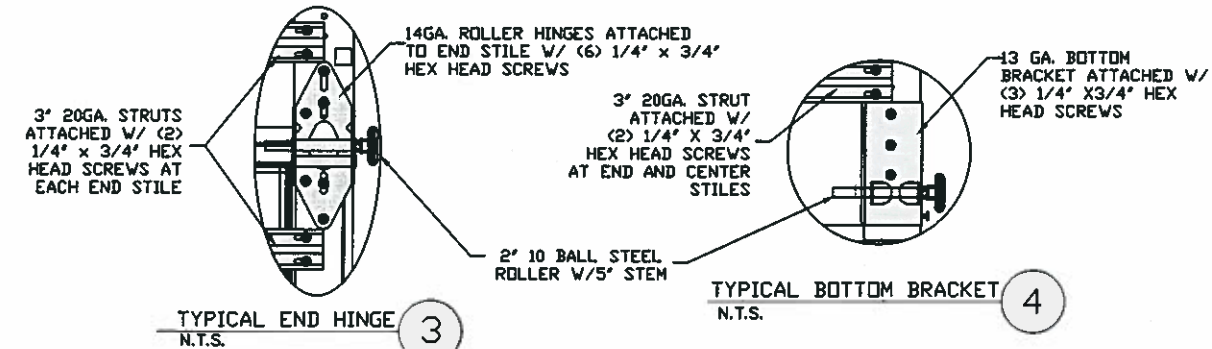
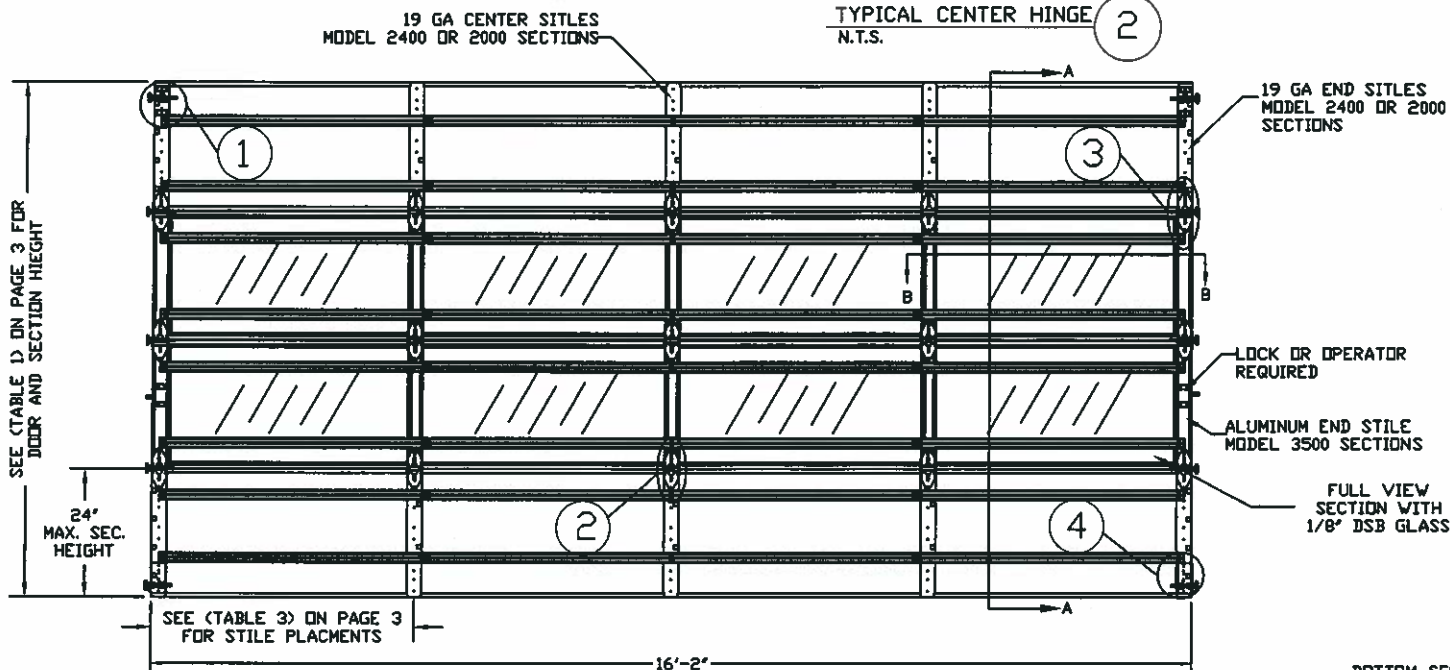


