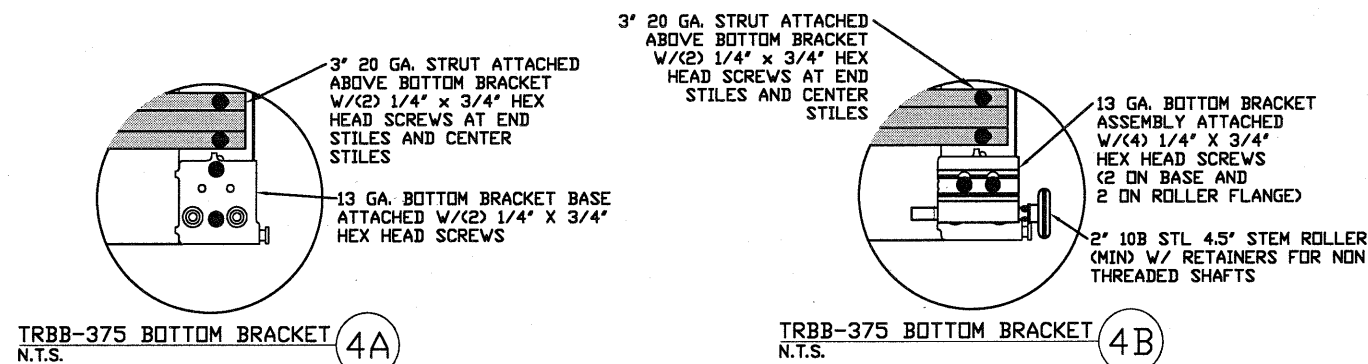
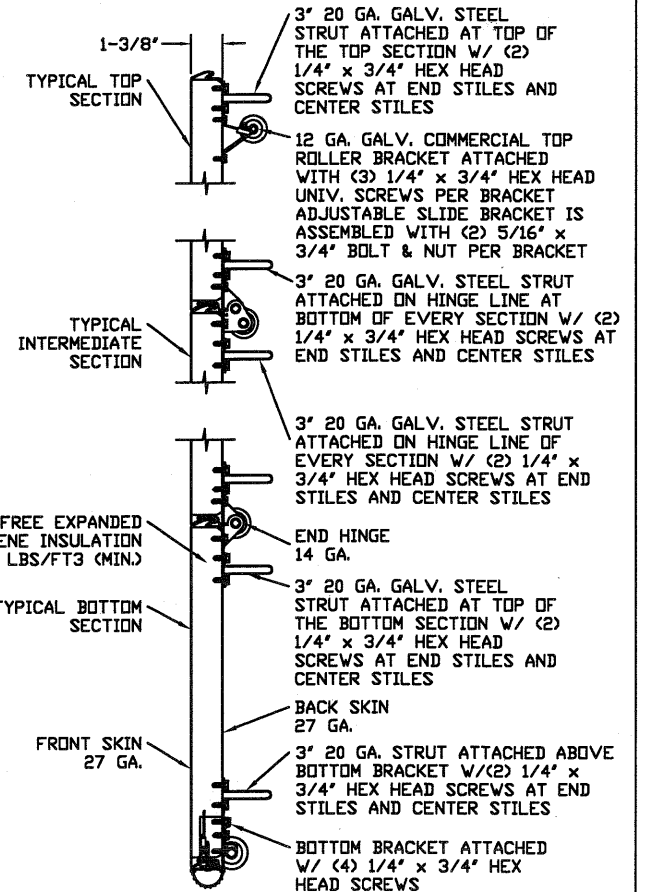
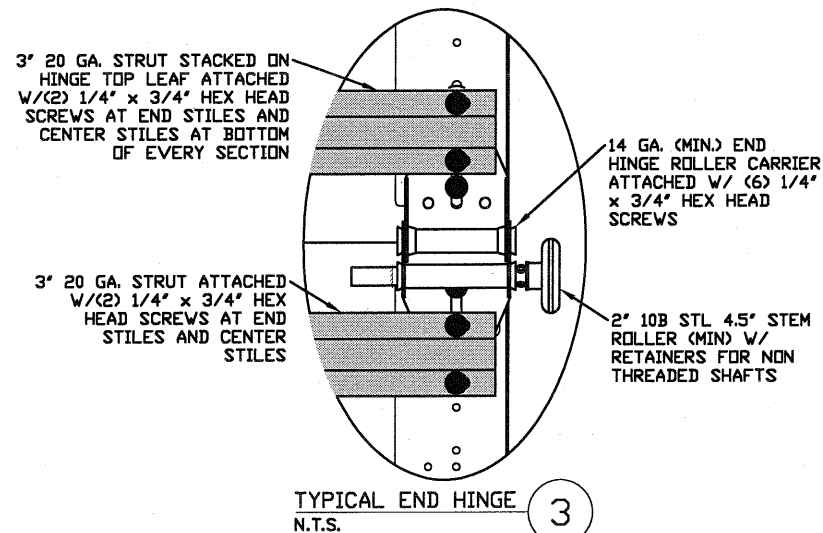
