

# STRUCTURAL DESIGN LOW WIND PACKAGE ENCLOSED BUILDING

## MAXIMUM 30'-0" WIDE X 16'- 0" EAVE HEIGHT-BOX EAVE FRAME AND BOW FRAME

7 April 2025 Revision 1 M&A Project No. 21089S/24012S/25096S

Prepared for:
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Prepared by:
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Plans Expiration Date: 7 April 2027
Plans are valid for one year from issuance date



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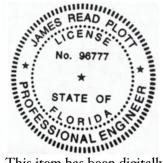
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		BLUESTO	ONE CARPORTS AN	D GARAGES
MOORE AND ASSOCIATES	DRAWN BY: LT		380 HALL RD.	
ENGINEERING AND CONSULTING, INC.			CAIRO, GA 39828	
	CHECKED BY: AM	30'-0"x16'-0	30'-0"x16'-0" LWP ENCLOSED STRUCTU	
			Ju	IB ND: 21089S/
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#### INSTALLATION NOTES AND SPECIFICATIONS

- 1. DESIGN IS FOR MAXIMUM 30'-0" WIDE  $\times$  16'-0" EAVE HEIGHT ENCLOSED STRUCTURES.
- 2. DESIGN WAS DONE IN ACCORDANCE WITH ALL APPLICABLE BUILDING CODES LISTED ON SHEET 3A.
- 3. DESIGN LOADS ARE AS FOLLOWS:

A) ROOF DEAD LOADS:

SELF-WEIGHT = 1.5 PSF MEP = 0 PSF COLLATERAL = 0 PSF

B) ROOF LIVE LOAD = 12 PSF

C) FLOOR LIVE LOAD = 100 PSF (4" CONCRETE SLAB-ON-GRADE)

D) GROUND SNOW LOAD = 15 PSF (FOR IBC 2015, 2018, 2021)

= 17 PSF (FOR IBC 2024)

NOTE: UNBALANCED LOADING DUE TO SNOW DRIFT/SLIDING FROM AN ADJACENT TALLER STRUCTURE HAS NOT BEEN EVALUATED. DROP-DOWN LEAN-TO'S (THOSE CAUSING A HEIGHT DIFFERENTIAL FROM THE MAIN STRUCTURE) SHALL BE LIMITED TO GROUND SNOW LOADS  $\leq$  7 PSF.

- 4. 3-SECOND GUST ULTIMATE WIND SPEED = MAX. 145 MPH (NOMINAL WIND SPEED = MAX. 112 MPH).
- 5. MAXIMUM RAFTER/COLUMN AND END COLUMN SPACING = 5.0 FEET (UNLESS NOTED OTHERWISE).
- 6. ENDWALL COLUMNS (COLUMNS) AND SIDE WALL COLUMNS ARE EQUIVALENT IN SIZE AND SPACING (UNLESS NOTED OTHERWISE).
- 7. RISK CATEGORY I (NOT FOR HUMAN OCCUPANCY).
- 8. WIND EXPOSURE CATEGORY B/C.
- 9. SPECIFICATIONS APPLICABLE TO 29 GAUGE METAL PANELS FASTENED DIRECTLY TO 2 1/2" x 2 1/2" 14 GAUGE TUBE STEEL (TS) FRAMING MEMBERS (UNLESS NOTED OTHERWISE). 2 1/4" x 2 1/4" 12 GAUGE TS MAY BE USED AS OPTIONAL FRAMING MEMBERS.
- 10. CONNECTOR SLEEVES ARE MINIMUM 6" LONG, 2 1/4"x2 1/4"-14 GAUGE TUBE STEEL (TS) FRAMING MEMBERS (UNLESS NOTED OTHERWISE).
- 11. STRUCTURAL ANALYSIS/DESIGN IS BASED ON TS MEETING THE REQUIREMENTS OF ASTM A653 GRADE TYPE GRADE 50 MINIMUM YIELD STRENGTH (FY) OF 50 KSI AND GALVANIZING MEETING THE REQUIREMENTS OF G60.
- 12. USE E70 ELECTRODES FOR WELDED CONNECTIONS, ALL WELDING SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF AWS D1.3.
- 13. AVERAGE PANEL FASTENER SPACING DN-CENTERS = 9 INCHES.
- 14. FASTENERS CONSIST OF #12-14x3/4" SELF-DRILLING FASTENER (SDF), USE CONTROL SEAL WASHER WITH EXTERIOR FASTENERS. SPECIFICATIONS APPLICABLE ONLY FOR ROOF SLOPES OF 14° (3:12 PITCH) OR LESS. ROOF SLOPES LESS THAN 3:12 REQUIRE USE OF JOINT SEALANT.
- 15. GROUND ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL AT OR WITHIN 6" OF EVERY COLUMN.
- 16. WIND FORCES GOVERN OVER SEISMIC FORCES. SEISMIC PARAMETERS ANALYZED ARE:

SDIL SITE CLASS = D RISK CATEGORY I

R = 3.25  $I_E = 1.0$   $V = C_SW$   $S_{D1} = 2.13 g$ 

- 17. CONTRACTOR TO PROVIDE ADEQUATE BRACING FOR STRUCTURE SO THAT IT WILL BE STABLE DURING ALL STAGES OF CONSTRUCTION. THE STRUCTURE AND FOUNDATION ARE DESIGNED FOR A COMPLETED CONDITION ONLY AND, THEREFORE, REQUIRE ADDITIONAL SUPPORT TO MAINTAIN STABILITY BEFORE COMPLETION.
- 18. IF MORE THAN 50% OF COLUMNS (LEGS) ARE REMOVED IN ANY LONGITUDINAL (SIDE) WALLS OF A BUILDING, THE ENGINEER IS TO BE NOTIFIED TO DETERMINE WHETHER PORTAL FRAMES OR OTHER LONGITUDINAL STABILITY ELEMENTS WILL BE REQUIRED.
- 19. ANALYSIS/DESIGN OF THIS STRUCTURE WAS BASED ON THE LOADS, BUILDING CODE, AND STRUCTURAL GEOMETRY NOTED HEREIN. NO CHANGES SHALL BE MADE TO THE STRUCTURE WITHOUT EXPRESS WRITTEN PERMISSION FROM THE DESIGN ENGINEER. ANY CHANGES IN THE USE OR GEOMETRY OF THE STRUCTURE IN ANY MANNER IS A VIOLATION OF THE BUILDING CODE AND NEGATES ANY LIABILITY ON THE PART OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.
- 20. WHEN USING GENERIC MASTER DESIGNS TO OBTAIN BUILDING PERMIT, IT MUST BE ACCOMPANIED BY SUFFICIENT ADDITIONAL INFORMATION TO INDICATE THE LOCATION, NATURE, AND EXTEND OF THE CONSTRUCTION AND SHOW IN DETAIL THAT IT WILL CONFORM TO ALL APPLICABLE CODES, LAWS, ORDINANCES, RULES, AND REGULATIONS.
- 21. WHEN APPLYING FOR BUILDING PERMIT, THE BUILDING OFFICIAL MUST BE CONSULTED TO VERIFY WHETHER THE USE OF THE MASTER DESIGN IS ADEQUATE OR IF A SITE-SPECIFIC DESIGN IS REQUIRED FOR OBTAINING A BUILDING PERMIT. GENERIC MASTER DESIGNS CAN NOT BE USED WHERE A SITE-SPECIFIC DESIGN IS REQUIRED.
- 22. ANY VARIATION FROM THE ANALYSIS/DESIGN PARAMETERS OF THE MASTER DESIGN REQUIRES THE DEVELOPMENT OF A SITE-SPECIFIC DESIGN.