3" 20GA. STRUTS ATTACHED W/ (2) 1/4" x 3/4" HEX HEAD SCREWS AT EACH CENTER STILE

14GA. CENTER HINGE ATTACHED W/ (4) 1/4" x 3/4" HEX HEAD SCREWS

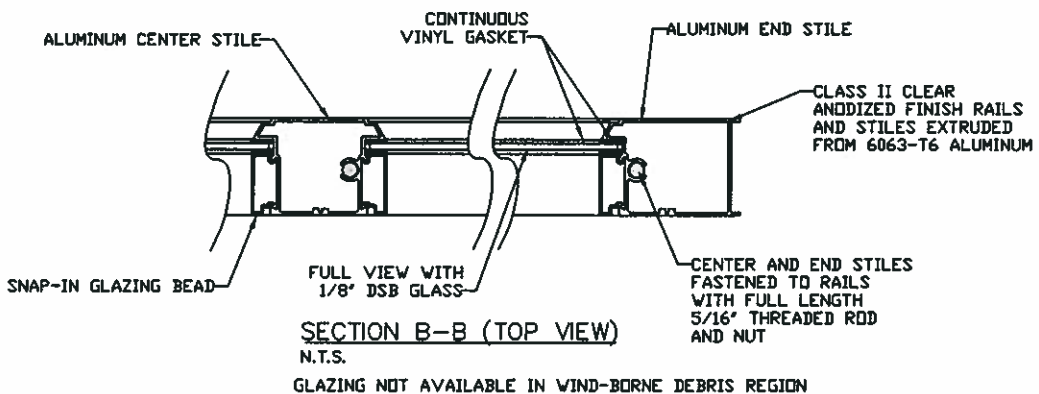
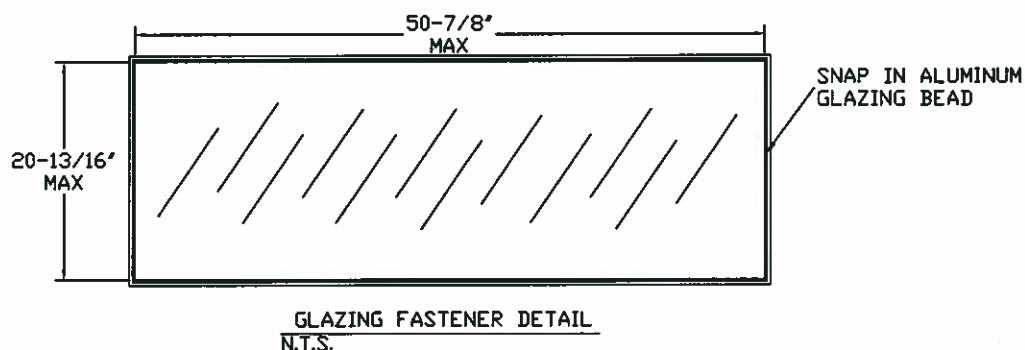
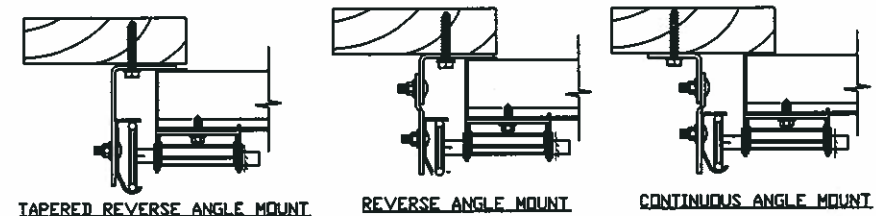
TYPICAL CENTER HINGE 2
N.T.S.