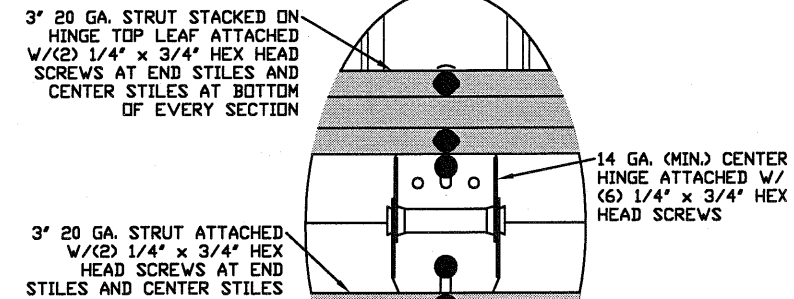
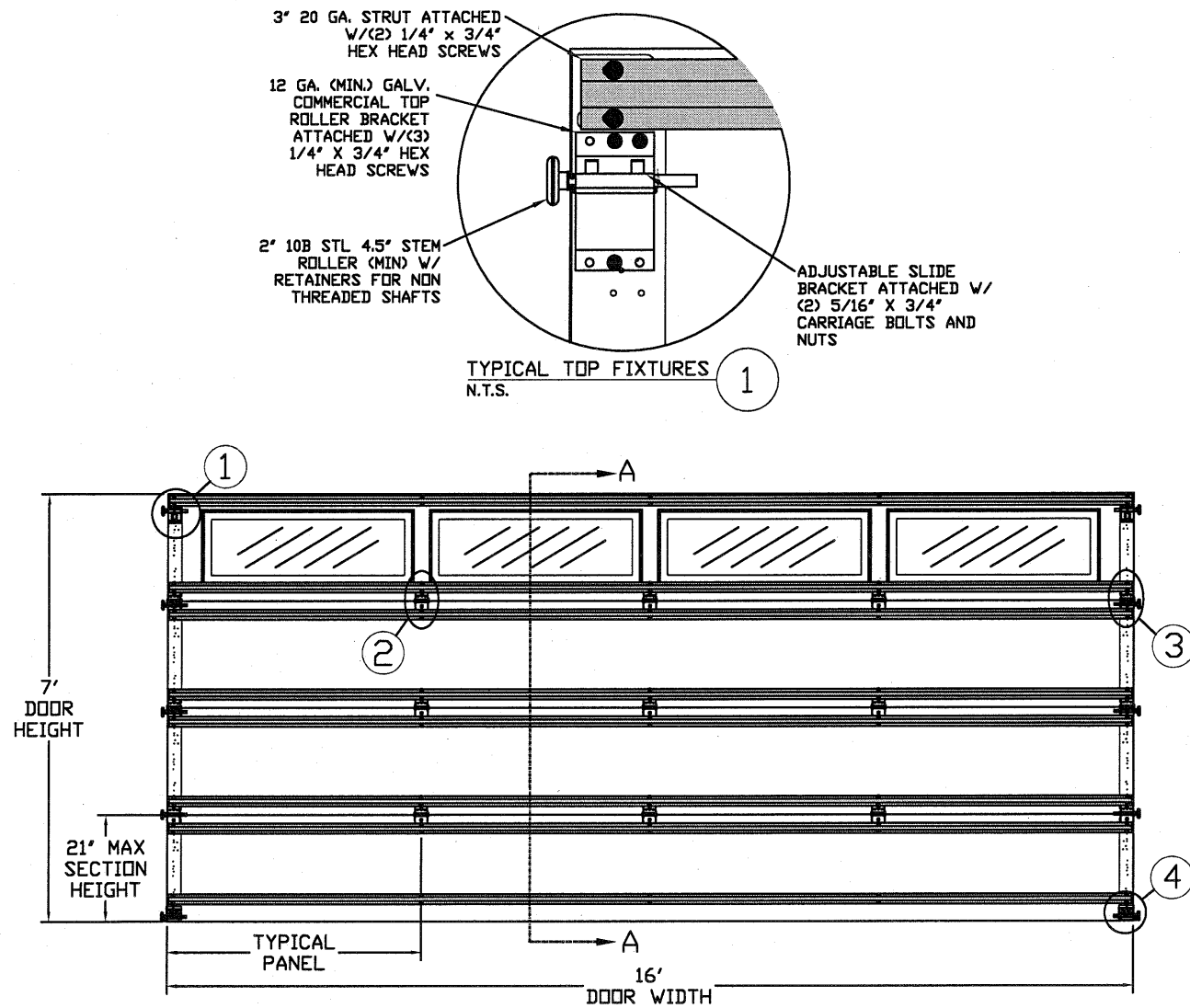


