INSULATED ROOF PATIO COVER WITH OPEN WALLS

PERFORMANCE EVALUATION

FREESTANDING OR HOST ATTACHED, UP TO 12' & 15' SPAN

THIS IS A NON-SITE-SPECIFIC PERFORMANCE EVALUATION. A DESIGN PROFESSIONAL SHALL BE RESPONSIBLE FOR CERTIFYING THE APPLICATION OF THIS INFORMATION TO ANY SITE-SPECIFIC LOCATION

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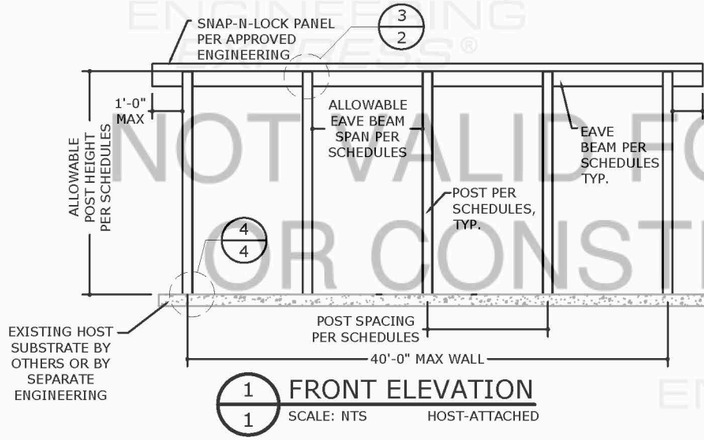
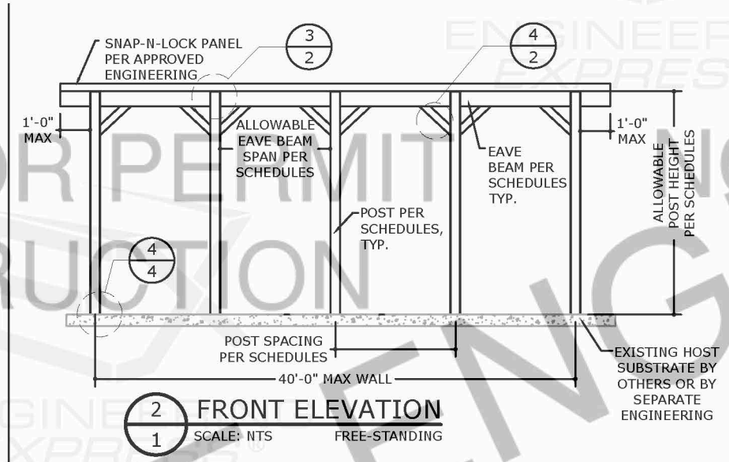
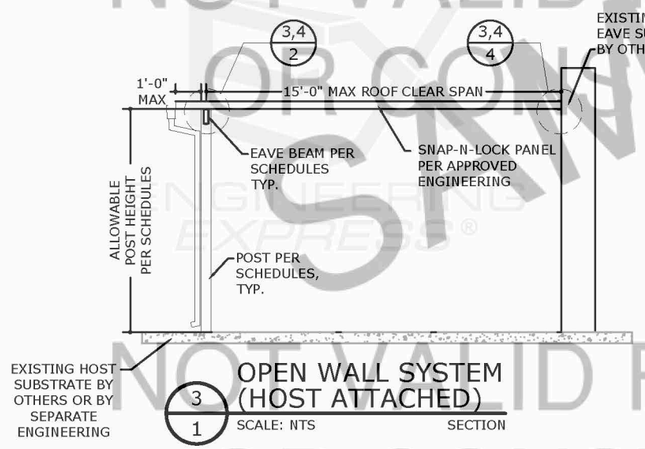


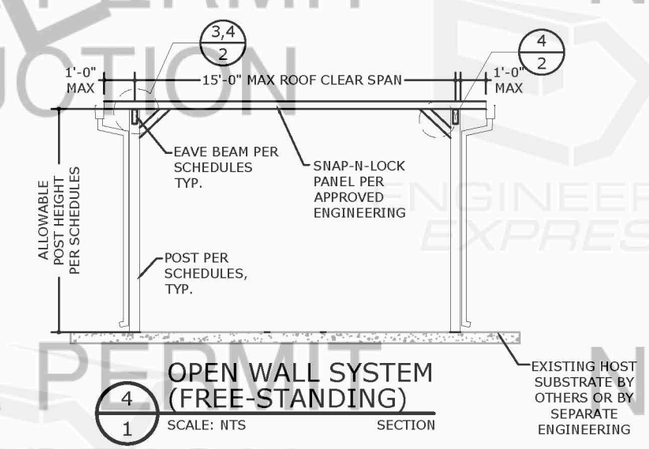
1/1 FRONT ELEVATION
SCALE: NTS HOST-ATTACHED



2/1 FRONT ELEVATION
SCALE: NTS FREE-STANDING



3/1 OPEN WALL SYSTEM (HOST ATTACHED)
SCALE: NTS SECTION



4/1 OPEN WALL SYSTEM (FREE-STANDING)
SCALE: NTS SECTION

DESIGN NOTES:

1. 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 STRUCTURAL REQUIREMENTS OF THE FLORIDA BUILDING CODE 7TH (2020) & 8TH (2023) EDITIONS, 2012/2015/2018/2021 IBC/IRC, AS WELL AS CURRENT VERSIONS OF THE MN, NC, NJ, NY, OH, SC, & VA BUILDING CODES AS APPLICABLE. CODE ENFORCED COMPLIES WITH STATE OF SEAL AND IF MULTIPLE VERSIONS LISTED THEN MOST STRINGENT APPLIES.
2. DESIGN SHALL UTILIZE ASD DESIGN METHOD USING ASCE 7-22 OR ASCE 7-16 BASED ON APPLICABLE CODE.
3. CONTRACTOR SHALL INVESTIGATE AND CONFORM TO ALL LOCAL BUILDING CODE AMENDMENTS WHICH MAY APPLY. DESIGN CRITERIA OR SPANS BEYOND STATED HEREIN MAY REQUIRE ADDITIONAL SITE SPECIFIC SEALED ENGINEERING.
4. SEISMIC DESIGN SHALL BE CONSIDERED WHEN REVIEWING FOR EACH USE USING LOAD TABLE LIMITATIONS PROVIDED.
5. THE EXISTING HOST STRUCTURE MUST BE CAPABLE OF SUPPORTING THE LOADED ENCLOSURE AS DETERMINED BY OTHERS OR BY SPECIAL ENGINEERING. NO WARRANTY IS CONTAINED HEREIN.
6. THIS STRUCTURE SHALL REMAIN OPEN (NO SCREENS OR WALLS) WITHOUT ADDITIONAL ENGINEERING.

GENERAL NOTES:

1. STRUCTURE SHALL BE FABRICATED IN ACCORDANCE WITH ALL GOVERNING CODES. CONTRACTOR SHALL INVESTIGATE AND CONFORM TO ALL LOCAL BUILDING CODE AMENDMENTS WHICH MAY APPLY.
2. THE ARCHITECT/ENGINEER OF RECORD FOR THE PROJECT SUPERSTRUCTURE WITH WHICH THIS DESIGN IS USED SHALL BE RESPONSIBLE FOR THE INTEGRITY OF ALL SUPPORTING SURFACES TO THIS DESIGN WHICH SHALL BE COORDINATED BY THE PERMITTING CONTRACTOR.

MATERIAL:

3. ALUMINUM MEMBERS ANCHORS SHALL BE SPACED WITH 2xDIAMETER END DISTANCE AND 2.5xDIAMETER MIN. SPACING TO ADJACENT ANCHORS, UNLESS NOTED OTHERWISE.
4. ALL CONCRETE ANCHORS SHALL BE INSTALLED TO NON-CRACKED CONCRETE ONLY.
5. THE CONTRACTOR IS RESPONSIBLE TO INSULATE ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
   ALL ALUMINUM SHALL BE 6063-T6 ALLOY AND TEMPER UNLESS NOTED OTHERWISE.
6. ALL CONCRETE TO REACH A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 7 DAYS.

CONNECTIONS:

7. ALL FASTENERS TO BE #12 OR GREATER SAE GRADE 5 UNLESS NOTED OTHERWISE. FASTENERS SHALL BE CADMIUM-PLATED OR OTHERWISE CORROSION-RESISTANT MATERIAL AND SHALL COMPLY WITH "SPECIFICATIONS FOR ALUMINUM STRUCTURES" SECTION J.3.7.2 BY THE ALUMINUM ASSOCIATION, INC., & ANY APPLICABLE FEDERAL, STATE, AND/OR LOCAL CODES.
8. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE AS NOTED HEREIN. MINIMUM EMBEDMENT AND EDGE DISTANCE EXCLUDES STUCCO, FOAM, BRICK, AND OTHER WALL FINISHES.