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#### LIST OF APPLICABLE BUILDING CODES

2024 INTERNATIONAL BUILDING CODE (IBC 2024)

2021 INTERNATIONAL BUILDING CODE (IBC 2021)

2018 INTERNATIONAL BUILDING CODE (IBC 2018)

2015 INTERNATIONAL BUILDING CODE (IBC 2015)

ALABAMA BUILDING CODE 2021
(ADOPTS THE IBC 2021 WITH AMENDMENTS)
(IBC 2015, IBC 2018, IBC 2021, IBC 2024
(DEPENDENT UPON LOCAL JURISDICTION))

2023 FLORIDA BUILDING CODE, BUILDING, 8TH EDITION (ADOPTS THE IBC 2021 WITH AMENDMENTS)

GEORGIA STATE MINIMUM STANDARD BUILDING CODE 2018 (ADOPTS THE IBC 2018 WITH AMENDMENTS)

MISSISSIPPI BUILDING CODE 2024
(ADOPTS THE IBC 2024 WITHOUT AMENDMENTS)
(IBC 2012, IBC 2015 AND IBC 2018, IBC 2024
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SOUTH CAROLINA BUILDING CODE 2021 (ADOPTS THE IBC 2021 WITH AMENDMENTS)

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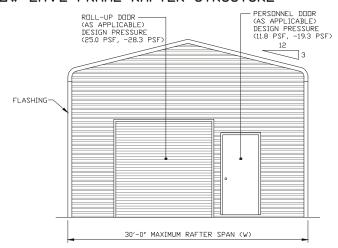
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CHECKED BY: AM	CAIRO, GA 39828 30'-0"x16'-0" LWP ENCLOSED STRUCTURE					
DRAWN BY: LT	BLUESTONE CARPORTS AND GARAGES 380 HALL RD.					

# BOX EAVE FRAME RAFTER STRUCTURE ROLL-UP DOOR (AS APPLICABLE) DESIGN PRESSURE (25.0 PSF, -28.3 PSF) FLASHING 30'-0' MAXIMUM RAFTER SPAN (W)

## TYPICAL END ELEVATION

SCALE: NTS

#### BOW EAVE FRAME RAFTER STRUCTURE

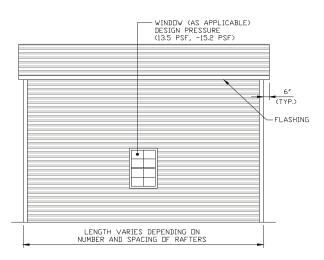


# TYPICAL END ELEVATION SCALE: NTS

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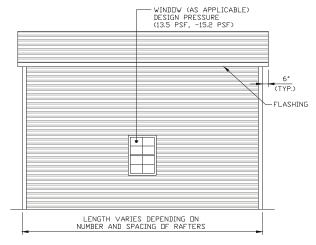
7 April 2027



#### TYPICAL SIDE ELEVATION

SCALE: NTS

NOTE: HORIZONTAL ROOF PANELS ONLY APPLICABLE FOR WIND SPEEDS ≤ 130 MPH



#### TYPICAL SIDE ELEVATION

SCALE: NTS

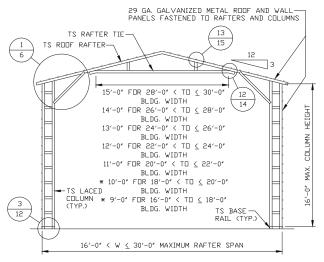
NOTE: HORIZONTAL ROOF APPLICABLE FOR WIND SF



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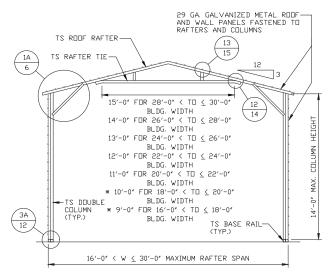
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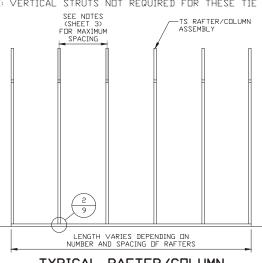
#### RAFTER/COLUMN FRAME SECTION

SCALE: NTS NOTE: VERTICAL STRUTS NOT REQUIRED FOR THESE TIE LENGTHS.



#### TYPICAL RAFTER/COLUMN FRAME SECTION

SCALE: NTS NOTE: VERTICAL STRUTS NOT REQUIRED FOR THESE TIE LENGTHS.

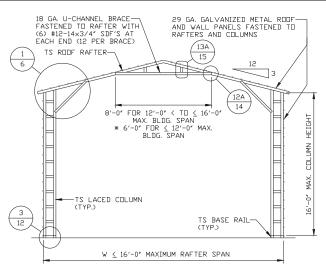


## TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

SCALE: NTS

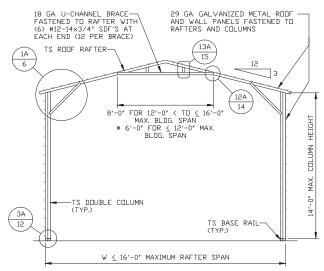
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#### **TYPICAL** RAFTER/COLUMN FRAME SECTION

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\* NOTE: VERTICAL STRUTS NOT REQU

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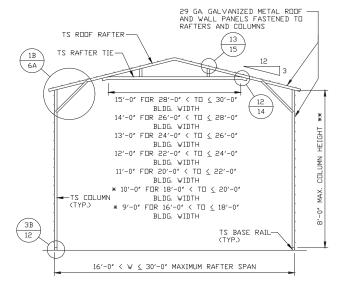
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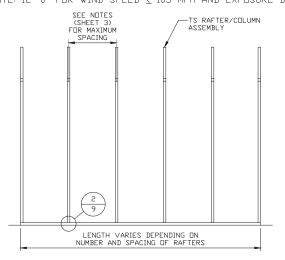
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	CAIRO, GA 39828				
RAWN BY: LT	380 HALL RD.				
	BLUESTO	NE CARPORTS A	AND GARAGES		

DF Cŀ PF DWG. NO SK-3 CLIENT: BLUESTONE SHT. 5 REV.: 1



#### RAFTER/COLUMN FRAME SECTION

SCALE: NTS
\* NOTE: VERTICAL STRUTS NOT REQUIRED FOR THESE TIE LENGTHS. \*\* NOTE: 12'-0" FOR WIND SPEED < 105 MPH AND EXPOSURE B.

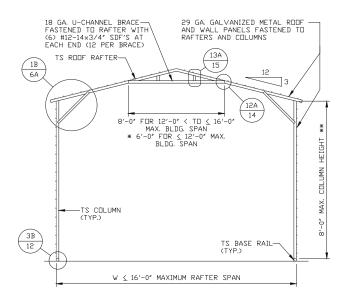


#### TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

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#### RAFTER/COLUMN FRAME SECTION **TYPICAL**

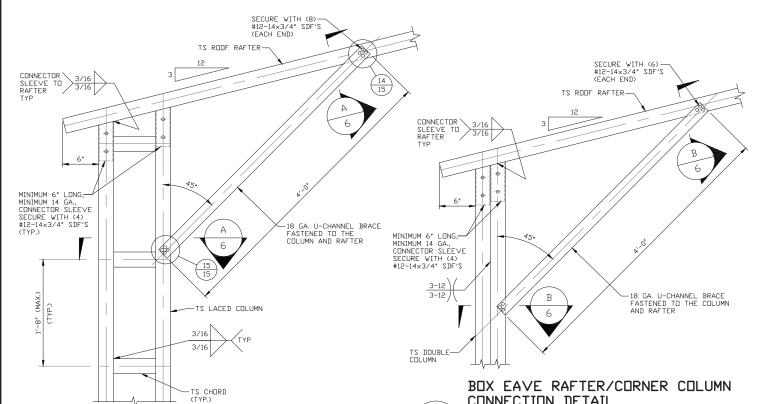
SCALE: NTS
\* NOTE: VERTICAL STRUTS NOT REQUIRED FOR THESE TIE LENGTHS. \*\* NOTE: 12'-0" FOR WIND SPEEDS < 105 MPH AND EXPOSURE B.