LARGE MISSILE IMPACT RESISTANT

THE METHOD OF TESTING WAS IN SUBSTANTIAL CONFORMANCE WITH THE PROCEDURE DESCRIBED IN DASMA 108 & 115, AND ASTM E330, E1886, E1996, & F588. THE PRESSURES SHOWN ON THE DRAWINGS WERE CALCULATED USING ASCE 7-16 WITH THE FOLLOWING PARAMETERS (5 FEET OF DOOR WIDTH IN THE END ZONE, ROOF AT ANY SLOPE):

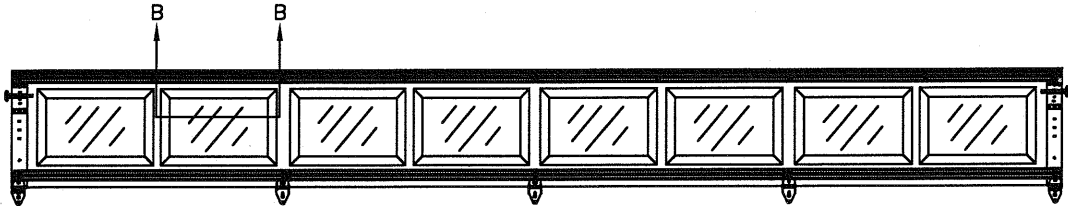
WIND SPEED (MPH)	168	152	145	138	133
EXPOSURE LEVEL	B	C	C	D	D
MEAN ROOF HEIGHT	30'	15'	25'	15'	25'

REV	DESCRIPTION OF REVISIONS	DATE	BY

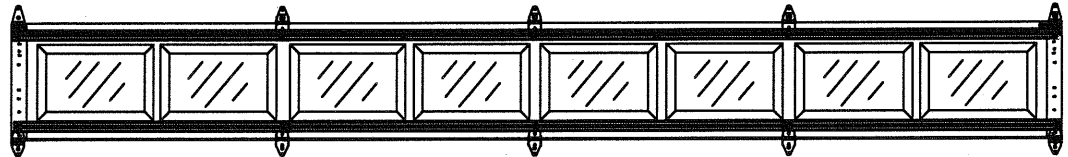
MAX SIZE 16' x 14'		Thomas L. Shelmerdine, PE (FL PE #0048579) Structural Solutions, PA (FL Firm #29412) dba Structural Solutions of North Carolina, Inc. 5921-G W. Friendly Ave., Greensboro, NC 27410
DESIGN LOADS +25.6 PSF -29.1 PSF		
TEST LOADS +38.4 PSF -43.6 PSF		
LARGE MISSILE IMPACT RESISTANT		

Amarr	
MODEL #3100 AMARR LINCOLN 3138	
MODEL #3150 AMARR HILLCREST 3138	
MODEL #1600 AMARR LINCOLN 3000	
MODEL #1650 AMARR HILLCREST 3000	
SIZE	DRAWN BY DRD DATE 12/20/18 DRAWING NUMBER
B	CHECKED BY RLR DATE 03/19/19 IRC-3116-130-15-1
ENTREMATICS	
165 CARRIAGE COURT WINSTON-SALEM, NC 27105	
SHEET 1 OF 3	

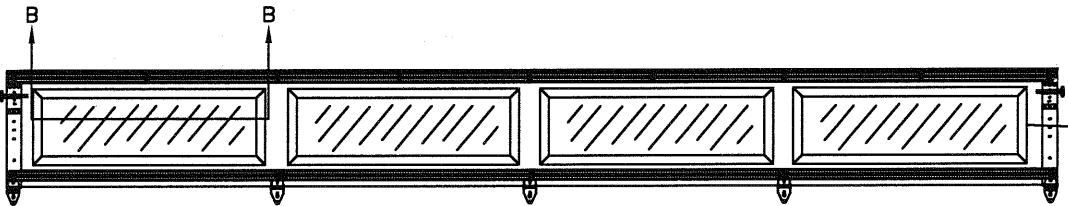
OPTIONAL SHORT AND LONG PANEL GLAZING LAYOUTS