OTHER:

9. ENGINEER SEAL AFFIXED HERETO VALIDATES STRUCTURAL DESIGN AS SHOWN ONLY. USE OF THIS SPECIFICATION BY CONTRACTOR, et. al. INDEMNIFIES & SAVES HARMLESS THIS ENGINEER FOR ALL COST & DAMAGES INCLUDING LEGAL FEES & APPELLATE FEES RESULTING FROM MATERIAL FABRICATION, SYSTEM ERECTION, & CONSTRUCTION PRACTICES BEYOND THAT WHICH IS CALLED FOR BY LOCAL, STATE, & FEDERAL CODES & FROM DEVIATIONS OF THIS PLAN.
10. THE PRODUCT DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED PROFESSIONAL SHALL PREPARE SITE EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.
11. ALTERATIONS, ADDITIONS, OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE THIS CERTIFICATION.
12. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED

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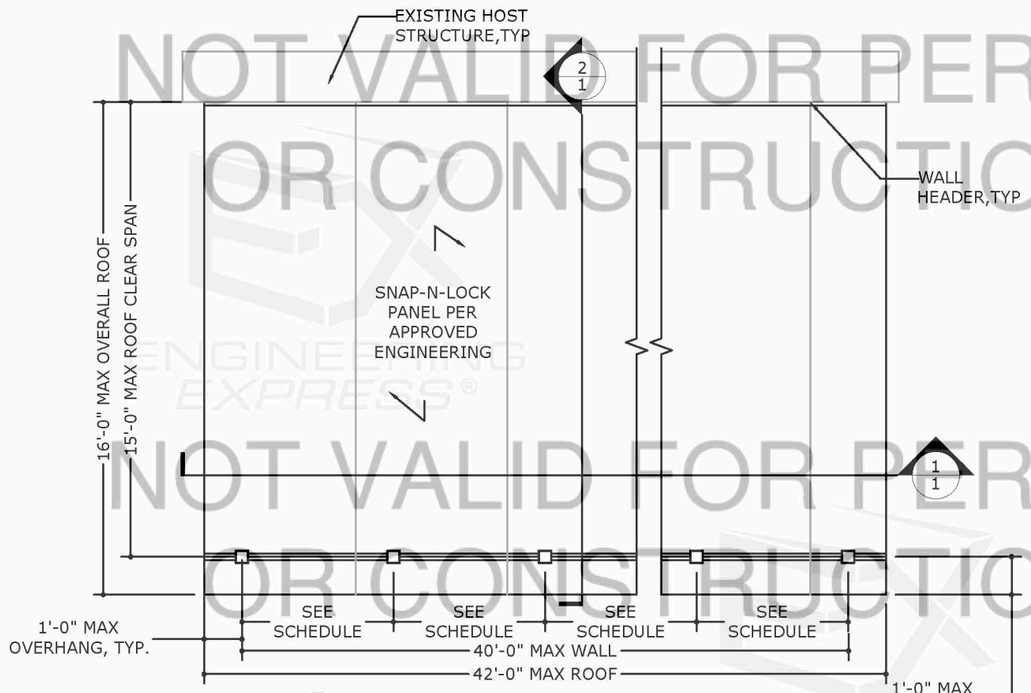
INSULATED PATIO COVER
ROOF OVER OPEN WALL ROOM SYSTEMS
PERFORMANCE EVALUATION

REMARKS	DRWN	CHKD	DATE
ORIGINAL PROJECT (20-25226)	TT	FB	05/28/20
REVISION (20-25226)	AEM	FB	10/08/20
FBC 2023 (23-69317)	CLV	CCB	12/19/23
	-	-	-
	-	-	-

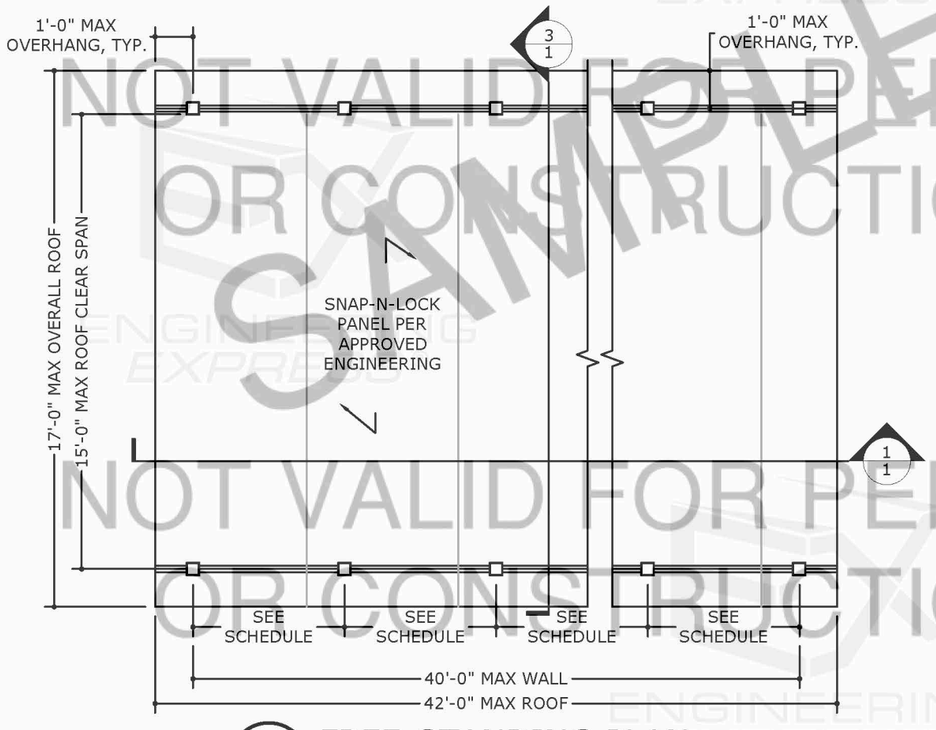
23-69317

SCALE: NTS UNLESS NOTED

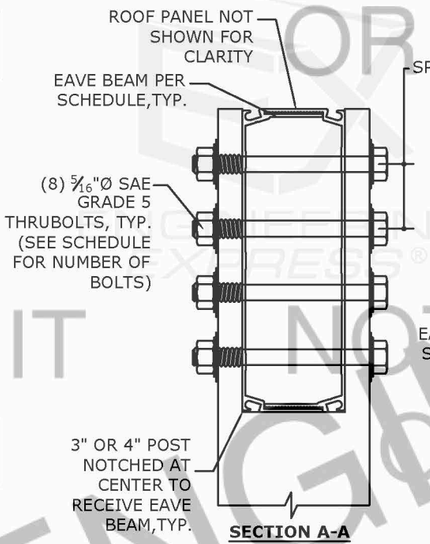
1 OF 8



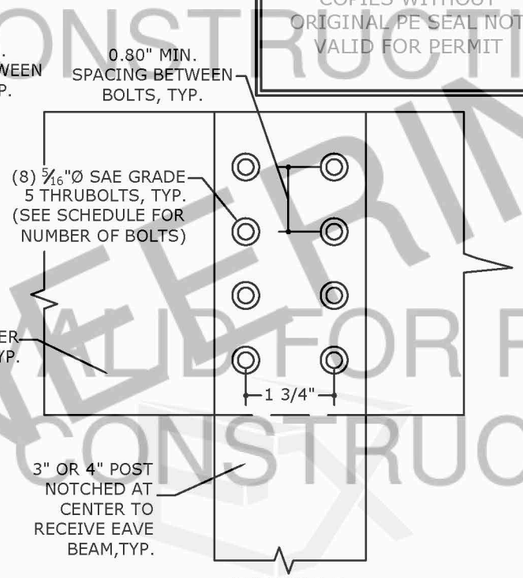
1/2 HOST ATTACHED PLAN
SCALE: NTS PLAN VIEW



2/2 FREE-STANDING PLAN
SCALE: NTS PLAN VIEW

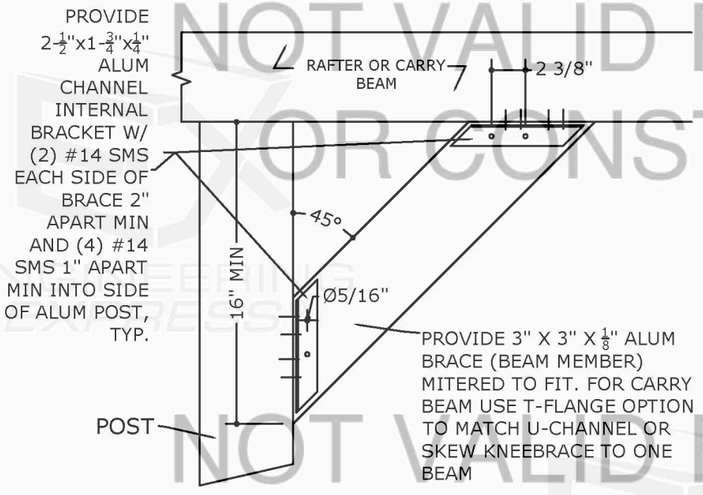


SECTION A-A



SECTION B-B

3/2 EAVE BEAM CONNECTION
SCALE: NTS SECTION/ELEVATION



4/2 CROSS BRACING DETAIL
SCALE: NTS ELEVATION

NOTE: KNEEBRACES SHALL BE PROVIDED IN BOTH DIRECTIONS AT ALL SUPPORTING POSTS

NOTE: MITRE KNEEBRACES TO FIT AROUND PURLINS AT RAFTER CONNECTION POINTS AS NEEDED. MAINTAIN ANCHORAGE INTEGRITY.