TOP SECTION TO BE MODEL 2400 (24GA.) OR MODEL 2000 (20GA.). TOP SECTION MAY BE MODEL 3500 FULL VIEW FOR DOOR WIDTHS UP TO 12'2"



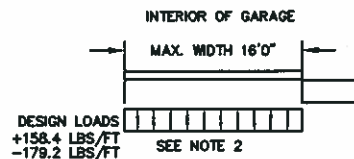
CONT. ALUM. EXTRUSION WITH CONT. VINYL ASTRAGAL

SECTION A-A (SIDE VIEW)
N.T.S.



THE METHOD OF TESTING WAS IN SUBSTANTIAL CONFORMANCE WITH THE PROCEDURES DESCRIBED IN ASTM E330, ANSI/DASMA 108, ASTM E 1886, ASTM E 1996 AND ASTM F588. THE PRESSURES SHOWN ON THE DRAWINGS WERE CALCULATED USING ASCE 7-98/02/05 WITH THE FOLLOWING PARAMETERS (5 FEET OF DOOR WIDTH IN END ZONE, ROOF SLOPE 10° OR LESS):

WIND SPEED (MPH)	120	108	103	98	94
EXPOSURE LEVEL	B	C	C	D	D
MEAN ROOF HEIGHT	30'	15'	25'	15'	25'

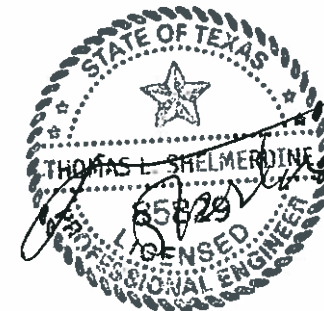


SPECIFICATIONS AND NOTES

- 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.
- EACH VERTICAL JAMBS RECEIVES MAXIMUM DESIGN LOADS OF: +158.4 LBS/FT & -179.2 LBS/FT
- DOORS AND HARDWARE WILL BE DESIGNED, MANUFACTURED AND INSTALLED WITH STANDARDS AS SET FORTH BY DASMA.
- SUPPORTING STRUCTURAL ELEMENTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER FOR WIND LOADS INDICATED ON THIS DRAWING IN ADDITION TO OTHER LOADINGS.
- REFER TO (TABLE 2) ON THE PAGE 3 FOR ADDITIONAL DOOR WIDTHS AND THEIR DESIGN PRESSURES

REV	DESCRIPTION OF REVISIONS	DATE	BY
A	REVISED NOTE 6	9/5/08	IBHG
B	UPDATED WJATS, TCDTS, ADDED ASCE MPH DETAIL	12/6/11	RLR

MAX SIZE
16'2" x 20'
DESIGN LOADS
+19.8 PSF
-22.4 PSF
TEST LOADS
(1.5 x DESIGN LOADS)
+29.7 PSF
-33.6 PSF



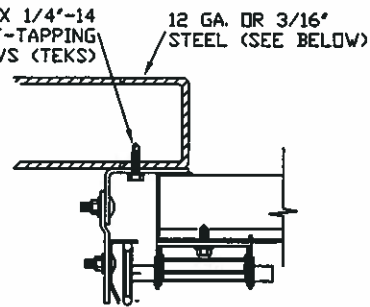
Amarr
GARAGE DOORS

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

MODEL #3500 FULL VIEW

SIZE	DRAWN BY	DJ	DATE	11/16/04	DRAWING NUMBER
B	CHECKED BY	AJE	DATE	11/17/04	IBC-3516-120-15
ENGINEER: THOMAS L. SHLMERDINE P.E. LIC. No. 0048579					SHEET 1 OF 3