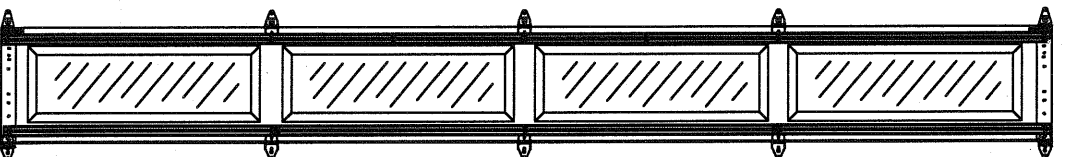
TOP SECTION



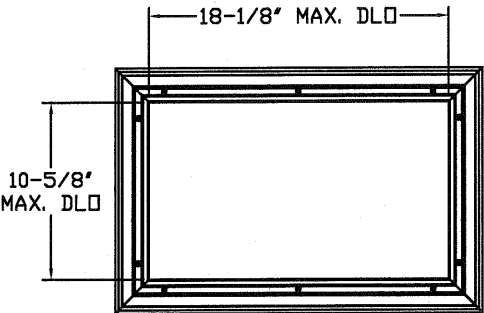
INTERMEDIATE SECTION



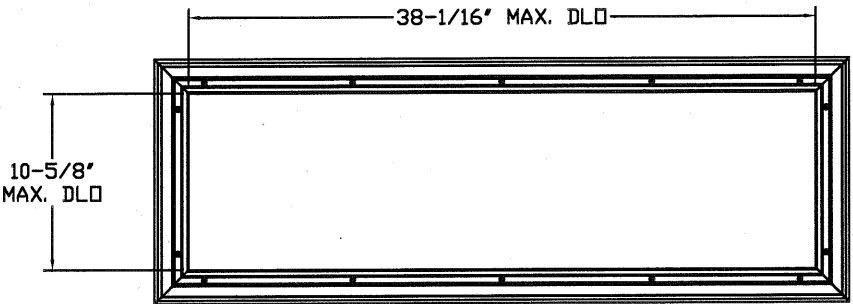
TOP SECTION



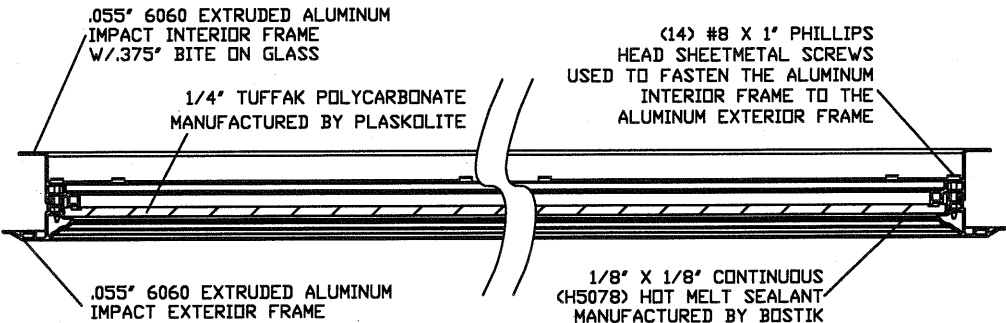
INTERMEDIATE SECTION



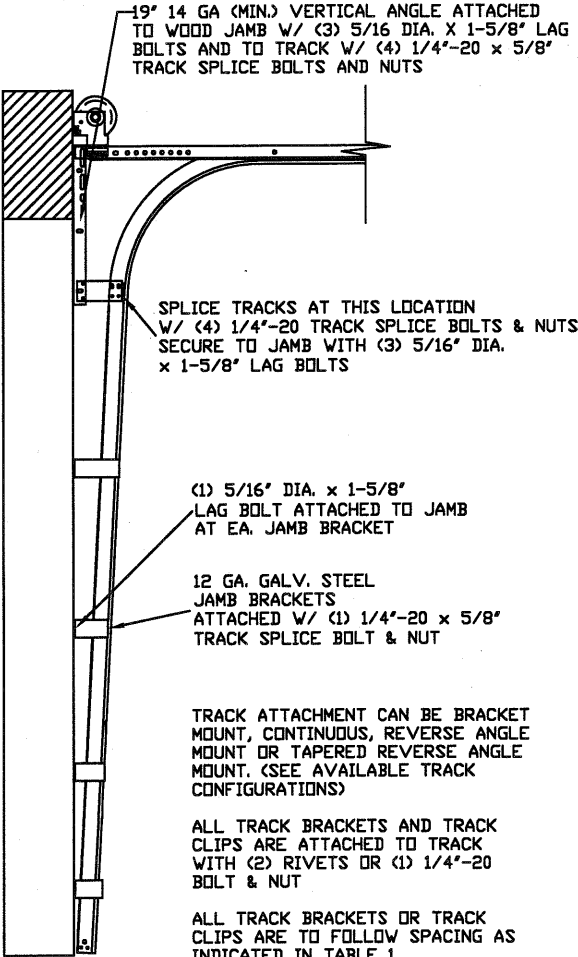
SHORT PANEL IMPACT GLAZING FASTENER DETAIL
N.T.S.