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ROOF OVER OPEN WALL ROOM SYSTEMS
PERFORMANCE EVALUATION

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-	-	-	-
-	-	-	-

23-69317

SCALE: NTS UNLESS NOTED

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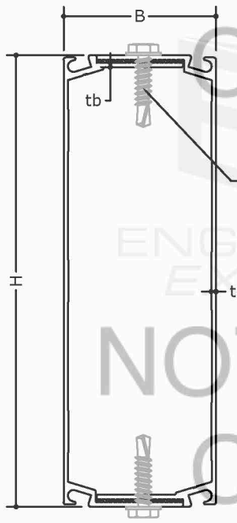
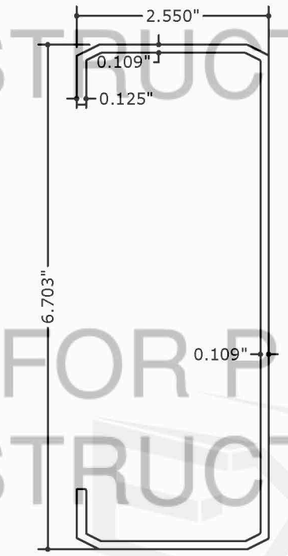
EXTRUSIONS- COMPONENTS



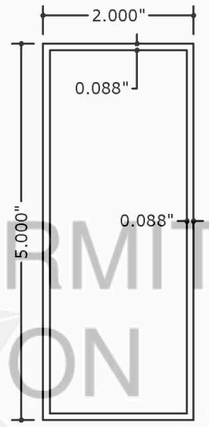
SELF MATING BEAM SCHEDULE:

BEAM TYPE	B	H	tb	th
2"x4" SMB	2"	4"	0.056"	0.046"
2"x5" SMB	2"	5"	0.058"	0.050"
2"x6" SMB	2"	6"	0.060"	0.065"
2"x7" SMB	2"	7"	0.060"	0.057"
2"x8" SMB	2"	8"	0.105"	0.075"
2"x9" SMB	2"	9"	0.112"	0.072"
2"x10" SMB	2"	10"	0.187"	0.092"

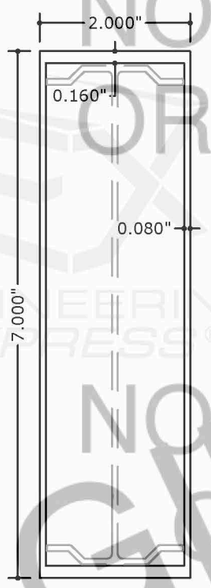
(A) 2"x4" - 2"x10" SELF MATING BEAMS



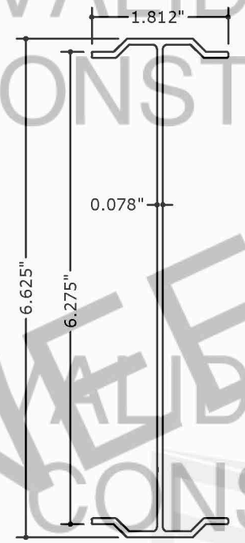
(B) 6.7 C-BEAM



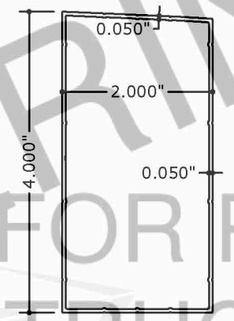
(C1) 2"x5" EDGE BEAM



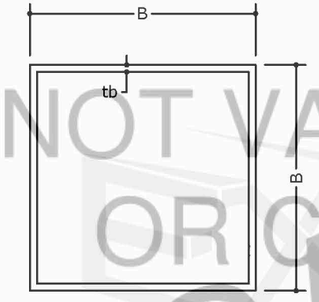
(C2a) 2"x7" EDGE BEAM



(C2b) 2"x7" EDGE BEAM REINFORCEMENT



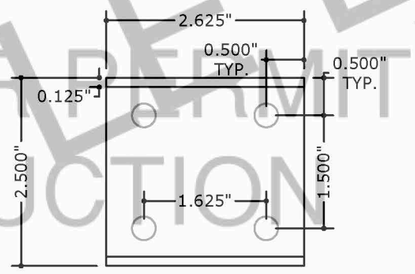
(D) 2"x4" TILT BEAM
2.5 DEGREE TILT SLOPE
NOMINAL HEIGHT DIFFERENTIAL (0.1"+-)



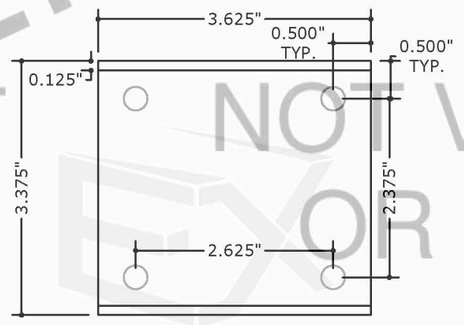
SQUARE POST SCHEDULE:

BEAM TYPE	B	tb
3"x3"x0.093"	3"	0.093"
3"x3"x⅛"	3"	0.125"
4"x4"x⅛"	4"	0.125"

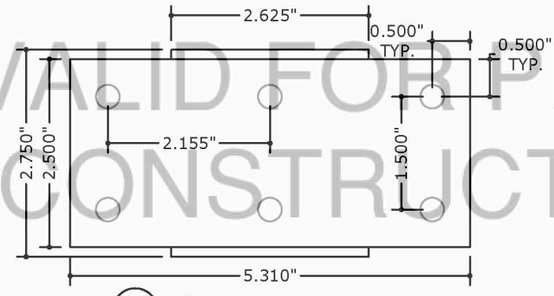
(E) 3" & 4" SQUARE POST



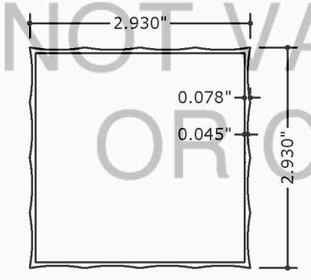
(F) 3" U-CLIP



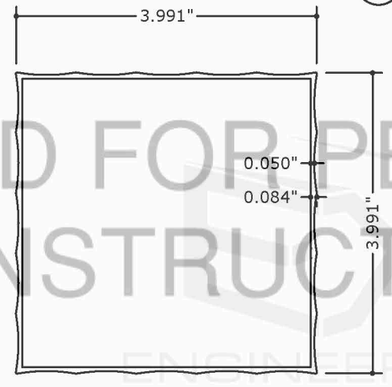
(G) 4" U-CLIP



(H) 3" EXTENDED U-CLIP



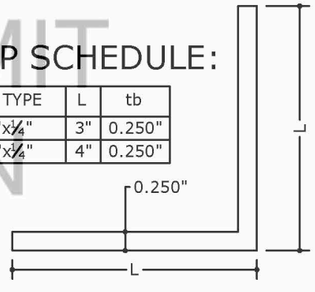
(I) 3" & 4" FLUTED POST



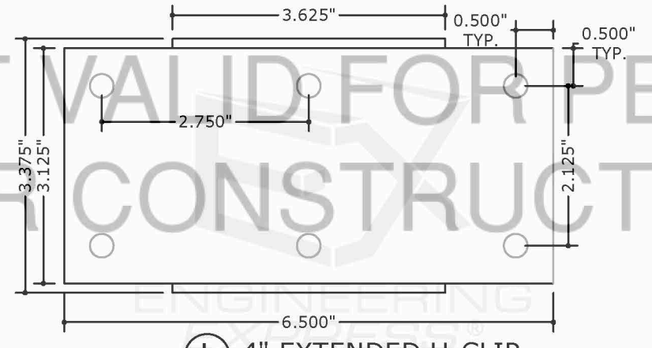
(J) 3" & 4" FLUTED POST

CLIP SCHEDULE:

BEAM TYPE	L	tb
3"x¼"	3"	0.250"
4"x¼"	4"	0.250"



(K) CLIP ANGLE



(L) 4" EXTENDED U-CLIP

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ROOF OVER OPEN WALL ROOM SYSTEMS
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FBC 2023 (23-69317)	CLV	CCB	12/19/23
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-	-	-	-