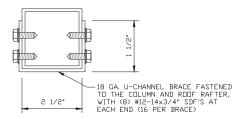
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BOX EAVE RAFTER/CORNER COLUMN CONNECTION DETAIL FOR HEIGHTS 14'-0" < TO < 16'-0" 1 SCALE: NTS





1'-0"

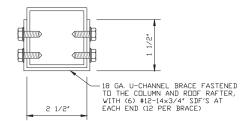
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CONNECTION DETAIL FOR HEIGHTS 8'-0" < TO ≤ 14'-0" 1A

SCALE: NTS



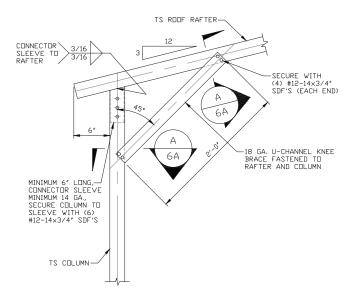
BRACE SECTION В SCALE: NTS



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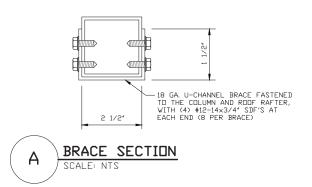
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SCALE: NTS
NOTE: 12'-0' SINGLE TS COLUMN APPLICABLE FOR WIND
SPEEDS 

105 MPH AND EXPOSURE B ONLY.



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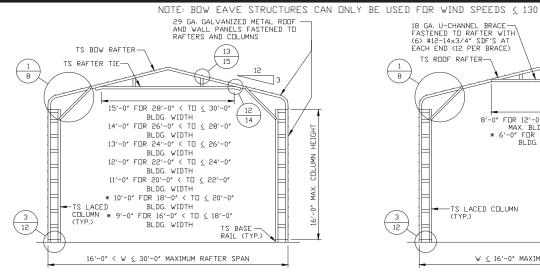
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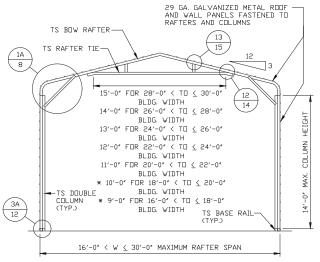
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#### RAFTER/COLUMN FRAME SECTION TYPICAL

SCALE: NTS

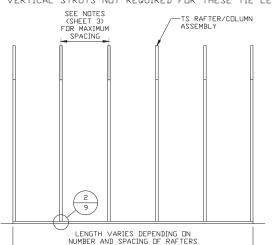
NOTE: VERTICAL STRUTS NOT REQUIRED FOR THESE TIE LENGTHS.



#### TYPICAL RAFTER/COLUMN FRAME SECTION

SCALE: NTS

NOTE: VERTICAL STRUTS NOT REQUIRED FOR THESE TIE LENGTHS.



## TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

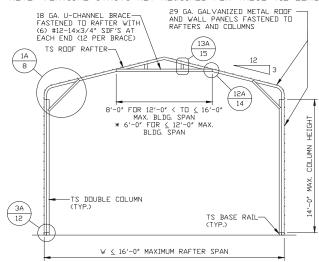
SCALE: NTS

## 29 GA. GALVANIZED METAL ROOF AND WALL PANELS FASTENED TO RAFTERS AND COLUMNS 18 GA. U-CHANNEL BRACE— FASTENED TO RAFTER WITH (6) #12-14×3/4" SDF'S AT EACH END (12 PER BRACE) 13A TS ROOF RAFTER 15 12 14 8'-0" FOR 12'-0" < TO ≤ 16'-0" MAX. BLDG. SPAN \* 6'-0" FOR ≤ 12'-0" MAX. BLDG. SPAN HEIGH COLUMN MAX. TS LACED COLUMN 16'-0" TS BASE RAIL-W ≤ 16'-0" MAXIMUM RAFTER SPAN

#### **TYPICAL** RAFTER/COLUMN FRAME SECTION

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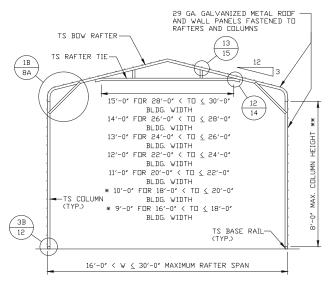
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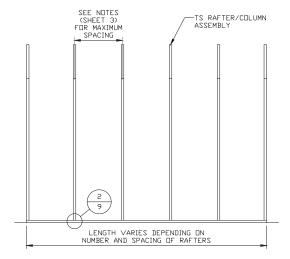
MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

	BLUESTONE CARPORTS AND GARAGES				
DRAWN BY: LT	380 HALL RD.				
	CAIRO, GA 39828				
CHECKED BY: AM	30'-0"x16'-0" LWP ENCLOSED STRUCTURE				
PROJECT MGR: JRP	DATE: 4-7-25	SCALE: NTS		ND: 21089S/ .2S/25096S	
CLIENT: BLUESTONE	SHT. 7	DWG. NO: SK-3		REV.: 1	



#### RAFTER/COLUMN FRAME SECTION TYPICAL

SCALE: NTS NOTE: VERTICAL STRUTS NOT REQUIRED FOR THESE TIE LENGTHS. \*\* NOTE: 12'-0" FOR WIND SPEED ≤ 105 MPH AND EXPOSURE B.



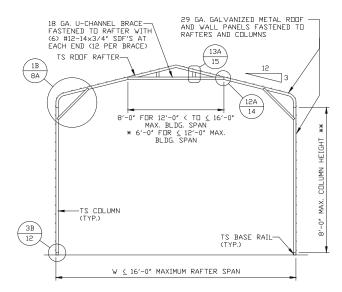
#### TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

SCALE: NTS

#### **Validity Notice**

Plans Expiration Date:

7 April 2027



#### TYPICAL RAFTER/COLUMN FRAME SECTION

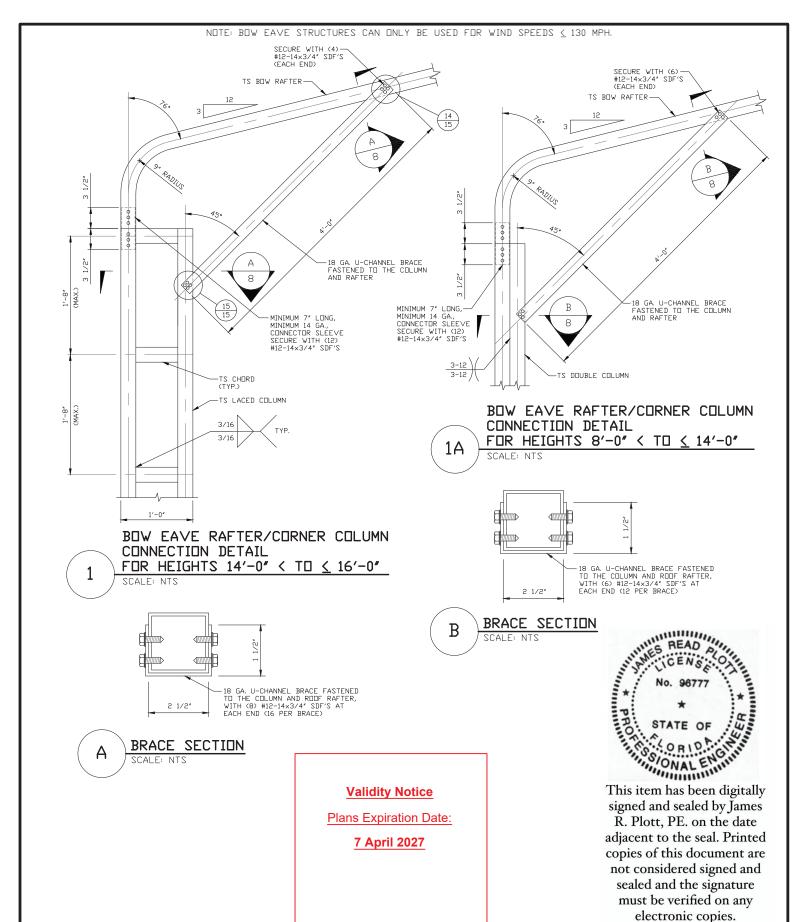
\* NOTE: VERTICAL STRUTS NOT REQUIRED FOR THESE TIE LENGTHS. \*\* NOTE: 12'-0" FOR WIND SPEEDS ≤ 105 MPH AND EXPOSURE B.



