

# STRUCTURAL DESIGN

# **ENCLOSED BUILDING**

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

2 October 2020 Revision 0 M&A Project No. 20198S

Prepared for:

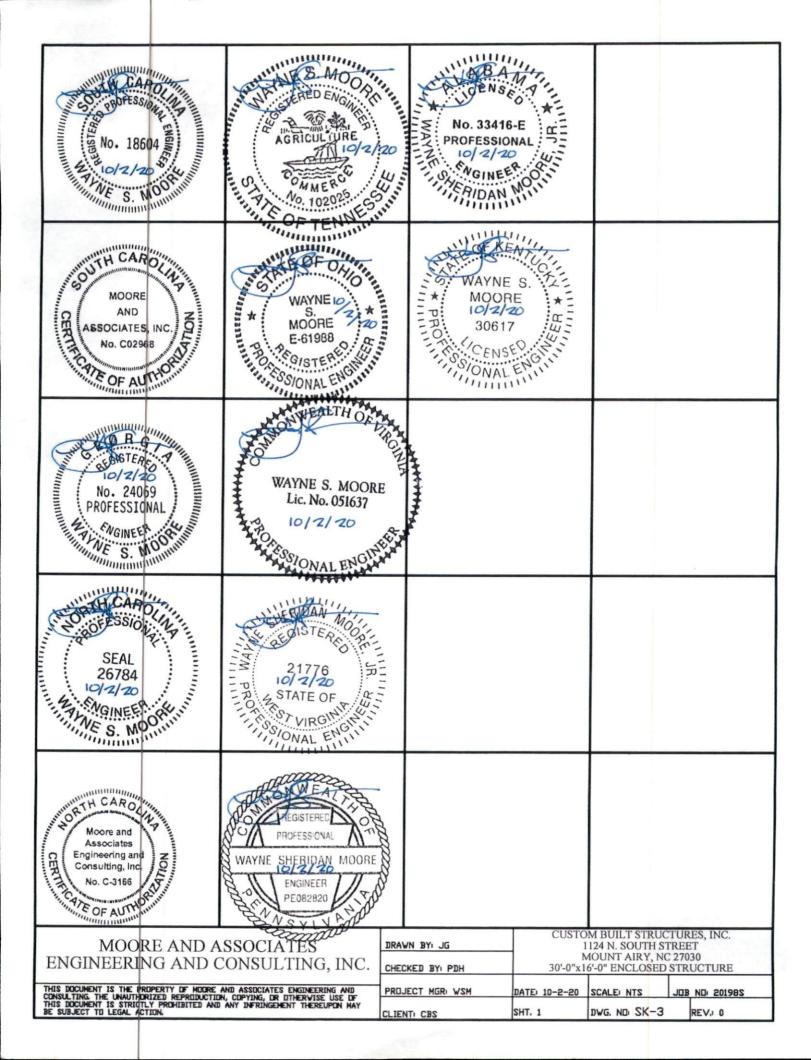
Custom Built Structures, Inc. 1124 N. South Street Mt. Airy, NC 27030

Prepared by:

Moore and Associates Engineering and Consulting, Inc. 1009 East Avenue North Augusta, SC 29841

> 401 S. Main Street, Suite 200 Mt. Airy, NC 27030





# DRAWING INDEX

|                    | DKAWING INDEX  |
|--------------------|--|
| SHEET 1<br>SHEET 2 | PE SEAL COVER SHEET DRAWING INDEX  |
| SHEET 3            | INSTALLATION NOTES AND SPECIFICATIONS  |
| SHEET 4            | TYPICAL SIDE AND END ELEVATIONS  |
| SHEET 5            | TYPICAL RAFTER/COLUMN FRAME AND SIDE FRAMING SECTION (BOX EAVE RAFTER)           |
| SHEET 5A           | TYPICAL RAFTER/COLUMN FRAME AND SIDE FRAMING SECTION (BOX EAVE RAFTER)           |
| SHEET 6            | COLUMN CONNECTION DETAILS (BOX EAVE RAFTER)                                      |
| SHEET 6A           | COLUMN CONNECTION DETAILS (BOX EAVE RAFTER)                                      |
| SHEET 6B           | COLUMN CONNECTION DETAILS (BOX EAVE RAFTER) (FOR WIND SPEEDS < 130 MPH)          |
| SHEET 6C           | COLUMN CONNECTION DETAILS (BOX EAVE RAFTER) (FOR WIND SPEEDS < 130 MPH)          |
| SHEET 7            | TYPICAL RAFTER/COLUMN FRAME AND SIDE FRAMING SECTION (BOW EAVE RAFTER)           |
| SHEET 7A           | TYPICAL RAFTER/COLUMN FRAME AND SIDE FRAMING SECTION (BOW EAVE RAFTER)           |
| SHEET 8            | COLUMN CONNECTION DETAILS (BOW EAVE RAFTER)                                      |
| SHEET 8A           | COLUMN CONNECTION DETAILS (BOW EAVE RAFTER)                                      |
| SHEET 8B           | COLUMN CONNECTION DETAILS (BOW EAVE RAFTER)<br>(FOR WIND SPEEDS < 130 MPH)       |
| SHEET 8C           | COLUMN CONNECTION DETAILS (BOW EAVE RAFTER) (FOR WIND SPEEDS < 130 MPH)          |
| SHEET 9            | BASE RAIL ANCHORAGE OPTIONS  |
| SHEET 9A           | BASE RAIL ANCHORAGE OPTIONS  |
| SHEET 10           | TYPICAL END WALL AND SIDE WALL FRAMING SECTIONS (BOX EAVE RAFTER)                |
| SHEET 11           | TYPICAL END WALL AND SIDE WALL FRAMING SECTIONS (BOW EAVE RAFTER)                |
| SHEET 12           | CONNECTION DETAILS   |
| SHEET 13           | CONNECTION DETAILS   |
| SHEET 14           | LEAN-TO OPTIONS (BOX EAVE RAFTER)  |
| SHEET 14A          | LEAN-TO OPTIONS (BOX EAVE RAFTER)  |
| SHEET 15           | LEAN-TO OPTIONS (BOW EAVE RAFTER)  |
| SHEET 16           | VERTICAL ROOF/SIDING OPTION END AND SIDE ELEVATION AND SECTION (BOX EAVE RAFTER) |
| SHEET 17           | SIDE WALL AND END WALL HEADER OPTIONS  |

| MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.   | DRAWN BY: JG<br>CHECKED BY: PDH | 1<br>N                  | M BUILT STRUC<br>124 N. SOUTH ST<br>MOUNT AIRY, NO<br>6'-0" ENCLOSED<br>I | TREET 27030              |
|---|---------------------------------|-------------------------|---|--------------------------|
| THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION. | PROJECT MGR: WSM  CLIENT: CBS   | DATE: 10-2-20<br>SHT. 2 | SCALE: NTS<br>DWG. ND: SK-3   | JOB NO 20198S<br>REV.1 0 |

#### INSTALLATION NOTES AND SPECIFICATIONS

- 1. DESIGN IS FOR MAXIMUM 30'-0' WIDE x 16'-0' EAVE HEIGHT ENCLOSED STRUCTURES.
- 2. DESIGN WAS DONE IN ACCORDANCE WITH THE 2018 NORTH CAROLINA BUILDING CODE (NCBC), 2018 INTERNATIONAL BUILDING CODE (IBC), 2015 IBC AND 2012 IBC.
- 3. DESIGN LOADS ARE AS FOLLOWS:

A) DEAD LOAD = 1.5 PSF B) LIVE LOAD = 12 PSF C) GROUND SNOV LOAD = 45 PSF

= 30 PSF WITH U-CHANNEL PEAK BRACE (W < 24'-0")

NOTE: UNBALANCED SNOW LOAD DUE TO DRIFTING HAS NOT BEEN EVALUATED.

- 4. 3-SECOND GUST ULTIMATE WIND SPEED ( Vult) ≤ 145 MPH (NOMINAL WIND SPEED ≤ 112 MPH).
- 5. MAXIMUM RAFTER/COLUMN AND END COLUMN SPACING = 5.0 FEET (UNLESS NOTED OTHERWISE).
- 6. ENDWALL COLUMNS (POSTS) AND SIDE WALL COLUMNS ARE EQUIVALENT IN SIZE AND SPACING (UNLESS NOTED OTHERWISE).
- 7. RISK CATEGORY I.
- 8. WIND EXPOSURE CATEGORY B.
- 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. AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR HAT CHANNELS, AND COLUMNS (INTERIOR OR END) = 10 INCHES.
- 11. FASTENERS CONSIST OF #12-14×3/4" SELF-DRILLING FASTENER (SDF), USE CONTROL SEAL WASHER WITH EXTERIOR FASTENERS.

  SPECIFICATIONS APPLICABLE ONLY FOR MEAN ROOF HEIGHT OF 16 FEET OR LESS, AND ROOF SLOPES OF 14" (3:12 PITCH) OR LESS SPACING REQUIREMENTS FOR OTHER ROOF HEIGHTS AND/OR SLOPES MAY VARY. ROOF SLOPES LESS THAN 3:12 REQUIRE USE OF JOINT SEALANT.
- 12. GROUND ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6' OF EACH COLUMN.
- 13. STANDARD GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBAR W/ WELDED NUT x 36' LONG AND MAY BE USED IN SUITABLE SOILS.

  OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USED IN UNSUITABLE SOILS AS NOTED.
- 4. WIND FORCES GOVERN OVER SEISMIC FORCES. SEISMIC PARAMETERS ANALYZED ARE:

SOIL SITE CLASS = D RISK CATEGORY I

 $I_{\rm F} = 1.0$ R= 3.25 V= CsW Sps= 2.039 9

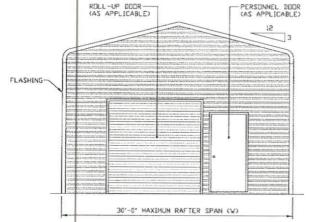
Sm= 1.258 g

| MOORE AND ASSOCIATES  | DRAWN BY: JG                  | 1                       | M BUILT STRUC                             | TREET          |
|---|-------------------------------|-------------------------|---|----------------|
| ENGINEERING AND CONSULTING, INC.  |                               | N                       | 124 N. SOUTH S'                           | C 27030        |
| THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY | PROJECT MGR: WSM  CLIENT: CBS | DATE: 10-2-20<br>SHT. 3 | 6'-0" ENCLOSED  SCALE: NTS  DWG. ND: SK-3 | 289102 IDN EDL |

