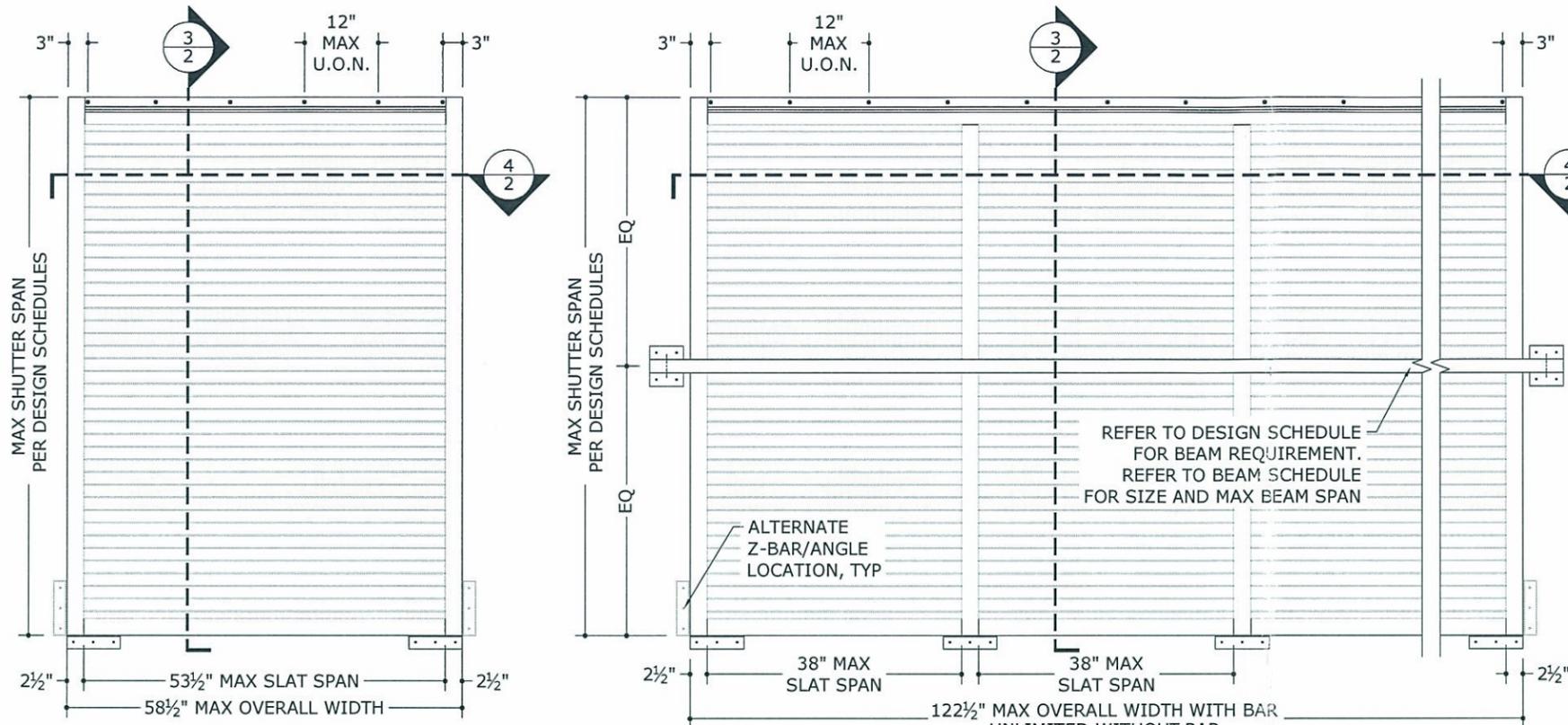


FULLVIEW BAHAMA SHUTTER (2006 IBC AND IRC COMPLIANT) PATENT PENDING



1 SINGLE PANEL SPAN
N.T.S. EXTER. ELEVATION

2 MULTI PANEL SPAN
N.T.S. EXTER. ELEVATION



TABLE 1
ALLOWABLE DESIGN PRESSURES

MAX SHUTTER SPAN	CONFIGURATION		
	SINGLE PANEL SPAN	MULTI PANEL SPAN	
		W/O BEAM	W/ BEAM
69"	+78/-95 PSF	+78/-95 PSF	+78/-95 PSF
81 5/8"	+78/-95 PSF	+50/-50 PSF†	+78/-95 PSF
96 3/4"	+50/-50 PSF*†	+50/-50 PSF†	+78/-95 PSF

*NOTE: LIMITED TO A MAX SLAT SPAN OF 38"
†NOTE: NOT APPROVED FOR USE IN ASTM WIND ZONE 4

TABLE 2
MINIMUM SEPARATION FROM GLASS
WIND ZONE 4 ONLY (>140 MPH)
NOT REQUIRED FOR WIND ZONES 1-3 (≤140 MPH)

MAX SHUTTER SPAN	DESIGN PRESSURE	CONFIGURATION			
		SINGLE PANEL SPAN		MULTI PANEL SPAN	
		SLAT SPAN ≤ 38"	SLAT SPAN > 38"	W/O BEAM	W/ BEAM
69"	+78/-95 PSF	3 3/4"	4"	3 3/4"	3 3/8"
81 5/8"	+78/-95 PSF	4"	4"	-	3 3/8"
96 3/4"	+78/-95 PSF	-	-	-	3 3/8"

GENERAL NOTES

- THIS SYSTEM HAS BEEN TESTED AND EVALUATED IN ACCORDANCE WITH THE 2006 INTERNATIONAL BUILDING CODE AND INTERNATIONAL RESIDENTIAL CODE WITH TEXAS REVISIONS EFFECTIVE JANUARY 1, 2008.
- THIS SHUTTER SYSTEM MAY BE USED IN THE SEAWARD AND INLAND AREAS AS DEFINED BY THE TEXAS DEPARTMENT OF INSURANCE.
- NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS SYSTEM. WIND LOAD DURATION FACTOR Cd=1.6 HAS BEEN USED FOR WOOD ANCHOR DESIGN.
- POSITIVE AND NEGATIVE DESIGN PRESSURES CALCULATED FOR USE WITH THIS SYSTEM SHALL BE DETERMINED BY OTHERS ON A JOB-SPECIFIC BASIS IN ACCORDANCE WITH THE GOVERNING CODE.
- THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT.
- PERMIT HOLDER SHALL VERIFY THE ADEQUACY OF THE EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS. WOOD BUCKS (BY OTHERS) SHALL BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE EXISTING STRUCTURE.
- SHUTTER MAY BE INSTALLED AS SINGLE PANEL OR AS MULTI-PANEL SPANS TO UNLIMITED WIDTH, SEE DETAIL 1/2 & 3/4 FOR MAXIMUM SLAT SPANS.
- ALL EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, UNLESS NOTED OTHERWISE. ALL TOLERANCES SHALL BE IN ACCORDANCE WITH ADM 2005.
- THIS SYSTEM MUST BE CLOSED AND LOCKED FOR WIND AND IMPACT PROTECTION. THIS SYSTEM HAS BEEN DESIGNED FOR A WIND PRESSURE OF 18 PSF IN THE OPEN POSITION. A PERMANENT LABEL MUST BE ADHERED TO THE UNDERSIDE OF EACH BAHAMA SHUTTER CONTAINING THE FOLLOWING:
SHUTTER AND LOUVERS TO BE CLOSED AND LOCKED WHEN HURRICANE WARNINGS ARE ISSUED
- BAHAMA SHUTTERS SHALL BE PERMANENTLY LABELED AS PRESCRIBED IN THE ABOVE-NOTED BUILDING CODE AND CONTAIN AT LEAST THE FOLLOWING:
**TOWN & COUNTRY INDUSTRIES
FT. LAUDERDALE, FL
ASTM E330, E1886, & E1996 MISSILE LEVEL D
TDI APPROVED**
- ALL BOLTS & WASHERS SHALL BE ZINC COATED STEEL, GALVANIZED STEEL, STAINLESS STEEL, OR 2024-T6 ALUMINUM ALLOY WITH A MINIMUM TENSILE YIELD STRENGTH OF 33 KSI.
- ALL STEEL IN CONTACT WITH ALUMINUM SHALL BE PAINTED OR PLATED AS PRESCRIBED IN THE ABOVE-NOTED BUILDING CODE.