ITW BUILDEX 1/4"-14 X 3/4" SELF-TAPPING SCREWS (TEKS)



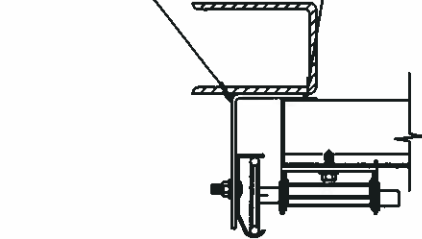
REVERSE ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND TAPERED ANGLE MOUNT AVAILABLE

12 GA. STEEL FRAMING
232 LBS./SCREW ALLOWABLE LOAD - 6" FROM ENDS AND 16" O.C.
REFER TO NOTES: 1, 2 AND 5

3/16" STEEL FRAMING
569 LBS./SCREW ALLOWABLE LOAD - 6" FROM ENDS AND 24" O.C.
REFER TO NOTES: 1, 2 AND 5

1/8" NDM X 1" LONG FILLET WELD (E60xx ELECTRODES MIN.)

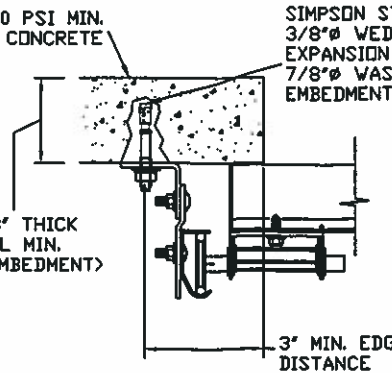
1/4" LONG TACK WELD SAME SPACING AS FILLET WELD



REVERSE ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND TAPERED ANGLE MOUNT AVAILABLE

STEEL FRAMING 12GA DR BETTER
1590 LBS./IN. ALLOWABLE LOAD - 6" FROM ENDS AND 24" O.C.
REFER TO NOTES: 1, 2, 5, 6, 7, 8 AND 9

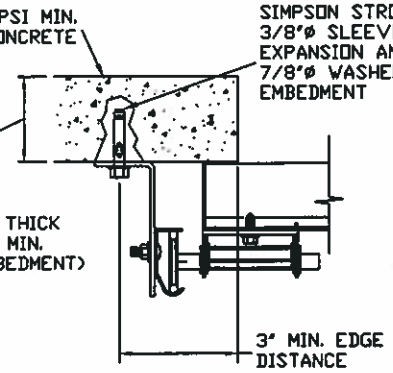
2000 PSI MIN. CONCRETE
2-5/8" THICK WALL MIN. (1.5 x EMBEDMENT)



CONTINUOUS ANGLE MOUNT SHOWN
BRACKET, REVERSE AND TAPERED ANGLE MOUNT AVAILABLE

2000 PSI CONCRETE OR GREATER
351 LBS./EXPANSION ANCHOR ALLOWABLE LOAD - 6" FROM ENDS AND 24" O.C.
REFER TO NOTES: 1, 2, 3, 4 AND 5

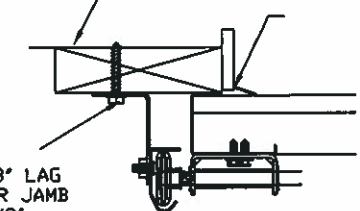
2000 PSI MIN. CONCRETE
2-5/8" THICK WALL MIN. (1.5 x EMBEDMENT)



REVERSE ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND TAPERED ANGLE MOUNT AVAILABLE

2000 PSI CONCRETE OR GREATER
336 LBS./EXPANSION ANCHOR ALLOWABLE LOAD - 6" FROM ENDS AND 24" O.C.
REFER TO NOTES: 1, 2, 3, 4 AND 5

SYP OR SPF (NO. 2 OR BETTER) 2X6 WOOD JAMB (TYP.)



