

COLONIAL SHUTTER (HVHZ ONLY)

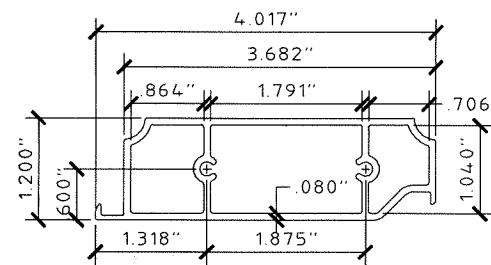
PATENT #8126298

GENERAL NOTES:

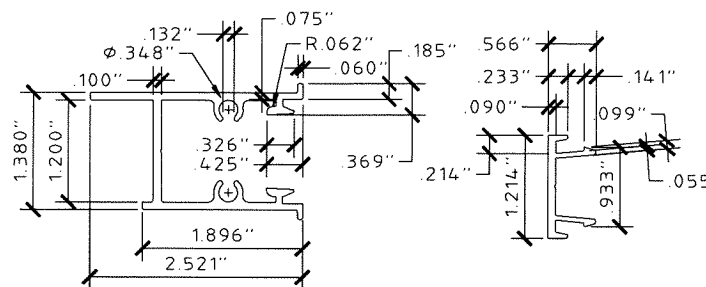
- THESE INSTALLATION INSTRUCTIONS ARE PART OF A PRODUCT APPROVAL EVALUATION AND SHALL ONLY BE USED IN CONJUNCTION WITH THE EVALUATION REPORT SUBMITTED FOR THE SAME PRODUCT APPROVAL.
- THIS SYSTEM HAS BEEN TESTED AND EVALUATED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE SIXTH EDITION (2017), FOR USE INSIDE THE HIGH VELOCITY HURRICANE ZONE, AND THE INTERNATIONAL BUILDING CODE (IBC) AND INTERNATIONAL RESIDENTIAL CODE (IRC). SEE EVALUATION FOR MORE INFORMATION.
- POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED PER SEPARATE ENGINEERING IN ACCORDANCE WITH THE GOVERNING CODE. PRESSURE REQUIREMENTS SHALL BE LESS THAN OR EQUAL TO THE POSITIVE OR NEGATIVE DESIGN PRESSURE CAPACITY VALUES LISTED HEREIN FOR ANY ASSEMBLY AS SHOWN.
- TESTING WAS CONDUCTED IN ACCORDANCE WITH TAS 201/202/203 AND ASTM E1886/E1996/E330. SEE EVALUATION REPORT FOR MORE INFORMATION.
- DESIGN PRESSURES NOTED HEREIN ARE BASED ON MAXIMUM TESTED PRESSURES DIVIDED BY A 1.5 SAFETY FACTOR.
- NO INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THESE PRODUCTS. WIND LOAD DURATION FACTOR $C_d = 1.6$ WAS USED FOR WOOD ANCHOR DESIGN.
- DETERMINE THE POSITIVE AND NEGATIVE DESIGN LOADS TO USE WHEN REFERENCING THESE DOCUMENTS IN ACCORDANCE WITH THE GOVERNING CODE AND GOVERNING WIND VELOCITY. FOR WIND LOAD CALCULATIONS IN ACCORDANCE WITH ASCE 7, A DIRECTIONALITY FACTOR OF $K_d = 0.85$ SHALL BE USED.
- THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE.
- PERMIT HOLDER SHALL VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS.
- ANCHORS SHALL BE INSTALLED PER MANUFACTURER RECOMMENDATIONS. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
- USE OF THESE APPROVAL DOCUMENTS SHALL COMPLY WITH CHAPTER 61G15-23 OF THE FLORIDA ADMINISTRATIVE CODE.
- THESE APPROVAL DOCUMENTS ARE SUITABLE TO BE APPLIED BY THE CONTRACTOR PROVIDED THE CONTRACTOR DOES NOT DEVIATE FROM THE CONDITIONS DETAILED HEREIN AND THE CONTRACTOR VERIFIES THAT THE EXISTING STRUCTURE DOES NOT DEVIATE IN EITHER FORM OR MATERIAL FROM THE STRUCTURAL SUBSTRATES DETAILED HEREIN.
- ANY MODIFICATIONS OR ADDITIONS TO THESE APPROVAL DOCUMENTS WILL VOID THE APPROVAL DOCUMENTS.
- EACH SHUTTER ASSEMBLY SHALL BE PERMANENTLY LABELED WITH THE FOLLOWING MINIMUM INFORMATION:

TOWN & COUNTRY INDUSTRIES
FORT LAUDERDALE, FL
MISSILE LEVEL D - ASTM E1886, E1996 & E330
TAS 201, 202 & 203
FLORIDA PRODUCT APPROVAL NUMBER

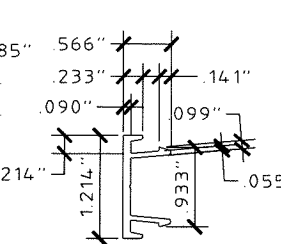
- ALL EXTRUSIONS SHOWN SHALL BE 6063-T6 ALUMINUM ALLOY, U.O.N., WITH A MINIMUM F_y OF 25 K.S.I.
- ALL BOLTS AND WASHERS (EXCLUDING INSTALLATION) SHALL BE STAINLESS STEEL WITH A MINIMUM TENSILE STRENGTH OF 60 K.S.I., U.O.N. POP RIVETS SHALL BE 1/4"Ø OR 3/16"Ø 5052 ALUM. ALLOY.
- MAXIMUM ALLOWABLE DESIGN PRESSURE IN CLOSED POSITION PROVIDING WIND LOAD & IMPACT RESISTANCE = **+69.3/-79.5 PSF** FOR ALL NON-SLIDING PANEL WITH TRACK CONFIGURATIONS. MAXIMUM ALLOWABLE DESIGN PRESSURE IN CLOSED POSITION FOR ALL SLIDING PANEL TRACK CONFIGURATIONS = **+57.2/-66.2 PSF**.
- MAXIMUM ALLOWABLE DESIGN PRESSURE IN OPEN POSITION = **+/- 28 PSF**
- SHUTTER ASSEMBLY MUST BE CLOSED AND SECURED AND SHALL NOT BE LEFT IN THE OPEN POSITION IN THE EVENT OF A WIND STORM EVENT.
- ALL STEEL IN CONTACT WITH ALUMINUM SHALL BE PAINTED OR PLATED.



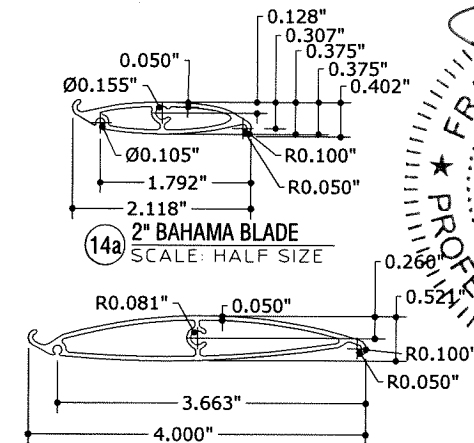
1 MUNTIN
SCALE: HALF SIZE



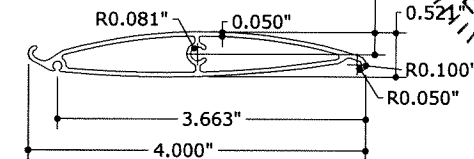
2 JAMB
SCALE: HALF SIZE



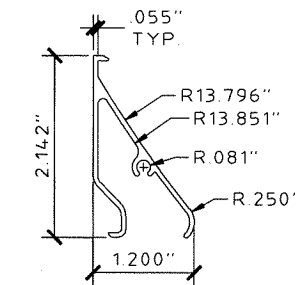
3 JAMB SNAP
SCALE: HALF SIZE



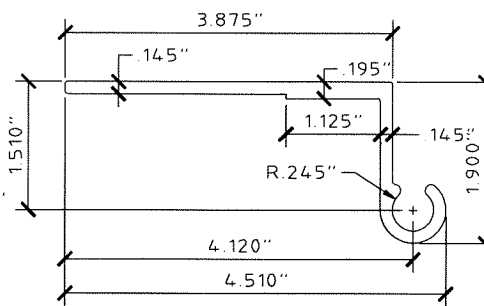
14a 2" BAHAMA BLADE
SCALE: HALF SIZE



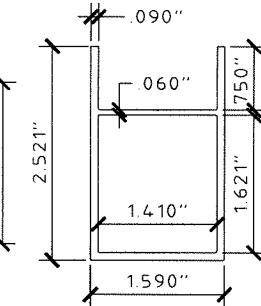
14b 4" BAHAMA BLADE
SCALE: HALF SIZE



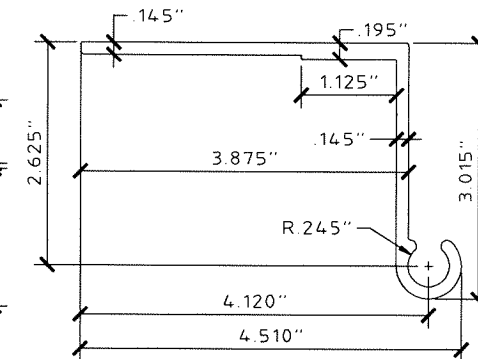
5 COLONIAL BLADE
SCALE: HALF SIZE



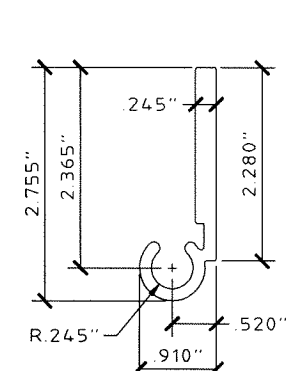
6 WALL HINGE
SCALE: HALF SIZE



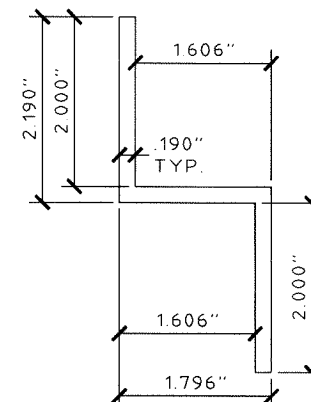
7 HEADER / SILL
SCALE: HALF SIZE



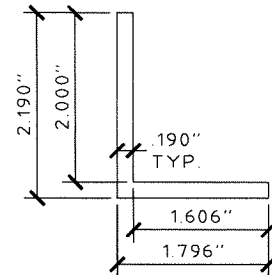
8 BUILD-OUT WALL HINGE
SCALE: HALF SIZE



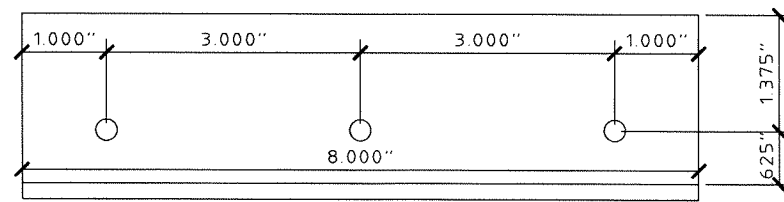
9 FLAT HINGE
SCALE: HALF SIZE



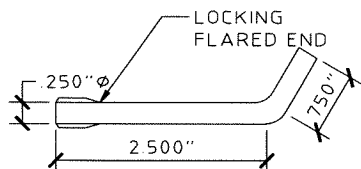
10 "Z" BAR - PROFILE & LAYOUT
SCALE: HALF SIZE