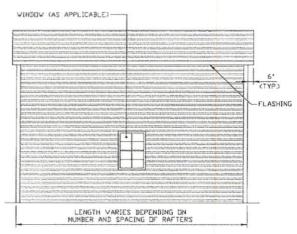
# BOX EAVE FRAME RAFTER STRUCTURE ROLL-UP DOOR ---PERSONNEL DOOR 15 FLASHING

# 30'-0' MAXIMUM RAFTER SPAN (W) TYPICAL END ELEVATION

### BOW EAVE FRAME RAFTER STRUCTURE

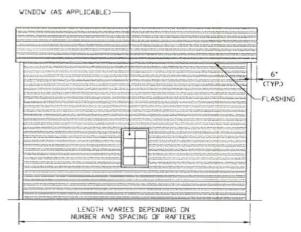


TYPICAL END ELEVATION SCALE: NTS



## TYPICAL SIDE ELEVATION

SCALE: NTS

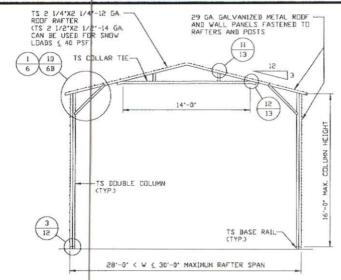


TYPICAL SIDE ELEVATION SCALE: NTS

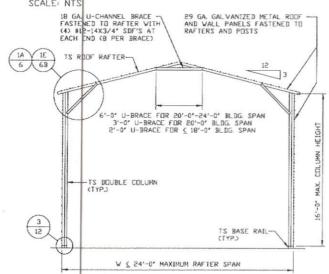
| MOO       | RE AND ASSOCIATES       |
|-----------|-------------------------|
| ENGINEERI | NG AND CONSULTING, INC. |

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

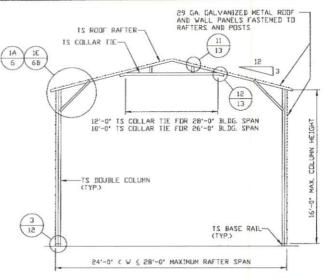
| DRAWN BY: JG CHECKED BY: PDH |               | CUSTOM BUILT STRUCTURES, INC. 1124 N. SOUTH STREET MOUNT AIRY, NC 27030 30'-0"x16'-0" ENCLOSED STRUCTURE |   |               |  |  |
|------------------------------|---------------|--|---|---------------|--|--|
| PROJECT MGR: WSM             | DATE: 10-2-20 |  | T | JUB ND 20198S |  |  |
| CLIENT: CBS                  | SHT. 4        | DWG. NO SK-  | 3 | REVA 0        |  |  |