5/16" x 1 5/8" LAG SCREW (1) PER JAMB BRACKET (1-1/2" EMBEDMENT MINIMUM)

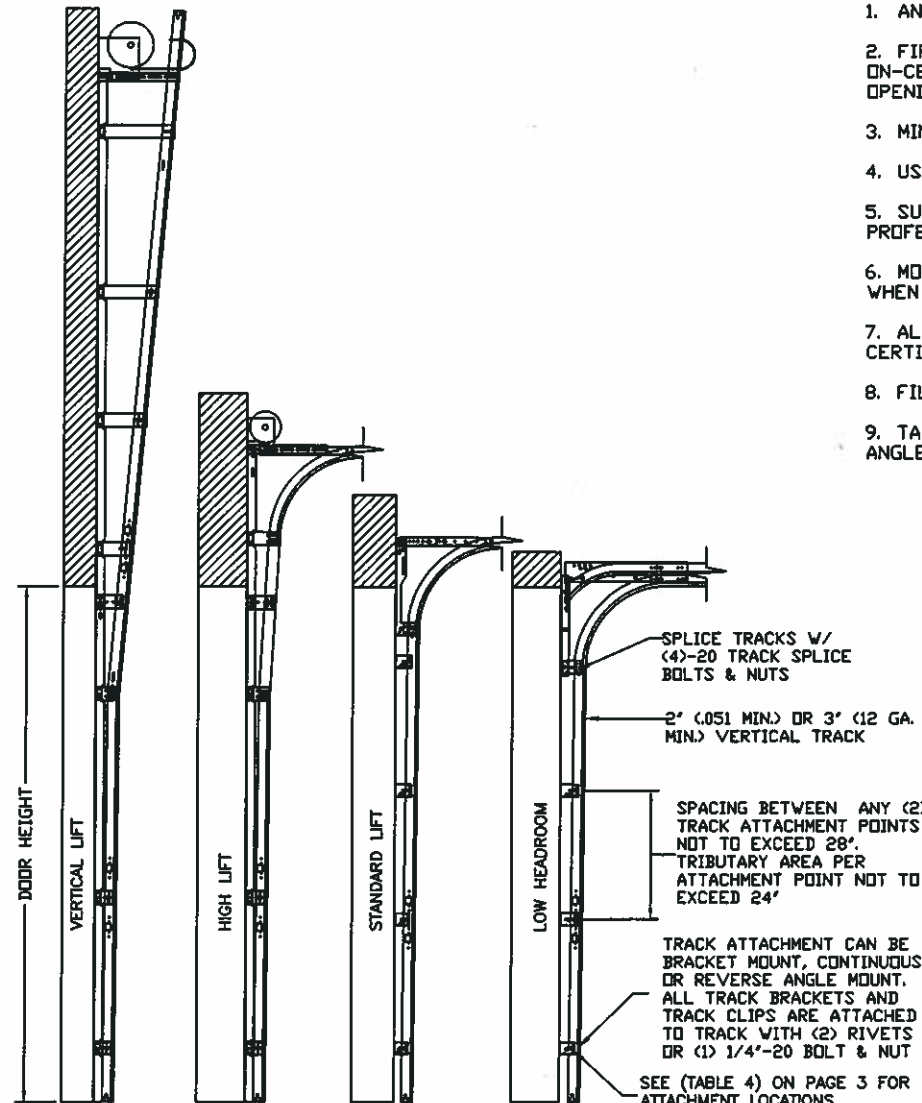
BRACKET MOUNT SHOWN
BRACKET, CONTINUOUS AND TAPERED ANGLE MOUNT AVAILABLE

2X6 SYP LUMBER (NO. 2 MIN)
614 LBS./LAG SCREW ALLOWABLE LOAD - 6" FROM ENDS AND 24" O.C.
SPACING ON TRACK ATTACHMENT CHART ACCEPTABLE AS WELL.
REFER TO NOTES: 1, 2, AND 5
SEE WOOD JAMB ATTACHMENT TO STRUCTURE