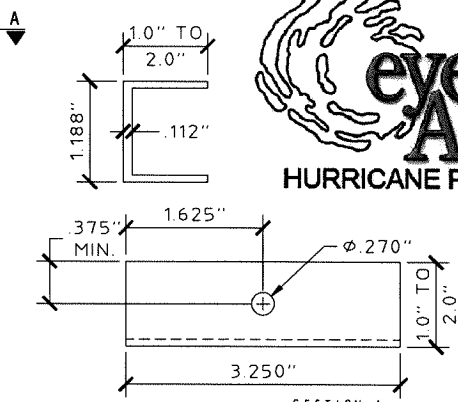
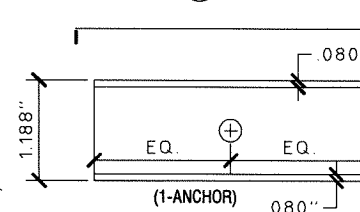
11 ANGLE
SCALE: HALF SIZE



12 L-PIN - 1/4" Ø
SCALE: HALF SIZE



13 "C" CLIPS
SCALE: HALF SIZE



FRANK L. BENNARDO, P.E.
PE0046549

08/10/2017

ENGINEERING EXPRESS
CORPORATE OFFICE
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
P: (954) 354-0660 F: (954) 354-0443
E: HELLO@ENGINEERINGEXPRESS.COM
CERT OF AUTH #9886

Town & Country INDUSTRIES
Wholesale Aluminum and Building Products
A Division of ABC Supply Co., Inc.
400 WEST MCNAB ROAD FT. LAUDERDALE, FL 33309
FLORIDA PRODUCT APPROVAL #16219.2

REMARKS	DRWN	CHKD	DATE
INT ISSUE (12-TCM-05)	KL	FLB	12/20/12
FBC UPDATE	RWN	TSB	04/16/15
REV - ADD 4" BLADE	RWN	FLB	09/28/16
REV (2017 FBC)	RWN	FLB	08-07-17

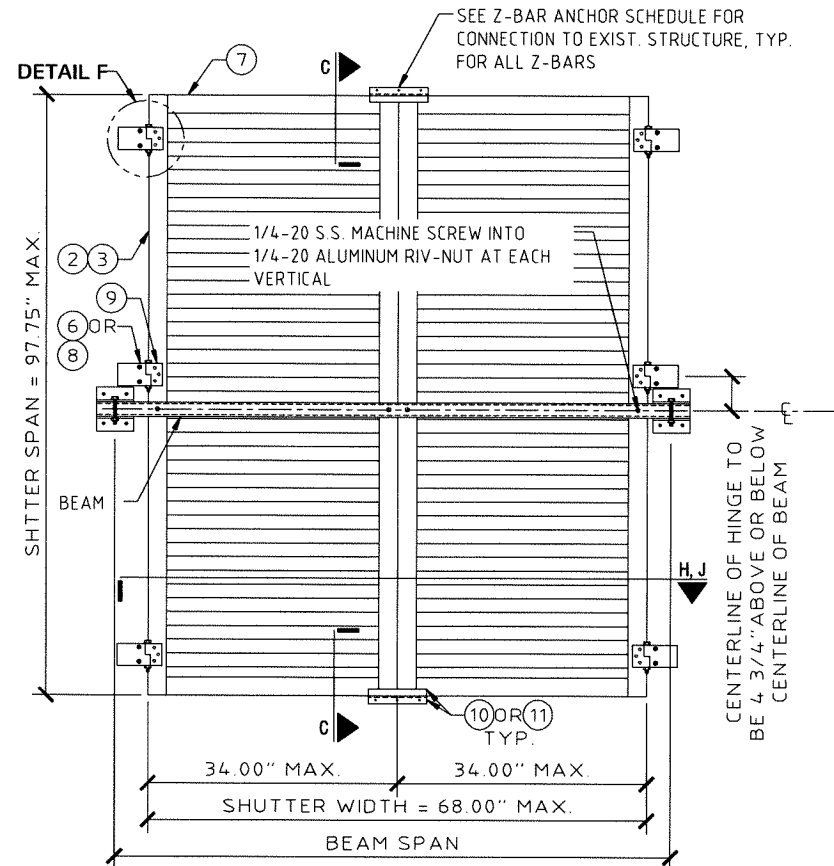
THIS DOCUMENT IS THE PROPERTY OF FRANK L. BENNARDO, P.E. AND SHALL NOT BE REPRODUCED IN WHOLE OR PART WITHOUT WRITTEN CONSENT OF FRANK L. BENNARDO, P.E. "ALTERATIONS, ADDITIONS, REVISIONS, OR OTHER WARNINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE OUR CERTIFICATION."

COPYRIGHT FRANK L. BENNARDO P.E.

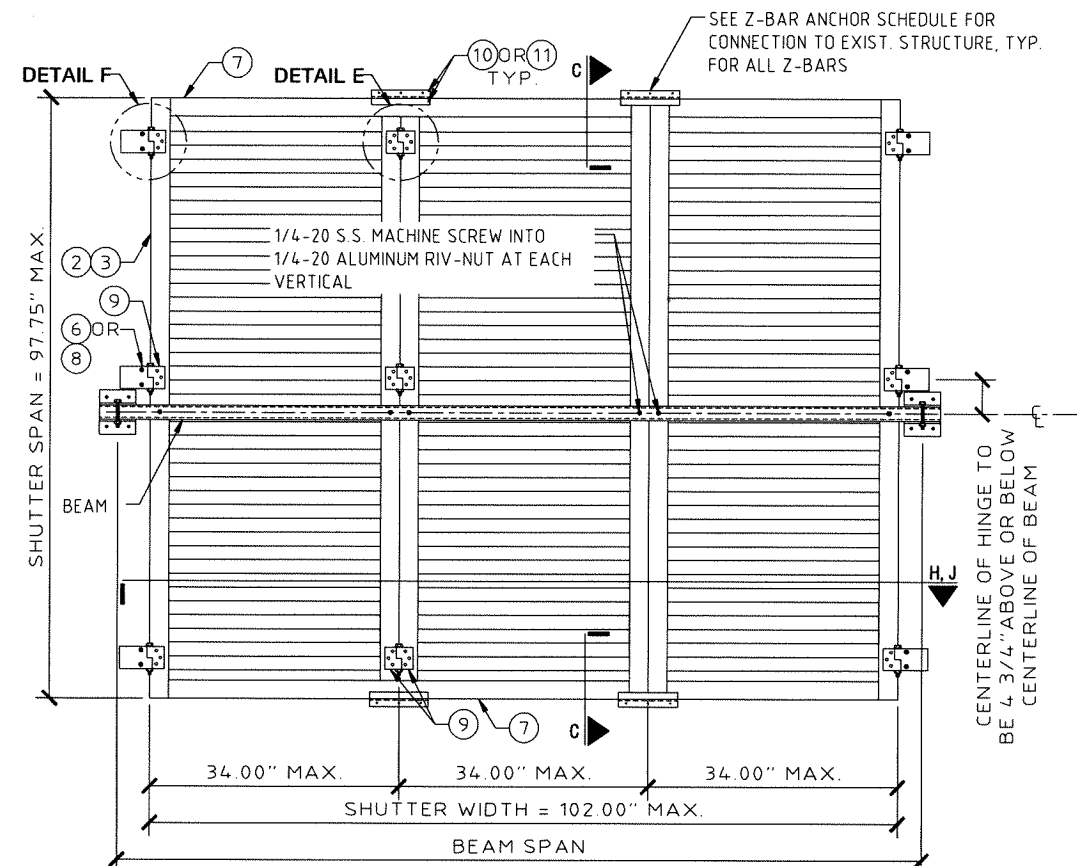
15-2347

SCALE: -
PAGE DESCRIPTION:

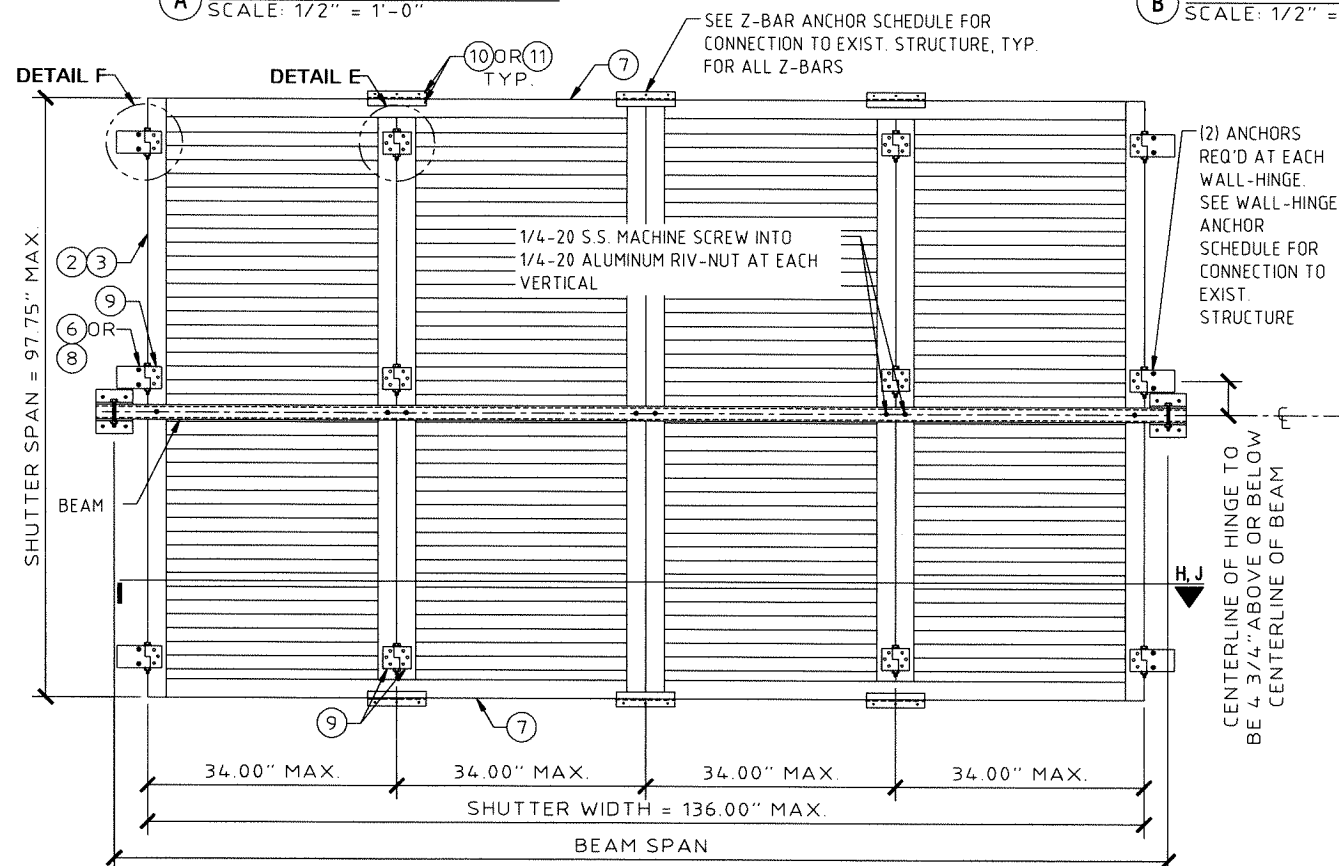
COLONIAL SHUTTER (HVHZ ONLY)



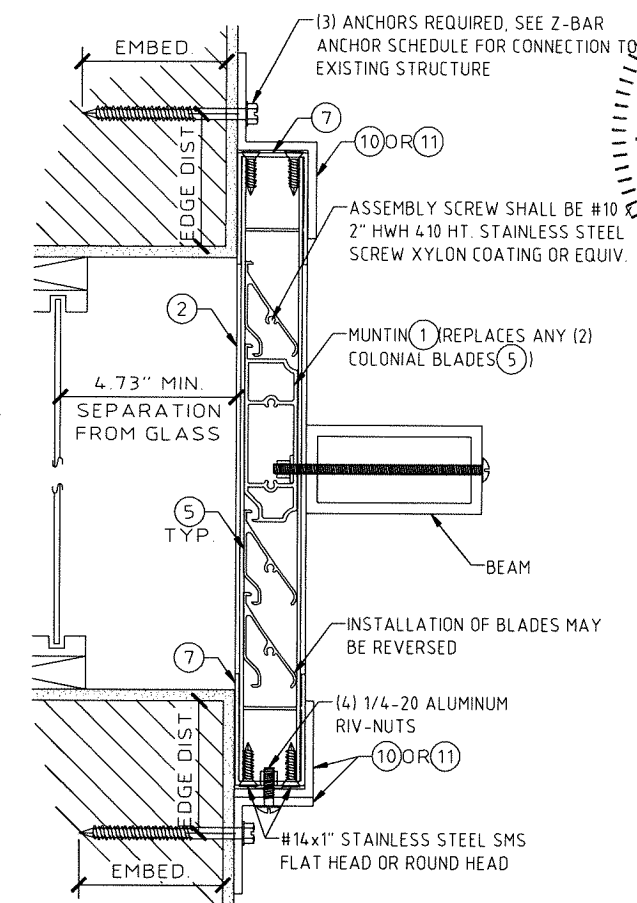
A TYPICAL ELEVATION 2 PANEL
SCALE: 1/2" = 1'-0"



B TYPICAL ELEVATION 3 PANEL
SCALE: 1/2" = 1'-0"



D TYPICAL ELEVATION 4 PANELS MAX.
SCALE: 1/2" = 1'-0"



C TYPICAL PANEL SECTION
SCALE: 3\"/>

BEAM SCHEDULE

BEAM SIZE	ALUMINUM ALLOY	SHUTTER SPAN	BEAM SPAN (+/- 79.5 PSF MAX)	WALL BRACKET ANCHOR TYPES (+69.3/-79.5 PSF MAX)		
				CONCRETE	HOLLOW BLOCK	WOOD (G=0.42 MIN)
2"x3"x1/8"	6063-T6	8'-1.75"	5' 6"	A,B,C,D,E	A,C,E	B,C
		6'-8"	6' 1"	A,B,C,D,E	A,B,C,E	B,C
		5'-10"	6' 6"	A,B,C,D,E	A,B,C,E	B,C
2"x4"x1/8"	6063-T6	8'-1.75"	6' 9"	A,B,C,D,E	A,C	B,C
		6'-8"	7' 5"	A,B,C,D,E	A,C	B,C
		5'-10"	8' 0"	A,B,C,D,E	A,C	B,C
2"x5"x1/8"	6063-T6	8'-1.75"	8' 0"	A,B,C,D,E	A,C	
		6'-8"	8' 10"	A,B,C,D,E	A,C	B,C
		5'-10"	9' 5"	A,B,C,D,E	A,C	B,C
2"x4"x1/4"	6061-T6	8'-1.75"	10' 5"	A,B,C,D,E		
		6'-8"	11' 6"	A,B,C,D,E	A,C	
		5'-10"	12' 4"	A,B,C,D,E	A,C	

- TYPE A:** 1/4-20 ALL POINT SOLID SET ANCHORS:
 - IN CONCRETE (3.35KSI MIN) WITH 1/8" MIN EMBED., 3" MIN EDGE DIST. AND 3" MIN SPACING
 - IN HOLLOW CONCRETE BLOCK WITH 1/8" MIN EMBED., 3" MIN EDGE DIST. AND 3" MIN SPACING
- TYPE B:** 1/4-20 ELCO PANELMATES (MALE/FEMALE):
 - IN CONCRETE (3.35KSI MIN) WITH 1 3/4" MIN EMBED., 2 1/2" MIN EDGE DIST. AND 3" MIN SPACING
 - IN HOLLOW CONCRETE BLOCK WITH 1 3/4" MIN EMBED., 2" MIN EDGE DIST. AND 3" MIN SPACING
 - IN WOOD (G=0.42 MIN) WITH 1 1/2" MIN EMBED., 3/4" MIN EDGE DIST. AND 1 1/2" MIN SPACING
- TYPE C:** 1/4" ITW TAPCON SG:
 - IN CONCRETE (3.35KSI MIN) WITH 1 3/4" MIN EMBED., 2 1/2" MIN EDGE DIST. AND 3" MIN SPACING
 - IN HOLLOW CONCRETE BLOCK WITH 1 3/4" MIN EMBED., 2" MIN EDGE DIST. AND 3" MIN SPACING
 - IN WOOD (G=0.42 MIN) WITH 1 1/2" MIN EMBED., 3/4" MIN EDGE DIST. AND 1 1/2" MIN SPACING
- TYPE D:** 1/4" MILLENIUM MILLFAST:
 - IN CONCRETE (3.275KSI MIN) WITH 1 3/4" EMBED., 2 1/2" EDGE DIST., AND 4" MIN SPACING
 - IN HOLLOW CONCRETE BLOCK WITH 1 3/4" EMBED., 2 1/2" MIN EDGE DIST. AND 4" MIN SPACING
- TYPE E:** #12 SMS W/ 2" EYEWALL ARMOR NYLON INSERT:
 - IN CONCRETE (2KSI MIN) WITH 2" EMBED., 2" EDGE DIST. AND 3" MIN SPACING
 - IN HOLLOW CONCRETE BLOCK WITH 1 3/4" EMBED., 2" EDGE DIST. AND 3" MIN SPACING

FRANK L. BENNARDO, P.E.
PE0046549

08/10/2017

PROFESSIONAL ENGINEERING

ENGINEERING EXPRESS®
CORPORATE OFFICE:
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
P: (954) 354-0660 F: (954) 354-0661
E: HELLO@ENGINEERINGEXPRESS.COM
CERT OF AUTH #9885

Town & Country INDUSTRIES

Wholesale Aluminum and Building Products
A Division of ABC Supply Co., Inc.
400 WEST MCNAB ROAD FT. LAUDERDALE, FL 33309
FLORIDA PRODUCT APPROVAL #16219.2

REMARKS: INITIALS DATE

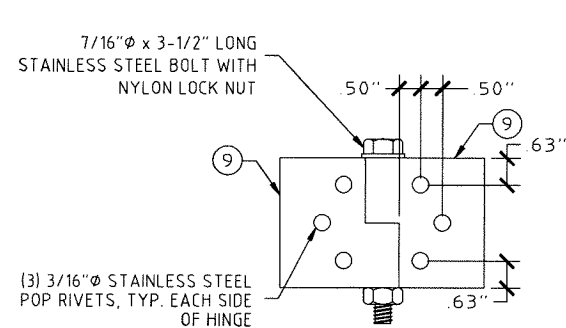
KL	FLB	12/20/12
RWN	TSB	04/16/15
RWN	FLB	09/28/16
RWN	FLB	08-07-17