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SCALE: NTS UNLESS NOTED

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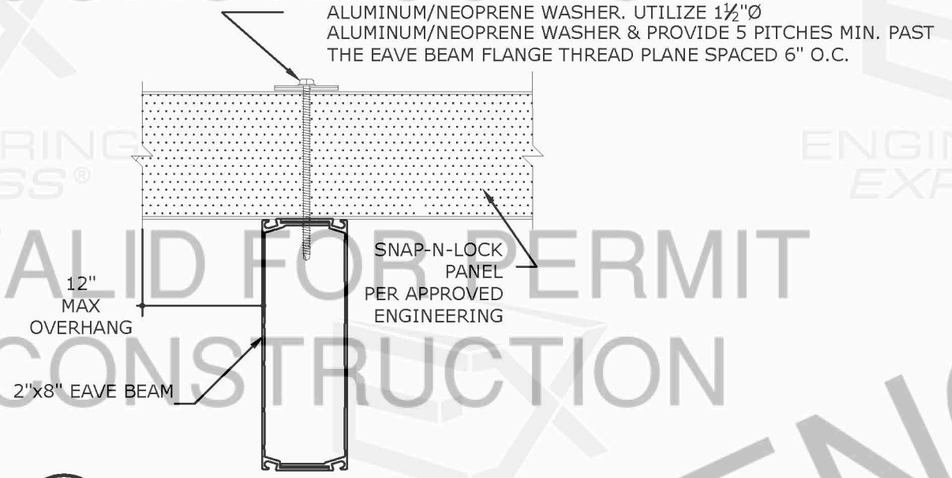
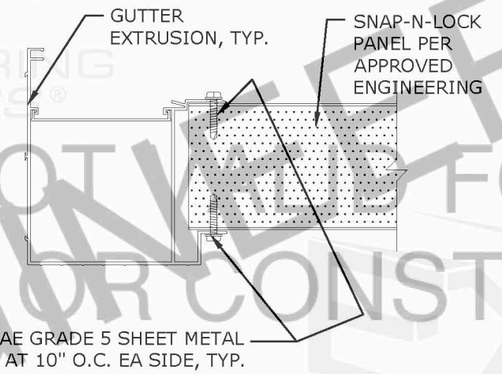
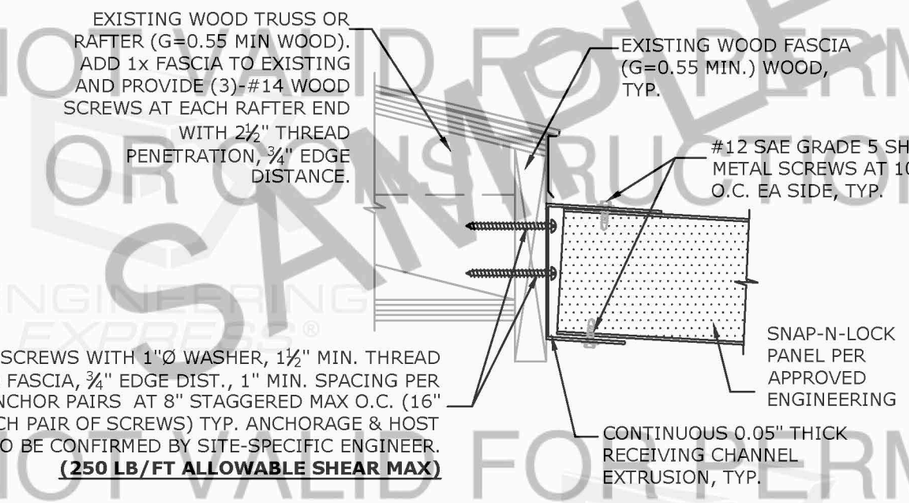
ROOF CONNECTIONS



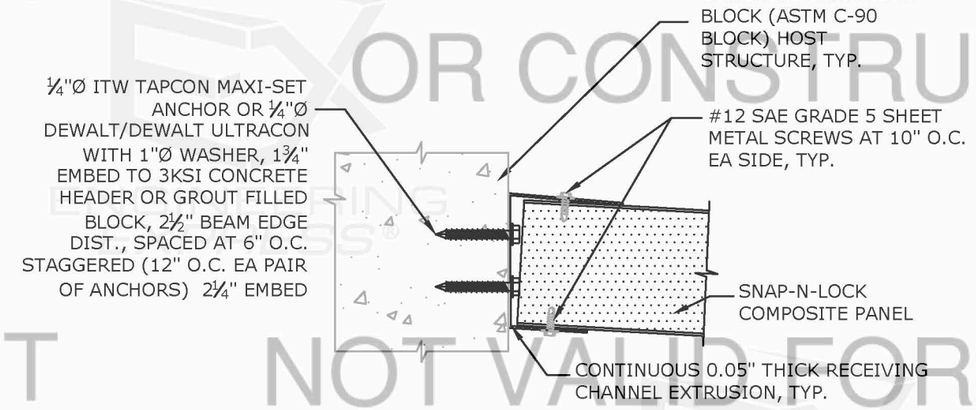
1/4 ROOF PANEL TO EAVE BEAM
3" = 1'-0"



2/4 ROOF PANEL GUTTER DETAIL
3" = 1'-0" SECTION



3/4 ROOF PANEL TO WOOD HOST STRUCTURE
3" = 1'-0" SECTION



4/4 ROOF PANEL TO CONC. OR BLOCK HOST STRUCTURE
3" = 1'-0" SECTION

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	-	-	-
	-	-	-
	-	-	-

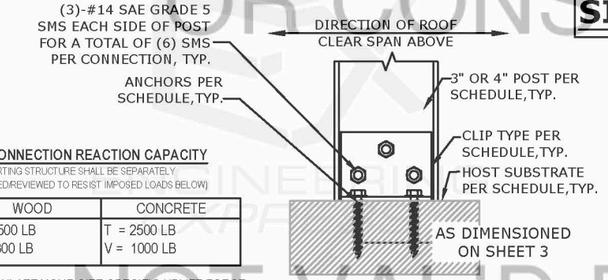
23-69317

SCALE: NTS UNLESS NOTED

4 OF 8

POST BASE CONNECTION OPTIONS

HOST ATTACHED SYSTEMS POST SPACING ≤6 FT MAX O.C.



1/5 CONNECTION REACTION CAPACITY
(SUPPORTING STRUCTURE SHALL BE SEPARATELY CERTIFIED/REVIEWED TO RESIST IMPOSED LOADS BELOW)

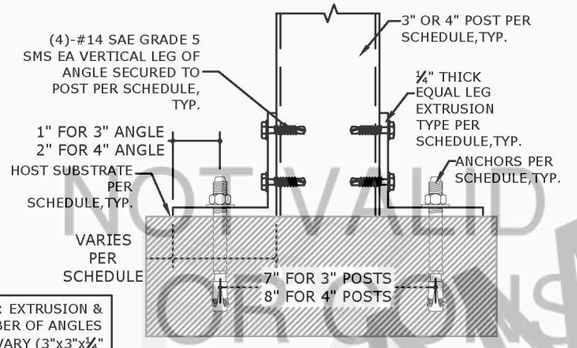
WOOD	CONCRETE
T = 1500 LB V = 300 LB	T = 2500 LB V = 1000 LB

TO CALCULATE YOUR SITE-SPECIFIC UPLIFT FORCE, MULTIPLY THE NET UPLIFT FORCE X TRIBUTARY AREA FOR EACH POST HOLDS DOWN. WHICH INCLUDES HALF OF THE SPAN PLUS FULL OVERHANG. CONSULT WITH A DESIGN PROFESSIONAL IF AT ALL IN QUESTION OR USE THE MOST CRITICAL DESIGN CRITERIA & STRONGEST CONNECTION.

NOTE: U-CLIP CONNECTION EXTRUSION MAY VARY (3" U-CLIP SHOWN HERE FOR CLARITY)

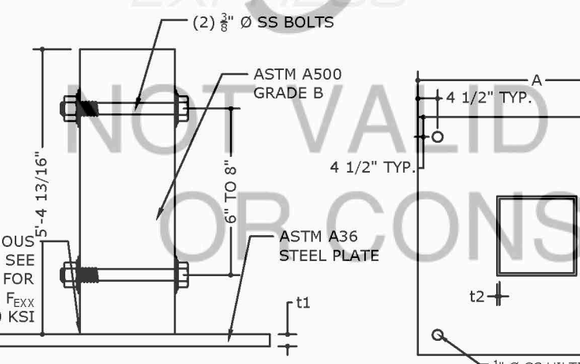
1/5 — U-CLIP CONNECTION DETAIL
3" = 1'-0"

HOST ATTACHED SYSTEMS POST SPACING >6 FT MAX O.C.



NOTE: EXTRUSION & NUMBER OF ANGLES MAY VARY (3"x3"x¼" ANGLE SHOWN HERE FOR CLARITY)

3/5 — ALUMINUM ANGLE TIE-DOWN CONNECTION DETAIL
3" = 1'-0"



5/5 — WELDED STEEL BASEPLATE ELEVATION VIEW
N.T.S.

