 239.260.0020; SALES@AHT-USA.NET
AHTWORLDWIDE.COM

AHT 58MM SHUTTER

TKJ Engineering, LLC.

11835 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
TEL: 213.404.7649; EM: TKJENGINEERING@VERIZON.NET
CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: 10/5/23
DRAWN BY: TKJ
SCALE: N.T.S.
PROJ. #: 23-0804



LOADS ON EXISTING STRUCTURE FROM SHUTTER SYSTEM										
T _x = PARALLEL LOADS (PLF)										
SLAT	PRESSURE (PSF)									
SPAN	120	110	100	90	80	70	60	50	40	30
36"	180	165	150	135	120	105	90	75	60	45
48"	240	220	200	180	160	140	120	100	80	60
60"	630	488	346	225	200	175	150	125	100	75
72"	1495	1308	1121	941	753	565	377	188	120	90
84"	2258	2025	1799	1565	1338	1103	868	632	395	158
96"	2977	2705	2424	2150	1868	1585	1309	1024	739	452
108"	3680	3360	3032	2710	2379	2047	1714	1380	1044	707
120"	4379	4004	3635	3257	2885	2504	2113	1728	1334	937
132"	5068	4653	4229	3810	3381	2943	2509	2066	1619	1171
144"	5755	5293	4822	4354	3877	3388	2897	2402	1903	1394
156"	-	5932	5413	4898	4371	3834	3292	2738	2179	1608
168"	-	-	-	5441	4859	4279	3679	3073	2462	1830
180"	-	-	-	-	5352	4716	4074	3409	2738	2051
192"	-	-	-	-	5845	5160	4461	3746	3014	2273
204"	-	-	-	-	-	5596	4848	4082	3298	2488
216"	-	-	-	-	-	-	5241	4418	3574	2710
228"	-	-	-	-	-	-	5626	4753	3858	2933
240"	-	-	-	-	-	-	-	5088	4135	3156
252"	-	-	-	-	-	-	-	5422	4418	3379
264"	-	-	-	-	-	-	-	5748	4694	3594
276"	-	-	-	-	-	-	-	-	4976	3817
288"	-	-	-	-	-	-	-	-	5250	4040

LOADS ON EXISTING STRUCTURE FROM SHUTTER SYSTEM										
T _y = PERPENDICULAR LOADS (PLF)										
SLAT	PRESSURE (PSF)									
SPAN	120	110	100	90	80	70	60	50	40	30
36"	182	167	152	137	122	107	92	77	62	47
48"	242	222	202	182	162	142	122	102	82	62
60"	300	275	250	225	200	176	151	126	101	76
72"	361	330	300	271	241	211	180	150	121	91
84"	421	385	351	315	281	246	210	175	140	105
96"	480	441	400	361	320	280	241	201	161	121
108"	540	496	450	406	360	315	270	225	181	136
120"	601	550	500	450	401	351	300	251	200	150
132"	661	606	550	496	441	385	331	275	220	166
144"	721	661	600	541	481	420	360	300	241	181
156"	-	716	650	586	521	456	391	325	260	195
168"	-	-	-	631	560	491	420	350	281	210
180"	-	-	-	-	600	525	451	375	300	226
192"	-	-	-	-	641	561	480	400	320	241
204"	-	-	-	-	-	595	510	425	341	255
216"	-	-	-	-	-	-	541	450	360	270
228"	-	-	-	-	-	-	571	475	380	285
240"	-	-	-	-	-	-	-	500	400	301
252"	-	-	-	-	-	-	-	526	421	316
264"	-	-	-	-	-	-	-	550	440	330
276"	-	-	-	-	-	-	-	-	461	345
288"	-	-	-	-	-	-	-	-	481	360