- TABLE 1 & 2 NOTES:
- FOR SPANS BETWEEN TABULATED VALUES, USE NEXT HIGHER SPAN.
 - FOR INSTALLATIONS IN ASTM WIND ZONES 1 THROUGH 3, TABLE 2 IS NOT REQUIRED AND NO MINIMUM SEPARATION FROM THE PROTECTED OPENING IS REQUIRED.
 - TABLE 2 SHALL BE USED TO DETERMINE THE MINIMUM SEPARATION FROM GLASS IN WIND ZONE 4.
 - WIND ZONE 4 IS DEFINED AS ANY LOCATION WITH A BASIC WIND SPEED GREATER THAN 140 MPH.
 - SEPARATION FROM GLASS AS SHOWN IN TABLE 2 IS MEASURED FROM THE INTERIOR SIDE OF CLOSED LOUVER BLADES TO THE PROTECTED FENESTRATION PRODUCT.

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08/25/2010
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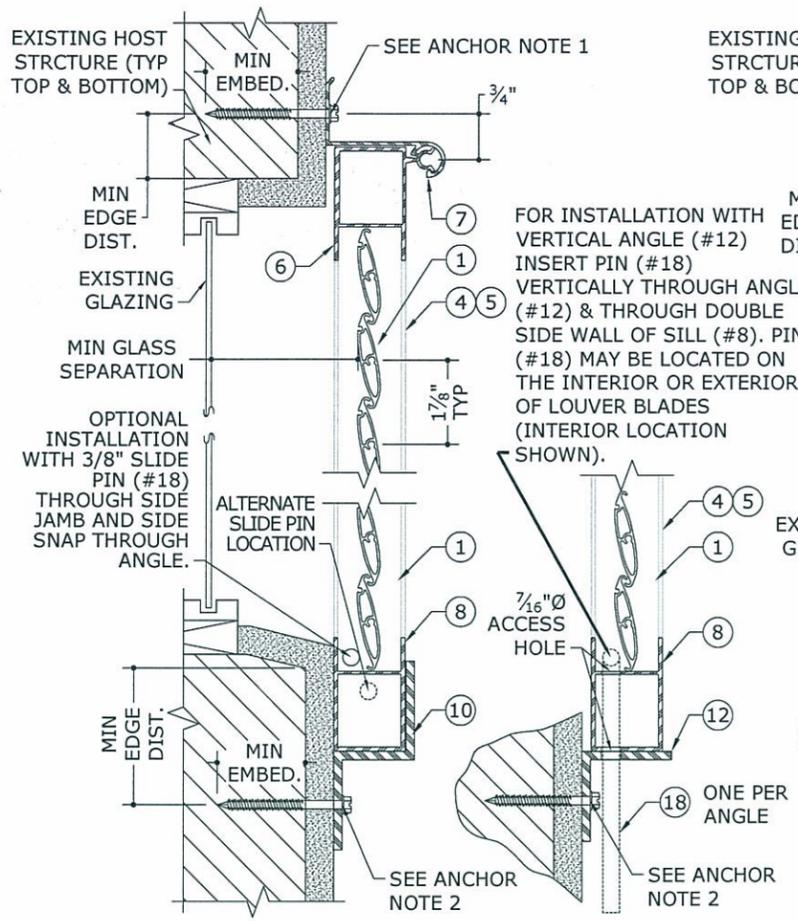
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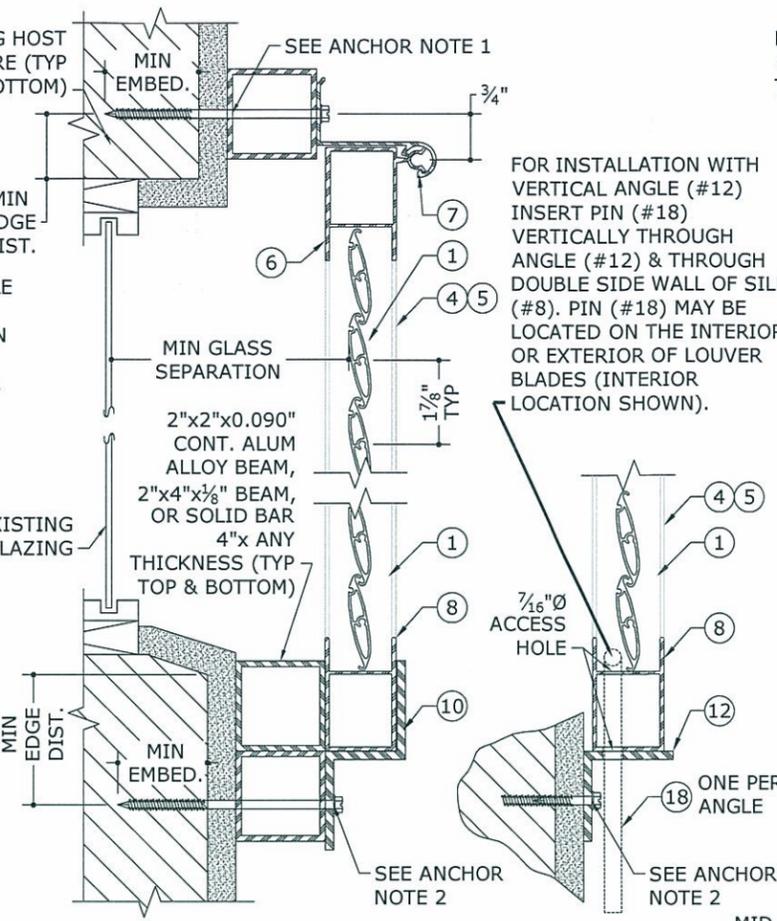
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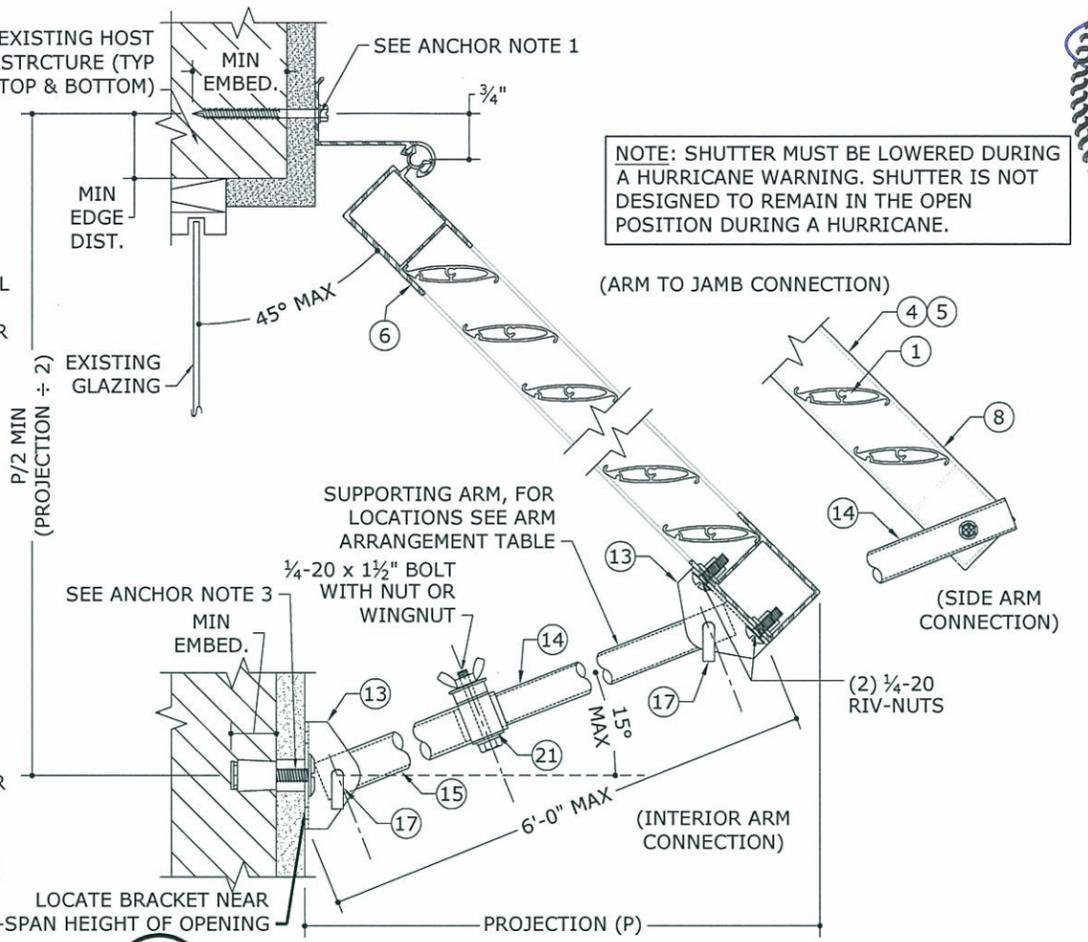
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3a TYPICAL CLOSED POSITION
2 N.T.S. VERTICAL SECTION