LONG PANEL IMPACT GLAZING FASTENER DETAIL
N.T.S.



SECTION B-B IMPACT WINDOW DETAIL
N.T.S.

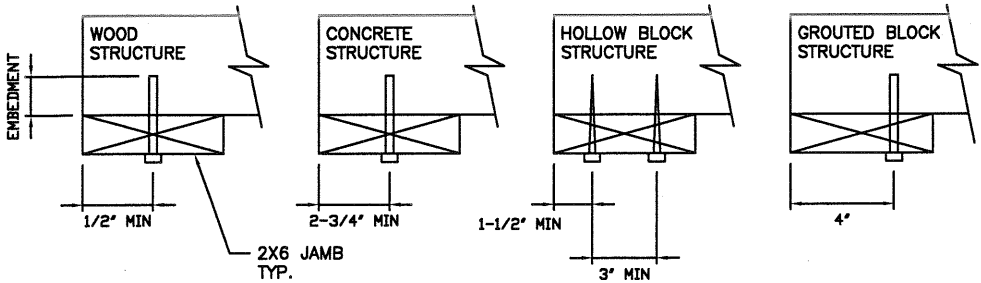


TRACK CONFIGURATION FOR UP TO 14' TALL DOORS
N.T.S.

WOOD JAMB ATTACHMENT TO STRUCTURE

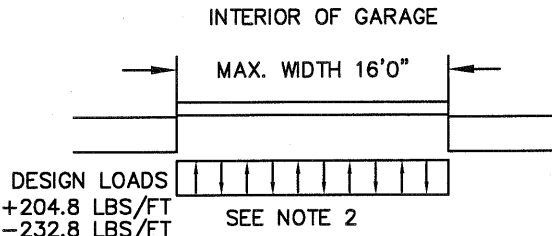
- 2 X 6 VERTICAL JAMB ATTACHMENT TO WOOD FRAME STRUCTURE**
5/16" X 3" LAG SCREWS STARTING 6" FROM ENDS THEN 24" O.C. (1 1/2" EMBEDMENT)
- 2 X 6 VERTICAL JAMB ATTACHMENT TO 2,000 PSI CONCRETE**
HILTI KWIK BOLT 3/8" X 4" STARTING 6" FROM ENDS THEN 24" O.C. (2 1/2" EMBEDMENT)
HILTI SLEEVE ANCHOR 3/8" X 2-3/4" STARTING 6" FROM ENDS THEN 20" O.C. (1 1/4" EMBEDMENT)
ITW/RAMSET REDHEAD (TRU-BOLT) 3/8" X 4" STARTING 6" FROM ENDS THEN 24" O.C. (2 1/2" EMBEDMENT)
- 2 X 6 VERTICAL JAMB ATTACHMENT TO HOLLOW C-90 BLOCK**
SIMPSON 1/4" X 3" TITEN SCREWS STARTING 6" FROM ENDS, USE PAIRS OF FASTENERS (3" APART) AT 16" O.C. (1 1/2" EMBEDMENT)
HILTI 1/4" X 2-3/4" KWIK-CON II+ SCREWS STARTING 6" FROM ENDS, USE PAIRS OF FASTENERS (3" APART) AT 16" O.C. (1 1/4" EMBEDMENT)
- 2 X 6 VERTICAL JAMB ATTACHMENT TO GROUTED C-90 BLOCK (2000 PSI GROUT)**
HILTI SLEEVE ANCHOR 3/8" X 2-3/4" STARTING 6" FROM ENDS THEN 24" O.C. (1 1/4" EMBEDMENT)
(OR, USE FASTENERS FOR HOLLOW C-90 BLOCK)