SIZE ALL FOOTINGS & REINFORCEMENT PER SITE SPECIFIC REQUIREMENTS

U-CLIP CONNECTION DIRECTIVE:
(SEE HOST ATTACHED POST BASE SCHEDULE FOR APPLICABILITY OF THESE CLIP TYPES)

EXTRUSION TYPE	ANCHOR (QTY.)	SUBSTRATE	ANCHOR DESCRIPTION
3" U-CLIP	(4) PER CLIP	3KSI MIN. CONC.	1/4"Ø DEWALT ULTRACONS WITH ¾"Ø MIN WASHER, 1¾" EMBED, 4" EDGE DISTANCE, 1½" MIN. SPACING.
3" U-CLIP (EXTENDED)	(6) PER CLIP		
4" U-CLIP	(4) PER CLIP	WOOD (G=0.55 MIN)	1/4"Ø LAG SCREWS WITH ¾"Ø MIN WASHER, 2½" MIN. THREAD PENETRATION, ¾" EDGE DISTANCE, 1½" MIN. SPACING.
4" U-CLIP (EXTENDED)	(6) PER CLIP		

3/5 CONNECTION REACTION CAPACITY
(SUPPORTING STRUCTURE SHALL BE SEPARATELY CERTIFIED/REVIEWED TO RESIST IMPOSED LOADS BELOW)

WOOD	CONCRETE
T = 1000 LB V = 150 LB	T = 2750 LB V = 3000 LB

TO CALCULATE YOUR SITE-SPECIFIC UPLIFT FORCE, MULTIPLY THE NET UPLIFT FORCE X TRIBUTARY AREA FOR EACH POST HOLDS DOWN. WHICH INCLUDES HALF OF THE SPAN PLUS FULL OVERHANG. CONSULT WITH A DESIGN PROFESSIONAL IF AT ALL IN QUESTION OR USE THE MOST CRITICAL DESIGN CRITERIA & STRONGEST CONNECTION.

ALUMINUM TIE-DOWN ANGLE DIRECTIVE:
(SEE HOST ATTACHED /FREE STANDING POST BASE TIE-DOWN SCHEDULE FOR APPLICABILITY OF THESE CLIP TYPES)

EXTRUSION TYPE	ANCHOR (QTY.)	SUBSTRATE	ANCHOR DESCRIPTION
(2)-3"x3"x¼" ANGLES	1 PER ANGLE (2 TOTAL)	3KSI MIN. CONC.	⅜"Ø HILTI KWIK BOLT 3 WITH 1½"Ø WASHER, 3½" EMBED, 9" MIN. EDGE DISTANCE, 4.95" MIN SPACING FOR 3" POSTS AND 5.95" MIN SPACING FOR 4" POSTS, TYP.
(4)-3"x3"x¼" ANGLES	1 PER ANGLE (4 TOTAL)		
(2)-4"x4"x¼" ANGLES	1 PER ANGLE (2 TOTAL)	WOOD (G=0.55 MIN)	3/8"Ø LAG SCREWS WITH 1½"Ø MIN WASHER, 2⅜" MIN. THREAD PENETRATION, ¾" EDGE DISTANCE, 4.95" MIN. SPACING FOR 3" POSTS AND 5.95" MIN. SPACING FOR 4" POSTS, TYP.
(4)-4"x4"x¼" ANGLES	1 PER ANGLE (4 TOTAL)		

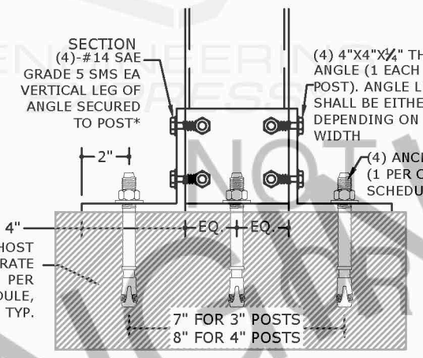
ALLOWED ON MAX. CONSTRAINED FOOTING SIZE D (IN)	PLATE SIZE A (IN)	PLATE THICKNESS t1 (IN)	STUB POST SIZE B (IN)	STUB POST THICKNESS t2 (IN)	MINIMUM WELD SIZE	MAXIMUM DIMENSION OF LONG SIDE OF CANOPY (FT)
24	12	0.375	2.5	0.125	0.125	20

NOTE:
- WELDED MOMENT-RESISTING STEEL BASE PLATE, ALTERNATIVE TO POST EMBEDMENT IN CONCRETE FOOTING WHERE APPLICABLE. WELDED POST BRACKET MUST BE FABRICATED IN ACCORDANCE FBC/IBC SECTION 1704.2.5.1 BY AN APPROVED FABRICATOR TO THE SATISFACTION OF THE CODE OFFICIAL
- CONNECTION CHECKED FOR PURE BENDING
- MAXIMUM DIMENSION OF LONG SIDE OF CANOPY TO COMPLY WITH MAXIMUM ALLOWABLE SPANS IN MASTER CHARTS
- ANALYSIS FOR MAXIMUM FREESTANDING CANOPY SIZE TAKING 115 MPH Vult WIND SPEED, EXPOSURE 'C', POST HEIGHT = 10 FT & BEAM DEPTH 8 IN. HOST ATTACHED CANOPY VALID UP TO 150MPH EXPOSURE 'C'.
- ADDITIONAL ENGINEERING REQUIRED BEYOND THIS WIND LIMIT.

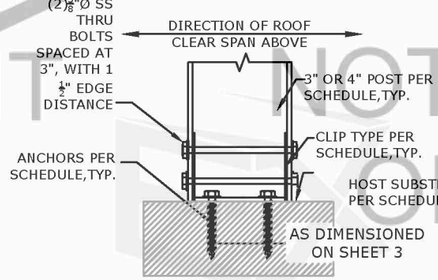
2/5 CONNECTION REACTION CAPACITY
(SUPPORTING STRUCTURE SHALL BE SEPARATELY CERTIFIED/REVIEWED TO RESIST IMPOSED LOADS BELOW)

WOOD	CONCRETE
T = 2000 LB V = 600 LB	T = 4500 LB V = 3000 LB

TO CALCULATE YOUR SITE-SPECIFIC UPLIFT FORCE, MULTIPLY THE NET UPLIFT FORCE X TRIBUTARY AREA FOR EACH POST HOLDS DOWN. WHICH INCLUDES HALF OF THE SPAN PLUS FULL OVERHANG. CONSULT WITH A DESIGN PROFESSIONAL IF AT ALL IN QUESTION OR USE THE MOST CRITICAL DESIGN CRITERIA & STRONGEST CONNECTION.

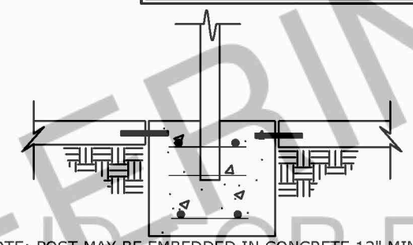


2/5 — ALUMINUM ANGLE TIE-DOWN CONNECTION DETAIL
SCALE: NTS



NOTE: U-CLIP CONNECTION EXTRUSION MAY VARY (3" U-CLIP SHOWN HERE FOR CLARITY)

4/5 — U-CLIP CONNECTION DETAIL
3" = 1'-0"



NOTE: POST MAY BE EMBEDDED IN CONCRETE 12" MIN WITH 12" #5 BAR TO SECURE AS SHOWN. SIZE OF FOOTING & ACTUAL APPLICATION PER SITE SPECIFIC CONDITIONS BY OTHERS.

SUBSTRATE	ANCHOR DESCRIPTION
3KSI MIN. CONC.	⅜"Ø HILTI KWIK BOLT 3 WITH 1½"Ø WASHER, 3½" EMBED, 9" MIN. EDGE DISTANCE, 4.95" MIN SPACING FOR 3" POSTS AND 5.95" MIN SPACING FOR 4" POSTS, TYP.
WOOD (G=0.55 MIN)	3/8"Ø LAG SCREWS WITH 1½"Ø MIN WASHER, 2⅜" MIN. THREAD PENETRATION, ¾" EDGE DISTANCE, 4.95" MIN. SPACING FOR 3" POSTS AND 5.95" MIN. SPACING FOR 4" POSTS, TYP.

NOTE: THIS TABLE IS APPLICABLE FOR POST INSTALLATIONS WITH POST TRIBUTARY AREAS LESS THAN OR EQUAL TO 169 SQUARE FEET

U-CLIP CONNECTION DIRECTIVE:
(SEE HOST ATTACHED POST BASE SCHEDULE FOR APPLICABILITY OF THESE CLIP TYPES)

EXTRUSION TYPE	ANCHOR (QTY.)	SUBSTRATE	ANCHOR DESCRIPTION
3" U-CLIP	(2) PER CLIP	3KSI MIN. CONC.	1/4"Ø DEWALT ULTRACONS WITH ¾"Ø MIN WASHER, 1¾" EMBED, 4" EDGE DISTANCE, 1½" MIN. SPACING.
4" U-CLIP	(2) PER CLIP	WOOD (G=0.55 MIN)	1/4"Ø LAG SCREWS WITH ¾"Ø MIN WASHER, 2½" MIN. THREAD PENETRATION, ¾" EDGE DISTANCE, 1½" MIN. SPACING.