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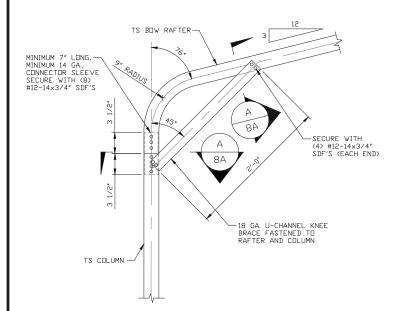
	BLUESTO	BLUESTONE CARPORTS AND GARAGES			
DRAWN BY: LT	380 HALL RD.				
	CAIRO, GA 39828				
CHECKED BY: AM	30'-0"x16'-0" LWP ENCLOSED STRUCTURE				
				ND: 21089S/	
PROJECT MGR: JRP	DATE: 4-7-25	SCALE: NTS	2401	25/250965	
CLIENT: BLUESTONE	SHT. 7A	DWG. NO: SK-3		REV.: 1	

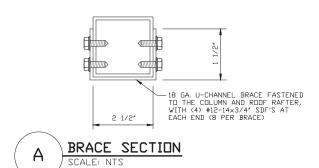


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| BLUESTONE CARPORTS AND GARAGES 380 HALL RD. CAIRO, GA 39828 | CHECKED BY: AM 30'-0"x16'-0" LWP ENCLOSED STRUCTURE | PROJECT MGR: JRP | DATE: 4-7-25 | SCALE: NTS | 24012S/25096S | CLIENT: BLUESTONE | SHT. 8 | DWG. ND: SK-3 | REV.: 1





BOW EAVE RAFTER/CORNER COLUMN CONNECTION DETAIL FOR HEIGHTS < 8'-0"

1B

SCALE: NTS
NDTE: 12'-0' SINGLE TS COLUMN APPLICABLE FOR WIND
SPEEDS < 105 MPH AND EXPOSURE B ONLY.

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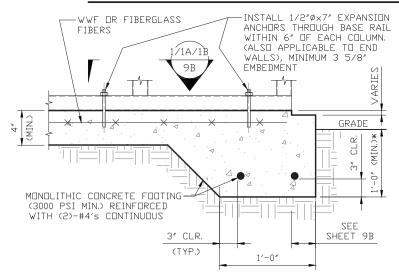


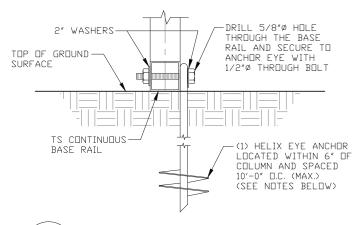
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	CAIRO, GA 39828				
CHECKED BY: AM	30'-0"x16'-0" LWP ENCLOSED STRUCTURE				
			JOB	ND: 21089S/	
PROJECT MGR: JRP	DATE: 4-7-25	SCALE: NTS	2401	25/250965	
CLIENT: BLUESTONE	SHT. 8A	DWG. NO: SK-3		REV.: 1	

## BASE RAIL ANCHORAGE OPTIONS WITHOUT ATTACHED LEAN-TO





## GROUND BASE HELIX ANCHORAGE

SCALE: NTS COORDINATE WITH LOCAL BUILDING CODE AND/ DRD. REGARDING MINIMUM FROST DEPTH (LENGTH).



#### CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

SCALE: NTS

SEE SHEET 9B FOR MINIMUM ANCHOR EDGE DISTANCE.
\* COORDINATE WITH LOCAL BUILDING CODE AND/
ORD. REGARDING MINIMUM FROST DEPTH (LENGTH).

## GENERAL NOTES

NOTE: CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 1,500 PSF.

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.

#### COVER OVER REINFORCING STEEL:

FOR FOUNDATIONS, MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE PER ACI-318: 3" IN FOUNDATIONS WHERE THE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH OR WEATHER, AND 1 1/2" ELSEWHERE.

#### REINFORCING STEEL:

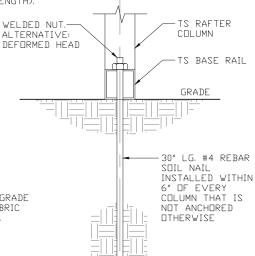
THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT.

#### REINFORCEMENT MAY BE BENT IN THE SHOP OR THE FIELD PROVIDED:

- REINFORCEMENT IS BENT COLD.
- THE DIAMETER OF THE BEND, MEASURED ON THE INSIDE OF THE BAR, IS NOT LESS THAN SIX-BAR DIAMETERS.
- REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT.

#### HELIX ANCHOR NOTES:

- 1. FOR VERY DENSE AND/OR CEMENTED SANDS, COARSE GRAVEL AND COBBLES, CALICHE, PRELOADED SILTS AND CLAYS, USE MINIMUM (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH MINIMUM 50" EMBEDMENT
- 2. FOR CORAL USE MINIMUM (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH MINIMUM 50" EMBEDMENT.
- 3. FOR MEDIUM DENSE COARSE SANDS, SANDY GRAVELS, VERY STIFF SILTS, AND CLAYS USE MINIMUM (2) 4" HELICES WITH MINIMUM 30 INCH EMBEDMENT OR SINGLE 6" HELIX WITH MINIMUM 50" EMBEDMENT.
- 4. FOR LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS ALLUVIAL FILL, USE MINIMUM (2) 6" HELICES WITH MINIMUM 50" EMBEDMENT.
- 5. FOR VERY LOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 8" HELICES WITH MINIMUM 60" EMBEDMENT.

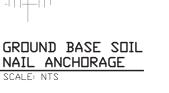


SCALE: NTS

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Plans Expiration Date:

7 April 2027



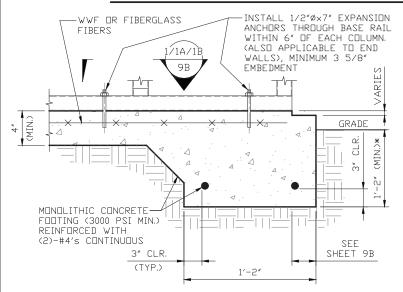


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1		BLUESTONE CARPORTS AND GARAGES					
	DRAWN BY: LT	380 HALL RD.					
		CAIRO, GA 39828					
	CHECKED BY: AM	30'-0"x16'-0" LWP ENCLOSED STRUCTURE					
	PROJECT MGR: JRP	DATE: 4-7-25		JOB NO: 21089S/ 24012S/25096S			
	CLIENT: BLUESTONE	SHT. 9	DWG. NO: SK-3	REV. 1			

## BASE RAIL ANCHORAGE OPTIONS WITH ATTACHED LEAN-TO





#### CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

SCALE: NTS

SEE SHEET 9B FOR MINIMUM ANCHOR EDGE DISTANCE.
\* COORDINATE WITH LOCAL BUILDING CODE AND/
ORD. REGARDING MINIMUM FROST DEPTH (LENGTH).

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#### REINFORCING STEEL:

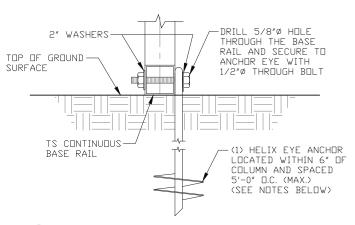
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- 4. FOR LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS ALLUVIAL FILL, USE MINIMUM (2) 6" HELICES WITH MINIMUM 50" EMBEDMENT.
- 5. FOR VERY LOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 8" HELICES WITH MINIMUM 60" EMBEDMENT.



 $(\mathsf{ac})$ 

#### GROUND BASE HELIX ANCHORAGE

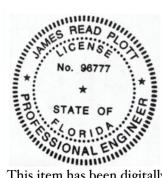
SCALE: NTS

\* COORDINATE WITH LOCAL BUILDING CODE AND/
ORD. REGARDING MINIMUM FROST DEPTH (LENGTH).

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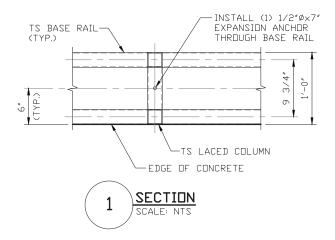


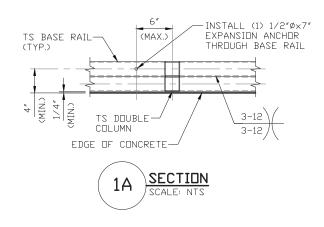
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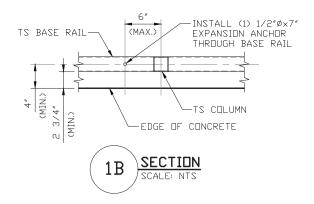
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	CAIRO, GA 39828				
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			JOB	ND: 21089S/	
PROJECT MGR: JRP	DATE: 4-7-25	SCALE: NTS	2401	25/250965	
CLIENT: BLUESTONE	SHT. 9A	DWG. NO: SK-3		REV.: 1	

## **BASE RAIL ANCHORAGE OPTIONS**







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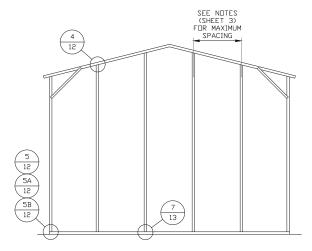


