

FL PRODUCT
APPROVAL # FL158-R12

MATERIALS

1. Fc #8 precast lintel = 3500 psi
2. Fc prestressed lintel = 6000 psi
3. Grout per ASTM C476 Fc = 3000 psi w/ maximum 3/8 inch aggregate & 8 to 11 inch slump
4. Concrete Masonry Units (CMU) per ASTM C90 minimum net area compressive strength = 1900 psi
5. Rebar per ASTM A615 grade 60
6. Prestressing strand per ASTM A416 grade 270 low relaxation
7. Mortar per ASTM C270 type M or S

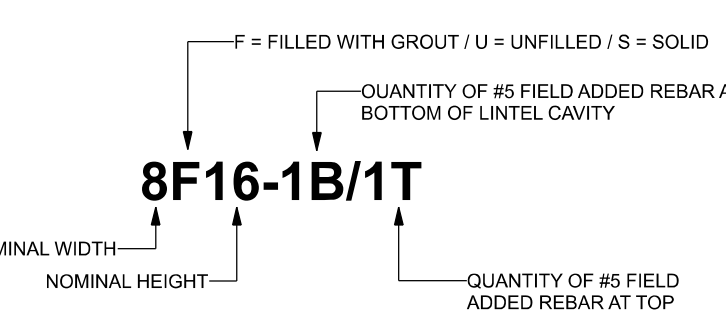
GENERAL NOTES

1. Provide full mortar bed and head joints.
2. Shore filled lintels as required.
3. Installation of lintel must comply with the architectural and/or structural documents.
4. U-Intels are manufactured with 5 1/2" long notches at the ends to accommodate vertical call reinforcing and grouting.
5. All lintels meet or exceed L/360 deflection, except lintels 17'-4" and longer with a nominal height of 8" meet or exceed L/160 deflection.
6. Bottom field added rebar to be located at the bottom of the lintel cavity.
7. 7/32" diameter wire straps are welded to the bottom steel for mechanical anchorage.
8. Cast-in-place concrete may be provided in composite lintel in lieu of concrete masonry units.
9. Safe load rating based on rational design analysis per ACI 318 and ACI 530
10. Product Approvals: Miami-Dade County, Florida No. 03-0606.05
11. The exterior surface of lintels installed in exterior concrete masonry walls shall have a coating of stucco applied in accordance with ASTM C-296 or other approved coating.
12. Lintels loaded simultaneously with vertical (gravity or uplift) and horizontal (lateral) loads should be checked for the combined loading with the following equation:

$$\frac{\text{Applied vertical load}}{\text{Safe vertical load}} + \frac{\text{Applied horizontal load}}{\text{Safe horizontal load}} \leq 1.0$$

13. Additional lateral load capacity can be obtained by the designer by providing additional reinforced concrete masonry above the lintel. See detail at right:

TYPE DESIGNATION

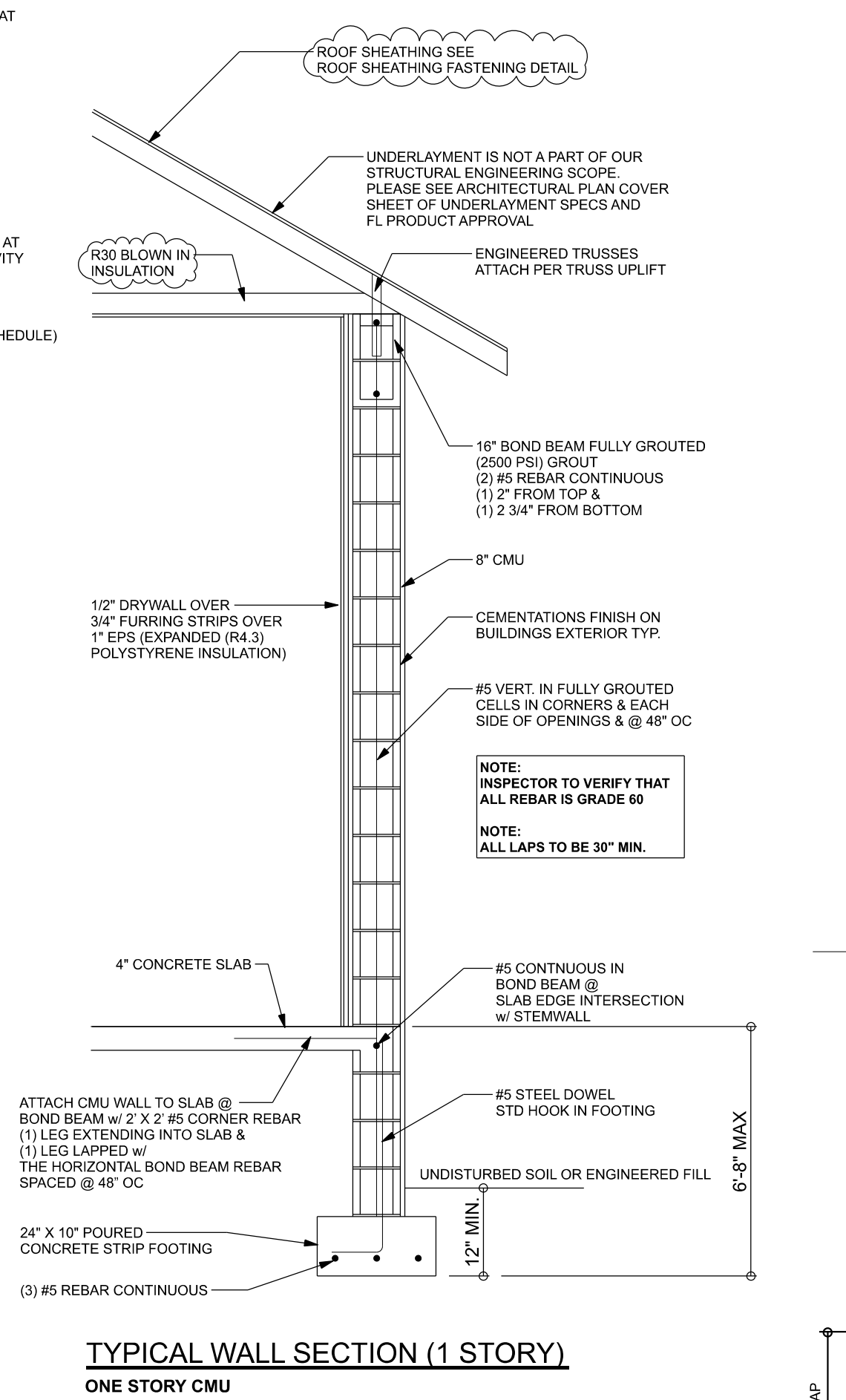


SAFE LOAD TABLE NOTES

1. All values based on minimum 4 inch nominal bearing.
Exception: Safe loads for unfilled lintels must be reduced by 20% if bearing length is less than 6 1/2 inches.
2. N.R. = Not Rated
3. Safe loads are superimposed allowable loads.
4. Safe loads based on grade 40 or grade 60 field rebar.
5. One #7 rebar may be substituted for two #5 rebars in 8" lintels only
6. The designer may evaluate concentrated loads from the safe load tables by calculating the maximum resisting moment and shear at d-away from face of support.
7. For composite lintel heights not shown, use safe load from next lower height shown.
8. For lintel lengths not shown, use safe load from next longest length shown
9. All safe loads in units of pounds per linear foot.
10. All safe loads based on simply supported span.
11. The number in the the parenthesis indicates the percent reduction for grade 40 field added rebar.
Example 7'-6" lintel type 8F32-1B safe gravity load = 6472(40.0469)(15)(40.0781; w/ 15% reduction 6472 = .85) = 5501 plf

LENGTH	TYPE	8U8	SAFE LOAD - POUNDS PER LINEAR FOOT							
			8F8-0B	8F12-0B	8F16-0B	8F20-0B	8F24-0B	8F28-0B	8F32-0B	8F32-0B
2'-0" (34")	PRECAST	2231	3069	4605	6113	7547	8974	10394	11809	11809
2'-10" (42")	PRECAST	2231	3069	3719	5163	6607	8054	9502	10951	10951
4'-0" (48")	PRECAST	1966	2693	4605	6113	7547	8974	10394	11809	11809
4'-6" (54")	PRECAST	1599	1969	2110	2931	3753	4576	5400	6224	6224
5'-4" (64")	PRECAST	1217	1218	4375	6113	7547	8974	10394	11809	11809
5'-10" (70")	PRECAST	1062	1349	1438	1999	2560	3123	3686	4249	4249
6'-6" (78")	PRECAST	908	1063	3090	5365	7247	9129	11011	12893	12893
7'-4" (80")	PRECAST	743	1105	1173	1631	2090	2549	3009	3470	3470
9'-4" (112")	PRECAST	554	1451	2622	4360	7168	10019	12871	15723	15723
10'-6" (126")	PRECAST	475	1238	2177	3480	5381	8360	10394	12418	12418
11'-4" (138")	PRECAST	362	1011	1729	2632	2205	2698	3191	3685	3685
12'-0" (144")	PRECAST	337	540	873	1254	1684	2163	2605	3052	3052
13'-4" (160")	PRECAST	296	471	755	1075	1428	1838	2316	2883	2883
14'-0" (168")	PRECAST	279	424	706	1002	1326	1697	2127	2630	2630
14'-8" (178")	PRESTRESSED	N.R.	NR	NR	NR	NR	NR	NR	NR	NR
15'-4" (184")	PRESTRESSED	N.R.	NR	NR	NR	NR	NR	NR	NR	NR
17'-4" (208")	PRESTRESSED	N.R.	NR	NR	NR	NR	NR	NR	NR	NR
19'-4" (232")	PRESTRESSED	N.R.	NR	NR	NR	NR	NR	NR	NR	NR
21'-4" (256")	PRESTRESSED	N.R.	NR	NR	NR	NR	NR	NR	NR	NR
22'-0" (264")	PRESTRESSED	N.R.	NR	NR	NR	NR	NR	NR	NR	NR
24'-0" (288")	PRESTRESSED	N.R.	NR	NR	NR	NR	NR	NR	NR	NR