2X6 SPF LUMBER (NO. 2 MIN)
410 LBS./LAG SCREW ALLOWABLE LOAD - 6" FROM ENDS AND 24" O.C.
SPACING ON TRACK ATTACHMENT CHART ACCEPTABLE AS WELL.
REFER TO NOTES: 1, 2, AND 5
SEE WOOD JAMB ATTACHMENT TO STRUCTURE

NOTES:

- ANCHORS TO BE EVENLY SPACED BETWEEN THE HEADER AND FLOOR.
- FIRST (BOTTOM) ANCHOR STARTING AT NO MORE THAN HALF OF THE MAXIMUM ON-CENTER DISTANCE. HIGHEST ANCHOR INSTALLED AT LEAST AS HIGH AS THE DOOR OPENING.
- MIN. EDGE DISTANCE OF 3" REQUIRED.
- USE WASHERS PROVIDED BY THE ANCHOR MANUFACTURER.
- SUPPORTING STRUCTURAL ELEMENTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER FOR WIND LOADS IN ADDITION TO OTHER LOADS.
- MOST GARAGE DOOR TRACK IS GALVANIZED STEEL. USE ALL NECESSARY PRECAUTIONS WHEN WELDING GALVANIZED STEEL.
- ALL WELDS SHOULD BE PERFORMED BY A CERTIFIED WELDER OR INSPECTED BY A CERTIFIED WELDING INSPECTOR TO VERIFY THE INTEGRITY OF THE WELD.
- FILLET WELDS TO HAVE A STRAIGHT OR CONVEX FACE SURFACE.
- TACK WELD TOE OF ANGLE AT SAME SPACING TO PREVENT ROTATION OF TRACK ANGLE.



AVAILABLE TRACK CONFIGURATIONS
N.T.S.

SPLICE TRACKS W/ (4)-20 TRACK SPLICE BOLTS & NUTS

2" (0.51 MIN.) OR 3" (12 GA. MIN.) VERTICAL TRACK

SPACING BETWEEN ANY (2) TRACK ATTACHMENT POINTS NOT TO EXCEED 28". TRIBUTARY AREA PER ATTACHMENT POINT NOT TO EXCEED 24"

TRACK ATTACHMENT CAN BE BRACKET MOUNT, CONTINUOUS OR REVERSE ANGLE MOUNT. ALL TRACK BRACKETS AND TRACK CLIPS ARE ATTACHED TO TRACK WITH (2) RIVETS OR (1) 1/4"-20 BOLT & NUT

SEE (TABLE 4) ON PAGE 3 FOR ATTACHMENT LOCATIONS

WOOD JAMB ATTACHMENT TO STRUCTURE

2 X 6 VERTICAL JAMB ATTACHMENT TO WOOD FRAME STRUCTURE
3/16" X 3" LAG SCREWS STARTING 6" FROM ENDS THEN 24" O.C. (1 1/2" EMBEDMENT)

2 X 6 VERTICAL JAMB ATTACHMENT TO 2000 PSI CONCRETE
MULTI KWIK BOLT 3/8" X 4" STARTING 6" FROM ENDS THEN 24" O.C. (2 1/2" EMBEDMENT)
MULTI SLEEVE ANCHOR 3/8" X 2-3/4" STARTING 6" FROM ENDS THEN 24" 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 18" O.C. (1 1/2" EMBEDMENT)
MULTI 1/4" X 2-3/4" KWIK-DOWN II+ SCREWS STARTING 6" FROM ENDS, USE PAIRS OF FASTENERS (3" APART) AT 18" O.C. (1 1/4" EMBEDMENT)

2 X 6 VERTICAL JAMB ATTACHMENT TO GROUTED C-90 BLOCK (2000 PSI GROUT)
MULTI 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

REV	DESCRIPTION OF REVISIONS	DATE	BY
A	REVISED NOTE 6	9/5/08	BHG
B	UPDATED WJATS, TCOTS, ADDED ASCE MPH DETAIL	12/6/11	RLR

MAX SIZE
16'2" x 20'