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	CAIRO, GA 39828				
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			JOB	ND: 21089S/	
PROJECT MGR: JRP	DATE: 4-7-25	SCALE: NTS	2401	25/250965	
CLIENT: BLUESTONE	SHT. 9B	DWG. NO: SK-3		REV.⊨1	

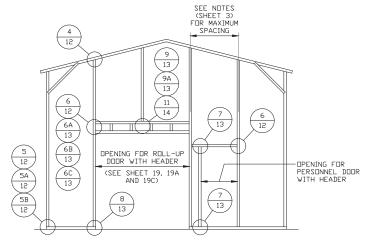
## TYPICAL END WALL AND SIDE WALL FRAMING SECTIONS (BOX EAVE RAFTER)



# TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION

SCALE: NTS

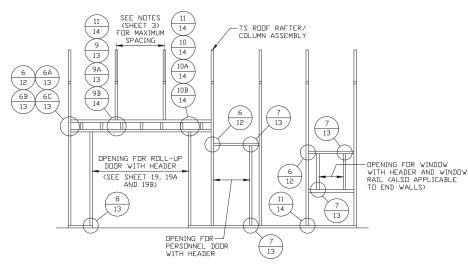
NOTE: END WALL COLUMNS CAN BE REDUCED TO THE FOLLOWING SIZES: DOUBLE TUBE COLUMNS FOR EAVE HEIGHTS 10'-0'' < To  $\leq$  16'-0''. SINGLE TUBE COLUMNS FOR EAVE HEIGHTS  $\leq$  10'-0''.



# TYPICAL BOX EAVE RAFTER END WALL OPENINGS FRAMING SECTION

SCALE: NTS

NOTE: END WALL COLUMNS CAN BE REDUCED TO THE FOLLOWING SIZES: DOUBLE TUBE COLUMNS FOR EAVE HEIGHTS  $10'-0'' < TO \le 16'-0''$ . SINGLE TUBE COLUMNS FOR EAVE HEIGHTS  $\le 10'-0''$ .



# TYPICAL BOX EAVE RAFTER SIDE WALL OPENINGS FRAMING SECTION

SCALE: NTS

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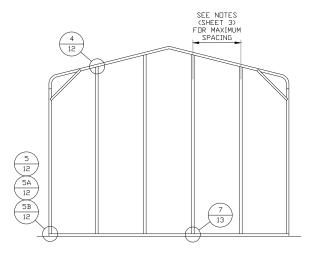
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	CAIRO, GA 39828					
CHECKED BY: AM	30'-0"x16'-0" LWP ENCLOSED STRUCTURE					
			JOB	ND: 21089S/		
PROJECT MGR: JRP	DATE: 4-7-25	SCALE: NTS	2401	25/250965		
CLIENT: BLUESTONE	SHT. 10	DWG. NO: SK-3		REV.: 1		

#### TYPICAL END WALL AND SIDE WALL FRAMING SECTIONS (BOW EAVE RAFTER)

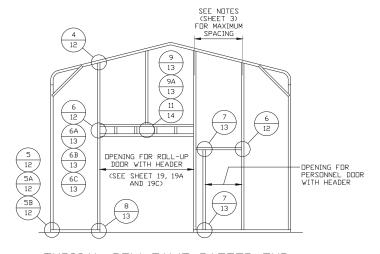
NOTE: BOW EAVE STRUCTURES CAN ONLY BE USED FOR WIND SPEEDS < 130 MPH.



# TYPICAL BOW EAVE RAFTER END WALL FRAMING SECTION

SCALE: NTS

NOTE: END WALL COLUMNS CAN BE REDUCED TO THE FOLLOWING SIZES: DOUBLE TUBE COLUMNS FOR EAVE HEIGHTS 10'-0'' < TO  $\leq$  16'-0''. SINGLE TUBE COLUMNS FOR EAVE HEIGHTS  $\leq$  10'-0''.



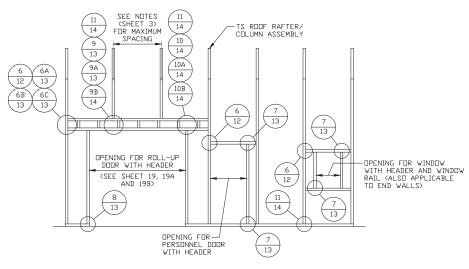
# TYPICAL BOW EAVE RAFTER END WALL OPENINGS FRAMING SECTION

SCALE: NITS

NOTE: END WALL COLUMNS CAN BE REDUCED TO THE FOLLOWING SIZES:

DOUBLE TUBE COLUMNS FOR EAVE HEIGHTS 10'-0" < TO < 16'-0".

SINGLE TUBE COLUMNS FOR EAVE HEIGHTS < 10'-0".



# TYPICAL BOW EAVE RAFTER SIDE WALL OPENINGS FRAMING SECTION

SCALE: NTS

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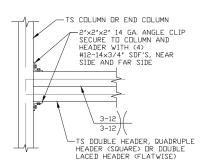
	BLUESTO	BLUESTONE CARPORTS AND GARAGES			
DRAWN BY: LT	380 HALL RD.				
	CAIRO, GA 39828				
CHECKED BY: AM	30'-0"x16'-0" LWP ENCLOSED STRUCTURE				
			JOB	ND: 21089S/	
PROJECT MGR: JRP	DATE: 4-7-25	SCALE: NTS	2401	25/250965	
CLIENT: BLUESTONE	SHT. 11	DWG. NO: SK-3		REV.: 1	

#### **CONNECTION DETAILS** TS DOUBLE COLUMN 3-12 3-12 TS COLUMN MINIMUM 6" LONG, MINIMUM 14 GA., CONNECTOR SLEEVE SECURE WITH (4) #12-14×3/4" SDF'S TS LACED COLUMN CONNECTOR SLEEVE TO BASE RAIL MINIMUM 6" LONG, MINIMUM 14 GA., CONNECTOR SLEEVE. SECURE WITH (4) #12-14×3/4" SDF'S 3/16 MINIMUM 6" LONG, MINIMUM 14 GA., CONNECTOR SLEEVE SECURE WITH (6) #12-14x3/4" SDF'S CONNECTOR SLEEVE TO BASE RAIL 3/16 3/16 TS CHORD 3/16 TS CONTINUOUS BASE RAIL TS CONTINUOUS BASE RAIL CONNECTOR SLEEVE TO BASE RAIL 3/16 TS CONTINUOÙS BASE RAIL COLUMN/BASE RAIL COLUMN/BASE RAIL CONNECTION DETAIL CONNECTION DETAIL TS CONTINUOUS BASE RAIL 3B **3A** SCALE: NTS COLUMN/BASE RAIL CONNECTION DETAIL 1'-0" 3 SCALE: NTS TS DOUBLE COLUMN TS LACED COLUMN MINIMUM 6" LONG, MINIMUM 14 GA., CONNECTOR SLEEVE. SECURE WITH (4) #12-14x3/4" SDF'S 3-12 MINIMUM 6" LONG, MINIMUM 14 GA., COUNCECTOR SLEEVE. SECURE WITH (4) #12-14x3/4" SDF'S TS ROOF RAFTER TS CHORD CONNECTOR SLEEVE TO BASE RAIL TYP 3/16 -2"x2"x2" 14 GA. ANGLE CLIP SECURE TO RAFTER COLUMN AND BASE RAIL WITH (4) #12-14x3/4" SDF'S CONNECTOR SLEEVE TO BASE RAIL 3/16 3/16 -2"x2"x2" 14 GA. ANGLE CLIP SECURE TO RAFTER COLUMN AND BASE RAIL WITH (4) #12-14x3/4" SDF'S 3/16 2"x2"x2" 14 GA. ANGLE CLIP SECURE TO COLUMN AND RAFTER WITH (4) #12-14x3/4" SDF'S, (2) ON TOP AND (2) ON SIDE TS END COLUMN TS CONTINUOUS BASE RAIL TS CONTINUOUS BASE RAIL END COLUMN/BASE RAIL END COLUMN/RAFTER CONNECTION DETAIL CONNECTION DETAIL END COLUMN/BASE RAIL 5A SCALE: NTS CONNECTION DETAIL SCALE: NTS SCALE: NTS MINIMUM 6" LONG, MINIMUM 14 GA., CONNECTOR SLEEVE. SECURE WITH (6) #12-14x3/4" SDF'S -TS COLUMN OR END COLUMN TS COLUMN (CORNER) Z'X2'X2' 14 GA. ANGLE CLIP SECURE TO COLUMN AND HEADER, TS GIRT OR WINDOW RAIL WITH (4) #12-14x3/4' SDF'S, NEAR SIDE AND FAR SIDE 2"x2"x2" 14 GA. ANGLE CLIP SECURE TO RAFTER COLUMN AND BASE RAIL WITH (4) #12-14x3/4" SDF'S CONNECTOR SLEEVE TO 3/16 SLEEVE TO BASE RAIL 3/16 No. 96777 STATE OF ORIO ONAL Editorial TS HEADER, WINDOW RAIL OR DOUBLE HEADER (FLATWISE) TS CONTINUOUS BASE RAIL HEADER OR WINDOW END COLUMN/BASE RAIL RAIL/WALL GIRT CONNECTION DETAIL TO COLUMN 5B SCALE: NTS CONNECTION DETAIL 6 This item has been digitally **Validity Notice** Plans Expiration Date: 7 April 2027