END-RETENTION TRACKS										
MINIMUM SEPARATION TO GLAZING (INCHES) REQUIRED FOR INSTALLATION IN WIND ZONE 4 OR ESSENTIAL FACILITIES										
SLAT										
SPAN	120	110	100	90	80	70	60	50	40	30
36"	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
48"	3.4	3.1	2.9	2.6	2.3	2.1	2.0	2.0	2.0	2.0
60"	4.6	4.5	4.4	4.2	4.1	3.8	3.3	2.8	2.3	2.0
72"	5.1	5.0	4.8	4.7	4.6	4.5	4.3	4.2	4.1	3.1
84"	5.6	5.5	5.3	5.2	5.0	4.9	4.8	4.6	4.5	4.3
96"	6.2	6.0	5.8	5.7	5.5	5.4	5.2	5.0	4.9	4.7
108"	6.7	6.6	6.4	6.2	6.0	5.8	5.6	5.5	5.3	5.1
120"	7.4	7.2	7.0	6.8	6.6	6.3	6.1	5.9	5.7	5.5
132"	8.1	7.9	7.6	7.4	7.1	6.9	6.6	6.4	6.1	5.9
144"	8.9	8.7	8.4	8.1	7.8	7.5	7.2	6.9	6.6	6.3
156"	-	9.5	9.2	8.9	8.5	8.2	7.8	7.5	7.1	6.7
168"	-	-	10.2	9.7	9.3	8.9	8.5	8.1	7.6	7.2
180"	-	-	-	10.7	10.3	9.8	9.3	8.7	8.2	7.7
192"	-	-	-	-	11.3	10.7	10.1	9.5	8.9	8.3
204"	-	-	-	-	-	11.8	11.1	10.3	9.6	8.9
216"	-	-	-	-	-	13.0	12.1	11.3	10.4	9.5
228"	-	-	-	-	-	-	13.3	12.3	11.3	10.3
240"	-	-	-	-	-	-	14.7	13.5	12.3	11.1
252"	-	-	-	-	-	-	-	14.8	13.4	11.9
264"	-	-	-	-	-	-	-	16.2	14.6	12.9
276"	-	-	-	-	-	-	-	-	15.9	14.0
288"	-	-	-	-	-	-	-	-	17.4	15.1

ANCHOR	Concrete & Filled CMU (3500 PSI)		Hollow CMU (1800 PSI)		Wood (S.G. = .55)	
	Min. Edge	Min Emb.	Min. Edge	Min Emb.	Min. Edge	Min Emb.
5/16" ULTRACON HFH	3 1/2"	2"	3 1/2"	1 1/4"	2"	2"
3/8" CONFLX	3 3/4"	3 1/2"	-	-	-	-

REVISIONS	DATE	#



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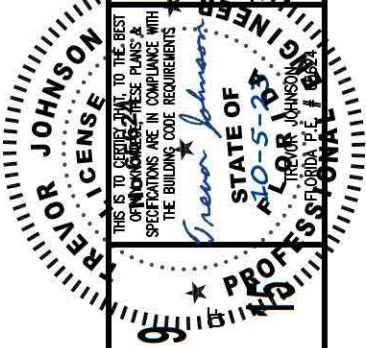
AHT 58MM SHUTTER



TKJ Engineering, LLC.
14835 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
PH: 813.404.7649; EM: TKJENGINEERING@VERIZON.NET
-CERTIFICATE OF AUTHORIZATION NUMBER: 28582-

DATE: 10/5/23
DRAWN BY: TKJ
SCALE: N.T.S
PROJ. #: 23-0804

THIS IS TO CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE PLANS & SPECIFICATIONS ARE IN COMPLIANCE WITH THE BUILDING CODE REQUIREMENTS



TREVOR R. JOHNSON
LICENSE
STATE OF FLORIDA
14055-23
PROFESSIONAL ENGINEER

4" BUILD-OUTS			
END-RETENTION TRACKS			
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 5/16" ELCO ULTRACON HFH @ 6" O.C.			
SLAT SPAN	CONC. & FILLED CMU	HOLLOW CMU	TIMBER
	PRESSURE (PSF)	PRESSURE (PSF)	PRESSURE (PSF)
57"	120	120	120
60"	120	102	120
63"	120	89	106
66"	120	78	93
69"	111	68	83
72"	100	61	74
75"	91	55	67
78"	83	49	60
81"	76	44	55
84"	71	40	50
87"	66	36	46
90"	61	33	43
93"	57	31	40
96"	53	29	37
99"	50	26	34
102"	47	25	32
105"	44	23	30
108"	42	21	28
111"	40	20	27
114"	38	19	25
117"	36	18	24
120"	34	17	22
123"	33	16	21
126"	31	15	20
129"	30	14	19
132"	29	14	18
135"	28	13	18
138"	27	12	17
141"	26	12	16
144"	25	11	16
147"	24	11	15
150"	23	10	14
153"	22	10	14