3b BUILD-OUT CLOSED POSITION
2 N.T.S. VERTICAL SECTION



3c TYPICAL OPEN POSITION
2 N.T.S. VERTICAL SECTION

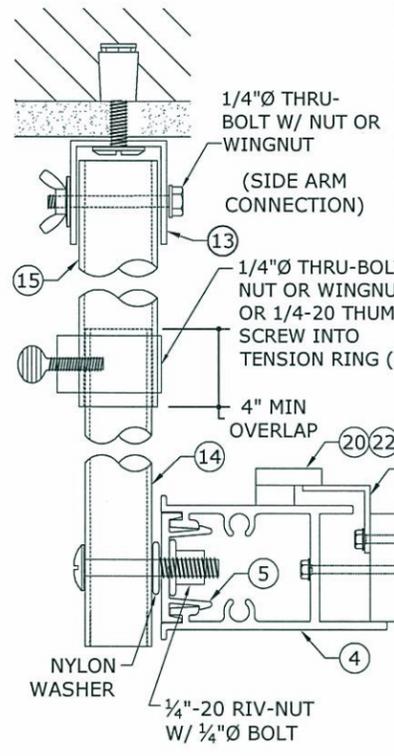
NOTE: SHUTTER MUST BE LOWERED DURING A HURRICANE WARNING. SHUTTER IS NOT DESIGNED TO REMAIN IN THE OPEN POSITION DURING A HURRICANE.

FOR INSTALLATION WITH VERTICAL ANGLE (#12) INSERT PIN (#18) VERTICALLY THROUGH ANGLE (#12) & THROUGH DOUBLE SIDE WALL OF SILL (#8). PIN (#18) MAY BE LOCATED ON THE INTERIOR OR EXTERIOR OF LOUVER BLADES (INTERIOR LOCATION SHOWN).

2"x2"x0.090" CONT. ALUM ALLOY BEAM, 2"x4"x1/8" BEAM, OR SOLID BAR 4"x ANY THICKNESS (TYP TOP & BOTTOM)

NO MINIMUM SEPARATION FROM GLASS REQUIRED FOR USE OUTSIDE ASTM WIND ZONE 4

FASTENED WITH 1/4" RIVNUT AND BOLT. MAY BE LOCATED AT REAR (AS SHOWN) OR BOTTOM OF SHUTTER. WHEN LOCATED AT BOTTOM, BRACKET MAY BE OFFSET FROM CENTERLINE OF VERTICAL MULLION TO ALLOW FOR 'Z' BAR OR ANGLE IN CLOSED POSITION.



4 TYPICAL PLAN VIEW
2 N.T.S. HORIZONTAL SECTION

	ARM ARRANGEMENT TABLE	
CONFIGURATION	SIDE ARMS	INTERIOR ARMS
(1 OR 2 PANELS)	(1) EACH SIDE	NONE
(3-PANEL) ≤ 85"	(1) EACH SIDE	NONE
(3-PANEL OR GREATER) > 85"	(1) EACH SIDE	(1) @ EACH INTERIOR MULLION JOINT