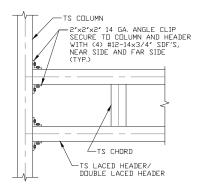
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ENGINEERING AND CONSULTING, INC.	CHECKED BY: AM	30'-0"x16'-0	CAIRO, GA 39828 30'-0"x16'-0" LWP ENCLOSED STRUCTURE		
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## **CONNECTION DETAILS**

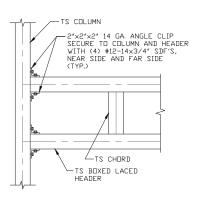


DOUBLE HEADER
TO COLUMN
CONNECTION DETAIL
SCALE: NTS



LACED HEADER
TO COLUMN
CONNECTION DETAIL
SCALE: NTS

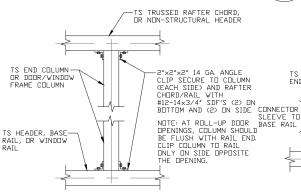
6B



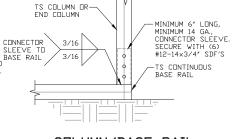
DOUBLE LACED HEADER OR BOXED LACED HEADER TO COLUMN CONNECTION DETAIL

SCALE: NTS

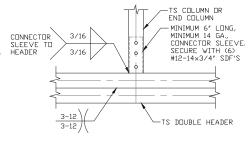
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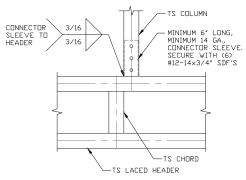
COLUMN TO HEADER, BASE RAIL, OR WINDOW RAIL CONNECTION DETAIL



8 COLUMN/BASE RAIL
CONNECTION DETAIL
SCALE: NTS



9 COLUMN/DOUBLE HEADER
CONNECTION DETAIL
SCALE: NTS



9A COLUMN/LACED HEADER CONNECTION DETAIL

SCALE: NTS

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CLIENT: BLUESTONE



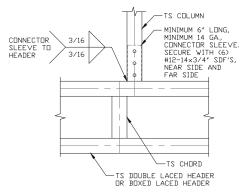
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# MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

1110001 11011 0111	DHIL 7 / LU	OONLL! I		
PROJECT MGR: JRP	DATE: 4-7-25	SCALE: N		
CHECKED BY: AM	30'-0"x16'-0" LWP I			
	CAIRC			
DRAWN BY: LT	380 1			
	BLUESTO	NE CAR		

	SHT. 13	DWG. NO: SK-3		REV.: 1	
	DATE: 4-7-25	SCALE: NTS	JOB 2401	ND: 21089S/ 2S/25096S	
CAIRO, GA 39828 30'-0"x16'-0" LWP ENCLOSED STRUCTURI				TRUCTURE	
	380 HALL RD.				
	BLUESTO	NE CARPORTS A	AND	GARAGES	

## **CONNECTION DETAILS**



SCALE: NTS

9B

10B

COLUMN/DOUBLE LACED HEADER OR BOXED LACED HEADER CONNECTION DETAIL CONNECTOR 3/16
SLEEVE TO 3/16
TS COLUMN OR END COLUMN

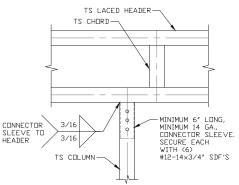
10

DOUBLE HEADER/COLUMN
CONNECTION DETAIL
SCALE: NTS

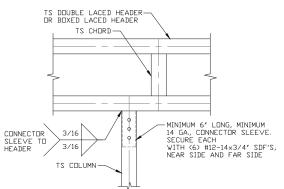
#12-14×3/4′ SDF'S

104

104



LACED HEADER/COLUMN CONNECTION DETAIL
SCALE: NTS



DOUBLE LACED HEADER
OR BOXED LACED
HEADER/COLUMN
CONNECTION DETAIL
SCALE: NTS

TS TRUSSED RAFTER CHORD,
OR NON-STRUCTURAL HEADER

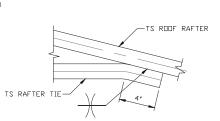
TS END COLUMN

OR DOOR/WINDOW
FRAME COLUMN

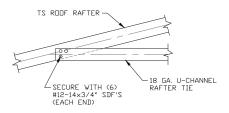
OR MINIMUM 6' LONG,
MINIMUM 14 GA,
CONNECTOR SLEEVE TO
HEADER
TYP

TS HEADER, BASE
OR WINDOW
WITH (6)
#12-14x3/4' SDF'S

COLUMN TO HEADER
OR BASE RAIL
CONNECTION DETAIL
SCALE: NTS



RAFTER TIE CUNNECTION DETAIL
SCALE: NTS



RAFTER TIE CUNNECTION DETAIL
SCALE: NTS

#### **Validity Notice**

Plans Expiration Date:

7 April 2027



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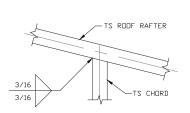
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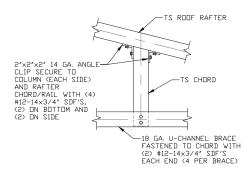
DRAWN BY: LT
CHECKED BY: AM
PDU IECT MED: IDD

BLUESTONE CARPORTS AND GARAGES
380 HALL RD.
CAIRO, GA 39828
30'-0"x16'-0" LWP ENCLOSED STRUCTURE
JDB ND: 21089S/

## **CONNECTION DETAILS**

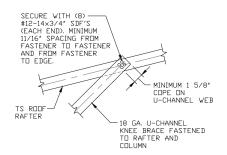


RAFTER TO CHORD CONNECTION DETAIL SCALE: NTS

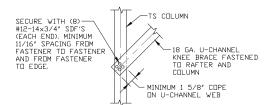


RAFTER TO CHORD CONNECTION DETAIL

SCALE: NTS



14 U-CHANNEL TO RAFTER CONNECTION DETAIL
SCALE: NTS



15 U-CHANNEL TO COLUMN CONNECTION DETAIL
SCALE: NTS

**Validity Notice** 

Plans Expiration Date:

7 April 2027

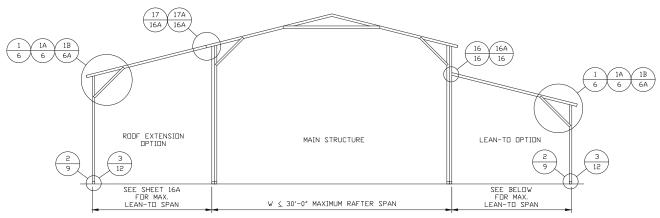


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ENGINEERING AND CONSULTING, INC.

	BLUESTONE CARPORTS AND GARAGES			
DRAWN BY: LT	380 HALL RD.			
	CAIRO, GA 39828			
CHECKED BY: AM	30'-0"x16'-0" LWP ENCLOSED STRUCTURE			
			JOB	ND: 21089S/
PROJECT MGR: JRP	DATE: 4-7-25	SCALE: NTS	2401	25/250965
CLIENT: BLUESTONE	SHT. 15	DWG. NO: SK-3		REV.: 1

## **LEAN-TO OPTIONS (BOX EAVE RAFTER)**



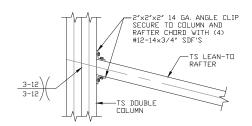
#### TYPICAL BOX EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN)

SCALE: NTS

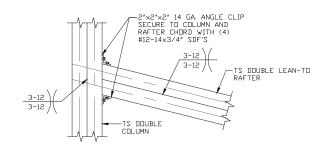
MAXIMUM WIDTH OF DOUBLE TUBE MEMBER (RAFTER AND COLUMN) ROOF EXTENSION AND LEAN-TO IS 16'-0".