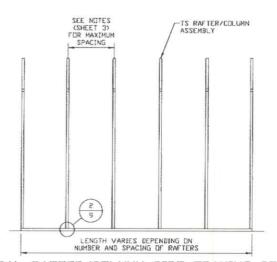
### TYPICAL RAFTER/COLUMN FRAME SECTION



TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NT\$

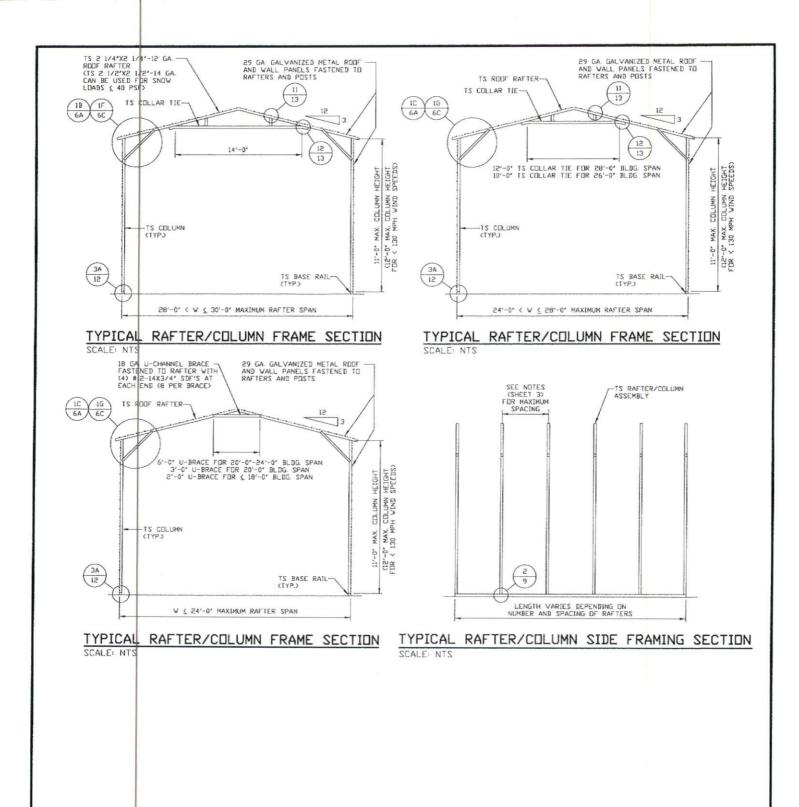


TYPICAL RAFTER/COLUMN FRAME SECTION SCALE: NTS

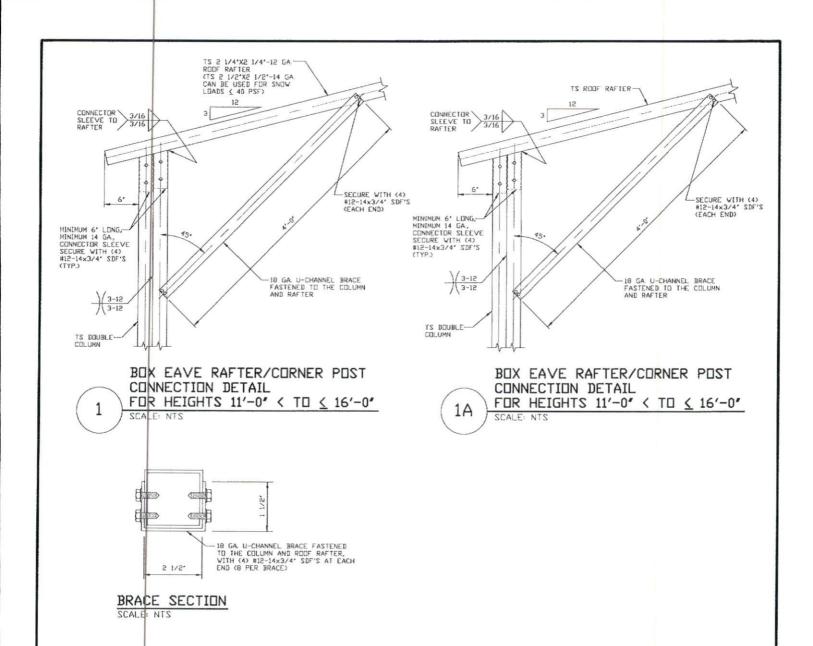


TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE NTS

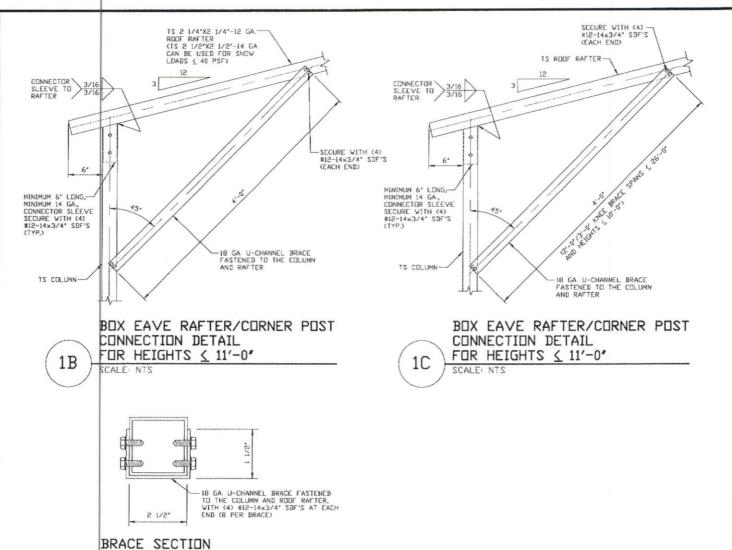
| CONSULTING THE UNAUTHO | DPERTY OF MODRE AND ASSOCIATES ENGINEERING AND<br>RIZED REPRODUCTION, COPYING OR OTHERVISE USE OF<br>LY PROMUBITED AND ANY INFRINGEMENT THERRUPON MAY | PROJECT MGR: WSM | DATE: 10-2-20 | SCALE: NTS   | JOB NO: 20198S          |
|------------------------|---|------------------|---------------|--|-------------------------|
|                        | RE AND ASSOCIATES<br>NG AND CONSULTING, INC.  |                  |               | 1124 N. SOUTH STREET<br>MOUNT AIRY, NC 27030<br>x16'-0" ENCLOSED STRUCTURE |                         |
| MOORE AND ASSOCIATES   |   | DRAWN BYI JG     |               |  | UCTURES, INC.<br>STREET |



| MOORE AND ASSOCIATES   | DRAWN BY: JG     | CUSTOM BUILT STRUCTURES, INC.<br>1124 N. SOUTH STREET |                                  |                |  |  |
|--|------------------|---|----------------------------------|----------------|--|--|
| ENGINEERING AND CONSULTING, INC.   | MOUNITAIDY       |   | MOUNT AIRY, NO<br>6'-0" ENCLOSED |                |  |  |
| THIS DOCUMENT IS THE PROPERTY OF MODINE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF | PROJECT MGR: WSM | DATE: 10-2-20   | SCALE: NTS                       | JUB ND: 201985 |  |  |
| THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.  | CLIENT: CBS      | SHT. 5A   | DWG. NO SK-3                     | REV. 0         |  |  |



| THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRIDUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INTRINGEMENT THEREUPON MAY |                              | DATE: 10-2-20 |   | JDB ND: 20198S |
|---|------------------------------|---------------|---|----------------|
| MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.   | DRAWN BY: JG CHECKED BY: PDH | 1 N           | 124 N. SOUTH ST<br>MOUNT AIRY, NO<br>6'-0" ENCLOSED | C 27030        |
|   |                              | CUSTO         | M BUILT STRUC                                       | TURES, INC.    |