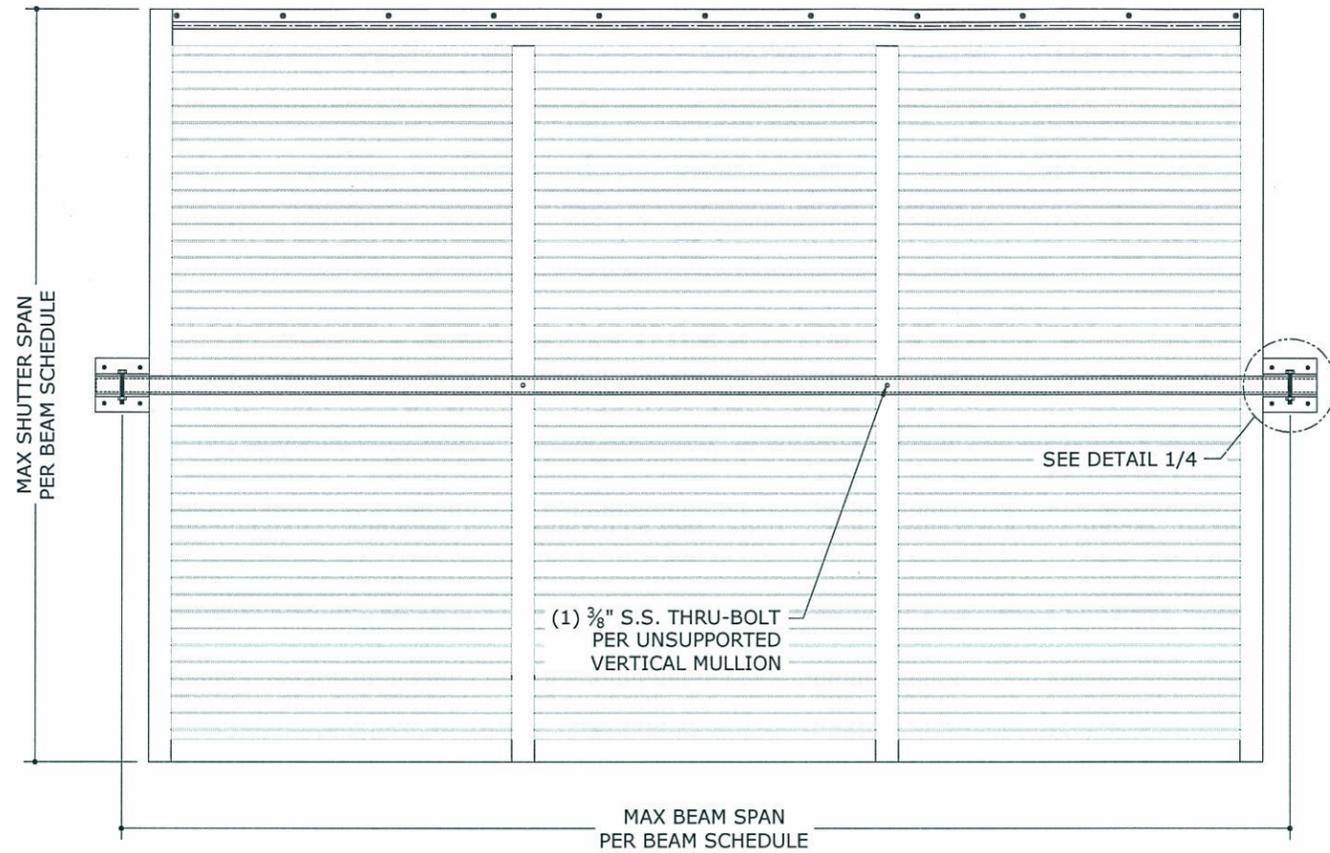
- ANCHOR NOTE 1:** UNLESS OTHERWISE NOTED BELOW, ANCHORS AT 3" FROM ENDS AND 12" O.C. MAX (CHOOSE ONE FROM BELOW)
- CONNECTION IN CONCRETE:
 - 1/4" ITW TAPCON WITH 1 3/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST. (3.19KSI MIN CONC.)
 - 1/4" ITW TAPCON SG WITH 1 3/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST. (3.30KSI MIN CONC.)
 - 1/4" ELCO PANELMATES (MALE/FEMALE) WITH 1 3/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST. (3.32KSI MIN CONC.)
 - 1/4"-20 ALL POINTS SOLID SET ANCHOR WITH 7/8" MIN EMBED. AND 2" MIN EDGE DIST. (3.0KSI MIN CONC.)
 - CONNECTION IN HOLLOW CONCRETE BLOCK:
 - 1/4" ITW TAPCON WITH 1 3/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST., SPACED 5 3/4" O.C. MAX.
 - 1/4" ITW TAPCON SG WITH 1 3/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST.
 - 1/4" ELCO PANELMATES (MALE/FEMALE) WITH 1 3/4" MIN EMBED. AND 3" MIN EDGE DIST., SPACED 9 3/4" O.C. MAX.
 - 1/4"-20 ALL POINTS SOLID SET ANCHOR WITH 7/8" MIN EMBED. AND 2" MIN EDGE DIST.
 - CONNECTION IN WOOD (G=0.42 MIN):
 - 1/2" LAG SCREW WITH 1 1/2" MIN EMBED. AND 3/4" MIN EDGE DIST.
 - #14 SHEET METAL SCREW WITH 1 1/2" MIN EMBED. AND 3/4" MIN EDGE DIST., SPACED 10 3/4" O.C. MAX.
- ANCHOR NOTE 2:** CHOOSE ONE ANCHOR TYPE FROM BELOW, INSTALL QTY SHOWN
- CONNECTION IN CONCRETE:
 - (4) 1/4" ITW TAPCON WITH 1 3/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST. (3.19KSI MIN CONC.)
 - (3) 1/4" ITW TAPCON SG WITH 1 3/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST. (3.30KSI MIN CONC.)
 - (4) 1/4" ELCO PANELMATES (MALE/FEMALE) WITH 1 3/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST. (3.32KSI MIN CONC.)
 - (4) 1/4"-20 ALL POINTS SOLID SET ANCHOR WITH 7/8" MIN EMBED. AND 3" MIN EDGE DIST. (3.0KSI MIN CONC.)
 - CONNECTION IN HOLLOW CONCRETE BLOCK:
 - (11) 1/4" ITW TAPCON WITH 1 3/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST.
 - (4) 1/4" ITW TAPCON SG WITH 1 3/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST.
 - (7) 1/4" ELCO PANELMATES (MALE/FEMALE) WITH 1 3/4" MIN EMBED. AND 3" MIN EDGE DIST.
 - (5) 1/4"-20 ALL POINTS SOLID SET ANCHOR WITH 7/8" MIN EMBED. AND 2" MIN EDGE DIST.
 - CONNECTION IN WOOD (G=0.42 MIN):
 - (3) 1/4" ELCO PANELMATE (MALE/FEMALE) WITH 1 3/8" MIN EMBED. AND 3/4" MIN EDGE DIST.
 - (3) 1/4" ITW TAPCON SG WITH 1 7/8" MIN EMBED. AND 3/4" MIN EDGE DIST.
 - (3) 1/4" STAINLESS STEEL HANGER BOLT WITH 1 1/2" MIN EMBED. AND 3/4" MIN EDGE DIST.
- ANCHOR NOTE 3:** CHOOSE ONE ANCHOR TYPE FROM BELOW, INSTALL QTY SHOWN
- CONNECTION IN CONCRETE:
 - (1) 1/4" ITW TAPCON WITH 1 3/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST. (3.19KSI MIN CONC.)
 - (1) 1/4" ITW TAPCON SG WITH 1 3/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST. (3.30KSI MIN CONC.)
 - (1) 1/4"-20 ALL POINTS SOLID SET ANCHOR WITH 7/8" MIN EMBED. AND 3" MIN EDGE DIST. (3.0KSI MIN CONC.)
 - CONNECTION IN HOLLOW CONCRETE BLOCK:
 - (1) 1/4" ELCO ULTRACONS WITH 1 1/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST.
 - (1) 1/4"-20 ALL POINTS SOLID SET ANCHOR WITH 7/8" MIN EMBED. AND 3" MIN EDGE DIST.
 - CONNECTION IN WOOD (G=0.42 MIN):
 - (1) 1/4" LAG SCREW WITH 1 1/2" MIN EMBED. AND 3/4" MIN EDGE DIST.
 - (1) #14 SHEET METAL SCREW WITH 1 1/2" MIN EMBED. AND 3/4" MIN EDGE DIST.