4" BUILD-OUTS			
END-RETENTION TRACKS			
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 5/16" HFH ELCO ULTRACON @ 4" O.C.			
SLAT SPAN	CONC. & FILLED CMU	HOLLOW CMU	TIMBER
	PRESSURE (PSF)	PRESSURE (PSF)	PRESSURE (PSF)
60"	120	119	120
64"	120	100	120
68"	120	85	108
72"	120	73	93
76"	120	63	82
80"	109	56	73
84"	98	50	66
88"	90	44	59
92"	82	40	54
96"	76	36	49
100"	70	33	45
104"	65	30	41
108"	61	28	38
112"	57	26	36
116"	53	24	33
120"	50	22	31
124"	48	21	29
128"	45	19	28
132"	43	18	26
136"	41	17	25
140"	39	16	23
144"	37	15	22
148"	35	15	21
152"	34	14	20
156"	32	13	19
160"	31	13	18
164"	30	12	18
168"	29	12	17
172"	27	11	16
176"	26	11	16
180"	26	10	15
184"	25	10	15
188"	24	10	14

4" BUILD-OUTS	
END-RETENTION TRACKS	
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 3/8" ELCO CONPLEX @ 6" O.C.	
SLAT SPAN	CONC. & FILLED CMU PRESSURE (PSF)
96"	107
100"	100
104"	93
108"	87
112"	82
116"	77
120"	73
124"	69
128"	65
132"	62
136"	59
140"	56
144"	54
148"	52
152"	49
156"	47
160"	46
164"	44
168"	42
172"	41
176"	39
180"	38
184"	37
188"	35
192"	34
196"	33
200"	32
204"	31
210"	30
216"	29
222"	27

4" BUILD-OUTS	
END-RETENTION TRACKS	
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 3/8" ELCO CONPLEX @ 4" O.C.	
SLAT SPAN	CONC. & FILLED CMU PRESSURE (PSF)
108"	120
114"	120
120"	115
126"	106
132"	98
138"	92
144"	86
150"	81
156"	76
162"	72
168"	68
174"	64
180"	61
186"	58
192"	55
198"	53
204"	50
210"	48
216"	46
222"	44
228"	43
234"	41
240"	40
246"	38
252"	37
258"	36
264"	35
270"	33
276"	32
282"	31
288"	30

4" BUILD-OUTS				
END-RETENTION TRACKS				
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 1/4"-14 ELCO DRIL-FLEX.				
SLAT SPAN	@ 6" O.C. 1/8" AL/ST	@ 6" O.C. 1/4" AL/ST	@ 4" O.C. 1/8" AL/ST	@ 4" O.C. 1/4" AL/ST
	PRESSURE (PSF)	PRESSURE (PSF)	PRESSURE (PSF)	PRESSURE (PSF)
56"	120	120	120	120
60"	111	120	120	120
64"	93	120	112	120
68"	78	117	96	120
72"	67	102	83	120
76"	59	91	73	120
80"	51	80	65	112
84"	45	72	58	101
88"	40	65	52	92
92"	36	60	47	85
96"	33	55	42	78
100"	30	50	39	72
104"	27	46	36	67
108"	25	43	33	63
112"	23	40	31	59
116"	21	37	29	55
120"	20	35	27	52
124"	18	33	25	49
128"	17	31	24	46
132"	16	30	22	44
136"	15	28	21	42
140"	14	27	20	40
144"	14	25	19	38
148"	13	24	18	36
152"	12	23	17	35
156"	12	22	16	33
160"	11	21	16	32
164"	11	20	15	31
168"	10	20	14	30
172"	10	19	14	28
176"	-	18	13	27
180"	-	17	13	26
184"	-	17	12	26