LENGTH	TYPE	8RU8	SAFE LOAD - POUNDS PER LINEAR FOOT							
			8RF6-0B	8RF10-0B	8RF14-0B	8RF18-0B	8RF22-0B	8RF26-0B	8RF30-0B	8RF30-0B
4'-4" (52")	PRECAST	1635	1749	3355	5298	7240	9182	11124	13066	13066
4'-6" (54")	PRECAST	1494	1596	3063	4992	6930	8868	10806	12744	12744
5'-8" (68")	PRECAST	866	920	1770	2716	3662	4608	5554	6500	6500
5'-10" (70")	PRECAST	810	1117	2342	4242	6142	8042	9942	11842	11842
6'-8" (80")	PRECAST	797	901	1825	3120	4415	5710	7005	8300	8300
7'-6" (90")	PRECAST	669	755	1490	2459	3428	4397	5366	6335	6335
9'-8" (116")	PRECAST	411	466	999	1568	2253	2938	3623	4308	4308



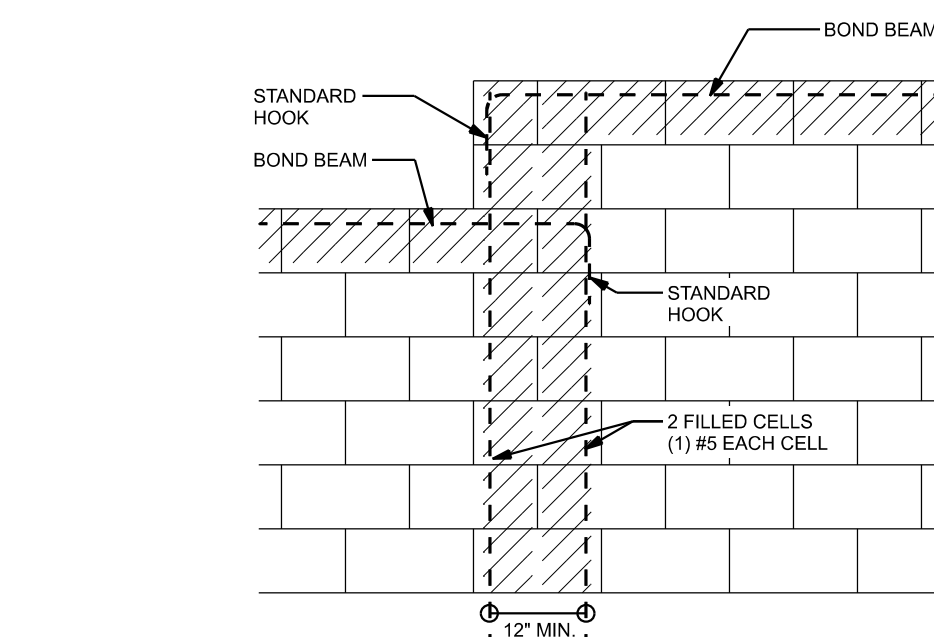
TYPICAL WALL SECTION (1 STORY)
ONE STORY CMU

BOTTOM OF EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 12" BELOW UNDISTURBED SOIL OR ENGINEERED FILL PER FBC 2020 7th Edition. (107.3.5 building)

ROOF SHEATHING FASTENING TABLE (RAFTER / TRUSS SG = 0.49)

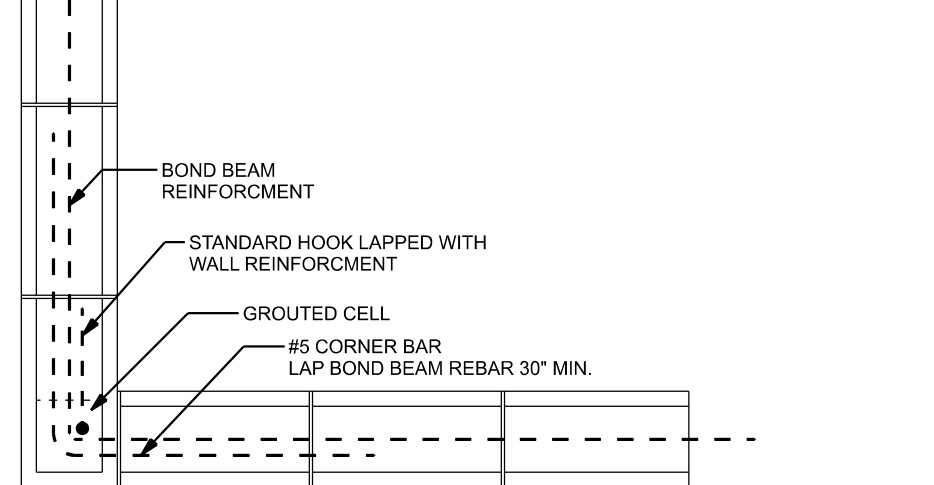
Wind Speed	Sheathing Thickness Plywood Or OSB	Required Nail	Nail spacing along panel edges	Nail spacing along intermediate supports in the panel field
120 mph Exp. B	7/16"	ASTM F1667 RRSR-01 (2 3/8" x 0.131")	6" oc	12" oc
120 mph Exp. C	7/16"	ASTM F1667 RRSR-01 (2 3/8" x 0.131")	6" oc	6" oc
120 mph Exp. D	19/32"	ASTM F1667 RRSR-03 (2 1/2" x 0.131") or ASTM F1667 RRSR-04 (3" x 0.120")	6" oc	6" oc
130 mph Exp. B	7/16"	ASTM F1667 RRSR-01 (2 3/8" x 0.131")	6" oc	6" oc
130 mph Exp. C	19/32"	ASTM F1667 RRSR-01 (2 3/8" x 0.131")	6" oc	6" oc
130 mph Exp. D	19/32"	ASTM F1667 RRSR-03 (2 1/2" x 0.131") or ASTM F1667 RRSR-04 (3" x 0.120")	6" oc	6" oc
140 mph Exp. B	7/16"	ASTM F1667 RRSR-01 (2 3/8" x 0.131")	6" oc	6" oc
140 mph Exp. C	19/32"	ASTM F1667 RRSR-03 (2 1/2" x 0.131") or ASTM F1667 RRSR-04 (3" x 0.120")	6" oc	6" oc
140 mph Exp. D	19/32"	ASTM F1667 RRSR-03 (2 1/2" x 0.131") or ASTM F1667 RRSR-04 (3" x 0.120")	6" oc	6" oc
150 mph Exp. C	19/32"	ASTM F1667 RRSR-03 (2 1/2" x 0.131") or ASTM F1667 RRSR-04 (3" x 0.120")	6" oc	6" oc