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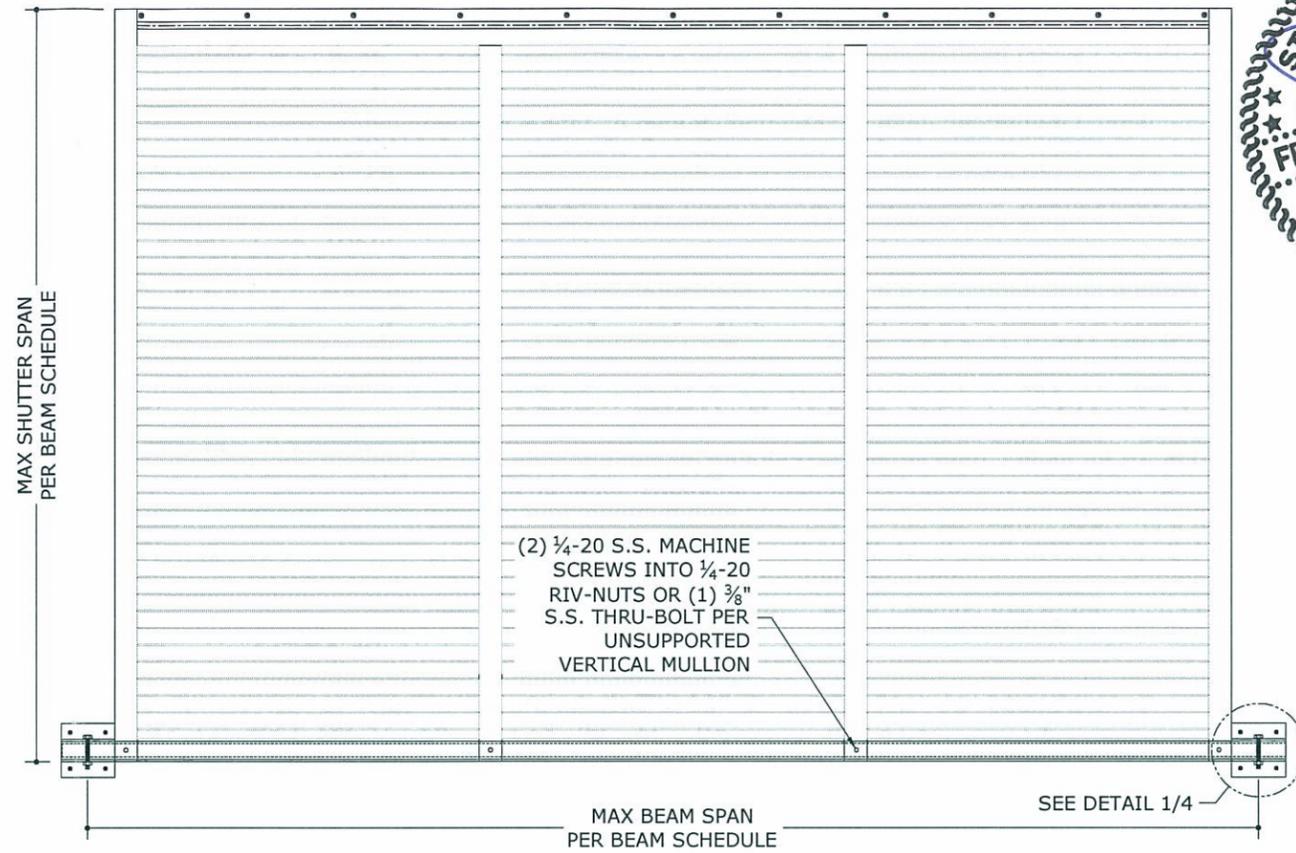
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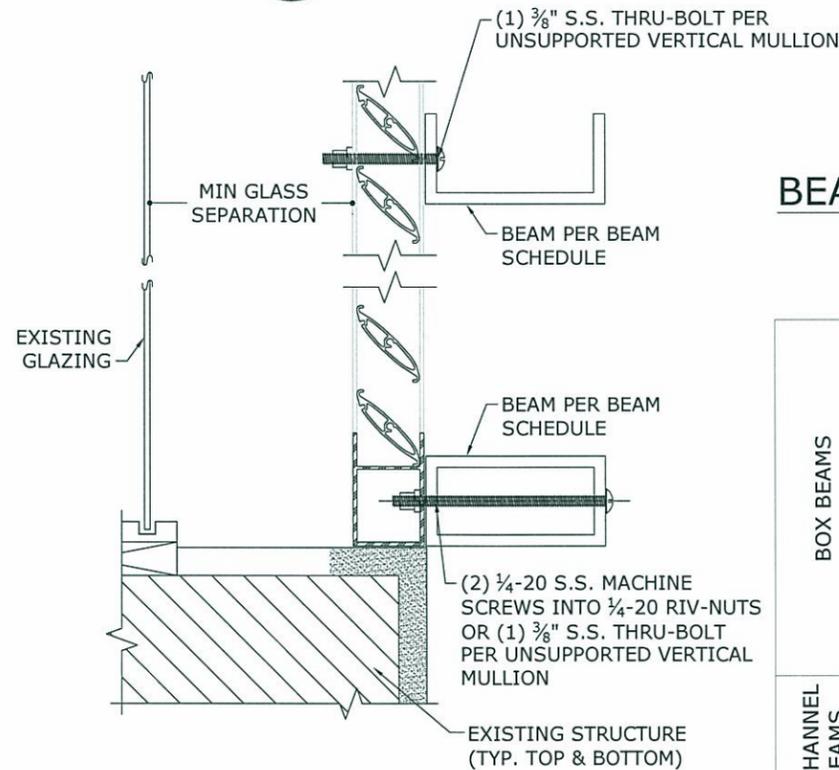
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1 MID-SPAN BEAM (AS REQUIRED)
3 N.T.S. EXTER. ELEVATION



2 BOTTOM BEAM (OPTIONAL)
3 N.T.S. EXTER. ELEVATION



3 BEAM CONNECTION TO SHUTTER
3 N.T.S. VERTICAL SECTION

BEAM SCHEDULE:

	BEAM SIZE	ALUMINUM ALLOY	SHUTTER SPAN	BEAM SPAN	WALL BRACKET ANCHOR TYPES		
					CONCRETE	HOLLOW BLOCK	WOOD (G=0.42 MIN)
BOX BEAMS	2"x3"x1/8"	6063-T6	8'-0"	5'-1"	A, B, C	A, B, C	B, C
			6'-8"	5'-7"	A, B, C	A, B, C	B, C
			5'-10"	5'-11"	A, B, C	A, B, C	B, C
	2"x4"x1/8"	6063-T6	8'-0"	6'-3"	A, B, C	A, C	B, C
			6'-8"	6'-10"	A, B, C	A, C	B, C
			5'-10"	7'-4"	A, B, C	A, B, C	B, C
2"x5"x1/8"	6063-T6	8'-0"	7'-5"	A, B, C	A, C	B, C	
		6'-8"	8'-1"	A, B, C	A, C	B, C	
		5'-10"	8'-8"	A, B, C	A, C	B, C	
2"x4"x1/4"	6061-T6	8'-0"	9'-8"	A, B, C	C	B, C	
		6'-8"	10'-7"	A, B, C	C	B, C	
		5'-10"	11'-3"	A, B, C	A, C	B, C	
C-CHANNEL BEAMS	4"x2"x0.23"x0.15"	6061-T6	8'-0"	6'-1"	A, B, C	A, C	B, C
			6'-8"	6'-8"	A, B, C	A, C	B, C
			5'-10"	7'-1"	A, B, C	A, B, C	B, C
	6"x2"x0.29"x0.17"	6061-T6	8'-0"	11'-3"	A, B, C	C	B, C