15-2347

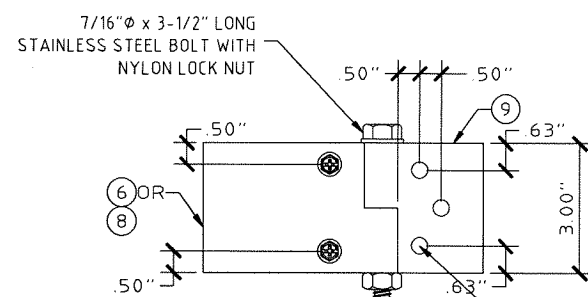
SCALE: -

PAGE DESCRIPTION:

2

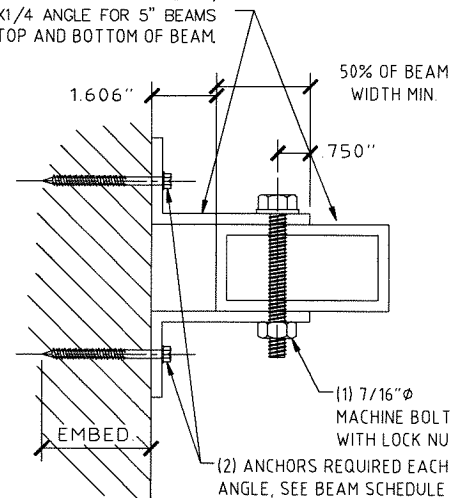


E TYPICAL PANEL HINGE
SCALE: 3" = 1'-0"

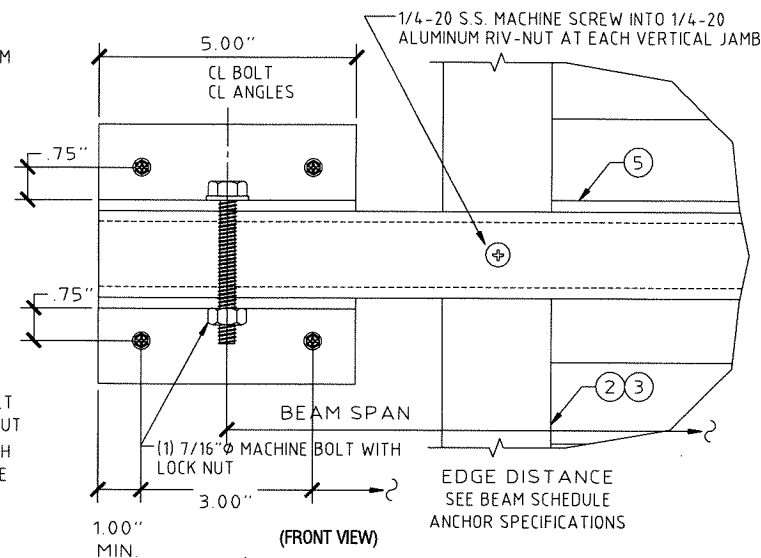


F TYPICAL WALL HINGE
SCALE: 3" = 1'-0"

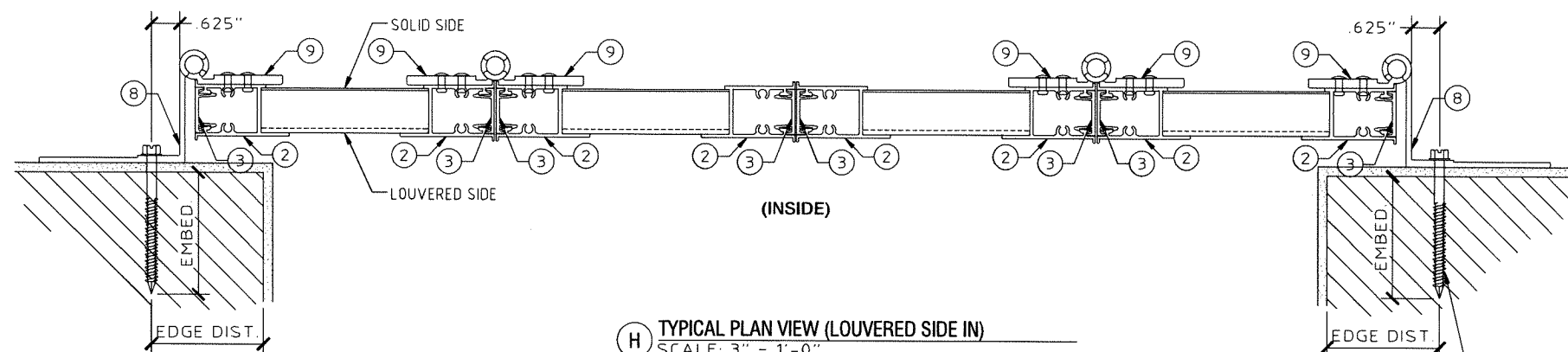
USE 2X4X1/4 ANGLE FOR 3" & 4" BEAMS,
USE 2X5X1/4 ANGLE FOR 5" BEAMS
, TYP. TOP AND BOTTOM OF BEAM



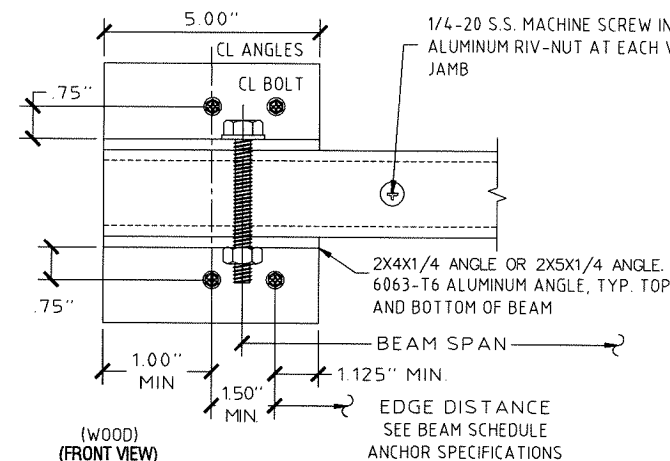
G TYPICAL WALL BRACKET CONNECTION DETAIL
SCALE: 3" = 1'-0"



H TYPICAL PLAN VIEW (LOUVERED SIDE IN)
SCALE: 3" = 1'-0"



I TYPICAL PLAN VIEW (LOUVERED SIDE OUT)
SCALE: 3" = 1'-0"



Z-BAR ANCHOR SCHEDULE					
MANUF.	DIAMETER	DESCRIPTION	MIN. EDGE DISTANCE	MIN. EMBED.	MIN. SPACING
CONCRETE (MIN. $f_c = 3350$ PSI)					
ELCO	1/4 IN.	STAINLESS STEEL PANELMATE	2.50 IN	2.00 IN	3.00 IN
ELCO	1/4 IN.	MALE PANELMATE (or P..PRO)	2.50 IN	2.00 IN	3.00 IN
ELCO	1/4 IN.	FEMALE PANELMATE	2.50 IN	1.75 IN	3.00 IN
ITW	1/4 IN.	TAPCON SG	2.50 IN	1.75 IN	3.00 IN
ALL-POINTS	1/4 IN.	SOLID-SET ANCHOR	2.00 IN	0.875 IN	3.00 IN
MILLENIUM	1/4 IN.	MILLFAST	2.50 IN	1.75 IN	3.00 IN
HOLLOW CONCRETE BLOCK					
ELCO	1/4 IN.	STAINLESS STEEL PANELMATE	2.00 IN	1.25 IN	3.00 IN
ELCO	1/4 IN.	MALE PANELMATE (or P..PRO)	2.00 IN	1.25 IN	3.00 IN
ELCO	1/4 IN.	FEMALE PANELMATE	2.00 IN	1.25 IN	3.00 IN
ITW	1/4 IN.	TAPCON SG	2.50 IN	1.25 IN	3.00 IN
ALL-POINTS	1/4 IN.	SOLID-SET ANCHOR	2.50 IN	0.875 IN	3.00 IN
MILLENIUM	1/4 IN.	MILLFAST	2.50 IN	1.25 IN	3.00 IN
WOOD (SOUTHERN YELLOW PINE, $G=0.54$)					
ELCO	1/4 IN.	STAINLESS STEEL PANELMATE	0.75 IN	1.875 IN	3.00 IN
ELCO	1/4 IN.	MALE PANELMATE (or P..PRO)	0.75 IN	1.875 IN	3.00 IN
ELCO	1/4 IN.	FEMALE PANELMATE	0.75 IN	1.875 IN	3.00 IN
ITW	1/4 IN.	TAPCON SG	0.75 IN	1.50 IN	3.00 IN
	1/4 IN.	S.S. HANGER BOLT	0.75 IN	1.25 IN	1.50 IN
WOOD (SPRUCE-PINE-FIR (SPF), $G=0.42$)					
	1/4 IN.	S.S. HANGER BOLT	0.75 IN	1.25 IN	1.50 IN

WALL-HINGE ANCHOR SCHEDULE					
MANUF.	DIAMETER	DESCRIPTION	MIN. EDGE DISTANCE	MIN. EMBED.	MIN. SPACING
CONCRETE (MIN. $f_c = 3192$ PSI)					
ITW	1/4 IN.	SS TAPCON	2.50 IN	1.00 IN	2.00 IN
ITW	5/16 IN.	TAPCON XL	2.1875 IN	1.75 IN	2.00 IN
HOLLOW CONCRETE BLOCK					
ELCO	1/4 IN.	ULTRACON	2.50 IN	1.25 IN	2.00 IN
ITW	5/16 IN.	TAPCON XL	2.1875 IN	1.75 IN	2.00 IN
WOOD ($G=0.42$ MIN)					
	#14	SMS OR WOOD SCREW	0.75 IN	1.50 IN	1.50 IN
	1/4 IN.	LAG SCREW	0.75 IN	1.25 IN	1.50 IN

FRANK L. BENNARD, P.E.
#FE0046549

08/10/2017

No FE0046549

ENGINEERING EXPERTS
CORPORATE OFFICE:
160 SW 12th AVE., SUITE 106
DEERFIELD BEACH, FL 33442
P: (954) 354-0660 F: (954) 354-0661
E: HELLO@ENGINEERINGEXPRESS.COM
CERT OF AUTH #9885

Town & Country INDUSTRIES
Wholesale Aluminum and Building Products
A Division of ABC Supply Co., Inc.
400 WEST MCNAB ROAD FT. LAUDERDALE, FL 33309
FLORIDA PRODUCT APPROVAL #16219.2

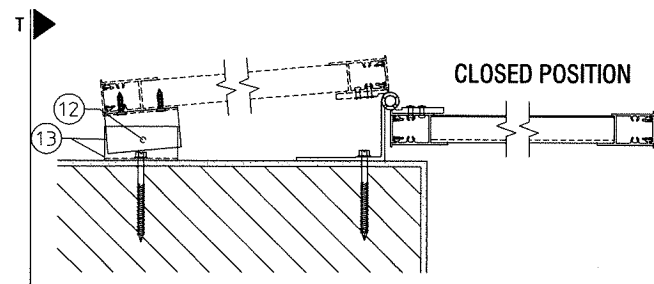
DATE 12/20/12
INIT KL
FBC UPDATE TSB
REV - ADD 4" BLADE RWB
REV (2017 FBC) RWB
THIS DOCUMENT IS THE PROPERTY OF FRANK L. BENNARD, P.E. AND SHALL NOT BE REPRODUCED IN WHOLE OR PART WITHOUT WRITTEN CONSENT OF FRANK L. BENNARD, P.E. *ALTERATIONS, ADDITIONS, HIGHLIGHTING, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE OUR CERTIFICATION.