4" BUILD-OUTS			
END-RETENTION TRACKS			
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 5/16"-24 ELCO DRIL-FLEX.			
SLAT SPAN	@ 8" O.C. 1/4" AL/ST	@ 6" O.C. 1/4" AL/ST	@ 4" O.C. 1/4" AL/ST
	PRESSURE (PSF)	PRESSURE (PSF)	PRESSURE (PSF)
68"	104	120	120
72"	90	109	120
76"	79	97	120
80"	70	87	120
84"	63	78	110
88"	57	71	101
92"	51	65	93
96"	47	59	86
100"	43	55	79
104"	40	50	74
108"	37	47	69
112"	34	44	65
116"	32	41	61
120"	30	38	57
124"	28	36	54
128"	26	34	51
132"	25	32	49
136"	23	31	46
140"	22	29	44
144"	21	28	42
148"	20	27	40
152"	19	25	39
156"	18	24	37
160"	17	23	35
164"	17	22	34
168"	16	21	33
172"	15	21	32
176"	15	20	30
180"	14	19	29
184"	14	18	28
189"	13	18	27
196"	12	17	26
204"	12	16	24

#	DATE	REVISIONS



ADVANCED HURRICANE TECHNOLOGY
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AHT 58MM SHUTTER



TKJ Engineering, LLC.

1855 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
(813) 813.4047; FAX: (813) 813.4048; EMAIL: TKJENGINEERING@VERIZON.NET
CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: 10/5/23

DRAWN BY: TKJ

SCALE: N.T.S.

PROJ. #: 23-0804

THIS IS TO CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE PLANS & SPECIFICATIONS ARE IN COMPLIANCE WITH THE BUILDING CODE REQUIREMENTS



Trevor Johnson
STATE OF FLORIDA
PROFESSIONAL ENGINEER
LICENSE NO. 140-5-23
EXPIRATION DATE: 12/31/23

3" BUILD-OUTS			
END-RETENTION TRACKS			
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 5/16" ELCO ULTRACON HFH @ 6" O.C.			
SLAT SPAN	CONC. & FILLED CMU PRESSURE (PSF)	HOLLOW CMU PRESSURE (PSF)	TIMBER PRESSURE (PSF)
57"	120	118	120
60"	120	101	117
63"	120	88	102
66"	116	77	90
69"	104	67	80
72"	94	60	71
75"	85	53	64
78"	78	48	58
81"	72	43	53
84"	66	39	48
87"	61	36	44
90"	57	33	41
93"	53	30	38
96"	50	28	35
99"	46	26	33
102"	44	24	31
105"	41	22	29
108"	39	21	27
111"	37	20	25
114"	35	18	24
117"	33	17	23
120"	32	16	21
123"	30	15	20
126"	29	15	19
129"	28	14	18
132"	26	13	18
135"	25	12	17
138"	24	12	16
141"	23	11	15
144"	23	11	15
147"	22	10	14
150"	21	10	14
153"	20	10	13

3" BUILD-OUTS			
END-RETENTION TRACKS			
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 5/16" HFH ELCO ULTRACON @ 4" O.C.			
SLAT SPAN	CONC. & FILLED CMU PRESSURE (PSF)	HOLLOW CMU PRESSURE (PSF)	TIMBER PRESSURE (PSF)
60"	120	116	120
64"	120	97	118
68"	120	82	102
72"	120	71	88
76"	110	61	78
80"	99	54	69
84"	89	48	62
88"	81	43	55
92"	75	38	50
96"	69	35	46
100"	64	31	42
104"	59	29	39
108"	55	26	36
112"	51	24	33
116"	48	23	31
120"	45	21	29
124"	43	20	27
128"	40	18	26
132"	38	17	24
136"	36	16	23
140"	35	15	22
144"	33	15	21
148"	32	14	20
152"	30	13	19
156"	29	13	18
160"	28	12	17
164"	27	11	16
168"	26	11	16
172"	25	11	15
176"	24	10	15
180"	23	10	14
184"	22	-	14
188"	21	-	13

3" BUILD-OUTS	
END-RETENTION TRACKS	
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 3/8" ELCO CONFLX @ 6" O.C.	
SLAT SPAN	CONC. & FILLED CMU PRESSURE (PSF)
84"	120
88"	111
92"	102
96"	94
100"	88
104"	82
108"	76
112"	72
116"	68
120"	64
124"	60
128"	57
132"	54
136"	52
140"	49
144"	47
148"	45
152"	43
156"	41
160"	40
164"	38
168"	37
172"	36
176"	34
180"	33
184"	32
188"	31
192"	30
198"	29
204"	27
210"	26