WALL BRACKET ANCHORS TYPES:

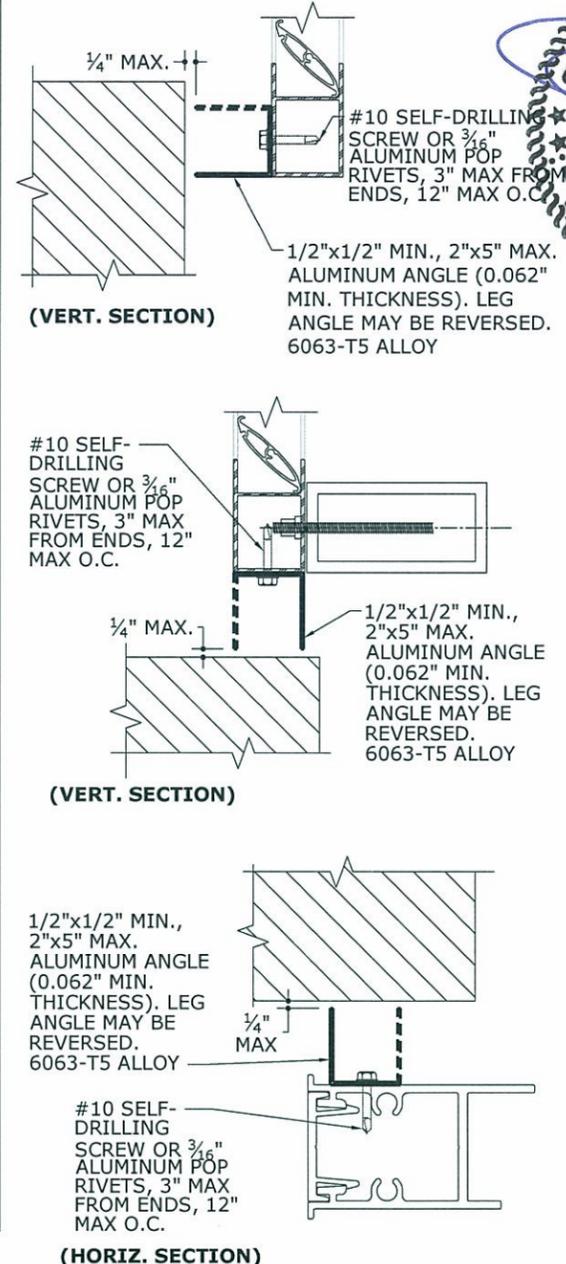
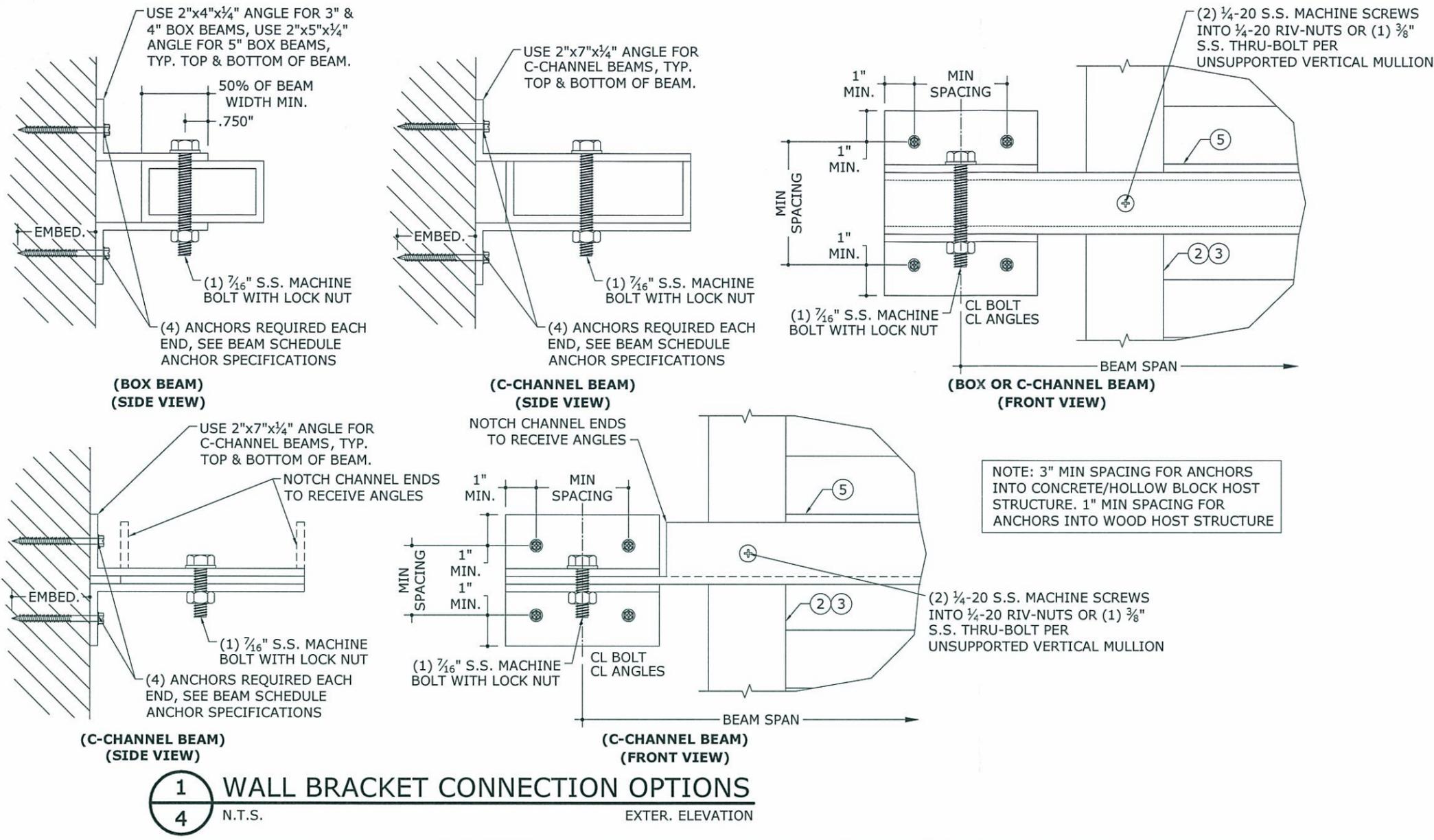
- **TYPE A:** 1/4-20 ALL POINT SOLID SET ANCHORS:
 - IN CONCRETE (3.00KSI MIN) WITH 7/8" MIN EMBED. AND 3" MIN EDGE DIST.
 - IN HOLLOW CONCRETE BLOCK WITH 7/8" MIN EMBED. AND 3" MIN EDGE DIST.
- **TYPE B:** 1/4-20 ELCO PANELMATES (MALE/FEMALE):
 - IN CONCRETE (3.32KSI MIN) WITH 1 3/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST.
 - IN HOLLOW CONCRETE BLOCK WITH 1 1/4" MIN EMBED. AND 3" MIN EDGE DIST.
 - IN WOOD (G=0.42 MIN) WITH 1 7/8" MIN EMBED. AND 3/4" MIN EDGE DIST.
- **TYPE C:** 1/4" ITW TAPCON SG:
 - IN CONCRETE (3.30KSI MIN) WITH 1 3/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST.
 - IN HOLLOW CONCRETE BLOCK WITH 1 1/4" MIN EMBED. AND 2 1/2" MIN EDGE DIST.
 - IN WOOD (G=0.42 MIN) WITH 1 7/8" MIN EMBED. AND 3/4" MIN EDGE DIST.