COPYRIGHT FRANK L. BENNARD P.E.

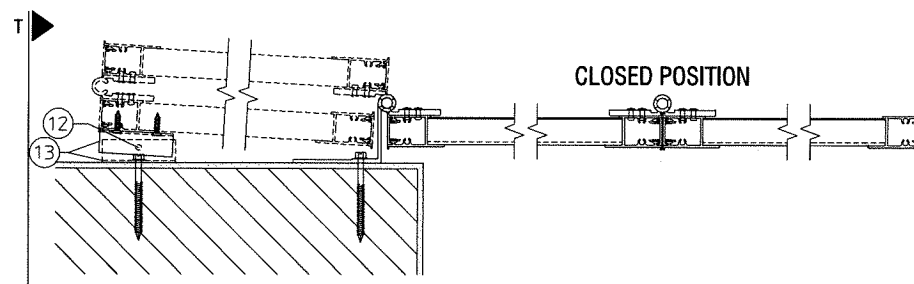
15-2347

SCALE:
PAGE DESCRIPTION:

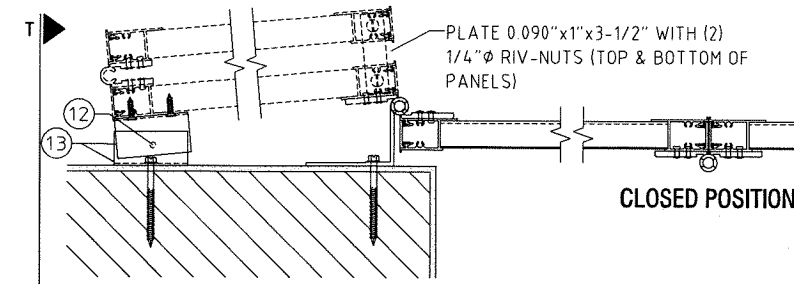
3



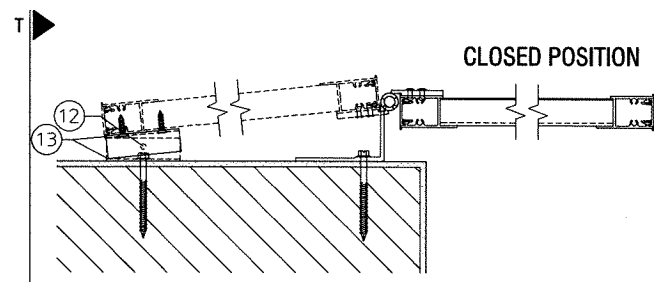
K PLAN VIEW 1
SCALE: 1-1/2" = 1'-0"



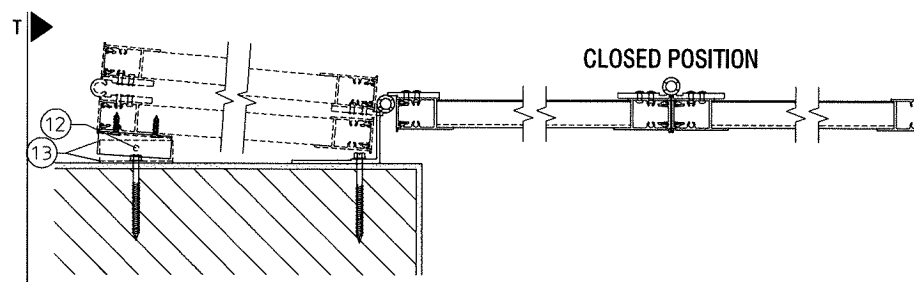
L PLAN VIEW 2
SCALE: 1-1/2" = 1'-0"



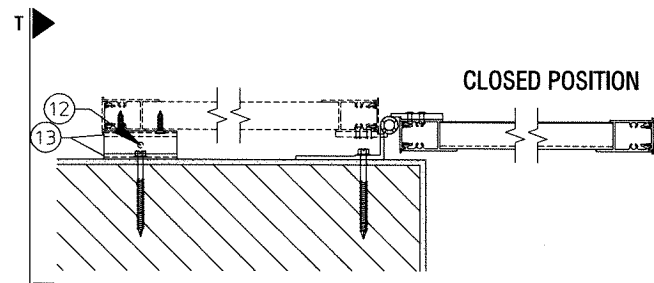
M PLAN VIEW 3
SCALE: 1-1/2" = 1'-0"



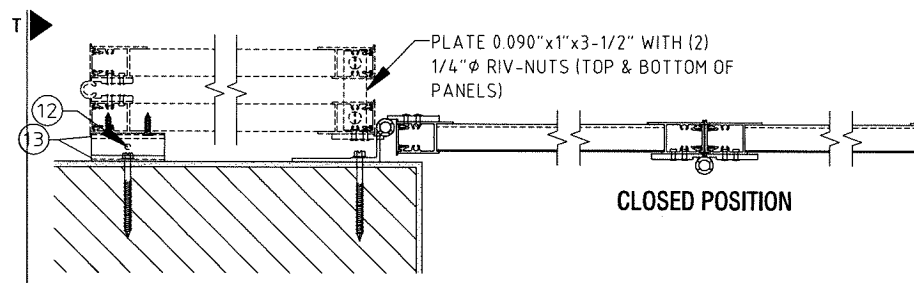
N PLAN VIEW 4
SCALE: 1-1/2" = 1'-0"



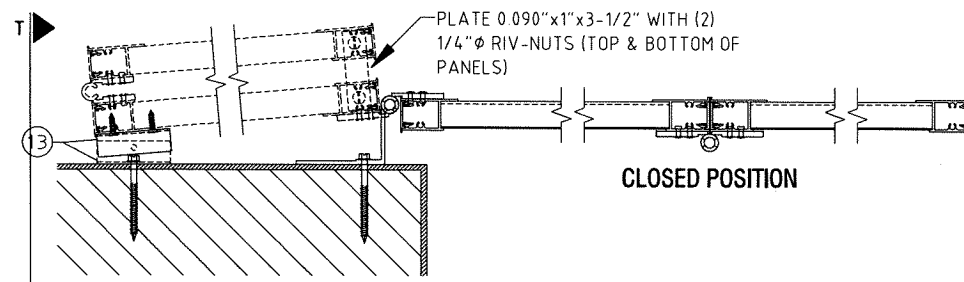
P PLAN VIEW 5
SCALE: 1-1/2" = 1'-0"



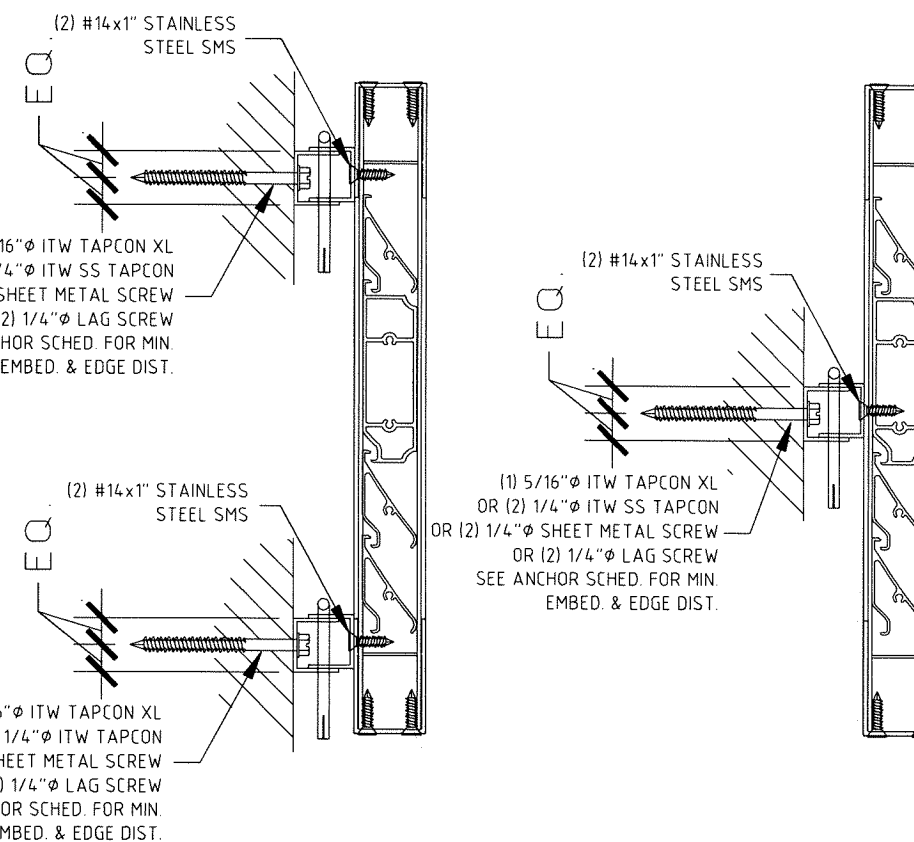
Q PLAN VIEW 6
SCALE: 1-1/2" = 1'-0"



R PLAN VIEW 7
SCALE: 1-1/2" = 1'-0"



S PLAN VIEW 8
SCALE: 1-1/2" = 1'-0"



OPEN POSITION LOCK ANCHOR SCHEDULE:

WITH "C" CLIPS OR DOUBLE "C" CLIPS:

TO 2899 PSI MIN. CONCRETE:
• (1) 5/16" ITW TAPCON XL W/ 1-3/4" MIN. EMBEDMENT AND 2" MIN. EDGE DISTANCE.