3" BUILD-OUTS	
END-RETENTION TRACKS	
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 3/8" ELCO CONFLX @ 4" O.C.	
SLAT SPAN	CONC. & FILLED CMU PRESSURE (PSF)
108"	116
114"	106
120"	97
126"	90
132"	83
138"	78
144"	73
150"	68
156"	64
162"	60
168"	57
174"	54
180"	51
186"	49
192"	47
198"	45
204"	43
210"	41
216"	39
222"	38
228"	36
234"	35
240"	33
246"	32
252"	31
258"	30
264"	29
270"	28
276"	27
282"	26
288"	26

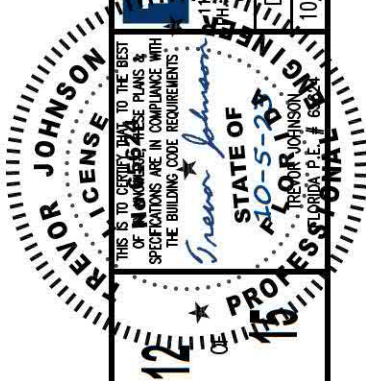
3" BUILD-OUTS				
END-RETENTION TRACKS				
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 1/4"-14 ELCO DRIL-FLEX.				
SLAT SPAN	@ 6" O.C. 1/8" AL/ST PRESSURE (PSF)	@ 6" O.C. 1/4" AL/ST PRESSURE (PSF)	@ 4" O.C. 1/8" AL/ST PRESSURE (PSF)	@ 4" O.C. 1/4" AL/ST PRESSURE (PSF)
56"	120	120	120	120
60"	109	120	120	120
64"	91	120	107	120
68"	77	110	92	120
72"	65	96	80	120
76"	57	84	70	113
80"	50	75	61	101
84"	44	67	55	92
88"	39	61	49	83
92"	35	56	44	76
96"	31	51	40	70
100"	29	47	37	65
104"	26	43	34	61
108"	24	40	31	57
112"	22	37	29	53
116"	20	35	27	50
120"	19	33	25	47
124"	18	31	24	44
128"	16	29	22	42
132"	15	27	21	40
136"	14	26	20	38
140"	14	25	19	36
144"	13	23	18	34
148"	12	22	17	33
152"	12	21	16	31
156"	11	20	15	30
160"	11	19	15	29
164"	10	19	14	28
168"	10	18	13	26
172"	-	17	13	25
176"	-	17	12	25
180"	-	16	12	24
184"	-	15	12	23

3" BUILD-OUTS			
END-RETENTION TRACKS			
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 5/16"-24 ELCO DRIL-FLEX.			
SLAT SPAN	@ 8" O.C. 1/4" AL/ST PRESSURE (PSF)	@ 6" O.C. 1/4" AL/ST PRESSURE (PSF)	@ 4" O.C. 1/4" AL/ST PRESSURE (PSF)
68"	98	116	120
72"	86	102	120
76"	75	90	120
80"	66	80	109
84"	59	72	99
88"	53	65	90
92"	48	60	83
96"	44	55	77
100"	40	50	71
104"	37	47	66
108"	34	43	62
112"	32	40	58
116"	30	38	54
120"	28	35	51
124"	26	33	48
128"	25	31	46
132"	23	30	43
136"	22	28	41
140"	21	27	39
144"	20	25	38
148"	19	24	36
152"	18	23	34
156"	17	22	33
160"	16	21	32
164"	16	20	30
168"	15	20	29
172"	14	19	28
176"	14	18	27
180"	13	17	26
184"	13	17	25
189"	12	16	24
196"	12	15	23
204"	11	14	21

TKJ Engineering, LLC.

17835 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
PH: 813.404.7649; EM: TKJENGINEERING@VERIZON.NET
CERTIFICATE OF AUTHORIZATION NUMBER: 28582