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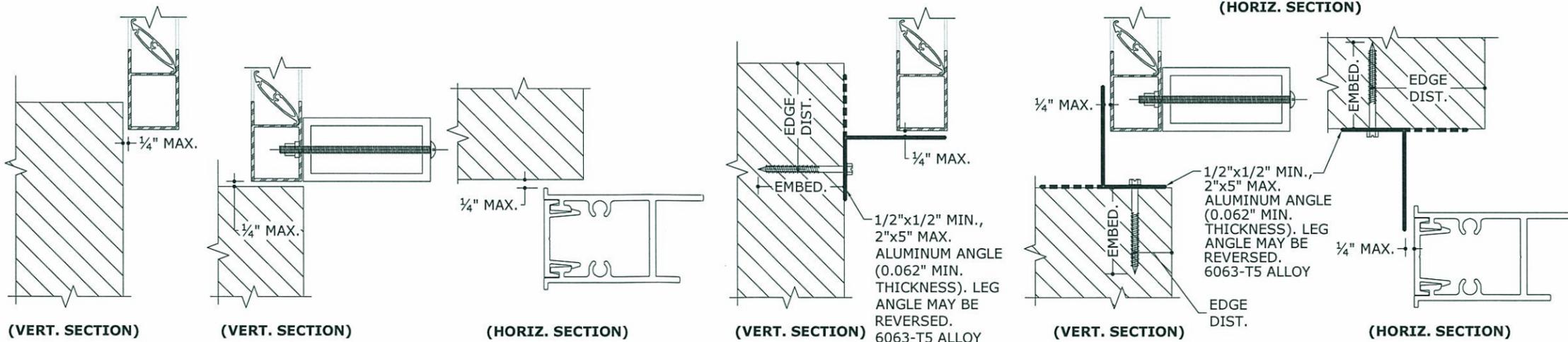
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SIDE CLOSURE NOTES

- FOR INSTALLATIONS WITHIN THE HVHZ, IN LIEU OF SIDE CLOSURE ANGLE, SHUTTER MAY OVERLAP OPENING BY 1.5 X SHUTTER BUILD OUT DISTANCE.
- ANCHORS MAY BE ANY ANCHOR FROM ANCHOR NOTE 1 ON SHEET 2 INSTALLED 3" MAX FROM EACH END, AND 12" O.C. MAX, OR 1/4" ITW TAPCONS WITH 1 1/2" MIN EDGE DISTANCE AND FULL THREAD ENGAGEMENT TO 7/16" MIN PLYWOOD INSTALLED 3" MAX FROM EACH END AND 7" O.C. MAX.
- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.
- MINIMUM EMBEDMENT SHALL BE AS NOTED IN ANCHOR NOTE 1 ON SHEET 2. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.
- WHERE EXISTING STRUCTURE IS WOOD FRAMING, EXISTING CONDITIONS MAY VARY. FIELD VERIFY THAT FASTENERS ARE INTO ADEQUATE WOOD FRAMING MEMBERS, NOT INTO PLYWOOD.



2 SIDE CLOSURE DETAILS
4 N.T.S. SECTIONS

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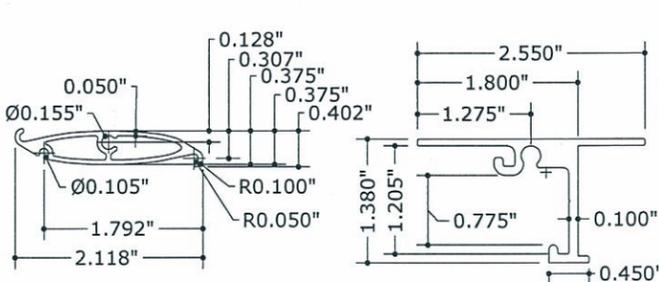
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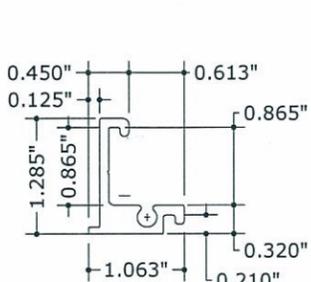
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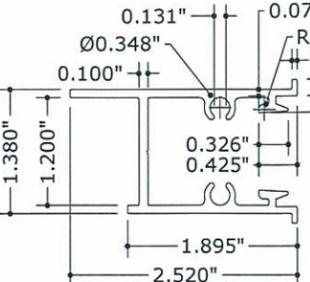
EXTRUSIONS



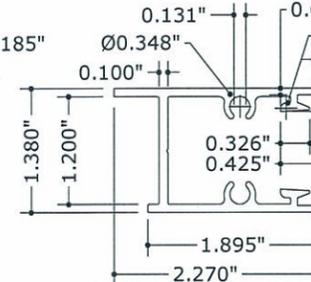
1 BLADE
6" = 1'-0"



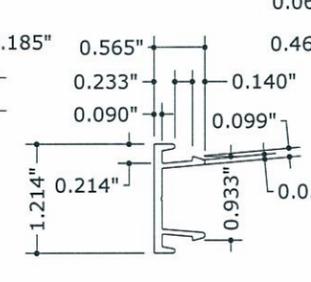
2 FEMALE MULLION
6" = 1'-0"



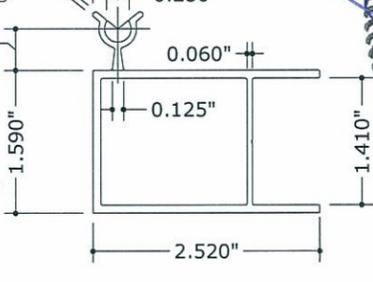
3 MALE MULLION
6" = 1'-0"



4 JAMB
6" = 1'-0"



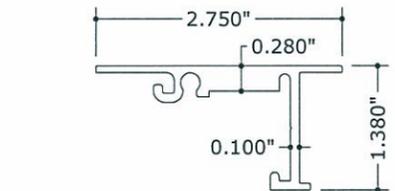
4a FV JAMB
6" = 1'-0"



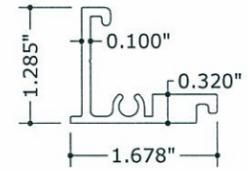
5 JAMB SNAP
6" = 1'-0"