TO 3192 PSI MIN. CONCRETE:
• (2) 1/4" ITW SS TAPCON W/ 1-3/4" MIN. EMBEDMENT AND 1" MIN. EDGE DISTANCE.

TO HOLLOW CONCRETE BLOCK:
• (1) 5/16" ITW TAPCON XL W/ 1-3/4" MIN. EMBEDMENT AND 4" MIN. EDGE DISTANCE.

TO G=0.42 MIN. WOOD HOST STRUCTURE:
• (2) 1/4" WOOD SCREWS OR SHEET METAL SCREWS W/ 1-3/4" MIN. THREAD PENETRATION AND 3/4" MIN. EDGE DISTANCE.
• (2) 1/4" LAG SCREWS W/ 1-1/2" MIN. THREAD PENETRATION AND 3/4" MIN. EDGE DISTANCE.

(HINGES NOT SHOWN FOR CLARITY)
(DOUBLE "C" CLIP) (SINGLE "C" CLIP)

NOTE:
CLIPS REQ'D TOP & BOTTOM FOR SPANS > 69". ONE CLIP REQ'D AT MID-SPAN (±3") FOR SPANS ≤ 69".

T OPEN POSITION LOCK
SCALE: 3" = 1'-0"

FRANK L. BENNARDO, P.E.
#PE0046549
08/10/2017
No PE0046549
PROFESSIONAL ENGINEER
STATE OF FLORIDA
ENGINEERING EXPRESS
CORPORATE OFFICE
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
P: (954) 354-0660 F: (954) 354-0449
E: HELLO@ENGINEERINGEXPRESS.COM
CERT OF AUTH #9885

Town & Country INDUSTRIES
Wholesale Aluminum and Building Products
A Division of ABC Supply Co., Inc.
400 WEST MCNAB ROAD FT. LAUDERDALE, FL 33309
FLORIDA PRODUCT APPROVAL #16219.2

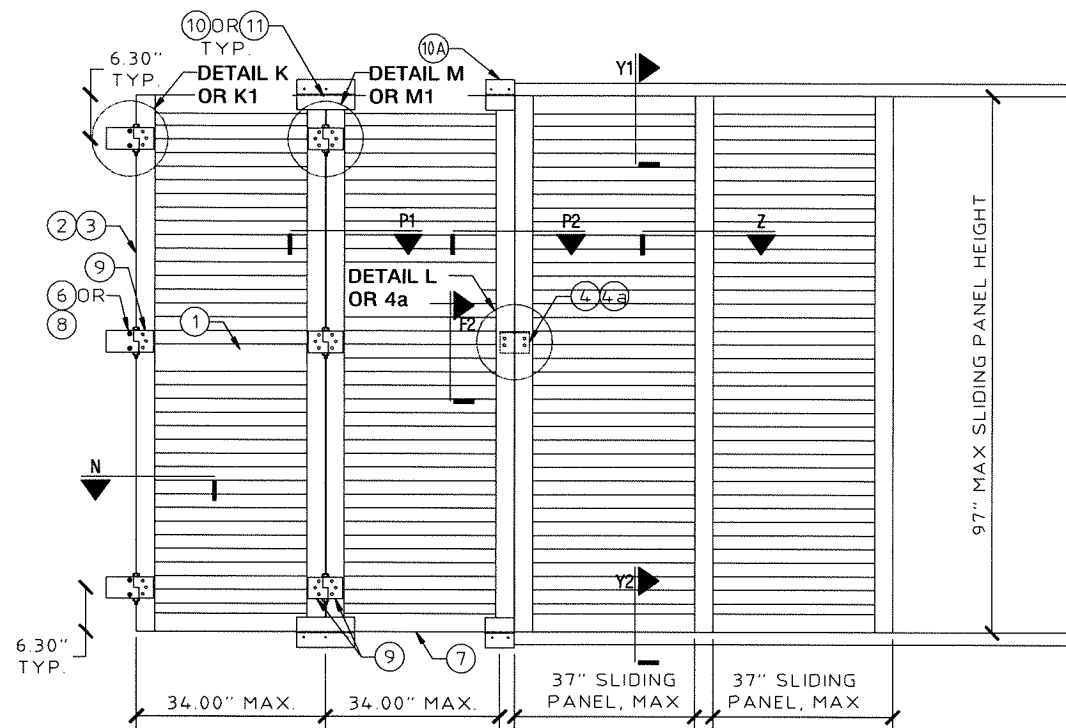
REMARKS	DRWN	CHKD	DATE
INIT ISSUE (12-TOM-05)	KL	FLB	12/20/12
FBC UPDATE	RWN	TSB	04/16/15
REV - ADD 4" BLADE	RWN	FLB	09/28/16
REV (2017 FBC)	RWN	FLB	08-07-17

THIS DOCUMENT IS THE PROPERTY OF FRANK L. BENNARDO, P.E. AND SHALL NOT BE REPRODUCED IN WHOLE OR IN PART WITHOUT WRITTEN CONSENT OF FRANK L. BENNARDO, P.E. * ALTERATIONS, ADDITIONS, HIGHLIGHTING OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE OUR CERTIFICATION.

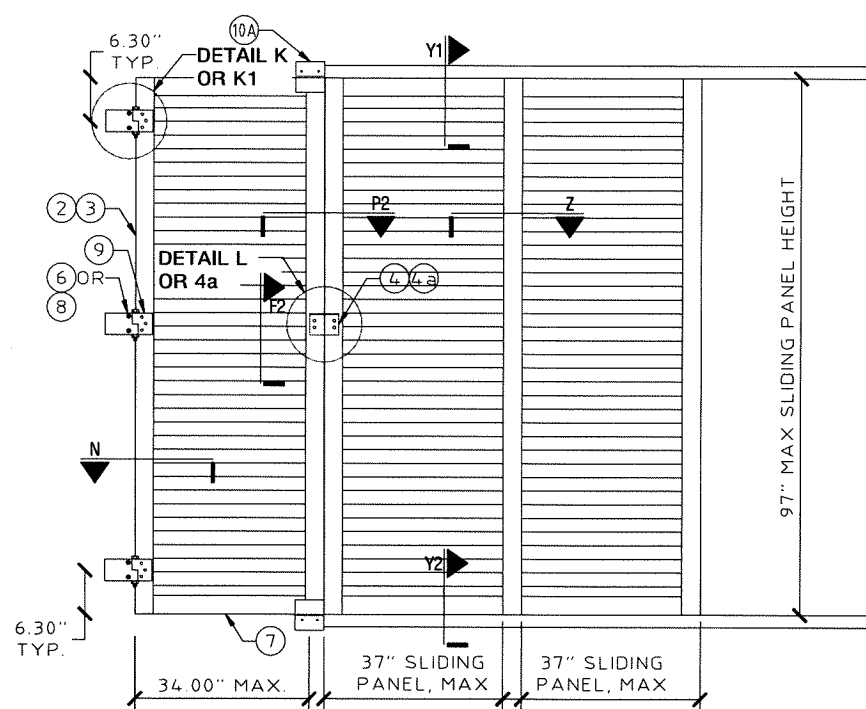
COPYRIGHT FRANK L. BENNARDO P.E.

15-2347

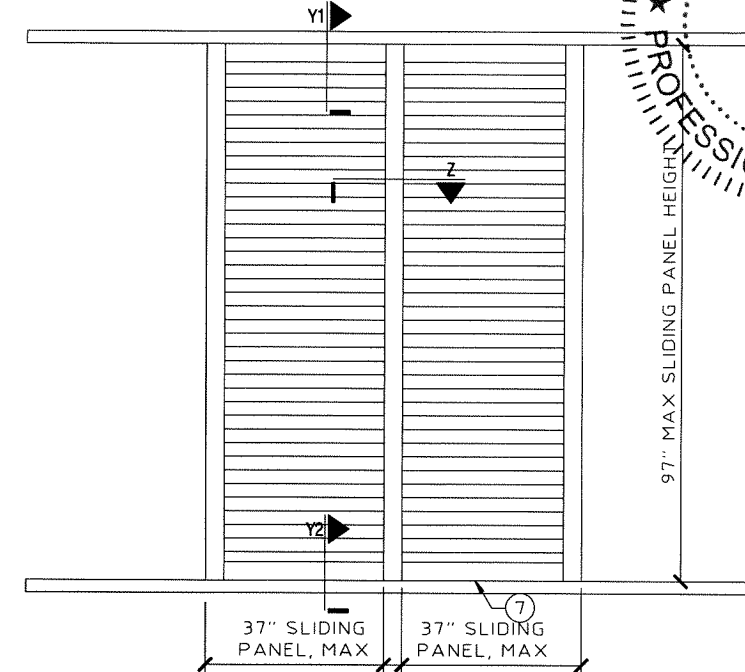
SCALE: -
PAGE DESCRIPTION:



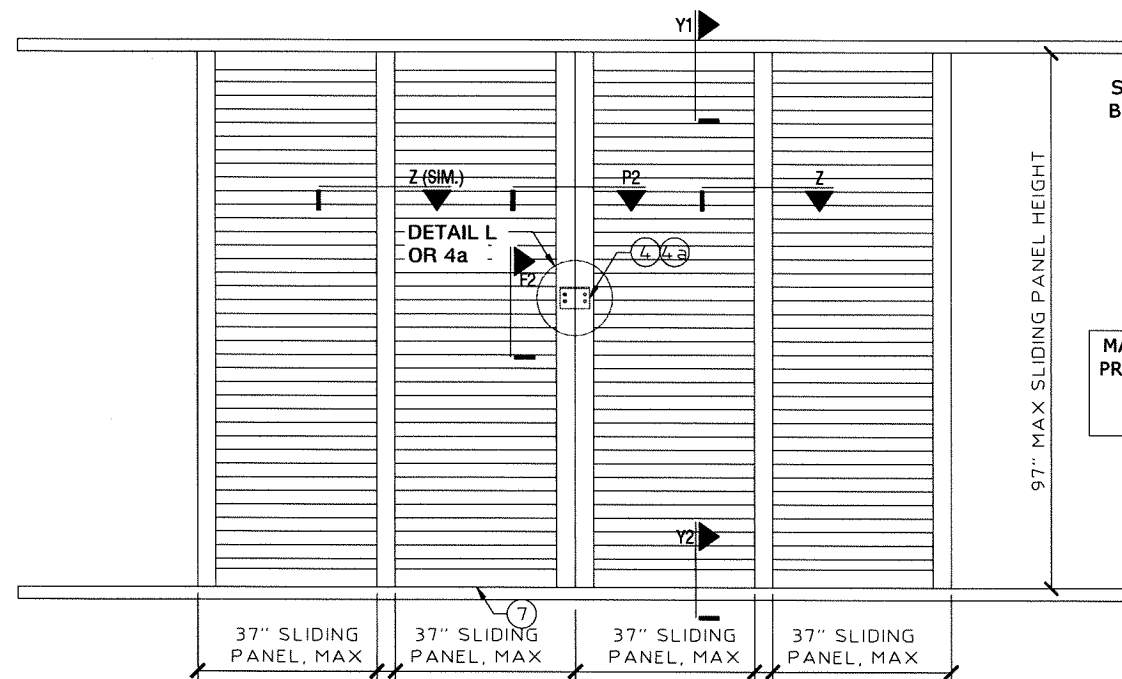
X1 ELEVATION: 2 HINGED AND 2 SLIDING PANELS
SCALE: N.T.S.