MAXIMUM WIDTH OF SINGLE TUBE MEMBER (RAFTER AND COLUMN) ROOF EXTENSION AND LEAN-TO IS 12'-0".

REFERENCE RAFTER COLUMN CONNECTION DETAILS FOR APPROPRIATE COLUMN HEIGHT AND TUBING SPECIFICATION.



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS & 12'-0"



LEAN-TO RAFTER TO RAFTER
COLUMN CONNECTION DETAIL FOR
RAFTER SPANS 12'-0" < TO < 16'-0"

**Validity Notice** 

Plans Expiration Date:

7 April 2027

No. 96777

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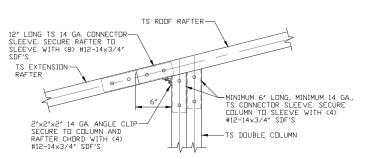
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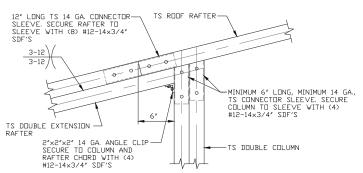
MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

	BLUESTONE CARPORTS AND GARAGES				
DRAWN BY: LT	380 HALL RD.				
	CAIRO, GA 39828				
CHECKED BY: AM	30'-0"x16'-0" LWP ENCLOSED STRUCTURE			TRUCTURE	
			JOB	ND: 21089S/	
PROJECT MGR: JRP	DATE: 4-7-25	SCALE: NTS	2401	25/250965	
CLIENT: BLUESTONE	SHT. 16	DWG. NO: SK-3		REV.⊨1	

## **BOX EAVE RAFTER LEAN-TO OPTIONS**



SIDE EXTENSION RAFTER/COLUMN DETAIL FOR SPANS & 12'-0"



SIDE EXTENSION RAFTER/COLUMN DETAIL FOR SPANS 12'-0" < TO < 16'-0"

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Plans Expiration Date:

7 April 2027



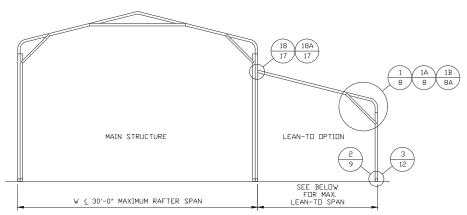
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	BLUESTO	BLUESTONE CARPORTS AND GARAGES			
DRAWN BY: LT	380 HALL RD.				
	CAIRO, GA 39828				
CHECKED BY: AM	30'-0"x16'-0" LWP ENCLOSED STRUCTURE				
			JOB	ND: 21089S/	
PROJECT MGR: JRP	DATE: 4-7-25	SCALE: NTS	2401	25/250965	
CLIENT: BLUESTONE	SHT. 16A	DWG. NO: SK-3		REV.⊨1	

## LEAN-TO OPTIONS (BOW EAVE RAFTER)

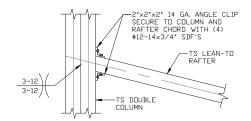
NOTE: BOW EAVE STRUCTURES CAN ONLY BE USED FOR WIND SPEEDS < 130 MPH.



#### TYPICAL BOW EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION

SCALE: NTS

MAXIMUM WIDTH OF DOUBLE TUBE MEMBER (RAFTER AND COLUMN) ROOF EXTENSION AND LEAN-TO IS 16'-0".
MAXIMUM WIDTH OF SINGLE TUBE MEMBER (RAFTER AND COLUMN) ROOF EXTENSION AND LEAN-TO IS 12'-0".
REFERENCE RAFTER COLUMN CONNECTION DETAILS FOR APPROPRIATE COLUMN HEIGHT AND TUBING SPECIFICATION.



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS & 12'-0"

2'X2'X2' 14 GA. ANGLE CLIP
SECURE TO COLUMN AND
RAFTER CHORD WITH (4)
#12-14x3/4' SDF'S

3-12

TS DOUBLE
COLUMN

TS DOUBLE
COLUMN

LEAN-TO RAFTER TO RAFTER
COLUMN CONNECTION DETAIL FOR
RAFTER SPANS 12'-0" < TO < 16'-0"

18A) KAFTER

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Plans Expiration Date:

7 April 2027

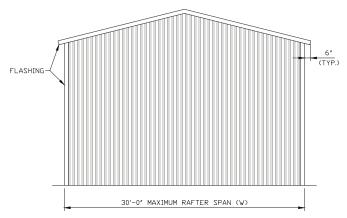


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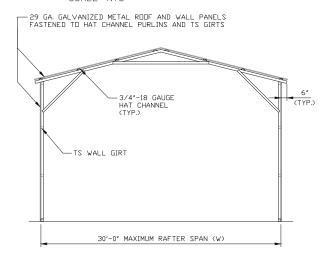
	BLUESTONE CARPORTS AND GARAGES			
DRAWN BY: LT		380 HALL RD.		
	CAIRO, GA 39828			
CHECKED BY: AM	30'-0"x16'-0	30'-0"x16'-0" LWP ENCLOSED STRUCTURE		
			JOB	ND: 21089S/
PROJECT MGR: JRP	DATE: 4-7-25	SCALE: NTS	2401	25/250965
CLIENT: BLUESTONE	SHT. 17	DWG. NO: SK-3		REV.: 1

## **BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION**



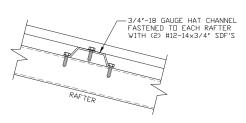
# TYPICAL END ELEVATION VERTICAL ROOF/SIDING

SCALE: NTS



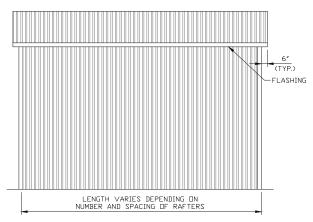
# TYPICAL SECTION VERTICAL ROOF/SIDING OPTION

SCALE: NTS



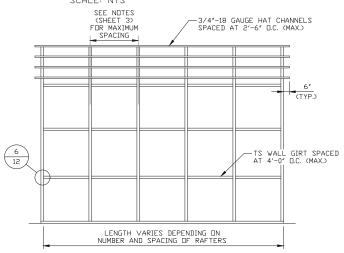
#### PANEL ATTACHMENT

(ALTERNATE FOR VERTICAL ROOF PANELS) SCALE: NTS



# TYPICAL SIDE ELEVATION VERTICAL ROOF/SIDING

SCALE: NTS



# TYPICAL FRAMING SECTION VERTICAL ROOF/SIDING OPTION WITH TS GIRTS

SCALE: NTS

NOTE: HAT CHANNELS CAN BE USED AS AN OPTION IN

PLACE OF TS WALL GIRTS.
BE SPACED AT 4'-0" D.C. M

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Plans Expiration Date:

7 April 2027

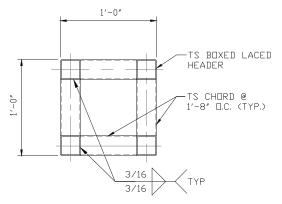
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# MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

240125/250965		
JOB NO: 21089S/		
CAIRO, GA 39828 30'-0"x16'-0" LWP ENCLOSED STRUCTURE		
BLUESTONE CARPORTS AND GARAGES 380 HALL RD.		

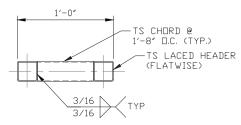
#### SIDE WALL HEADER OPTIONS FOR TS LACED COLUMNS

NOTE: HEADER DESIGN DOES NOT TAKE IN TO ACCOUNT ADDITIONAL ROOF LOADING FROM ATTACHED LEAN-TO STRUCTURES.