6 HEADER
6" = 1'-0"



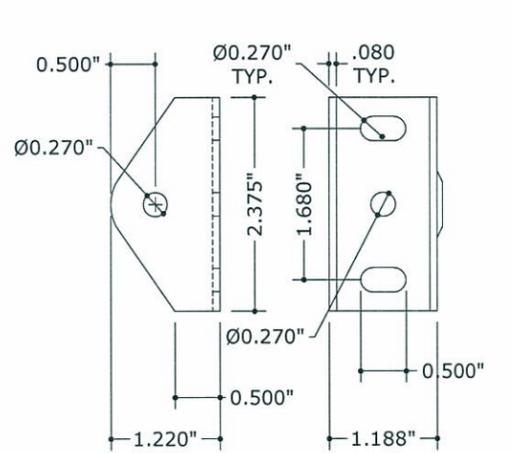
2a FV FEMALE MULLION
6" = 1'-0"



3a FV MALE MULLION
6" = 1'-0"



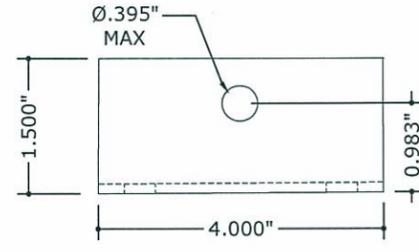
11 ANGLE



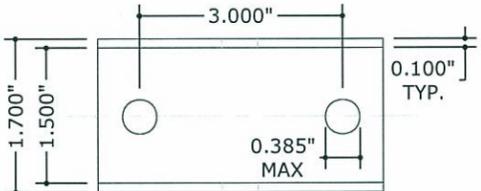
13a L CAMEL BACK HINGE
6" = 1'-0"

LENGTH AS REQUIRED FOR NUMBER OF ANCHORS PER ANCHOR NOTE 2, SHEET 2

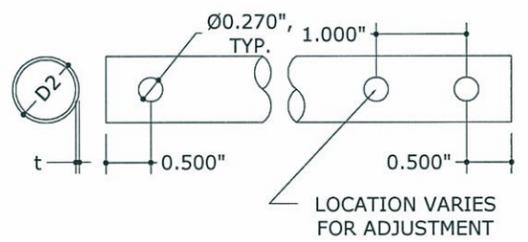
PIPE (ARM) SCHEDULE					
OUTER TUBE			INNER TUBE		
OUTSIDE DIAM.	INSIDE DIAM.	WALL	OUTSIDE DIAM.	INSIDE DIAM.	WALL
1.000"	0.900"	0.050"	0.875"	0.775"	0.050"



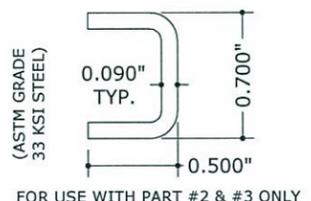
14 ALUMINUM PIPE (INNER)
6" = 1'-0"



15 ALUMINUM PIPE (OUTER)
6" = 1'-0"

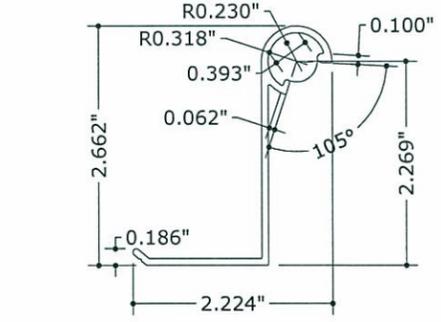


13b "U" WALL BRACKET

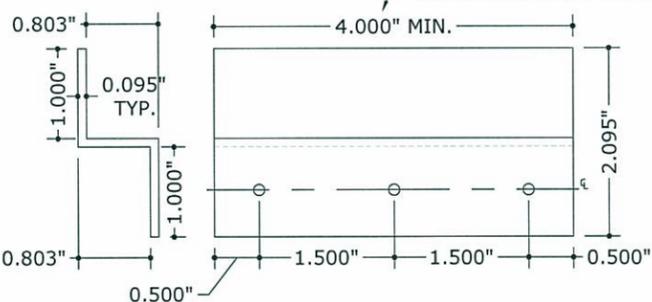


19 GALV. STEEL BENT PLATE INSERT FOR MULLION
6" = 1'-0"

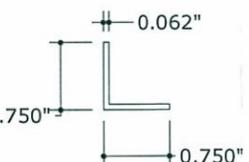
FOR USE WITH PART #2 & #3 ONLY



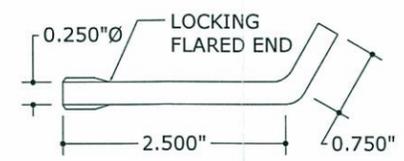
7 HEADER HINGE
6" = 1'-0"



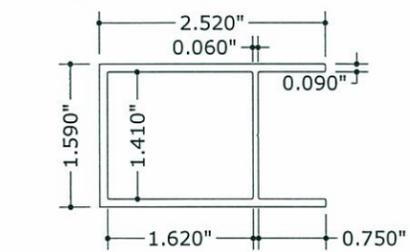
10 "Z" BAR - PROFILE & LAYOUT
3" = 1'-0"



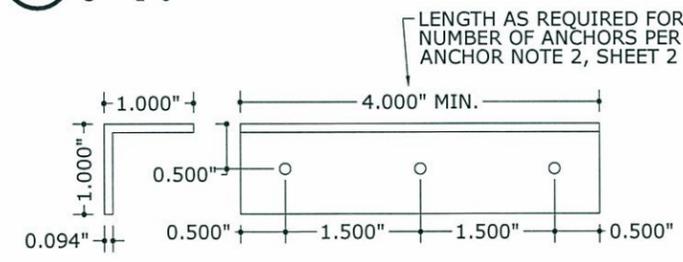
9 ANGLE
6" = 1'-0"



17 L-PIN - 1/4"Ø
6" = 1'-0"

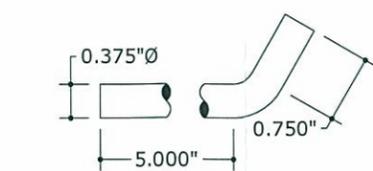


8 SILL
6" = 1'-0"

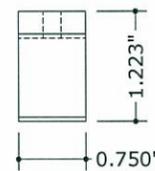


12 ANGLE - PROFILE & LAYOUT
3" = 1'-0"

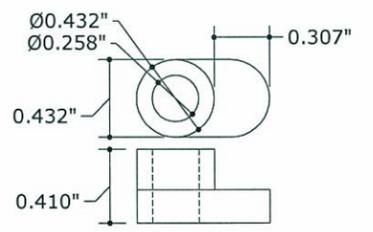
LENGTH AS REQUIRED FOR NUMBER OF ANCHORS PER ANCHOR NOTE 2, SHEET 2



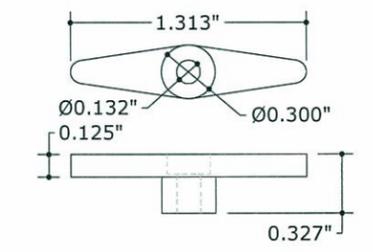
18 L-PIN - 3/8"Ø
6" = 1'-0"



21 TENSION RING
6" = 1'-0"



20 TAB STOP
6" = 1'-0"



22 ALT. TAB STOP
6" = 1'-0"

F:\01 Project Files\Town And Country (TCM)\2010\10-TCM-0003 Bahama (TD)\10-TCM-0003_01.e Bahama Shutter (TD).dwg 08/25/2010 - 10:40am keith

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08/25/2010
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REMARKS
INIT ISSUE

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SCALE: 1/16" = 1'-0"
PAGE DESCRIPTION: 01
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