Note: For sheathing located a minimum of 4 feet from the perimeter edge of the roof, including 4 feet on each side of ridges and hips, nail spacing is permitted to be 6 inches on center along panel edges and 6 inches on center along intermediate supports in the panel field.
Note: This table specifies the code minimum thickness of roof sheathing. The thickness of the sheathing may need to be increased based in the type of roofing material being used. See manufacturer Florida product approval.



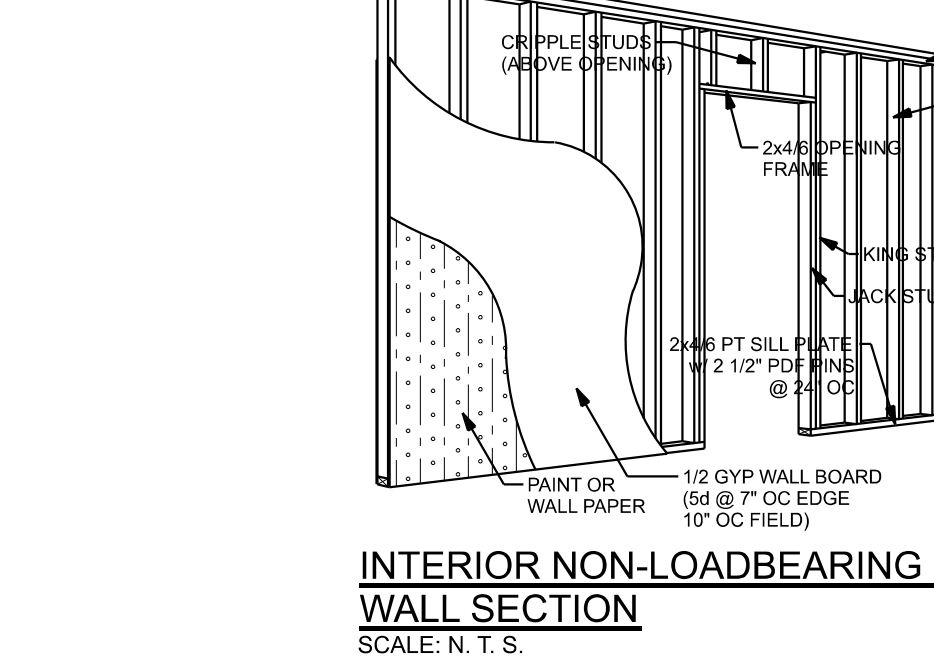
CHANGES IN BOND BEAM HEIGHT

(BASED ON FBC FIG. R609.2.5)
SCALE: 1/2" = 1'-0"