HOST ATTACHED SYSTEMS POST SPACING ≤6 FT MAX O.C.

4/5 CONNECTION REACTION CAPCITY
(SUPPORTING STRUCTURE SHALL BE SEPARATELY CERTIFIED/REVIEWED TO RESIST IMPOSED LOADS BELOW)

WOOD	CONCRETE
T = 1250 LB V = 250 LB	T = 2000 LB V = 1000 LB

TO CALCULATE YOUR SITE-SPECIFIC UPLIFT FORCE, MULTIPLY THE NET UPLIFT FORCE X TRIBUTARY AREA FOR EACH POST HOLDS DOWN. WHICH INCLUDES HALF OF THE SPAN PLUS FULL OVERHANG. CONSULT WITH A DESIGN PROFESSIONAL IF AT ALL IN QUESTION OR USE THE MOST CRITICAL DESIGN CRITERIA & STRONGEST CONNECTION.

NOTE: FOR **FREESTANDING CONFIGURATIONS** INSTALLED WITH WIND VELOCITY REQUIREMENTS >= 165MPH, EXPOSURE 'C' WITH BOTH PANEL & BEAM SPANS GREATER THAN 12 FEET (OR POST TRIBUTARY AREA GREATER THAN 169 SQUARE FEET):

UTILIZE ⅝" HILTI HIT-ICE+HAS ANCHORS (1½"Ø WASHER) WITH 4¾" EMBEDMENT, 7" MIN EDGE DISTANCE AND SPACED ACCORDING TO DETAIL 1/5. ATTACHMENTS OF CLIP LEGS TO POST SHALL UTILIZE (5) #14 SAE GR 5 SMS PER CLIP. THESE CONFIGURATIONS ARE APPROVED FOR INSTALLATIONS TO 3KSI CONCRETE ONLY. ALTERNATE SUBSTRATE INSTALLATIONS WITH THESE SPANS SHALL BE DESIGNED ON A SITE SPECIFIC BASIS.

ENGINEERING EXPRESS®
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STRUCTALL BUILDING SYSTEMS, INC.
350 BURBANK RD
OLDSMAR, FL 34677
(813) 855-2627

INSULATED PATIO COVER
ROOF OVER OPEN WALL ROOM SYSTEMS
PERFORMANCE EVALUATION

REMARKS	DRWN	CHKD	DATE
ORIGINAL PROJECT (20-25228)	TT	FB	05/28/20
REVISION (20-25228)	AEM	FB	10/08/20
FBC 2023 (23-69317)	CLV	CCB	12/19/23

23-69317

SCALE: NTS UNLESS NOTED

5 OF 8

FREESTANDING SYSTEM & HOST-ATTACHED ALLOWABLE POST HEIGHT

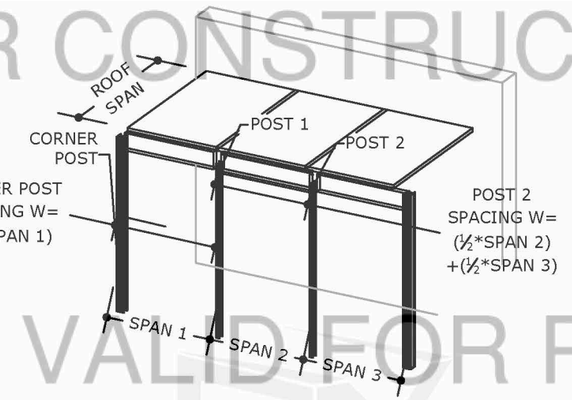
COLUMN TYPE	MAX ROOF SPAN S (FT)	GRAVITY/UPLIFT ASD DESIGN LOAD (PSF)	LATERAL ASD WIND LOAD (PSF)	MAXIMUM COLUMN SPACING (FT) 6'-0"	8'-0"	10'-0"	12'-0"	14'-0"	15'-0"
				ALLOWABLE POST HEIGHT (FT)					
3"x3" Fluted Post (Unbraced) 10ft	12'-0"	10 PSF	20 PSF	8'-5"	4'-5"	-	-	-	-
			30 PSF	6'-10"	-	-	-	-	-
			40 PSF	6'-0"	-	-	-	-	-
			50 PSF	5'-4"	-	-	-	-	-
		20 PSF	20 PSF	-	-	-	-	-	-
			30 PSF	-	-	-	-	-	-
			40 PSF	-	-	-	-	-	-
			50 PSF	-	-	-	-	-	-
		30 PSF	20 PSF	-	-	-	-	-	-
			30 PSF	-	-	-	-	-	-
			40 PSF	-	-	-	-	-	-
			50 PSF	-	-	-	-	-	-
		40 PSF	20 PSF	-	-	-	-	-	-
			30 PSF	-	-	-	-	-	-
			40 PSF	-	-	-	-	-	-
			50 PSF	-	-	-	-	-	-
	15'-0"	10 PSF	20 PSF	6'-4"	-	-	-	-	-
			30 PSF	5'-2"	-	-	-	-	-
			40 PSF	4'-6"	-	-	-	-	-
			50 PSF	-	-	-	-	-	-
		20 PSF	20 PSF	-	-	-	-	-	-
			30 PSF	-	-	-	-	-	-
			40 PSF	-	-	-	-	-	-
			50 PSF	-	-	-	-	-	-
		30 PSF	20 PSF	-	-	-	-	-	-
			30 PSF	-	-	-	-	-	-
			40 PSF	-	-	-	-	-	-
			50 PSF	-	-	-	-	-	-
		40 PSF	20 PSF	-	-	-	-	-	-
			30 PSF	-	-	-	-	-	-
			40 PSF	-	-	-	-	-	-
			50 PSF	-	-	-	-	-	-

COLUMN TYPE	MAX ROOF SPAN S (FT)	GRAVITY/UPLIFT ASD DESIGN LOAD (PSF)	LATERAL ASD WIND LOAD (PSF)	MAXIMUM COLUMN SPACING (FT) 6'-0"	8'-0"	10'-0"	12'-0"	14'-0"	15'-0"
				ALLOWABLE POST HEIGHT (FT)					
3"x3"x0.093" Post (Unbraced) 10ft	12'-0"	10 PSF	20 PSF	10'-0"	10'-0"	10'-0"	7'-11"	5'-4"	4'-3"
			30 PSF	10'-0"	10'-0"	9'-0"	6'-5"	4'-4"	-
			40 PSF	10'-0"	10'-0"	7'-9"	5'-7"	-	-
			50 PSF	10'-0"	9'-5"	7'-0"	5'-0"	-	-
		20 PSF	20 PSF	10'-0"	4'-5"	-	-	-	-
			30 PSF	9'-1"	-	-	-	-	-
			40 PSF	7'-11"	-	-	-	-	-
			50 PSF	7'-1"	-	-	-	-	-
		30 PSF	20 PSF	-	-	-	-	-	-
			30 PSF	-	-	-	-	-	-
			40 PSF	-	-	-	-	-	-
			50 PSF	-	-	-	-	-	-
		40 PSF	20 PSF	-	-	-	-	-	-
			30 PSF	-	-	-	-	-	-
			40 PSF	-	-	-	-	-	-
			50 PSF	-	-	-	-	-	-
	15'-0"	10 PSF	20 PSF	10'-0"	10'-0"	8'-6"	5'-2"	-	-
			30 PSF	10'-0"	10'-0"	7'-0"	4'-3"	-	-
			40 PSF	10'-0"	9'-0"	6'-0"	-	-	-
			50 PSF	10'-0"	8'-0"	5'-4"	-	-	-
		20 PSF	20 PSF	7'-4"	-	-	-	-	-
			30 PSF	6'-0"	-	-	-	-	-
			40 PSF	5'-2"	-	-	-	-	-
			50 PSF	4'-7"	-	-	-	-	-
		30 PSF	20 PSF	-	-	-	-	-	-
			30 PSF	-	-	-	-	-	-
			40 PSF	-	-	-	-	-	-
			50 PSF	-	-	-	-	-	-
		40 PSF	20 PSF	-	-	-	-	-	-
			30 PSF	-	-	-	-	-	-
			40 PSF	-	-	-	-	-	-
			50 PSF	-	-	-	-	-	-