X2 ELEVATION: 1 HINGED AND 2 SLIDING PANELS
SCALE: N.T.S.



X5 ELEVATION: 2 SLIDING PANELS
SCALE: N.T.S.

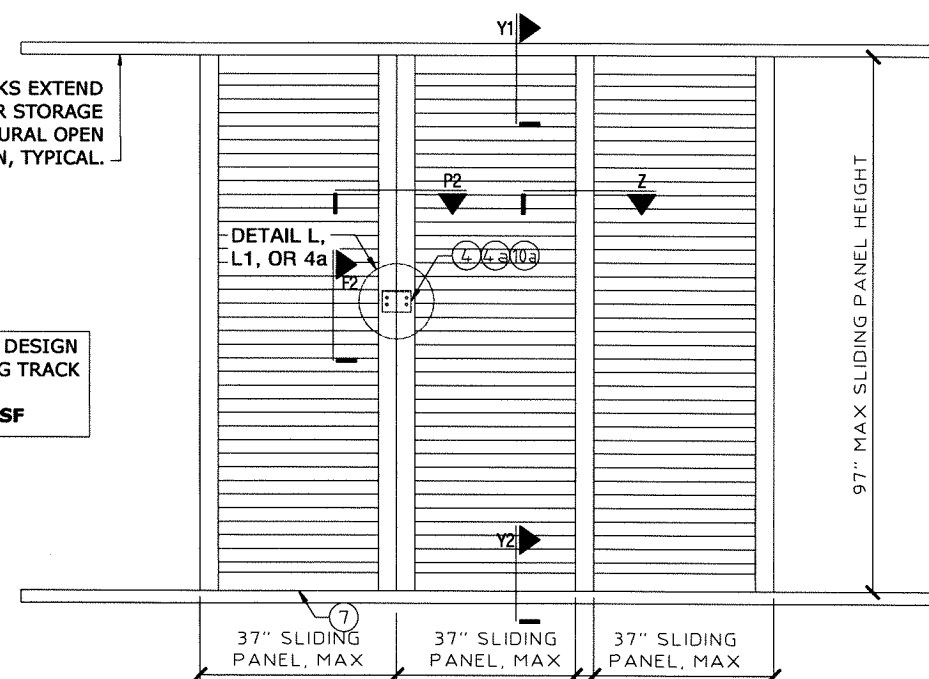


X3 ELEVATION: 4 SLIDING PANELS
SCALE: N.T.S.

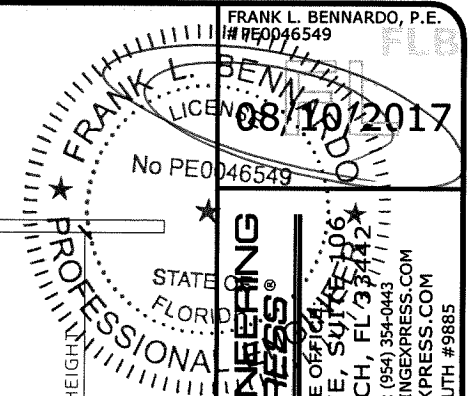
SLIDING PANEL TRACKS EXTEND BEYOND FOR SHUTTER STORAGE IN NON-STRUCTURAL OPEN POSITION, TYPICAL.

MAXIMUM ALLOWABLE DESIGN PRESSURE FOR SLIDING TRACK OPTION:
+57.2 / -66.2 PSF

NOTE: SLIDING PANEL CONSTRUCTION SAME AS HINGED PANELS.



X4 ELEVATION: 3 SLIDING PANELS
SCALE: N.T.S.



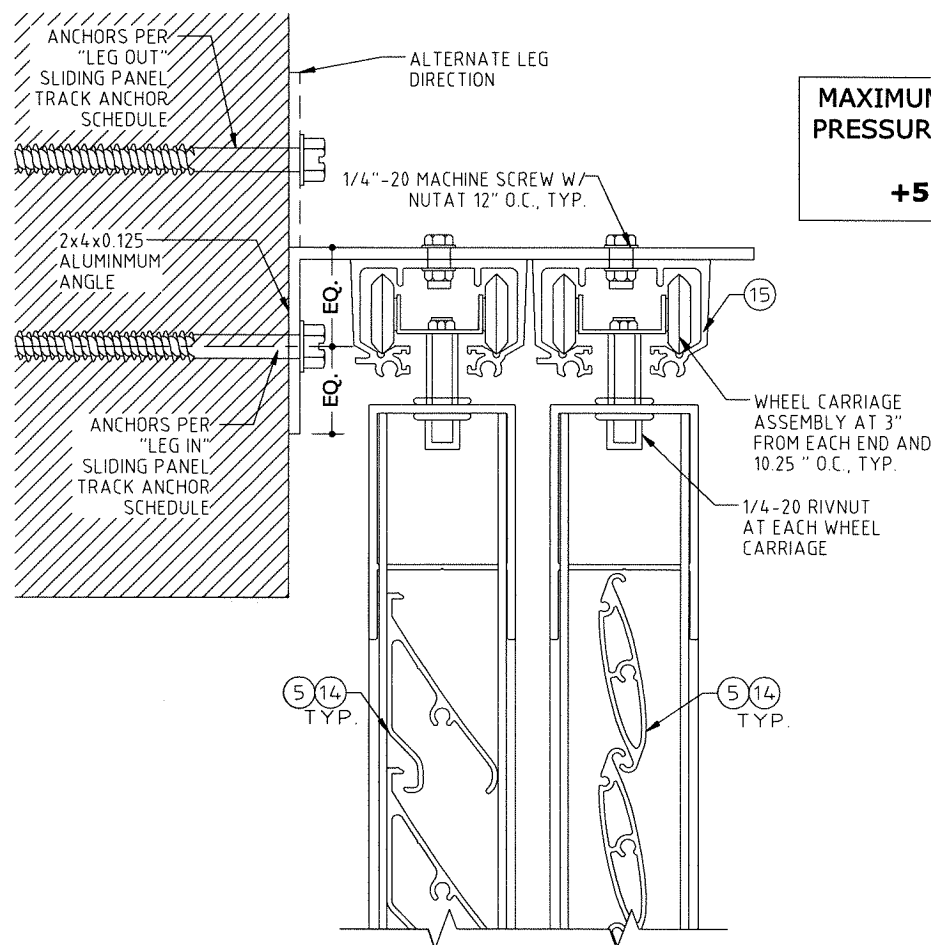
ENGINEERING EXPRESS
CORPORATE OFFICE
160 SW 12th AVE, SUITE 106
DEERFIELD BEACH, FL 33442
P: (954) 354-0660 F: (954) 354-0443
E: HELLO@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM
CERT OF AUTH #9885

Town & Country INDUSTRIES
Wholesale Aluminum and Building Products
A Division of ABC Supply Co., Inc.
400 WEST MCNAB ROAD FT. LAUDERDALE, FL 33309
FLORIDA PRODUCT APPROVAL #16219.2

REMARKS	DRWN	CHKD	DATE
INIT ISSUE (12-TOM-05)	KL	FLB	12/20/12
FBC UPDATE	RWN	TSB	04/16/15
REV - ADD 4" BLADE	RWN	FLB	09/28/16
REV (2017 FBC)	RWN	FLB	08-07-17

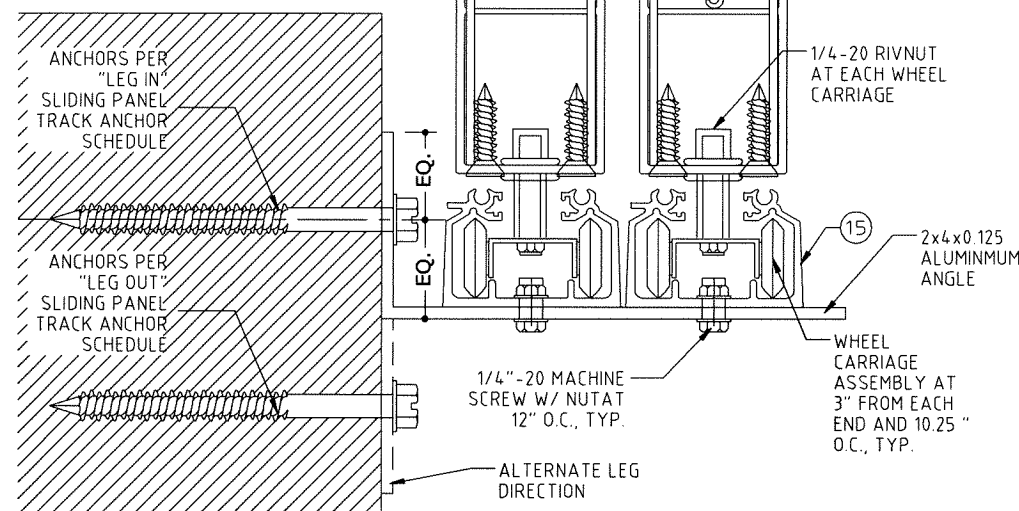
THIS DOCUMENT IS THE PROPERTY OF FRANK L. BENNARDO, P.E. AND SHALL NOT BE REPRODUCED IN WHOLE OR IN PART WITHOUT WRITTEN CONSENT OF FRANK L. BENNARDO, P.E. * ALTERATIONS, ADDITIONS, HIGHLIGHTING OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE OUR CERTIFICATION.