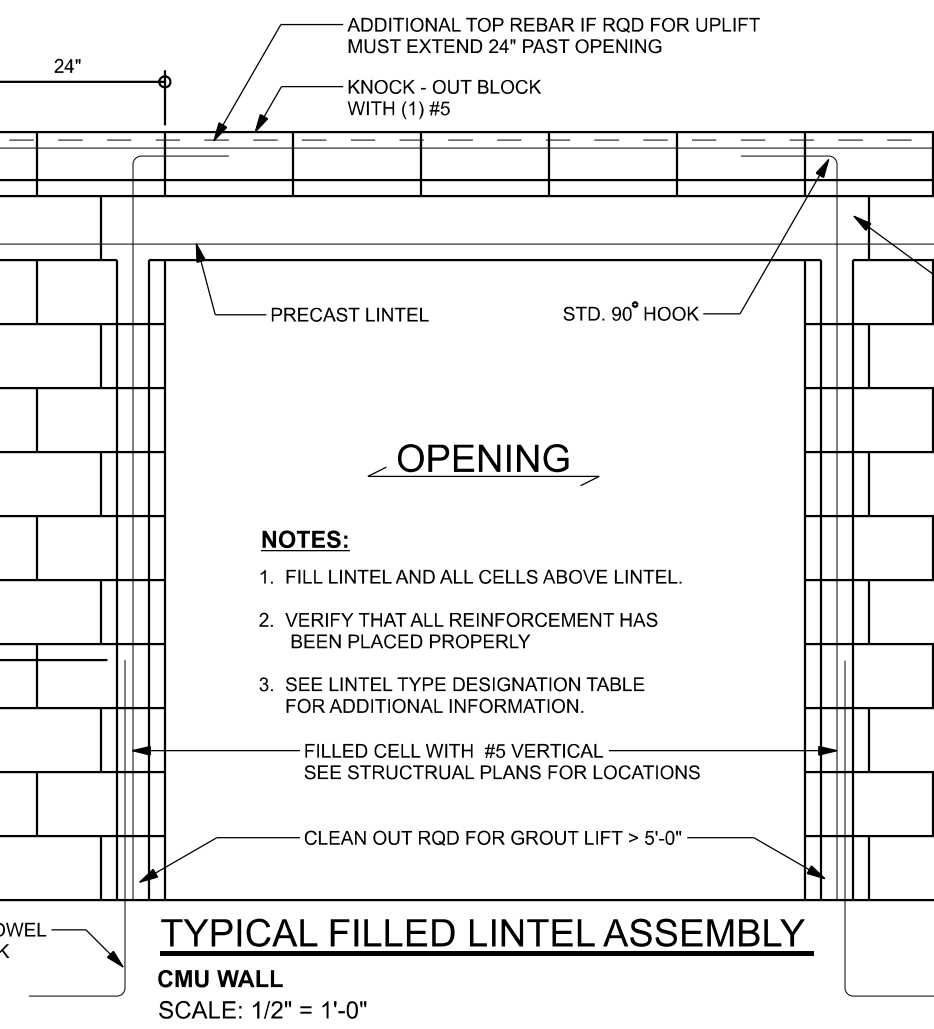
CORNER CONTINUITY OF BOND BEAM AND WALL REINFORCEMENT

(BASED ON FBC FIG. R609.2.4)
SCALE: 3/4" = 1'-0"



INTERIOR NON-LOADBEARING WALL SECTION

SCALE: N. T. S.



TYPICAL FILLED LINTEL ASSEMBLY
CMU WALL

SCALE: 1/2" = 1'-0"

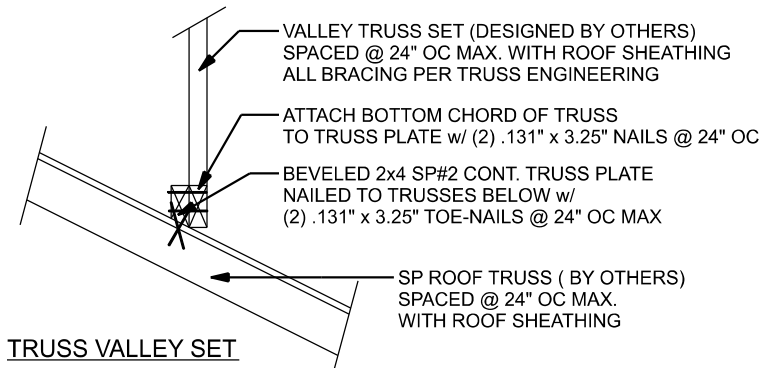
GARAGE DOOR BUCK ATTACHMENT

GARAGE DOOR BUCKS w/ AB UP TO 8W

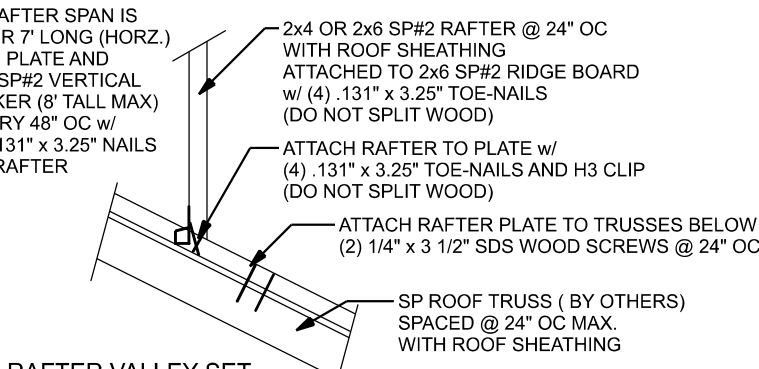
(8) 1/2" x 8" ANCHOR BOLTS PER BUCK EVENLY SPACED (ANCHOR BOLTS ARE INTO REINFORCED CELL AT EACH SIDE OF DOOR)

ALL EXTERIOR WIDOWS AND GLASS GLASS DOORS ARE TO BE TESTED IN ACCORDANCE WITH ANSI/AMMA/NWDA 101/IS2 STANDARDS AND BEAR AN AMMA OR WDMA LABEL IDENTIFYING THE MANUFACTURER, PERFORMANCE CHARACTERISTICS, AND APPROVED PRODUCT TESTING ENTITY (FBC 1707.4.21)