COLUMN TYPE	MAX ROOF SPAN S (FT)	GRAVITY/UPLIFT ASD DESIGN LOAD (PSF)	LATERAL ASD WIND LOAD (PSF)	MAXIMUM COLUMN SPACING (FT) 6'-0"	8'-0"	10'-0"	12'-0"	14'-0"	15'-0"
				ALLOWABLE POST HEIGHT (FT)					
4"x4" Fluted Post (Unbraced) 10ft	12'-0"	10 PSF	20 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
			30 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	9'-6"
			40 PSF	10'-0"	10'-0"	10'-0"	9'-9"	8'-8"	8'-3"
			50 PSF	10'-0"	10'-0"	10'-0"	8'-9"	7'-9"	7'-4"
		20 PSF	20 PSF	10'-0"	10'-0"	10'-0"	10'-0"	8'-9"	8'-0"
			30 PSF	10'-0"	10'-0"	10'-0"	8'-7"	7'-2"	6'-6"
			40 PSF	10'-0"	10'-0"	9'-0"	7'-5"	6'-2"	5'-8"
			50 PSF	10'-0"	9'-10"	8'-1"	6'-8"	5'-6"	5'-0"
		30 PSF	20 PSF	10'-0"	10'-0"	9'-9"	7'-3"	5'-3"	4'-4"
			30 PSF	10'-0"	10'-0"	8'-0"	6'-0"	4'-3"	-
			40 PSF	10'-0"	9'-2"	6'-11"	5'-2"	-	-
			50 PSF	10'-0"	8'-2"	6'-2"	4'-7"	-	-
		40 PSF	20 PSF	10'-0"	10'-0"	6'-9"	4'-0"	-	-
			30 PSF	10'-0"	8'-4"	5'-6"	-	-	-
			40 PSF	10'-0"	7'-3"	4'-10"	-	-	-
			50 PSF	9'-5"	6'-6"	4'-3"	-	-	-
	15'-0"	10 PSF	20 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
			30 PSF	10'-0"	10'-0"	10'-0"	10'-0"	9'-5"	8'-10"
			40 PSF	10'-0"	10'-0"	10'-0"	9'-3"	8'-2"	7'-8"
			50 PSF	10'-0"	10'-0"	9'-6"	8'-3"	7'-3"	6'-10"
		20 PSF	20 PSF	10'-0"	10'-0"	10'-0"	9'-2"	7'-3"	6'-5"
			30 PSF	10'-0"	10'-0"	9'-4"	7'-6"	6'-0"	5'-3"
			40 PSF	10'-0"	10'-0"	8'-1"	6'-6"	5'-1"	4'-6"
			50 PSF	10'-0"	9'-2"	7'-3"	5'-9"	4'-7"	4'-1"
		30 PSF	20 PSF	10'-0"	10'-0"	7'-10"	5'-2"	-	-
			30 PSF	10'-0"	9'-2"	6'-5"	4'-3"	-	-
			40 PSF	10'-0"	8'-0"	5'-7"	-	-	-
			50 PSF	10'-0"	7'-1"	5'-0"	-	-	-
		40 PSF	20 PSF	10'-0"	8'-0"	4'-3"	-	-	-
			30 PSF	10'-0"	6'-6"	-	-	-	-
			40 PSF	9'-2"	5'-8"	-	-	-	-
			50 PSF	8'-2"	5'-0"	-	-	-	-

COLUMN TYPE	MAX ROOF SPAN S (FT)	GRAVITY/UPLIFT ASD DESIGN LOAD (PSF)	LATERAL ASD WIND LOAD (PSF)	MAXIMUM COLUMN SPACING (FT) 6'-0"	8'-0"	10'-0"	12'-0"	14'-0"	15'-0"
				ALLOWABLE POST HEIGHT (FT)					
4"x4"x1/8" Post (Unbraced) 10ft	12'-0"	10 PSF	20 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
			30 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
			40 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
			50 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
		20 PSF	20 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
			30 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
			40 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
			50 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	9'-4"
		30 PSF	20 PSF	10'-0"	10'-0"	10'-0"	10'-0"	9'-6"	7'-9"
			30 PSF	10'-0"	10'-0"	10'-0"	10'-0"	7'-9"	6'-4"
			40 PSF	10'-0"	10'-0"	10'-0"	9'-5"	6'-9"	5'-6"
			50 PSF	10'-0"	10'-0"	10'-0"	8'-5"	6'-0"	5'-0"
		40 PSF	20 PSF	10'-0"	10'-0"	10'-0"	7'-2"	-	-
			30 PSF	10'-0"	10'-0"	10'-0"	5'-10"	-	-
			40 PSF	10'-0"	10'-0"	8'-9"	5'-1"	-	-
			50 PSF	10'-0"	10'-0"	7'-10"	4'-6"	-	-
	15'-0"	10 PSF	20 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
			30 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
			40 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
			50 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
		20 PSF	20 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"
			30 PSF	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	9'-7"
			40 PSF	10'-0"	10'-0"	10'-0"	10'-0"	9'-5"	8'-4"
			50 PSF	10'-0"	10'-0"	10'-0"	10'-0"	8'-5"	7'-5"
		30 PSF	20 PSF	10'-0"	10'-0"	10'-0"	9'-4"	5'-2"	-
			30 PSF	10'-0"	10'-0"	10'-0"	7'-8"	4'-3"	-
			40 PSF	10'-0"	10'-0"	10'-0"	6'-8"	-	-
			50 PSF	10'-0"	10'-0"	9'-1"	6'-0"	-	-
		40 PSF	20 PSF	10'-0"	10'-0"	7'-6"	-	-	-
			30 PSF	10'-0"	10'-0"	6'-2"	-	-	-
			40 PSF	10'-0"	10'-0"	5'-4"	-	-	-
			50 PSF	10'-0"	9'-2"	4'-9"	-	-	-

COLUMN TYPE	MAX ROOF SPAN S (FT)	GRAVITY/UPLIFT ASD DESIGN LOAD (PSF)	LATERAL ASD WIND LOAD (PSF)	MAXIMUM COLUMN SPACING (FT) 6'-0"	8'-0"	10'-0"	12'-0"	14'-0"	15'-0"
				ALLOWABLE POST HEIGHT (FT)					
3"x3" Fluted Post (Unbraced) 10ft	12'-0"	10 PSF	20 PSF	10'-0"	10'-0"	10'-0"	10'-0"	9'-9"	8'-7"
			30 PSF	10'-0"	10'-0"	10'-0"	10'-0"	8'-0"	7'-0"
			40 PSF	10'-0"	10'-0"	10'-0"	8'-9"	6'-11"	6'-1"
			50 PSF	10'-0"	10'-0"	9'-11"	7'-10"	6'-2"	5'-5"
		20 PSF	20 PSF	10'-0"	10'-0"	5'-5"	-	-	-
			30 PSF	10'-0"	8'-8"	4'-5"	-	-	-
			40 PSF	10'-0"	7'-6"	-	-	-	-
			50 PSF	10'-0"	6'-8"	-	-	-	-
		30 PSF	20 PSF	9'-7"	-	-	-	-	-
			30 PSF	7'-10"	-	-	-	-	-
			40 PSF	6'-9"	-	-	-	-	-
			50 PSF	6'-1"	-	-	-	-	-
		40 PSF	20 PSF	-	-	-	-	-	-
			30 PSF	-	-	-	-	-	-
			40 PSF	-	-	-	-	-	-
			50 PSF	-	-	-	-	-	-
	15'-0"	10 PSF	20 PSF	10'-0"	10'-0"	10'-0"	10'-0"	7'-2"	5'-11"
			30 PSF	10'-0"	10'-0"	10'-0"	8'-2"	5'-10"	4'-10"
			40 PSF	10'-0"	10'-0"	9'-6"	7'-1"	5'-1"	4'-2"
			50 PSF	10'-0"	10'-0"	8'-6"	6'-4"	4'-6"	-
		20 PSF	20 PSF	10'-0"	6'-8"	-	-	-	-
			30 PSF	10'-0"	5'-5"	-	-	-	-
			40 PSF	10'-0"	4'-9"	-	-	-	-
			50 PSF	9'-0"	4'-3"	-	-	-	-
		30 PSF	20 PSF	4'-6"	-	-	-	-	-
			30 PSF	-	-	-	-	-	-
			40 PSF	-	-	-	-	-	-
			50 PSF	-	-	-	-	-	-
		40 PSF	20 PSF	-	-	-	-	-	-
			30 PSF	-	-	-	-	-	-
			40 PSF	-	-	-	-	-	-
			50 PSF	-	-	-	-	-	-



POST SPACING ISOMETRIC

*THIS DETAIL APPLIES TO BOTH HOST ATTACHED AND FREE-STANDING ROOF OVER OPEN STRUCTURES

TABLE NOTES:

1) 2015 ALUMINUM DESIGN MANUAL, ALLOWABLE STRESS DESIGN METHOD USED IN ALL TABLES.
2) MAXIMUM ALLOWABLE POST HEIGHT IS 10 FT.
3) DEFLECTION LIMIT = L/120.
4) COLUMN SPACING IS HALF THE DISTANCE TO THE LEFT ADDED TO HALF THE DISTANCE TO THE RIGHT OF THE BEAM (AVERAGE COLUMN SPACING).
5) VALUES BELOW ALLOWABLE CEILING HEIGHT INTENDED TO BE BUILT ON KNEEWALLS OR OTHER SUPPORTING STRUCTURES (CERTIFIED BY OTHERS).
6) 2PSF DEAD LOAD USED IN CALCULATIONS.