*LAGS AND BOLTS CAN BE COUNTERSUNK TO PROVIDE A FLUSH MOUNTING SURFACE.
*PREPARATION OF WOOD JAMBS BY OTHERS



SPECIFICATIONS AND NOTES

1. ALL THE LOAD FROM THE DOOR IS TRANSFERRED TO THE VERTICAL TRACK, FROM THE TRACK THE LOAD IS TRANSFERRED TO THE VERTICAL JAMBS. THE HORIZONTAL JAMB OR HEADER RECEIVES NO PORTION OF THE LOAD TRANSFERRED FROM THE DOOR.
2. EACH VERTICAL JAMBS RECEIVES MAXIMUM DESIGN LOADS OF: +204.8 LBS/FT & -232.8 LBS/FT.
3. DOOR AND HARDWARE WILL BE DESIGNED, MANUFACTURED AND INSTALLED WITH STANDARDS AS SET FORTH BY DASMA.
4. DOOR SECTIONS SHALL BE 27GA MIN. INTERIOR AND 27GA MIN. EXTERIOR SKIN ROLLED FORMED, W/ BAKED ON POLYESTER FINISH.
5. SUPPORTING STRUCTURAL ELEMENTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER FOR WIND LOADS INDICATED ON THIS DRAWING IN ADDITION TO OTHER LOADINGS.
6. PANEL STAMP DOES NOT AFFECT WINDLOAD CAPABILITIES.



REV	DESCRIPTION OF REVISIONS	DATE	BY

MAX SIZE 16' x 14'

DESIGN LOADS +25.6 PSF -29.1 PSF

TEST LOADS +38.4 PSF -43.6 PSF

LARGE MISSILE IMPACT RESISTANT

Thomas L. Sheldermine, PE (FL PE #0048579) Structural Solutions, PA (FL Firm #29412)

THOMAS L. SHELDERMINE LICENSE No. 48579 STATE OF FLORIDA PROFESSIONAL ENGINEER FL

dba Structural Solutions of North Carolina, Inc. 5921-G W. Friendly Ave., Greensboro, NC 27410

Amarr

MODEL #3100 AMARR LINCOLN 3138
MODEL #3150 AMARR HILLCREST 3138
MODEL #1600 AMARR LINCOLN 3000
MODEL #1650 AMARR HILLCREST 3000

SIZE B	DRAWN BY DRD	DATE 12/20/18	DRAWING NUMBER IRC-3116-130-15-1
	CHECKED BY DLJ	DATE 03/19/19	
ENTREMATIC 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105			SHEET 2 OF 3

TABLE 1

DOOR HEIGHT	TRACK ATTACHMENT								SPLICE S
	A	B	C	D	E	F	G	H	
6' 6"	3.5"	10"	21"	42"	63"				70"
7'	3.5"	10"	21"	42"	63"				76"
7' 6"	3.5"	10"	21"	42"	63"				82"
8'	3.5"	10"	21"	42"	63"				88"
8' 6"	3.5"	10"	21"	42"	63"	84"			94"
9'	3.5"	10"	21"	42"	63"	84"			100"
9' 6"	3.5"	10"	21"	42"	63"	84"			106"
10'	3.5"	10"	21"	42"	63"	84"	105"		112"
10' 6"	3.5"	10"	21"	42"	63"	84"	105"		118"
11'	3.5"	10"	21"	42"	63"	84"	105"		124"
11' 6"	3.5"	10"	21"	42"	63"	84"	105"		130"
12'	3.5"	10"	21"	42"	63"	84"	105"	126"	136"
12' 6"	3.5"	10"	21"	42"	63"	84"	105"	126"	142"
13'	3.5"	10"	21"	42"	63"	84"	105"	126"	148"
13' 6"	3.5"	10"	21"	42"	63"	84"	105"	126"	154"
14'	3.5"	10"	21"	42"	63"	84"	105"	126"	160"

ALL TRACK ATTACHMENT SPACING +/- 2"
ALLOWED WITH SYP OR SPF NO. 2 OR BETTER ONLY

TABLE 2

DOOR HEIGHT	SECTION HEIGHTS							
	Btm	#2	#3	#4	#5	#6	#7	#8
6' 0"	18"	18"	18"	18"				
6' 6"	21"	18"	18"	21"				
7' 0"	21"	21"	21"	21"				
7' 6"	18"	18"	18"	18"	18"			
8' 0"	21"	18"	18"	18"	21"			
8' 6"	21"	21"	21"	18"	21"			
9' 0"	18"	18"	18"	18"	18"	18"		
9' 6"	21"	18"	18"	18"	18"	21"		
10' 0"	21"	21"	21"	18"	18"	21"		
10' 6"	21"	21"	21"	21"	21"	21"		
11' 0"	21"	18"	18"	18"	18"	18"	21"	
11' 6"	21"	21"	21"	18"	18"	18"	21"	
12' 0"	21"	21"	21"	21"	21"	18"	21"	
12' 6"	21"	18"	18"	18"	18"	18"	18"	21"
13' 0"	21"	21"	21"	18"	18"	18"	18"	21"
13' 6"	21"	21"	21"	21"	21"	18"	18"	21"
14' 0"	21"	21"	21"	21"	21"	21"	21"	21"