SEE ATTACHED MANUFACTURERS RECOMMENDATIONS FOR WINDOW AND DOOR ANCHORAGE

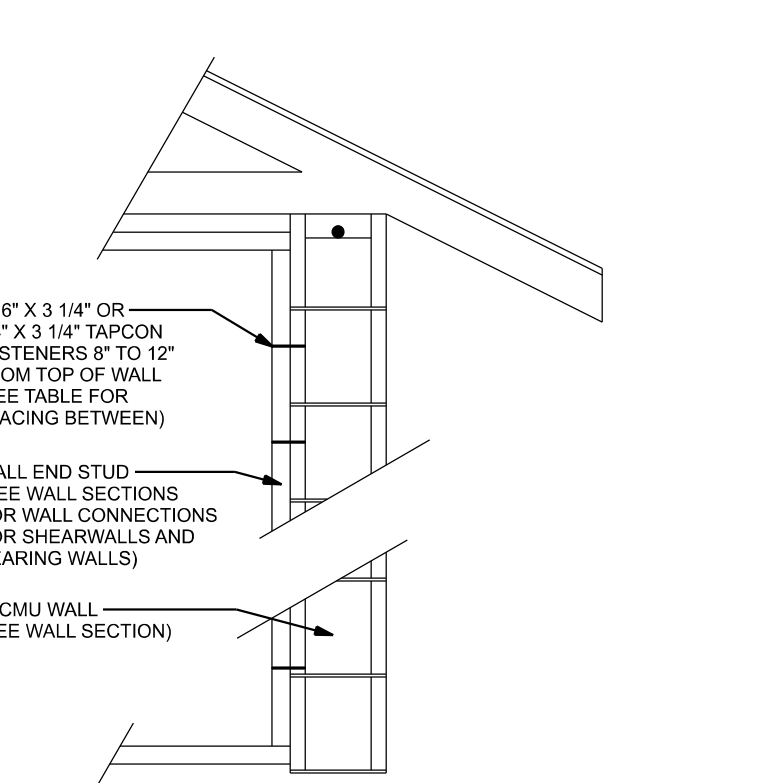


TRUSS VALLEY SET



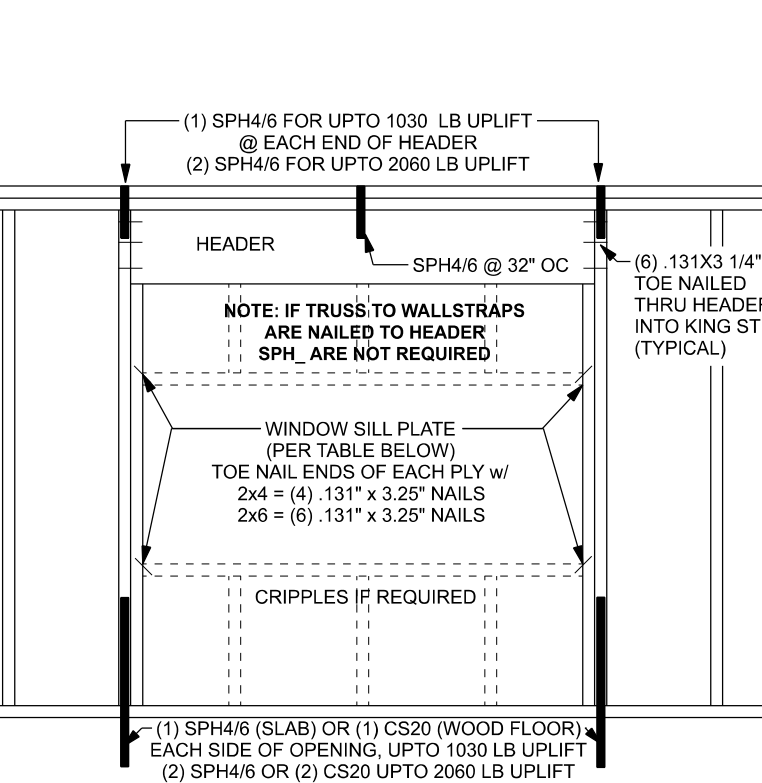
RAFTER VALLEY SET

VALLEY SET FRAMING DETAIL



WALL TYPE:	3/16" X 3 1/4" TAPCON MAX SPACING	1/4" X 3 1/4" TAPCON MAX SPACING
INTERIOR SHEAR WALL	6" OC	8" OC
INTERIOR BEARING WALL	16" OC	16" OC
INTERIOR NON-BEARING WALL	48" OC	48" OC

INT. FRAME WALL TO CMU CONNECTION



SILL PLATE SPANS FOR 10'-0" WALL HEIGHT			
MAX. SPANS FOR SPF #2	(1) 2x4	(2) 2x4	(2) 2x6
4'-4"	6'-6"	6'-5"	9'-6"

TYP. FRAME OPENING DETAILS

STRAPS ON WD FLOOR OR SLAB N.T.S.

CONNECTOR TABLE			
Uplift SP	Uplift SPF	Truss Connector	To Truss/Rafter
615	485	SDWC15600	To Plate
415	290	H3	To Truss/Rafter
575	406	H2.5A	To Truss/Rafter
1340	1015	H10A	To Truss/Rafter
720	620	LT512-20	To Truss/Rafter
1000	860	M7S12-30	To Truss/Rafter
1450	1245	HTS20-30	To Truss/Rafter
Uplift SP	Uplift SPF	Strap Ties	To One Member
1235	1235	LSTA21	To One Member
1640	1455	MSTA24	To One Member
1030	1030	CS20	To Stud / Post
1825	1800	HTT4	To Stud / Post
Uplift SP	Uplift SPF	Holdowns @ Stems	To Stud / Post
1825	1800	HTT4	To Stud / Post
1825	1800	HTT4	To Stud / Post
1825	1800	HTT4	To Stud / Post
Uplift SP	Uplift SPF	Post Bases @ Stems	To Stud / Post
2200	2200	ABU44	To Stud / Post
2200	2200	ABU44	To Stud / Post
Uplift SP	Uplift SPF	Post Bases @ Mono	To Stud / Post
2200	2200	ABU44	To Stud / Post
2200	2200	ABU44	To Stud / Post