DESIGN LOADS
+19.8 PSF
-22.4 PSF

TEST LOADS
(1.5 x DESIGN LOADS)
+29.7 PSF
-33.6 PSF



Amarr
GARAGE DOORS

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

MODEL #3500 FULL VIEW

SIZE	DRAWN BY	DLJ	DATE	11/16/04	DRAWING NUMBER
B	CHECKED BY	AAE	DATE	11/17/04	IBC-3516-120-15
ENGINEER: THOMAS L. SHLMEARDINE P.E. LIC. No. 0048579				SHEET 2 OF 3	

TABLE 1

Door Height	21" Bottom	21" Intermediate	24" Bottom	24" Intermediate
7'0"	1	3		
7'3"		3	1	
7'6"		2	1	1
7'9"		1	1	2
8'0"				4
8'3"	Not Available			
8'6"	Not Available			
8'9"	1	4		
9'0"		4	1	
9'3"		3	1	1
9'6"		2	1	2
9'9"		1	1	3
10'0"			1	4
10'3"	Not Available			
10'6"	1	5		
10'9"		5	1	
11'0"		4	1	1
11'3"		3	1	2
11'6"		2	1	3
11'9"		1	1	4
12'0"			1	5
12'3"	1	6		
12'6"		6	1	
12'9"		5	1	1
13'0"		4	1	2
13'3"		3	1	3
13'6"		2	1	4
13'9"		1	1	5
14'0"			1	6
14'0"	1	7		
14'3"		7	1	
14'6"		6	1	1
14'9"		5	1	2
15'0"		4	1	3
15'3"		3	1	4
15'6"		2	1	5
15'9"		1	1	6
15'9"	1	8		
16'0"			1	7
16'0"		8	1	
16'3"		7	1	1
16'6"		6	1	2
16'9"		5	1	3
17'0"		4	1	4
17'3"		2	1	5
17'6"		2	1	6
17'9"		1	1	7
18'0"			1	8
18'3"		7	1	2
18'6"		6	1	3
18'9"		5	1	4
19'0"		4	1	5
19'3"		3	1	6
19'6"		2	1	7
19'9"		1	1	8
20'0"			1	9

*TABLE 2

Section Width (ft)	Max Design Loads Allowed	
	Positive (PSF)	Negative (PSF)
9' 4	25.1	28.4
9' 6	24.8	28.1
9' 8	24.5	27.7
9' 10	24.2	27.4
10' 0	23.9	27.0
10' 2	23.6	26.7
10' 4	23.3	26.4
10' 6	23.0	26.0
10' 8	22.7	25.7
10' 10	22.5	25.4
11' 0	22.2	25.1
11' 2	22.0	24.8
11' 4	21.7	24.6
11' 6	21.5	24.3
12' 0	20.5	23.0
12' 2	20.2	22.6
12' 4	20.0	22.2
12' 6	19.8	21.8
12' 8	19.6	21.4
12' 10	19.4	21.0
13' 0	19.2	20.6
13' 2	19.0	20.2
13' 4	18.8	19.8
13' 6	18.6	19.4
13' 8	18.4	19.0
13' 10	18.2	18.6
14' 0	18.0	18.2
14' 2	17.8	17.8
14' 4	17.6	17.4
14' 6	17.4	17.0
14' 8	17.2	16.6
14' 10	17.0	16.2
15' 0	16.8	15.8
15' 2	16.6	15.4
16' 0	16.2	14.8
16' 2	16.0	14.4

*CONTACT AMARR'S ENGINEERING DEPARTMENT FOR THE FOLLOWING DOOR WIDTHS: 11'8", 11'10", 15'4", 15'6", 15'8" AND 15'10"