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INSULATED PATTO COVER
ROOF OVER OPEN WALL ROOM SYSTEMS
PERFORMANCE EVALUATION

REMARKS	DRWN	CHKD	DATE
ORIGINAL PROJECT (20-25228)	TT	FB	05/28/20
REVISION (20-25228)	AEM	FB	10/08/20
FBC 2023 (23-69317)	CLV	CCB	12/19/23
	-	-	-
	-	-	-

23-69317

SCALE: NTS UNLESS NOTED

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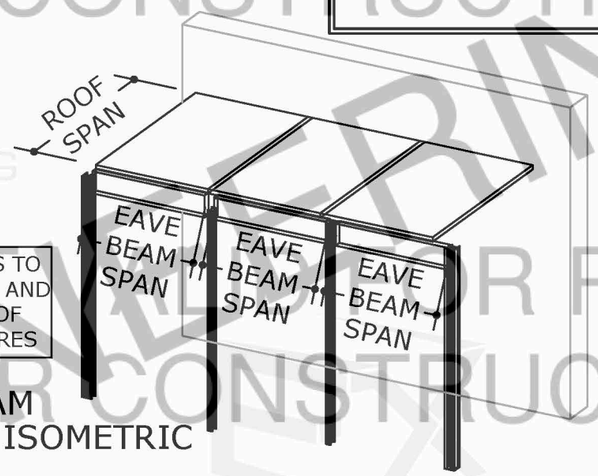
FREESTANDING & HOST ATTACHED SYSTEM EAVE BEAM SPAN

Beam Type	Roof Load (psf)	Max Roof Span (ft) 8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	Max Beam Span (ft)
2"x4" SMB Beam	20 PSF	7'-0''	6'-5''	6'-0''	5'-7''	5'-3''	
	30 PSF	5'-9''	5'-3''	4'-10''	4'-6''	4'-3''	
	40 PSF	5'-0''	4'-6''	4'-2''	4'-0''	3'-8''	
	50 PSF	4'-5''	4'-1''	3'-9''	3'-6''	3'-4''	

Beam Type	Roof Load (psf)	Max Roof Span (ft) 8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	Max Beam Span (ft)
2"x5" SMS Beam	20 PSF	8'-4''	7'-8''	7'-1''	6'-7''	6'-3''	
	30 PSF	6'-10''	6'-3''	5'-9''	5'-5''	5'-1''	
	40 PSF	6'-0''	5'-5''	5'-0''	4'-8''	4'-5''	
	50 PSF	5'-4''	4'-10''	4'-6''	4'-2''	4'-0''	

Beam Type	Roof Load (psf)	Max Roof Span (ft) 8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	Max Beam Span (ft)
2"x6" SMS Beam	20 PSF	10'-7''	9'-8''	9'-0''	8'-4''	7'-11''	
	30 PSF	8'-8''	7'-11''	7'-3''	6'-10''	6'-5''	
	40 PSF	7'-6''	6'-10''	6'-4''	5'-11''	5'-7''	
	50 PSF	6'-8''	6'-1''	5'-8''	5'-3''	5'-0''	

Beam Type	Roof Load (psf)	Max Roof Span (ft) 8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	Max Beam Span (ft)
2"x7" SMS Beam	20 PSF	10'-11''	10'-0"	9'-2''	8'-7''	8'-1''	
	30 PSF	8'-11''	8'-1''	7'-6''	7'-0''	6'-7''	
	40 PSF	7'-8''	7'-0''	6'-6''	6'-1''	5'-9''	
	50 PSF	6'-11''	6'-3''	5'-10''	5'-5''	5'-2''	



*THIS DETAIL APPLIES TO BOTH HOST ATTACHED AND FREE-STANDING ROOF OVER OPEN STRUCTURES

EAVE-BEAM SPACING ISOMETRIC

TABLE NOTES:
1) 2015 ALUMINUM DESIGN MANUAL, ALLOWABLE STRESS DESIGN METHOD USED IN ALL TABLES.
2) DEFLECTION LIMIT = L/120
3) 2PSF DEAD LOAD CONSIDERED IN CALCULATIONS.

Beam Type	Roof Load (psf)	Max Roof Span (ft) 8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	Max Beam Span (ft)
2"x8" SMS Beam	20 PSF	15'-0''	15'-0''	14'-6''	13'-6''	12'-9''	
	30 PSF	14'-0''	12'-9''	11'-10''	11'-1''	10'-5''	
	40 PSF	12'-1''	11'-1''	10'-3''	9'-7''	9'-0''	
	50 PSF	10'-10''	9'-11''	9'-2''	8'-7''	8'-1''	

Beam Type	Roof Load (psf)	Max Roof Span (ft) 8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	Max Beam Span (ft)
2"x9" SMS Beam	20 PSF	15'-0''	15'-0''	15'-0''	15'-0''	14'-2''	
	30 PSF	15'-0''	14'-2''	13'-1''	12'-3''	11'-7''	
	40 PSF	13'-5''	12'-3''	11'-4''	10'-8''	10'-0''	
	50 PSF	12'-0''	11'-0''	10'-2''	9'-6''	9'-0''	

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ROOF OVER OPEN WALL ROOM SYSTEMS
PERFORMANCE EVALUATION

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ORIGINAL PROJECT (20-25226)	TT	FB	05/28/20
REVISION (20-25226)	AEM	FB	10/08/20
FBC 2023 (23-69317)	CLV	CCB	12/19/23
-	-	-	-
-	-	-	-

23-69317

SCALE: NTS UNLESS NOTED

7 OF 8

FREESTANDING & HOST ATTACHED SYSTEM EAVE BEAM SPAN

Beam Type	Roof Load (psf)	Max Roof Span (ft) 8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	Max Beam Span (ft)
2"x10" SMB Beam	20 PSF	15'-0''	15'-0''	15'-0''	15'-0''	15'-0''	
	30 PSF	15'-0''	15'-0''	15'-0''	15'-0''	15'-0''	
	40 PSF	15'-0''	15'-0''	15'-0''	15'-0''	14'-2''	
	50 PSF	15'-0''	15'-0''	14'-4''	13'-5''	12'-8''	

2"x10" SELF MATING BEAMS

Beam Type	Roof Load (psf)	Max Roof Span (ft) 8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	Max Beam Span (ft)
2"x7" Reinforced Edge Beam	20 PSF	15'-0''	15'-0''	15'-0''	15'-0''	15'-0''	
	30 PSF	15'-0''	15'-0''	15'-0''	14'-2''	13'-5''	
	40 PSF	15'-0''	14'-2''	13'-2''	12'-4''	11'-7''	
	50 PSF	13'-11''	12'-8''	11'-9''	11'-0''	10'-4''	

2"x7" REINFORCED EDGE BEAM

Beam Type	Roof Load (psf)	Max Roof Span (ft) 8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	Max Beam Span (ft)
2"x5" Edge Beam	20 PSF	12'-7''	11'-6''	10'-8''	10'-0''	9'-5''	
	30 PSF	10'-3''	9'-5''	8'-8''	8'-1''	7'-8''	
	40 PSF	8'-11''	8'-1''	7'-6''	7'-0''	6'-8''	
	50 PSF	8'-0''	7'-3''	6'-9''	6'-3''	6'-0''	

2"x5" EDGE BEAM

Beam Type	Roof Load (psf)	Max Roof Span (ft) 8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	Max Beam Span (ft)
6.7 C-Beam	20 PSF	14'-2''	13'-0''	12'-0''	11'-2''	10'-7''	
	30 PSF	11'-7''	10'-7''	9'-9''	9'-2''	8'-7''	
	40 PSF	10'-0''	9'-2''	8'-5''	7'-11''	7'-5''	
	50 PSF	9'-0''	8'-2''	7'-7''	7'-1''	6'-8''	

6.7 C-BEAM

Beam Type	Roof Load (psf)	Max Roof Span (ft) 8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	Max Beam Span (ft)
2"x7" Edge Beam	20 PSF	15'-0''	15'-0''	15'-0''	14'-3''	13'-5''	
	30 PSF	14'-9''	13'-5''	12'-5''	11'-8''	11'-0''	
	40 PSF	12'-9''	11'-8''	10'-9''	10'-1''	9'-6''	
	50 PSF	11'-5''	10'-5''	9'-8''	9'-0''	8'-6''	

2"x7" EDGE BEAM

Beam Type	Roof Load (psf)	Max Roof Span (ft) 8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	Max Beam Span (ft)
2"x4" Tilt Beam	20 PSF	7'-7''	6'-11''	6'-5''	6'-0''	5'-8''	
	30 PSF	6'-2''	5'-8''	5'-3''	4'-10''	4'-7''	
	40 PSF	5'-4''	4'-10''	4'-6''	4'-3''	4'-0''	
	50 PSF	4'-9''	4'-4''	4'-0''	3'-9''	3'-7''	

4" TILT BEAM

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-	-	-	-

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