GRADE & SPECIES TABLE

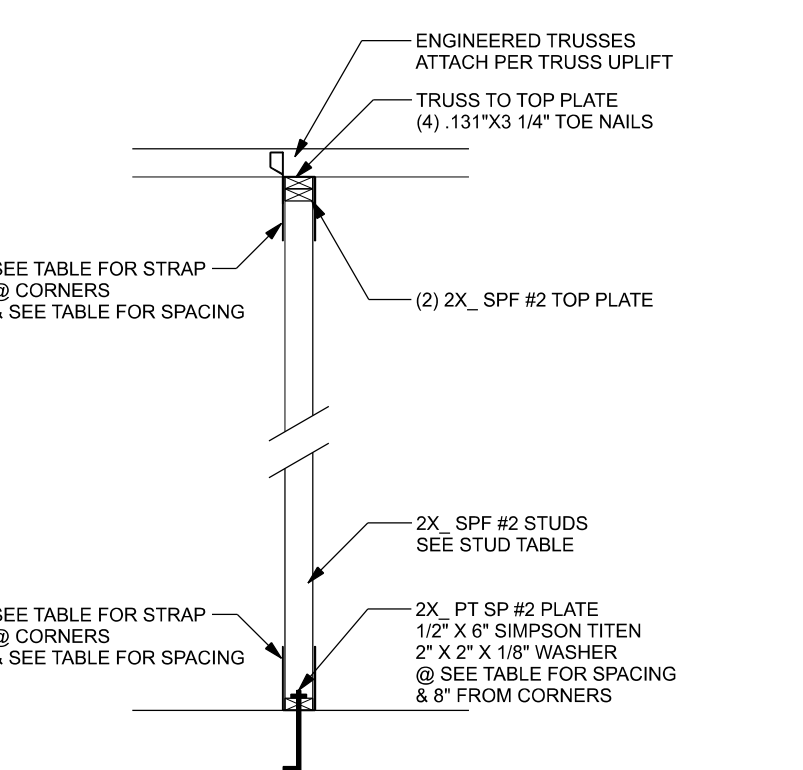
		Fb	E
2x8	SP #2	925	1.4
2x10	SP #2	800	1.4
2x12	SP #2	750	1.4
GLB	24F-V3 SP	2600	1.9
LSL	TIMBERSTRAND	1700	1.7
LVL	MICROLAM	2950	2.0
PSL	PARALAM	2900	2.0

NOTE: THIS BUILDING IS LOCATED IN THE WINDBORNE DEBRIS REGION THE BUILDING MUST PROVIDE PROTECTION OF OPENINGS PER FBC R301.2.1.2 IF PRECUT 7/16" MIN WOOD STRUCTURAL PANELS ARE USED THEY ARE TO BE RATCHETED AS PER FBC R301.2.1.2 (SHOWN BELOW)

TABLE R301.2.1.2 WINDBORNE DEBRIS PROTECTION FASTENING SCHEDULE FOR WOOD STRUCTURAL PANELS^{a, b, c, d}

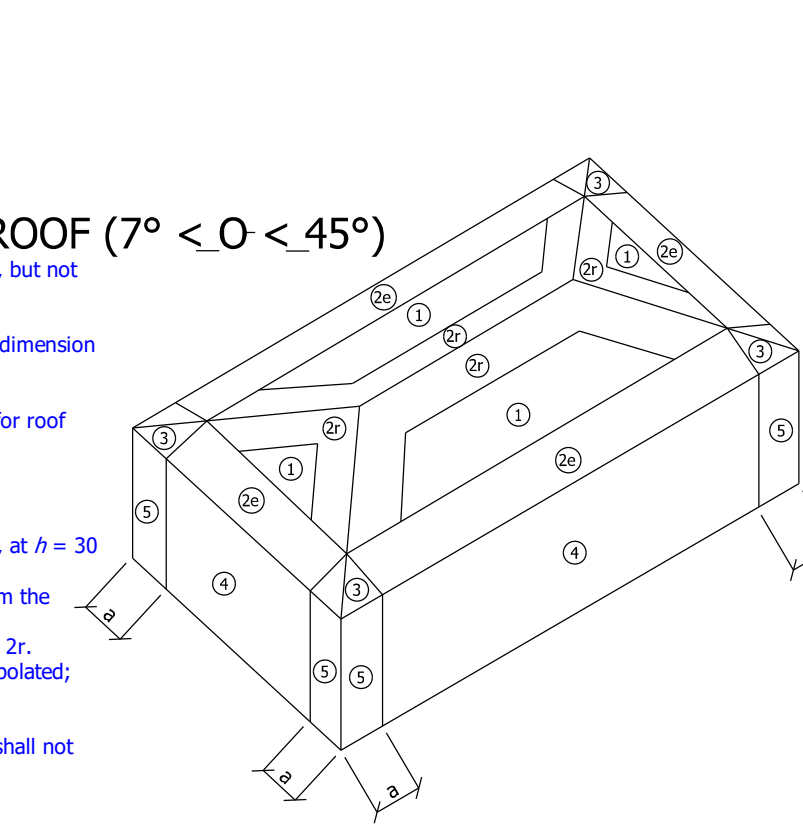
FASTENER TYPE	FASTENER SPACING (inches) ^{a, b}		
	Panel span ≤ 4 feet	4 feet < panel span ≤ 6 feet	6 feet < panel span ≤ 8 feet
No. 8 wood screw based anchor with 2-inch embedment length	16	10	8
No. 10 wood screw based anchor with 2-inch embedment length	16	12	9
1 1/2-inch lag screw based anchor with 2-inch embedment length	16	16	16