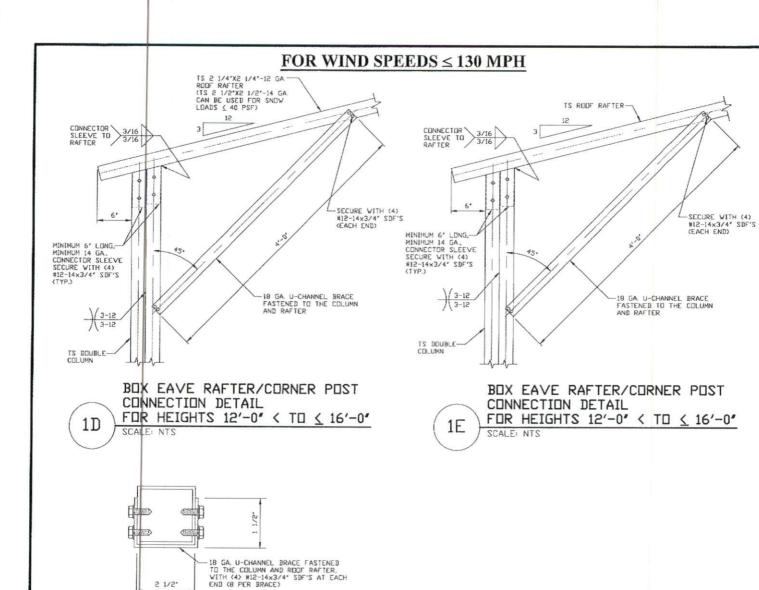


SCALE: NTS

| MOORE AND ASSOCIATES             | DRA |
|----------------------------------|-----|
| ENGINEERING AND CONSULTING, INC. | CHE |
|                                  |     |

THIS DOCUMENT IS THE PROPERTY OF HOORE AND ASSOCIATES ENGINEERING AND CONSULTING THE UNAUTHORIZED REPRODUCTION, COPYING, OR DITHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

| DRAWN BYI JG     | CUSTOM BUILT STRUCTURES, INC.<br>1124 N. SOUTH STREET<br>MOUNT AIRY, NC 27030 |                |     |              |  |  |  |
|------------------|---|----------------|-----|--------------|--|--|--|
| CHECKED BY: PDH  |   | 16'-0" ENCLOSE |     |              |  |  |  |
| PROJECT MGR: WSM | DATE: 10-2-20   | SCALE: NTS     | JOI | 286102 IDN E |  |  |  |
| CLIENTI CRS      | SHT. 6A   | DWG. ND. SK-   | 3   | REV. 0       |  |  |  |

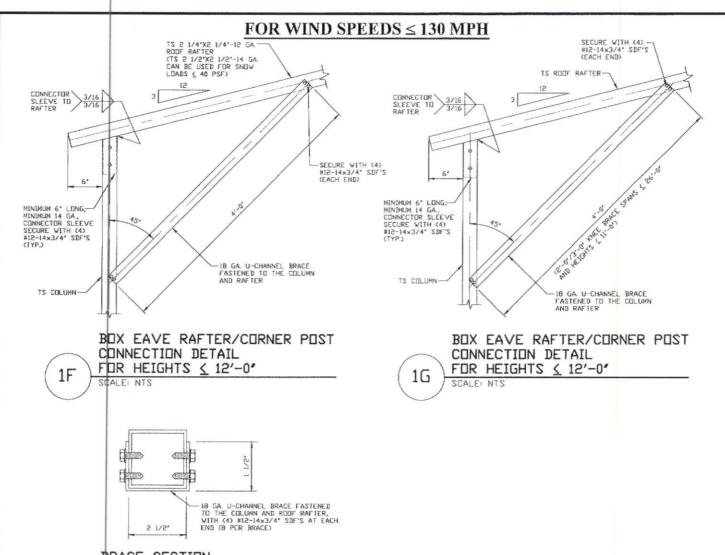


5 1/5.

BRACE SECTION

SCALE NTS

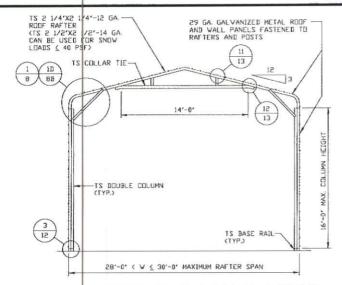
| MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.  THIS DOCUMENT IS THE PROPERTY OF HOORE AND ASSOCIATES ENGINEERING AND CONSULTING, OF OTHERVISE USE OF CONSULTING THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF CONSULTING THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF CONSULTING THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF CONSULTING THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF CONSULTING THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF CONSULTING THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF CONSULTING THE UNAUTHORIZED REPRODUCTION, COPYING OR OTHERVISE USE OF CONSULTING THE UNAUTHORIZED REPRODUCTION. | THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION. | CLIENTI CRS      | SHT. 6B       | DWG, NO SK- | 3 REV. 0       |
|--|---|------------------|---------------|-------------|----------------|
| MOORE AND ASSOCIATES  ENGINEEDING AND CONSULTING INC.  DRAWN BY: JG  1124 N. SOUTH STREET  MOUNT AIRY, NC 27030  | CONSULTING THE UNAUTHORIZED REPRODUCTION, COPYING, OR DITHERVISE USE OF                             | PROJECT MGR: WSM | DATE: 10-2-20 | SCALE: NTS  | JUB ND: 501582 |
| MOORE AND ASSOCIATES  DRAWN BY: JG  CUSTOM BUILT STRUCTURES, INC. 1124 N. SOUTH STREET   |   | · CHECKED BY PDH |               |             |                |
|  | MOORE AND ASSOCIATES  | DRAWN BY: JG     |               |             |                |