DATE: 10/5/23
DRAWN BY: TKJ
SCALE: N.T.S.
PROJ. #: 23-0804



AHT 58MM SHUTTER



#	DATE	REVISIONS

4" BUILD-INS			
END-RETENTION TRACKS			
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 5/16" ELCO ULTRACON HFH @ 6" O.C.			
SLAT SPAN	CONC. & FILLED CMU PRESSURE (PSF)	HOLLOW CMU PRESSURE (PSF)	TIMBER PRESSURE (PSF)
57"	120	115	120
60"	120	99	120
63"	120	87	109
66"	120	77	97
69"	116	68	88
72"	106	61	80
75"	97	55	73
78"	90	49	67
81"	83	45	61
84"	77	41	57
87"	72	38	53
90"	67	35	49
93"	63	32	46
96"	60	30	43
99"	56	28	40
102"	53	26	38
105"	51	24	36
108"	48	23	34
111"	46	22	32
114"	44	21	31
117"	42	19	29
120"	40	18	28
123"	38	17	27
126"	37	16	26
129"	35	16	25
132"	34	15	24
135"	33	14	23
138"	31	14	22
141"	30	13	21
144"	29	13	20
147"	28	12	20
150"	27	12	19
153"	27	11	18

4" BUILD-INS			
END-RETENTION TRACKS			
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 5/16" HFH ELCO ULTRACON @ 4" O.C.			
SLAT SPAN	CONC. & FILLED CMU PRESSURE (PSF)	HOLLOW CMU PRESSURE (PSF)	TIMBER PRESSURE (PSF)
60"	120	117	120
64"	120	99	120
68"	120	85	118
72"	120	74	104
76"	120	65	93
80"	118	58	84
84"	108	52	76
88"	99	47	70
92"	92	42	64
96"	85	39	59
100"	79	35	55
104"	74	33	51
108"	70	30	48
112"	65	28	45
116"	62	26	42
120"	58	25	40
124"	55	23	38
128"	53	22	36
132"	50	21	34
136"	48	19	32
140"	46	18	31
144"	44	17	29
148"	42	17	28
152"	40	16	27
156"	38	15	26
160"	37	15	25
164"	36	14	24
168"	34	13	23
172"	33	13	22
176"	32	12	21
180"	31	12	21
184"	30	11	20
188"	29	11	19

4" BUILD-INS	
END-RETENTION TRACKS	
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 3/8" ELCO CONFLEX @ 6" O.C.	
SLAT SPAN	CONC. & FILLED CMU PRESSURE (PSF)
84"	120
88"	117
92"	108
96"	101
100"	94
104"	88
108"	83
112"	78
116"	73
120"	70
124"	66
128"	63
132"	60
136"	57
140"	55
144"	52
148"	50
152"	48
156"	46
160"	44
164"	43
168"	41
172"	40
176"	39
180"	37
184"	36
188"	35
192"	34
198"	32
204"	31
210"	30

4" BUILD-INS	
END-RETENTION TRACKS	
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 3/8" ELCO CONFLEX @ 4" O.C.	
SLAT SPAN	CONC. & FILLED CMU PRESSURE (PSF)
108"	120
114"	115
120"	107
126"	99
132"	92
138"	86
144"	81
150"	76
156"	72
162"	68
168"	64
174"	61
180"	58
186"	55
192"	53
198"	51
204"	48
210"	47
216"	45
222"	43
228"	41
234"	40
240"	38
246"	37
252"	36
258"	35
264"	34
270"	33
276"	32
282"	31
288"	30

4" BUILD-INS				
END-RETENTION TRACKS				
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 1/4"-14 ELCO DRIL-FLEX.				
SLAT SPAN	@ 6" O.C. 1/8" AL/ST PRESSURE (PSF)	@ 6" O.C. 1/4" AL/ST PRESSURE (PSF)	@ 4" O.C. 1/8" AL/ST PRESSURE (PSF)	@ 4" O.C. 1/4" AL/ST PRESSURE (PSF)
56"	120	120	120	120
60"	101	120	118	120
64"	84	120	101	120
68"	72	110	86	120
72"	61	97	75	120
76"	54	86	66	117
80"	47	77	59	106
84"	42	70	52	97
88"	37	64	47	89
92"	34	58	43	82
96"	30	54	39	76
100"	27	50	36	71
104"	25	46	33	66
108"	23	43	30	62
112"	21	40	28	58
116"	20	38	26	55
120"	18	36	25	52
124"	17	34	23	49
128"	16	32	22	46
132"	15	30	21	44
136"	14	29	19	42
140"	14	27	18	40
144"	13	26	18	38
148"	12	25	17	37
152"	12	24	16	35
156"	11	23	15	34
160"	10	22	15	33
164"	10	21	14	31
168"	10	20	13	30
172"	-	20	13	29
176"	-	19	12	28
180"	-	18	12	27
184"	-	18	11	26