TABLE 3

Section Width (ft)	Center Stile Locations (Measured from Left Edge)		
	1st (in)	2st (in)	3rd (in)
9' 4	36"	76"	
9' 6	37"	77"	
9' 8	38"	78"	
9' 10	39"	79"	
10' 0	40"	80"	
10' 2	41"	81"	
10' 4	42"	82"	
10' 6	43"	83"	
10' 8	44"	84"	
10' 10	45"	85"	
11' 0	46"	86"	
11' 2	47"	87"	
11' 4	48"	88"	
11' 6	49"	89"	
12' 0*	36"	72"	108"
12' 2*	37"	73"	109"
12' 4*	38"	74"	110"
12' 6*	39"	75"	111"
12' 8*	40"	76"	112"
12' 10	41"	77"	113"
13' 0	36"	78"	120"
13' 2	37"	79"	121"
13' 4	38"	80"	122"
13' 6	39"	81"	123"
13' 8	40"	82"	124"
13' 10	41"	83"	125"
14' 0	42"	84"	126"
14' 2	43"	85"	127"
14' 4	44"	86"	128"
14' 6	45"	87"	129"
14' 8	46"	88"	130"
14' 10	47"	89"	131"
15' 0	48"	90"	132"
15' 2	49"	91"	133"
16' 0	48"	96"	144"
16' 2	49"	97"	145"

*SPECIAL STILE PLACEMENT REQUIRED

TABLE 4

DOOR HEIGHT	TRACK ATTACHMENT										*SPlice	
	A	B	C	D	E	F	G	H	I	J		
6' 6"	10"	38"	58"									70"
7'	10"	38"	58"									76"
7' 6"	4"	28"	52"	76"								82"
8'	10"	34"	58"	82"								88"
8' 6"	4"	28"	52"	76"								94"
9'	10"	34"	58"	82"								100"
9' 6"	4"	28"	52"	76"	100"							106"
10'	10"	34"	58"	82"	106"							112"
10' 6"	4"	28"	52"	76"	100"							118"
11'	10"	34"	58"	82"	106"							124"
11' 6"	4"	28"	52"	76"	100"	124"						130"
12'	10"	34"	58"	82"	106"	130"						136"
12' 6"	4"	28"	52"	76"	100"	124"						142"
13'	10"	34"	58"	82"	106"	130"						148"
13' 6"	4"	28"	52"	76"	100"	124"	148"					154"
14'	10"	34"	58"	82"	106"	130"	154"					160"
14' 6"	4"	28"	52"	76"	100"	124"	148"					166"
15'	10"	34"	58"	82"	106"	130"	154"					172"
15' 6"	4"	28"	52"	76"	100"	124"	148"	172"				178"
16'	10"	34"	58"	82"	106"	130"	154"	178"				184"
16' 6"	4"	28"	52"	76"	100"	124"	148"	172"				190"
17'	10"	34"	58"	82"	106"	130"	154"	178"				196"
17' 6"	4"	28"	52"	76"	100"	124"	148"	172"	196"			202"
18'	10"	34"	58"	82"	106"	130"	154"	178"	202"			208"
18' 6"	4"	28"	52"	76"	100"	124"	148"	172"	196"			214"
19'	10"	34"	58"	82"	106"	130"	154"	178"	202"			220"
19' 6"	4"	28"	52"	76"	100"	124"	148"	172"	196"	220"		226"
20'	10"	34"	58"	82"	106"	130"	154"	178"	202"	226"		232"


*SPlice LOCATION FOR STANDARD LIFT. WILL VARY FOR OTHER LIFT APPLICATIONS


REV	DESCRIPTION OF REVISIONS	DATE	BY
A	REVISED NOTE 6	9/5/08	BHG
B	UPDATED WJATS, TCOITS, ADDED ASCE MPH DETAIL	12/6/11	RLR

MAX SIZE
16'2" x 20'

DESIGN LOADS
+19.8 PSF
-22.4 PSF

TEST LOADS
(1.5 x DESIGN LOADS)
+29.7 PSF
-33.6 PSF





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

MODEL #3500 FULL VIEW

SIZE	DRAWN BY	DLJ	DATE	11/16/04	DRAWING NUMBER
B	CHECKED BY	AAE	DATE	11/17/04	IBC-3516-120-15

ENGINEER: THOMAS L. SHLMERDINE P.E. LIC. No. 0048579 SHEET 3 OF 3