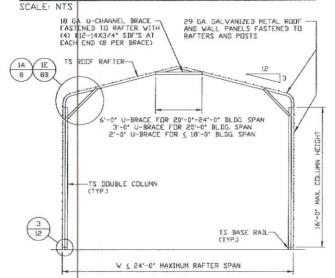
BRACE SECTION

SCALE: NTS

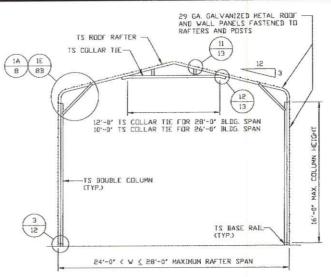
| MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.  | DRAWN BY: JG<br>CHECKED BY: PDH | CUSTOM BUILT STRUCTURES, INC. 1124 N. SOUTH STREET MOUNT AIRY, NC 27030 30'-0"x16'-0" ENCLOSED STRUCTURE |            |                           |
|--|---------------------------------|--|------------|---------------------------|
| THIS DOCUMENT IS THE PROPERTY OF MODIFE AND ASSOCIATES ENGINEERING AND CONSULTING, THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION. | PROJECT MGR: WSM                |  | SCALE: NTS | JDB ND: 20198S<br>REV.: 0 |



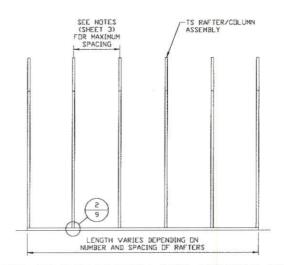
### TYPICAL RAFTER/COLUMN FRAME SECTION



TYPICAL RAFTER/COLUMN FRAME SECTION

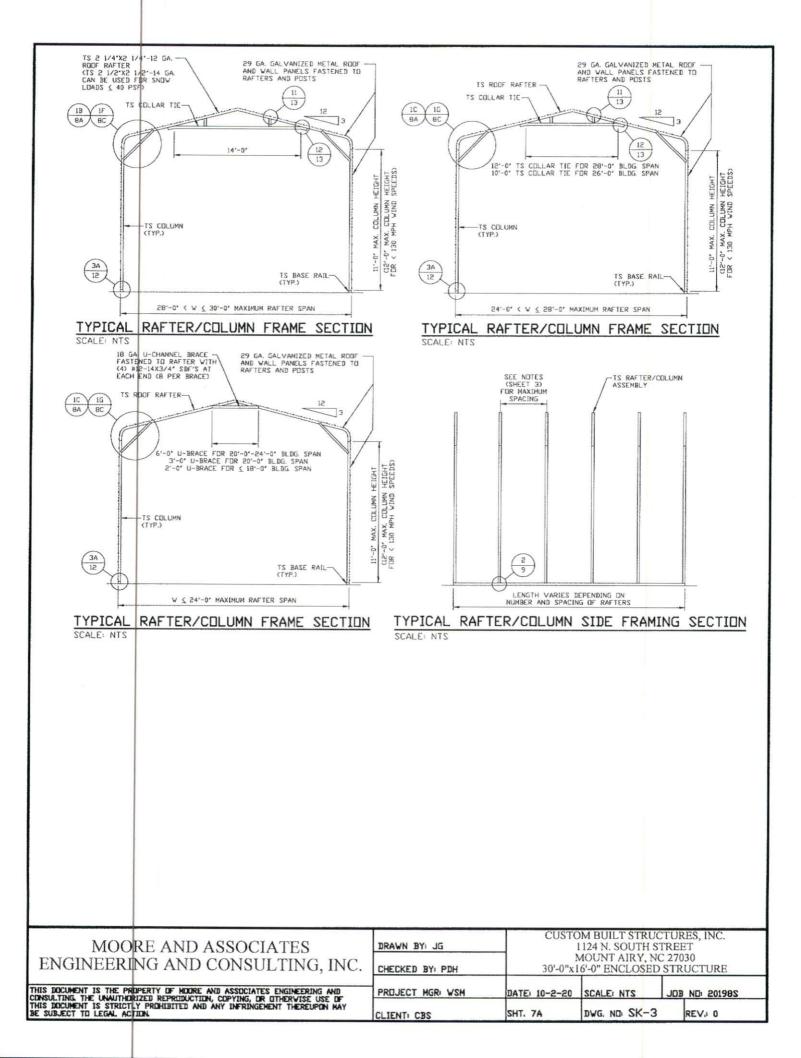


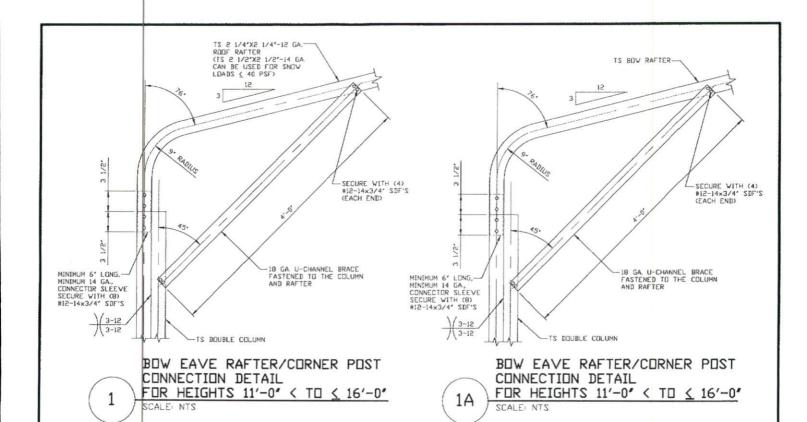
# TYPICAL RAFTER/COLUMN FRAME SECTION SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION SCALE: NTS

| MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.  | CHECKED BY: PDH  PROJECT MGR: WSM | 1 |             |  |