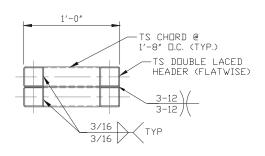
#### HEADER DETAIL FOR 19'-0" < LENGTH ≤ 20'-0"

SCALE: NTS



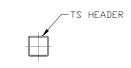
## HEADER DETAIL FOR LENGTH ≤ 12'-0"

SCALE: NTS



#### HEADER DETAIL F□R 12'-0" < LENGTH <u><</u> 19'-0"

SCALE: NTS



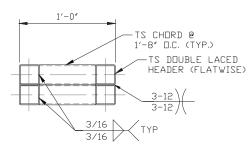
#### HEADER DETAIL FOR LENGTH ≤ 5'-0"

SCALE: NTS

NOTE: ONLY ALLOWED BETWEEN COLUMNS.

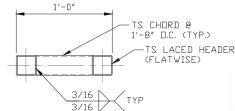
#### END WALL HEADER OPTIONS FOR TS LACED COLUMNS

NOTE: HEADER DESIGN DOES NOT TAKE IN TO ACCOUNT ADDITIONAL ROOF LOADING FROM ATTACHED LEAN-TO STRUCTURES.



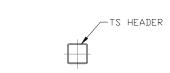
## HEADER DETAIL FOR 13'-0" < LENGTH ≤ 20'-0"

SCALE: NTS



# HEADER DETAIL FOR LENGTH ≤ 13'-0"

SCALE: NTS



#### HEADER DETAIL FOR LENGTH <u><</u> 5'-0"

SCALE: NTS NOTE: ONLY ALLOWED BETWEEN COLUMNS,

#### **Validity Notice**

Plans Expiration Date:

7 April 2027



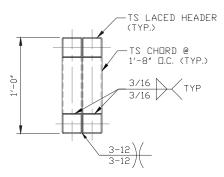
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# MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

CLIENT: BLUESTONE	SHT. 19	DWG. NO: SK-3		REV.: 1
PROJECT MGR: JRP	DATE: 4-7-25	SCALE: NTS		ND: 21089S/ 2S/25096S
CHECKED BY: AM	CAIRO, GA 39828 30'-0"x16'-0" LWP ENCLOSED STRUCTURE			
DRAWN BY: LT	BLUESTONE CARPORTS AND GARAGES 380 HALL RD.			

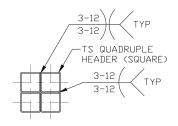
#### SIDE WALL HEADER OPTIONS FOR TS DOUBLE COLUMNS

NOTE: HEADER DESIGN DOES NOT TAKE IN TO ACCOUNT ADDITIONAL ROOF LOADING FROM ATTACHED LEAN-TO STRUCTURES.



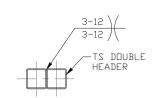
HEADER DETAIL FOR 15'-0" < LENGTH <u><</u> 20'-0"

SCALE: NTS



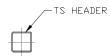
HEADER DETAIL FOR

10'-0" < LENGTH < 15'-0"



HEADER DETAIL FOR LENGTH ≤ 10'-0"

SCALE: NTS

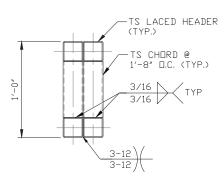


#### HEADER DETAIL FOR LENGTH ≤ 5'-0"

SCALE: NTS NOTE: ONLY ALLOWED BETWEEN COLUMNS.

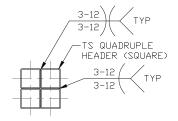
## END WALL HEADER OPTIONS FOR TS DOUBLE COLUMNS

NOTE: HEADER DESIGN DOES NOT TAKE IN TO ACCOUNT ADDITIONAL ROOF LOADING FROM ATTACHED LEAN-TO STRUCTURES.



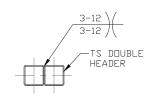
HEADER DETAIL FOR 16'-0" < LENGTH < 20'-0"

SCALE: NTS



HEADER DETAIL FOR 13'-0" < LENGTH ≤ 16'-0"

SCALE: NTS

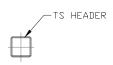


HEADER DETAIL FOR LENGTH < 13'-0"

CALE



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HEADER DETAIL FOR LENGTH ≤ 5'-0"

SCALE: NTS Note: only allowed between columns.

#### **Validity Notice**

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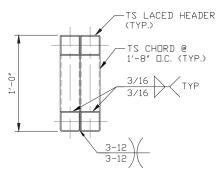
7 April 2027

MOORE AND ASSOCIATES	
ENGINEERING AND CONSULTING, INC	C.

		BLUESTC	NE CARPORTS A	ND	GARAGES
	DRAWN BY: LT	380 HALL RD.			
		CAIRO, GA 39828 30'-0"x16'-0" LWP ENCLOSED STRUCTURE			
	CHECKED BY: AM				
_	PROJECT MGR: JRP	DATE: 4-7-25			ND: 21089S/ .2S/25096S
	CLIENT: RLUESTONE	SHT. 19A	DWG. NO SK-3		REV.₁ 1

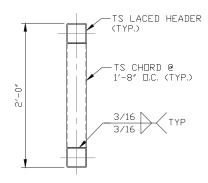
## SIDE WALL HEADER OPTIONS FOR TS SINGLE COLUMNS

NOTE: HEADER DESIGN DOES NOT TAKE IN TO ACCOUNT ADDITIONAL ROOF LOADING FROM ATTACHED LEAN-TO STRUCTURES.



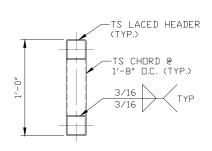
HEADER DETAIL FOR 16'-0" < LENGTH ≤ 20'-0"

SCALE: NTS



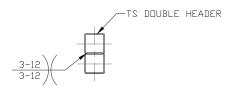
HEADER DETAIL FOR 14'-0" < LENGTH ≤ 16'-0"

SCALE: NTS



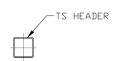
HEADER DETAIL FOR 11'-0" < LENGTH <u><</u> 14'-0"

SCALE: NTS



HEADER DETAIL FOR 7'-0" < LENGTH ≤ 11'-0"

SCALE: NTS



#### HEADER DETAIL FOR LENGTH ≤ 7'-0"

SCALE: NTS

**Validity Notice** 

Plans Expiration Date:

7 April 2027



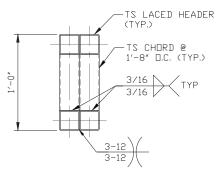
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ENGINEERING AND CONSULTING, INC.

	BLUESTONE CARPORTS AND GARAGES			
DRAWN BY: LT	380 HALL RD.			
	CAIRO, GA 39828 30'-0"x16'-0" LWP ENCLOSED STRUCTURE			
CHECKED BY: AM				
			JOB	ND: 21089S/
PROJECT MGR: JRP	DATE: 4-7-25			25/250965
CLIENT: BLUESTONE	SHT. 19B	DWG. NO: SK-3		REV.: 1

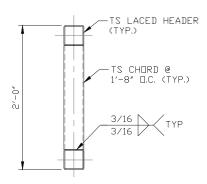
## END WALL HEADER OPTIONS FOR TS SINGLE COLUMNS

NOTE: HEADER DESIGN DOES NOT TAKE IN TO ACCOUNT ADDITIONAL ROOF LOADING FROM ATTACHED LEAN-TO STRUCTURES.



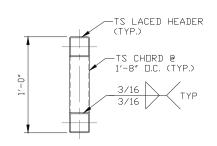
HEADER DETAIL FOR 12'-0" < LENGTH <u><</u> 20'-0"

SCALE: NTS



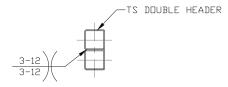
HEADER DETAIL FOR 11'-0" < LENGTH <u><</u> 12'-0"

SCALE: NTS



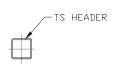
HEADER DETAIL FOR 10'-0" < LENGTH <u><</u> 11'-0"

SCALE: NTS



HEADER DETAIL FOR 9'-0" < LENGTH ≤ 10'-0"

SCALE: NTS



#### HEADER DETAIL FOR LENGTH ≤ 9'-0"

SCALE: NTS



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Plans Expiration Date:

7 April 2027

MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

CLIENT: BLUESTONE	SHT. 19C	DWG. NO: SK-3		REV.: 1
PROJECT MGR: JRP	DATE: 4-7-25	SCALE: NTS		ND: 21089S/ 2S/25096S
CHECKED BY: AM	CAIRO, GA 39828 30'-0"x16'-0" LWP ENCLOSED STRUCTURE			
DRAWN BY: LT	BLUESTONE CARPORTS AND GARAGES 380 HALL RD.			