4" BUILD-INS			
END-RETENTION TRACKS			
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 5/16"-24 ELCO DRIL-FLEX.			
SLAT SPAN	@ 8" O.C. 1/4" AL/ST PRESSURE (PSF)	@ 6" O.C. 1/4" AL/ST PRESSURE (PSF)	@ 4" O.C. 1/4" AL/ST PRESSURE (PSF)
68"	96	115	120
72"	84	102	120
76"	75	90	120
80"	67	81	112
84"	60	74	103
88"	54	67	94
92"	49	62	87
96"	45	57	81
100"	42	53	75
104"	39	49	70
108"	36	46	66
112"	34	43	62
116"	31	40	58
120"	29	38	55
124"	28	36	52
128"	26	34	50
132"	25	32	47
136"	23	30	45
140"	22	29	43
144"	21	28	41
148"	20	27	39
152"	20	25	38
156"	19	24	36
160"	18	23	35
164"	17	22	33
168"	16	22	32
172"	16	21	31
176"	15	20	30
180"	15	19	29
184"	14	19	28
189"	14	18	27
196"	13	17	26
204"	12	16	24

#	DATE	REVISIONS



ADVANCED HURRICANE TECHNOLOGY
16501 OLD AIRPORT HAIL RD. FORT MYERS, FL 33913
PHONE: 239.260.0020; SALES@AHT-USA.NET
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AHT 58MM SHUTTER



TKJ Engineering, LLC.
11835 AUTUMN CREEK DRIVE, RIVERVIEW, FL 33569
PH: 813.404.7649; EM: TKJENGINEERING@VERIZON.NET
CERTIFICATE OF AUTHORIZATION NUMBER: 28582

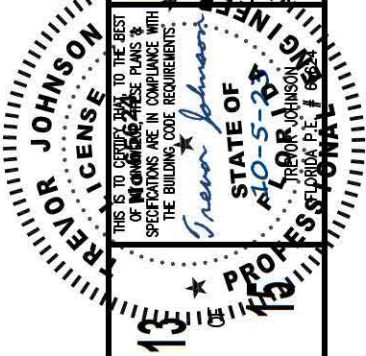
DATE: 10/5/23

DRAWN BY: TKJ

SCALE: N.T.S.

PROJ. #: 23-0804

THIS IS TO CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE PLANS & SPECIFICATIONS ARE IN COMPLIANCE WITH THE BUILDING CODE REQUIREMENTS.



Trevor Johnson
STATE OF FLORIDA
14055-23
PROFESSIONAL ENGINEER

2" BUILD-INS W/ 1/4" WALLS & 3/8" ANGLES			
END-RETENTION TRACKS			
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 5/16" ELCO ULTRACON HFH @ 6" O.C.			
SLAT SPAN	CONC. & FILLED CMU PRESSURE (PSF)	HOLLOW CMU PRESSURE (PSF)	TIMBER PRESSURE (PSF)
57"	120	103	120
60"	120	90	108
63"	120	78	96
66"	108	69	85
69"	98	61	77
72"	89	54	70
75"	81	49	63
78"	75	44	58
81"	70	40	53
84"	64	37	49
87"	60	33	46
90"	56	31	42
93"	53	28	40
96"	50	26	37
99"	47	25	35
102"	44	23	33
105"	42	21	31
108"	40	20	29
111"	38	19	28
114"	36	18	26
117"	35	17	25
120"	33	16	24
123"	31	15	23
126"	30	15	22
129"	29	14	21
132"	28	13	20
135"	27	13	19
138"	26	12	19
141"	25	12	18
144"	24	11	17
147"	23	11	17
150"	23	10	16
153"	22	10	16

2" BUILD-INS W/ 1/4" WALLS & 3/8" ANGLES			
END-RETENTION TRACKS			
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 5/16" HFH ELCO ULTRACON @ 4" O.C.			
SLAT SPAN	CONC. & FILLED CMU PRESSURE (PSF)	HOLLOW CMU PRESSURE (PSF)	TIMBER PRESSURE (PSF)
60"	120	103	120
64"	120	87	114
68"	120	75	100
72"	117	65	88
76"	106	57	79
80"	96	50	71
84"	88	45	64
88"	80	40	59
92"	74	36	54
96"	69	33	49
100"	64	30	46
104"	60	28	43
108"	56	26	40
112"	52	24	37
116"	50	23	35
120"	47	21	33
124"	44	20	31
128"	42	19	30
132"	40	18	28
136"	38	17	27
140"	37	16	26
144"	35	15	24
148"	33	14	23
152"	32	14	22
156"	31	13	21
160"	30	12	21
164"	28	12	20
168"	27	11	19
172"	26	11	18
176"	26	11	18
180"	25	10	17
184"	24	10	17
188"	23	-	16