COPYRIGHT FRANK L. BENNARDO P.E.
15-2347
SCALE:
PAGE DESCRIPTION:

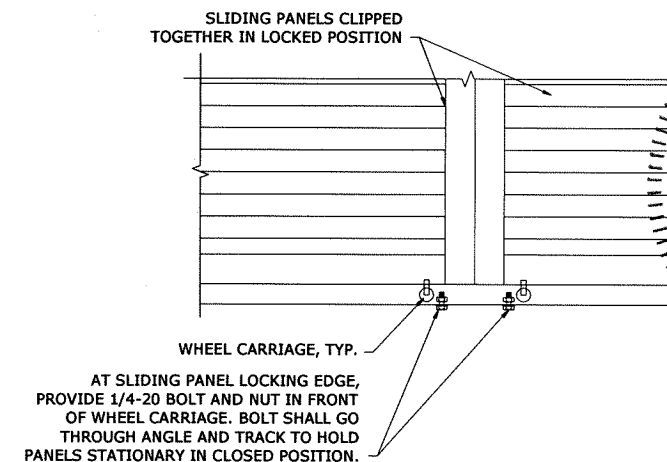


Y1 SLIDING PANEL TOP TRACK
SCALE: N.T.S.

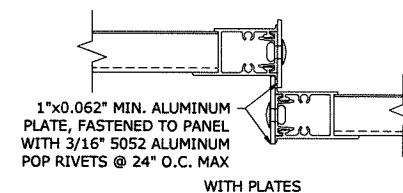
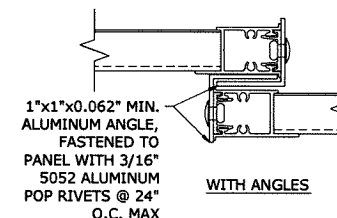
**MAXIMUM ALLOWABLE DESIGN
PRESSURE FOR SLIDING TRACK
OPTION:
+57.2 / -66.2 PSF**



Y2 SLIDING PANEL BOTTOM TRACK
SCALE: N.T.S.



ZZ WHEEL CARRIAGE STOPS FOR SLIDING PANELS
SCALE: N.T.S.



Z SLIDING PANEL INTERLOCK
SCALE: N.T.S.

"LEG IN" SLIDING PANEL TRACK ANCHOR SCHEDULE :

HOST STRUCTURE	ANCHOR	SLIDING PANEL VERTICAL SPAN					
		36"	48"	60"	72"	84"	97"
CONCRETE (3192 PSI MIN.)	1/4" ITW SS TAPCONS W/ 1-3/4" MIN. EMBEDMENT AND 2-1/2" MIN. EDGE DISTANCE	16" O.C.	16" O.C.	16" O.C.	16" O.C.	16" O.C.	16" O.C.
	1/4" ELCO ULTRACON W/ 1-3/4" MIN. EMBEDMENT AND 2-1/2" MIN. EDGE DISTANCE	16" O.C.	16" O.C.	16" O.C.	16" O.C.	16" O.C.	16" O.C.
CONCRETE (3500 PSI MIN.)	1/4" MILLENNIUM MILLFAST W/ 1-3/4" MIN. EMBEDMENT AND 2-1/2" MIN. EDGE DISTANCE	16" O.C.	16" O.C.	16" O.C.	16" O.C.	16" O.C.	16" O.C.
HOLLOW CONCRETE BLOCK	1/4" MILLENNIUM MILLFAST W/ 1-1/4" MIN. EMBEDMENT AND 2-1/2" MIN. EDGE DISTANCE	16" O.C.	13" O.C.	11" O.C.	9" O.C.	8" O.C.	7" O.C.
	1/4" ITW SS TAPCONS W/ 1-1/4" MIN. EMBEDMENT AND 2-1/2" MIN. EDGE DISTANCE	15" O.C.	12" O.C.	9" O.C.	8" O.C.	7" O.C.	6" O.C.
	1/4" ELCO ULTRACON W/ 1-1/4" MIN. EMBEDMENT AND 2-1/2" MIN. EDGE DISTANCE	16" O.C.	13" O.C.	10" O.C.	8" O.C.	7" O.C.	6" O.C.
	5/16" ITW TAPCON XL W/ 1-3/4" MIN. EMBEDMENT AND 4" MIN. EDGE DISTANCE.	16" O.C.	16" O.C.	15" O.C.	13" O.C.	11" O.C.	9" O.C.
	5/16" ELCO ULTRACON W/ 1-1/4" MIN. EMBEDMENT AND 3-1/8" MIN. EDGE DISTANCE	16" O.C.	16" O.C.	16" O.C.	14" O.C.	12" O.C.	10" O.C.
WOOD (G=0.42 MIN.)	1/4" LAG SCREW W/ 1-1/2" MIN. EMBEDMENT AND 3/4" MIN. EDGE DISTANCE	16" O.C.	16" O.C.	16" O.C.	16" O.C.	16" O.C.	16" O.C.
	#14 SMS OR WOOD SCREW W/ 1-1/2" MIN. EMBEDMENT AND 3/4" MIN. EDGE DISTANCE.	16" O.C.	16" O.C.	16" O.C.	16" O.C.	15" O.C.	13" O.C.

NOTE: TABLE PROVIDES MAXIMUM ANCHOR SPACING FOR INDICATED ANCHOR TYPES AND SLIDING PANEL VERTICAL SPANS FOR "LEG IN" CONDITION. ANCHORS SHALL BE LOCATED 2" MAX FROM TRACK ENDS.

"LEG OUT" SLIDING PANEL TRACK ANCHOR SCHEDULE :

HOST STRUCTURE	ANCHOR	SLIDING PANEL VERTICAL SPAN					
		36"	48"	60"	72"	84"	97"
CONCRETE (3192 PSI MIN.)	1/4" ITW SS TAPCONS W/ 1-3/4" MIN. EMBEDMENT AND 2-1/2" MIN. EDGE DISTANCE	16" O.C.	13" O.C.	10" O.C.	9" O.C.	7" O.C.	6" O.C.
	1/4" ELCO ULTRACON W/ 1-3/4" MIN. EMBEDMENT AND 2-1/2" MIN. EDGE DISTANCE	16" O.C.	16" O.C.	13" O.C.	11" O.C.	9" O.C.	8" O.C.
CONCRETE (3500 PSI MIN.)	1/4" MILLENNIUM MILLFAST W/ 1-3/4" MIN. EMBEDMENT AND 2-1/2" MIN. EDGE DISTANCE	16" O.C.	13" O.C.	10" O.C.	9" O.C.	7" O.C.	6" O.C.
HOLLOW CONCRETE BLOCK	1/4" MILLENNIUM MILLFAST W/ 1-1/4" MIN. EMBEDMENT AND 2-1/2" MIN. EDGE DISTANCE	7" O.C.	5" O.C.	4" O.C.			
	1/4" ITW SS TAPCONS W/ 1-1/4" MIN. EMBEDMENT AND 2-1/2" MIN. EDGE DISTANCE	6" O.C.	4" O.C.	4" O.C.	3" O.C.	3" O.C.	
	1/4" ELCO ULTRACON W/ 1-1/4" MIN. EMBEDMENT AND 2-1/2" MIN. EDGE DISTANCE	6" O.C.	5" O.C.	4" O.C.	3" O.C.	3" O.C.	
	5/16" ITW TAPCON XL W/ 1-3/4" MIN. EMBEDMENT AND 4" MIN. EDGE DISTANCE.	10" O.C.	7" O.C.	6" O.C.	5" O.C.	4" O.C.	4" O.C.
	5/16" ELCO ULTRACON W/ 1-1/4" MIN. EMBEDMENT AND 3-1/8" MIN. EDGE DISTANCE	10" O.C.	8" O.C.	6" O.C.			
WOOD (G=0.42 MIN.)	1/4" LAG SCREW W/ 1-1/2" MIN. EMBEDMENT AND 3/4" MIN. EDGE DISTANCE	16" O.C.	14" O.C.	11" O.C.	10" O.C.	8" O.C.	7" O.C.
	#14 SMS OR WOOD SCREW W/ 1-1/2" MIN. EMBEDMENT AND 3/4" MIN. EDGE DISTANCE.	13" O.C.	10" O.C.	8" O.C.	7" O.C.	6" O.C.	5" O.C.

NOTE: TABLE PROVIDES MAXIMUM ANCHOR SPACING FOR INDICATED ANCHOR TYPES AND SLIDING PANEL VERTICAL SPANS FOR ALTERNATE "LEG OUT" CONDITION. ANCHORS SHALL BE LOCATED 2" MAX FROM TRACK ENDS.

FRANK L. BENNARDO, P.E.
PE0046549

08/10/2017

No PE0046549

ENGINEERING EXPRESS
CORPORATE OFFICE:
160 SW 12th AVE., SUITE 106
DEERFIELD BEACH, FL 33442
P: (954) 354-0660 F: (954) 354-0443
E: HELLO@ENGINEERINGEXPRESS.COM
ENGINEERINGEXPRESS.COM
CERT OF AUTH #9885

Town & Country INDUSTRIES
Wholesale Aluminum and Building Products
A Division of ABC Supply Co., Inc.
400 WEST MCNAB ROAD FT. LAUDERDALE, FL 33309
FLORIDA PRODUCT APPROVAL #16219.2

REMARKS	DATE	DRWN	CHKD
INIT ISSUE (12-TOM-05)	12/20/12	KL	FLB
FBC UPDATE	04/16/15	RWN	TSB
REV - ADD 4" BLADE	09/28/16	RWN	FLB
REV (2017 FBC)	08-07-17	RWN	FLB

COPYRIGHT FRANK L. BENNARDO P.E.

15-2347

SCALE:
PAGE DESCRIPTION:

OF 6