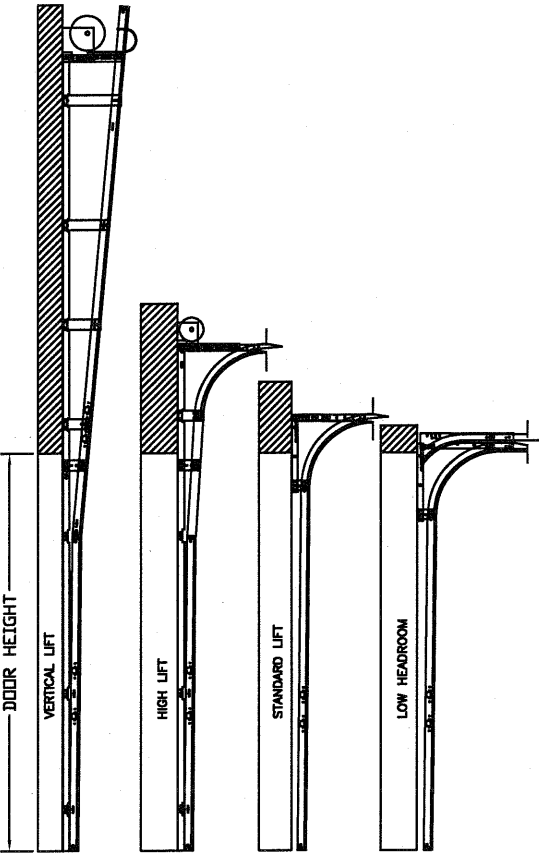
TABLE 4

SECTION	STRUT SIZE
TOP	3"
	3"
7TH	3"
	3"
6TH	3"
	3"
5TH	3"
	3"
4TH	3"
	3"
3RD	3"
	3"
2ND	3"
	3"
BOTTOM	3"
	3"

TABLE 3

Section Width (ft)	Panel Type	Center Stile Locations (Measured from Left Edge)				Max Design Loads Allowed	
		1st (in)	2st (in)	3rd (in)	4th (in)	Positive (PSF)	Negative (PSF)
10' 0	Short	48.41	71.59			34.2	38.8
10' 0	Long	60.00				20.4	23.2
10' 0	Hillcrest	60.00				20.4	23.2
12' 0	Short	48.81	95.19			25.7	29.2
12' 0	Long	49.63	94.38			25.9	29.5
12' 0	Hillcrest	48.31	95.69			25.6	29.0
12' 2	Short	49.64	96.36			25.4	28.8
12' 2	Long	50.08	95.92			25.5	29.0
12' 2	Hillcrest	49.06	96.94			25.2	28.7
12' 4	Short	50.64	97.36			25.1	28.5
12' 4	Long	51.08	96.92			25.2	28.7
12' 4	Hillcrest	49.81	98.19			24.9	28.3
12' 6	Short	50.67	99.33			24.6	28.0
12' 6	Long	51.17	98.83			24.7	28.1
12' 6	Hillcrest	50.56	99.44			24.6	28.0
12' 8	Short	51.67	100.33			24.4	27.7
12' 8	Long	52.10	99.90			24.5	27.8
12' 8	Hillcrest	51.31	100.69			24.3	27.6
12' 10	Short	52.25	101.75			24.0	27.3
12' 10	Long	53.10	100.90			24.2	27.5
12' 10	Hillcrest	52.06	101.94			24.0	27.3
13' 0	Short	53.00	103.00			23.7	27.0
13' 0	Long	54.10	101.90			24.0	27.3
13' 0	Hillcrest	52.81	103.19			23.7	26.9
13' 2	Short	54.00	104.00			23.5	26.7
13' 2	Long	55.10	102.90			23.8	27.0
13' 2	Hillcrest	53.56	104.44			23.4	26.6
13' 4	Short	54.40	105.60			23.2	26.3
13' 4	Long	54.90	105.10			23.3	26.4
13' 4	Hillcrest	54.31	105.69			23.1	26.3
13' 6	Short	55.40	106.60			22.9	26.1
13' 6	Long	55.90	106.10			23.0	26.2
13' 6	Hillcrest	55.06	106.94			22.9	26.0
13' 8	Short	56.40	107.60			22.7	25.8
13' 8	Long	56.63	107.38			22.8	25.9
13' 8	Hillcrest	55.81	108.19			22.6	25.7
13' 10	Short	57.16	83.00	108.71		29.5	33.5
13' 10	Long	57.17	108.83			22.5	25.5
13' 10	Hillcrest	56.56	109.44			22.3	25.4