|--|-----------------------------------|---|-------------|--|
| DISSULTING THE UNAUTHORIZED REPRODUCTION, COPYING, OR DITERVISE USE OF<br>HIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY<br>E SUBJECT TO LEGAL ACTION. | FRUJECT MURI WSM                  |   | DWG, ND SK- |  |

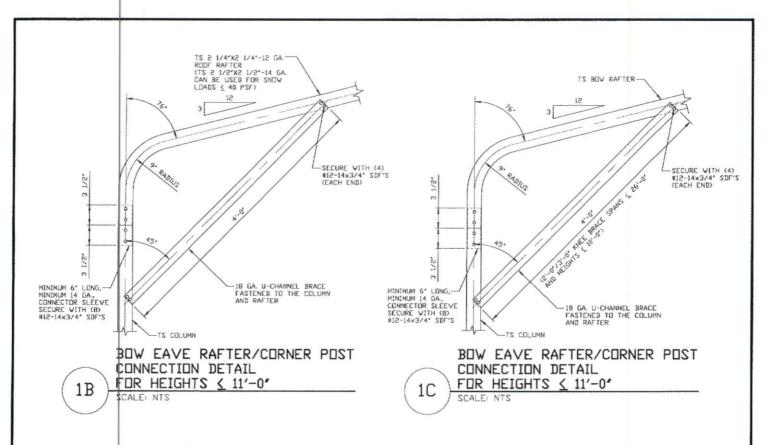


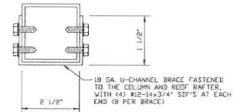


18 GA. U-CHANNEL BRACE FASTENED
TO THE COLUMN AND RODE RAFTER,
VITH (4) BI2-14x3/4' SDF'S AT EACH
END (8 PER BRACE)

BRACE SECTION

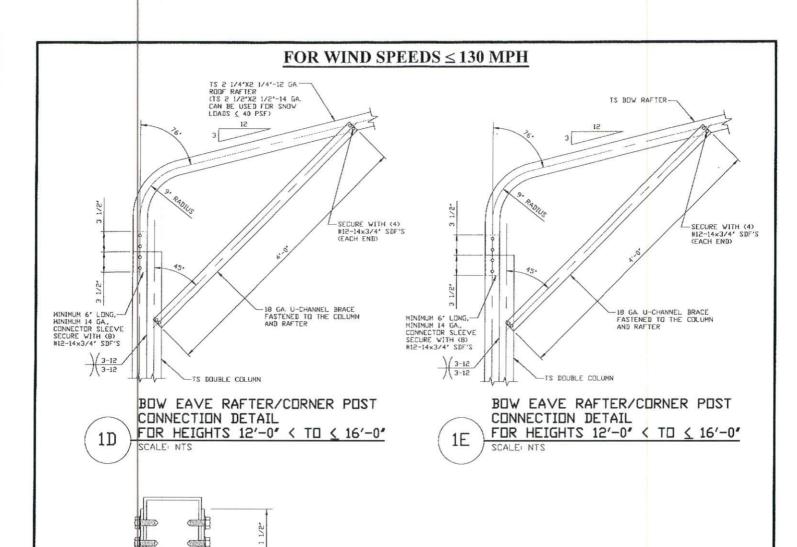
| MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.   | DRAWN BY: JG CHECKED BY: PDH | 1<br>N                  | M BUILT STRUC<br>124 N. SOUTH ST<br>MOUNT AIRY, NO<br>6'-0" ENCLOSED | REET 27030                |
|---|------------------------------|-------------------------|--|---------------------------|
| THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION. | PROJECT MGR: WSM             | DATE: 10-2-20<br>SHT. 8 | SCALE: NTS DWG. ND: SK-3   | JDB ND: 20198S<br>REV.: 0 |