- For Sl: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound = 4.448 N, 1 mile per hour = 0.447 m/s.
a. This table is based on V_{max} as determined in accordance with Section R301.2.1.3, of 130 mph and a 33-foot mean roof height.
b. Fasteners shall be installed at opposing ends of the wood structural panel. Fasteners shall be located a minimum of 1 inch from the edge of the panel.
c. Anchors shall penetrate through the exterior wall covering with an embedment length of 2 inches minimum into the building frame. Fasteners shall be located a minimum of 2 1/2 inches from the edge of concrete block or concrete.
d. Where panels are attached to masonry or masonry/stucco, they shall be attached using vibration-resistant anchors having a minimum ultimate withdrawal capacity of 1500 pounds.



INTERIOR BEARING WALL UPLIFT STRAP TABLE			
TAG	Uplift on wall	Top Connection	Bottom Connection
IBW1	227 plf	SP2 @ 32" OC	SP1 @ 32" OC
IBW2	454 plf	SP2 @ 16" OC	SP1 @ 16" OC
IBW3	309 plf	LSTA24, 14-100 @ 48" OC	LSTA24, 14-100 @ 48" OC
IBW4	465 plf	LSTA24, 14-100 @ 32" OC	LSTA24, 14-100 @ 32" OC

(TYP.) INTERIOR BEARING WALL
ONE STORY WOOD FRAME w/ STRAPS & ANCHORS



GENERAL NOTES:

TRUSSES: TRUSSES SHALL BE DESIGNED BY A FLORIDA LICENSED ENGINEER IN ACCORDANCE WITH THE FBC. TRUSS ENGINEERING SHALL INCLUDE TRUSS DESIGN, PLACEMENT PLANS, TEMPORARY AND PERMANENT BRACING DETAILS, TRUSS-TO-TRUSS CONNECTIONS AND UPLIFT AND REACTION LOADS FOR ALL BEARING LOCATIONS. TRUSS ENGINEERING IS THE RESPONSIBILITY OF THE TRUSS MANUFACTURER AND SHALL BE SIGNED & SEALED BY THE MANUFACTURER'S DESIGN ENGINEER. IT IS THE BUILDERS RESPONSIBILITY TO VERIFY THE TRUSS DESIGNER FULLY SATISFIED ALL THE ABOVE REQUIREMENTS AND TO SELECT UPLIFT CONNECTIONS BASED ON TRUSS ENGINEERING UPLIFT AND PROVIDE FOOTINGS FOR INTERIOR BEARING WALLS. BUILDERS TO FURNISH TRUSS ENGINEERING TO WIND LOAD ENGINEER FOR REVIEW OF TRUSS REACTIONS ON THE BUILDING STRUCTURE. STRAP 2X6 RAFTERS WITH MIN. UPLIFT CONNECTION #15LB EACH END; 2X8 RAFTERS 2X6 EACH END; NOT TO EXCEED 3'.

SITE PREPARATION: SITE ANALYSIS AND PREPARATION IS NOT PART OF THIS PLAN

FOUNDATION: CONFIRM THAT THE FOUNDATION DESIGN & SITE CONDITIONS MEET GRAVITY LOAD REQUIREMENTS (ASSUMING ENGINEERING IS THE RESPONSIBILITY OF THE VISUAL OBSERVATION OR SOIL TEST PROVES OTHERWISE)

CONCRETE: MINIMUM COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS, F_c = 2500 PSI

WELDED WIRE REINFORCED SLAB: 8" x 6" W1 x W1.4 FB = 8KSI, WELDED WIRE REINFORCEMENT FABRIC (W.W.R.) CONFORMING TO ASTM A185, LOCATED IN MIDDLE OF THE SLAB, SUPPORTED WITH APPROVED MATERIALS OR SUPPORTS AT SPACINGS NOT TO EXCEED 3'.

FIBER CONCRETE SLAB: CONCRETE SLABS ON GROUND CONTAINING SYNTHETIC FIBER REINFORCEMENT FIBER LENGTH 1/2 INCH TO 2 INCHES. DOSAGE AMOUNTS FROM 0.75 TO 1.5 POUNDS PER CUBIC YARD PER THE MANUFACTURER'S RECOMMENDATIONS. FIBER TO COMPLY WITH ASTM C 1116. SUPPLIER TO PROVIDE ASTM C 1116 CERTIFICATION OF COMPLIANCE WHEN REQUESTED BY BUILDING OFFICIAL.

CONTROL JOINTS: WHERE SPECIFIED, SAWN CONTROL JOINTS IN SLAB-ON-GRADE SHALL BE CUT IN ACCORDANCE WITH ACI 302. JOINTS SHALL BE CUT WITHIN 12 HOURS OF SLAB PLACEMENT. THE LENGTH / WIDTH RATIOS OF SLAB AREAS SHALL NOT EXCEED 1.5 AND TYPICAL SPACING OF CUTS TO BE 12FT. DO NOT CUT WMM OR REINFORCING STEEL.

ANCHOR BOLTS: 3-30" ANCHOR BOLTS WITH MINIMUM EMBEDMENT AS SPECIFIED IN DRAWINGS BUT NO LESS THAN 7" IN CONCRETE OR REINFORCED BOND BEAM OR 15" IN GROUTED CMU.