Section Width (ft)	Panel Type	Center Stile Locations (Measured from Left Edge)				Max Design Loads Allowed	
		1st (in)	2st (in)	3rd (in)	4th (in)	Positive (PSF)	Negative (PSF)
14' 0	Short	57.76	84.00	110.11		29.1	33.1
14' 0	Long	58.63	84.00	109.38		29.1	33.1
14' 0	Hillcrest	57.31	110.69			22.1	25.1
14' 2	Short	58.85	85.00	111.41		28.8	32.7
14' 2	Long	59.17	85.00	110.83		28.8	32.7
14' 2	Hillcrest	58.06	111.94			21.8	24.8
14' 4	Short	59.16	86.00	112.71		28.4	32.3
14' 4	Long	60.17	86.00	111.83		28.4	32.3
14' 4	Hillcrest	58.81	113.19			21.6	24.6
14' 6	Short	59.86	87.00	114.01		28.1	31.9
14' 6	Long	61.17	87.00	112.83		28.1	31.9
14' 6	Hillcrest	59.56	114.44			21.4	24.3
14' 8	Short	60.56	88.00	115.31		27.8	31.6
14' 8	Long	44.81	88.00	131.19		27.8	31.6
14' 8	Hillcrest	60.31	115.69			21.1	24.0
14' 10	Short	61.26	89.00	116.61		27.5	31.2
14' 10	Long	45.60	89.00	132.40		27.5	31.2
14' 10	Hillcrest	61.06	116.94			20.9	23.8
15' 0	Short	61.94	90.00	117.94		27.2	30.9
15' 0	Long	46.60	90.00	133.40		27.2	30.9
15' 0	Hillcrest	61.81	118.19			20.7	23.5
15' 2	Short	62.66	91.00	119.21		26.9	30.5
15' 2	Long	47.60	91.00	134.40		26.9	30.5
15' 2	Hillcrest	62.56	119.44			20.5	23.3
15' 4	Short	53.60	79.20	104.80	130.40	26.6	30.2
15' 4	Long	47.25	92.00	136.75		26.6	30.2
15' 4	Hillcrest	63.31	120.69			20.3	23.0
15' 6	Short	46.62	93.00	139.38		26.3	29.9
15' 6	Long	47.60	93.00	138.40		26.3	29.9
15' 6	Hillcrest	47.42	93.00	138.58		26.3	29.9
15' 8	Short	47.62	94.00	140.38		26.0	29.6
15' 8	Long	48.60	94.00	139.40		26.0	29.6
15' 8	Hillcrest	48.02	94.00	139.98		26.0	29.6
15' 10	Short	48.62	95.00	141.38		25.7	29.3
15' 10	Long	49.17	95.00	140.83		25.7	29.3
15' 10	Hillcrest	48.62	95.00	141.38		25.7	29.3
16' 0	Short	49.62	96.00	142.38		25.6	29.1
16' 0	Long	50.60	96.00	141.40		25.6	29.1
16' 0	Hillcrest	48.42	96.00	143.58		25.6	29.1



AVAILABLE TRACK CONFIGURATIONS
N.T.S.

REV	DESCRIPTION OF REVISIONS	DATE	BY

MAX SIZE
16' x 14'

DESIGN LOADS
+25.6 PSF
-29.1 PSF

TEST LOADS
+38.4 PSF
-43.6 PSF

LARGE
MISSILE
IMPACT
RESISTANT

Thomas L. Shelmerdine, PE (FL PE #0048579)
Structural Solutions, PA (FL Firm #29412)

THOMAS L. SHELMERDINE
LICENSE
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STATE OF
FLORIDA
PROFESSIONAL ENGINEER
FL

dba Structural Solutions of North Carolina, Inc.
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SIZE	DRAWN BY	DRD	DATE	12/20/18	DRAWING NUMBER
B	CHECKED BY	DLJ	DATE	03/19/19	IRC-3116-130-15-1

ENTREMATIC
165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105

SHEET 3 OF 3