2" BUILD-INS W/ 1/4" WALLS & 3/8"	
END-RETENTION & NON-RETENTION TRACKS	
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 3/8" ELCO CONFLX @ 6" O.C.	
SLAT SPAN	CONC. & FILLED CMU PRESSURE (PSF)
72"	120
76"	120
80"	120
84"	116
88"	107
92"	99
96"	92
100"	86
104"	81
108"	76
112"	71
116"	67
120"	64
124"	61
128"	58
132"	55
136"	52
140"	50
144"	48
148"	46
152"	44
156"	43
160"	41
164"	39
168"	38
172"	37
176"	36
180"	34
192"	31
204"	29
216"	26

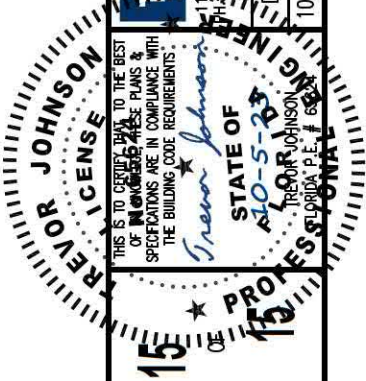
2" BUILD-INS W/ 1/4" WALLS & 3/8" ANGLES				
END-RETENTION TRACKS				
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 1/4"-14 ELCO DRIL-FLEX.				
SLAT SPAN	@ 6" O.C. 1/8" AL/ST PRESSURE (PSF)	@ 6" O.C. 1/4" AL/ST PRESSURE (PSF)	@ 4" O.C. 1/8" AL/ST PRESSURE (PSF)	@ 4" O.C. 1/4" AL/ST PRESSURE (PSF)
56"	116	120	120	120
60"	95	120	111	120
64"	80	118	95	120
68"	68	103	81	120
72"	58	91	71	120
76"	51	81	62	108
80"	45	73	55	98
84"	40	66	50	90
88"	35	60	45	82
92"	32	55	41	76
96"	29	51	37	71
100"	27	47	34	66
104"	24	44	32	62
108"	22	41	29	58
112"	21	39	27	54
116"	19	36	25	51
120"	18	34	24	48
124"	17	32	22	46
128"	16	30	21	44
132"	15	29	20	42
136"	14	28	19	39
140"	13	26	18	38
144"	13	25	17	36
148"	12	24	16	35
152"	11	23	16	33
156"	11	22	15	32
160"	10	21	14	31
164"	10	20	14	30
168"	-	19	13	28
172"	-	19	13	27
176"	-	18	12	27
180"	-	17	12	26
184"	-	17	11	25

2" BUILD-INS W/ 1/4" WALLS & 3/8" ANGLES			
END-RETENTION TRACKS			
MAXIMUM DESIGN PRESSURE OF A SINGLE UNIT SLAT WALL FOR ANY HEIGHT ATTACHED WITH 5/16"-24 ELCO DRIL-FLEX.			
SLAT SPAN	@ 8" O.C. 1/4" AL/ST PRESSURE (PSF)	@ 6" O.C. 1/4" AL/ST PRESSURE (PSF)	@ 4" O.C. 1/4" AL/ST PRESSURE (PSF)
68"	91	108	120
72"	80	95	120
76"	71	85	114
80"	63	76	104
84"	57	69	95
88"	52	63	87
92"	47	58	81
96"	43	54	75
100"	40	50	70
104"	37	46	65
108"	35	43	61
112"	32	40	58
116"	30	38	54
120"	28	36	51
124"	27	34	49
128"	25	32	46
132"	24	31	44
136"	23	29	42
140"	22	28	40
144"	21	26	38
148"	20	25	37
152"	19	24	35
156"	18	23	34
160"	17	22	33
164"	17	21	31
168"	16	21	30
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