BRACE SECTION

|  | T                | CUSTO         | OM BUILT STR                  | UCTURES, INC.            |
|--|------------------|---------------|-------------------------------|--------------------------|
| MOORE AND ASSOCIATES   | DRAWN BYI JG     |               | 1124 N. SOUTH                 |                          |
| ENGINEERING AND CONSULTING, INC.   | CHECKED BY: PDH  |               | MOUNT AIRY,<br>16'-0" ENCLOSE | NC 27030<br>ED STRUCTURE |
| THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND  | PROJECT MGR: WSM | DATE: 10-2-20 | SCALE: NTS                    | 28 NO: 20198S            |
| CONSULTING THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF<br>THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY<br>BE SUBJECT TO LEGAL ACTION. | CLIENT: CBS      | SHT. 8A       | DWG. NO SK-                   | 3 REV. 0                 |



18 GA. U-CHANNEL BRACE FASTENED TO THE COLUMN AND RODE RAFTER, WITH (45) 812-14-43/4\* SDF'S AT EACH END (8 PER BRACE)

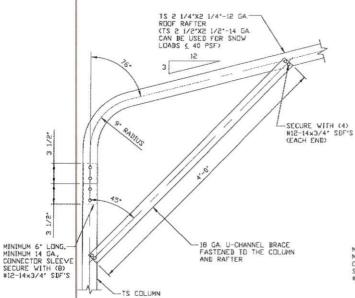
BRACE SECTION

| MOORE AND ASSOCIATES  | DRAWN BY: JG     | 1             | M BUILT STRUC<br>1124 N. SOUTH ST | TREET          |
|---|------------------|---------------|-----------------------------------|----------------|
| ENGINEERING AND CONSULTING, INC.  | CHECKED BY: PDH  |               | MOUNT AIRY, NO<br>6'-0" ENCLOSED  |                |
| THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHOBIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF | PROJECT MGR: WSM | DATE: 10-2-20 | SCALE: NTS                        | JOB NO: 201985 |
| THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.   | CLIENT: CBS      | SHT, BB       | DWG. NO SK-3                      | REV. 0         |



0

MINIMUM 6' LDNG,— MINIMUM 14 GA., CONNECTOR SLEEVE SECURE WITH (8) #12-14x3/4' SDF'S



BOW EAVE RAFTER/CORNER POST CONNECTION DETAIL FOR HEIGHTS < 12'-0'

SCALE: NTS

1F

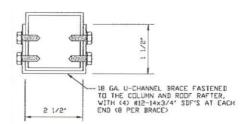
BOW EAVE RAFTER/CORNER POST CONNECTION DETAIL FOR HEIGHTS < 12'-0" 1G SCALE: NTS

TS CDILIMN

TS BOW RAFTER

18 GA, U-CHANNEL BRACE FASTENED TO THE COLUMN AND RAFTER

SECURE WITH (4) #12-14x3/4" SDF'S (EACH END)



BRACE SECTION

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

CUSTOM BUILT STRUCTURES, INC. 1124 N. SOUTH STREET DRAWN BY: JG MOUNT AIRY, NC 27030 30'-0"x16'-0" ENCLOSED STRUCTURE CHECKED BY: PDH PROJECT MGR: WSM DATE: 10-2-20 SCALE NTS 286102 IDN 8DF SHT. 8C DWG. NO SK-3 REV. 0 CLIENTI CBS

### INSTALL 1/2'x6 1/2' EXPANSION ANCHOR THROUGH BASE RAIL WITHIN 6' OF WWF DR FIBERGLASS EACH COLUMN. (ALSO APPLICABLE TO END WALLS> VARIE GRADE (MIN.) 1,-0, 8 MINIMUM 3 EMBEDMENT (TYP.) MONOLITHIC CONCRETE FOOTING (3000 PSI MIN.) REINFORCEI WITH (2)-#4's CONTINUOUS 1'-0" VARIES

### CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

SCALE: NTS MINIMUM ANCHOR EDGE DISTANCE IS 4'. \* 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:

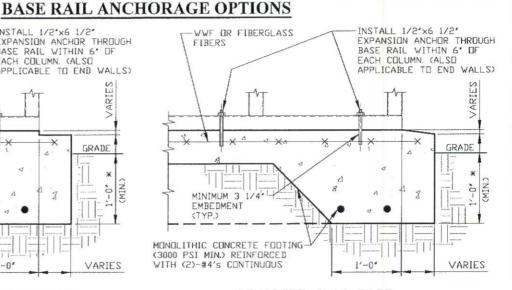
THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A165 OR FIBERGLASS FIBER REINFORCEMENT.

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

- 1. REINFORCEMENT IS BENT COLD.
  2. THE DIAMETER OF THE BEND, MEASURED ON THE INSIDE OF THE BAR, IS NOT LESS THAN SIX-BAR DIAMETERS.
  3. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT
- BE FIFLD 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' HEL X WITH MINIMUM 50' EMBEDMENT
- 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 LODSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS ALLUVIA 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 (0' EMBEDMENT.



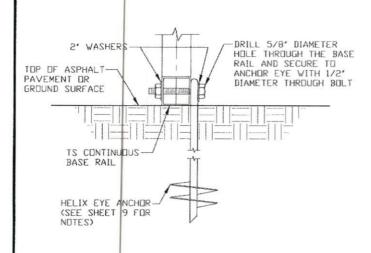


### CONCRETE SLAB BASE RAIL ANCHORAGE

SCALE: NTS MINIMUM ANCHOR EDGE DISTANCE IS 4" \* COORDINATE WITH LOCAL BUILDING CODE AND/ORD REGARDING MINIMUM FROST DEPTH

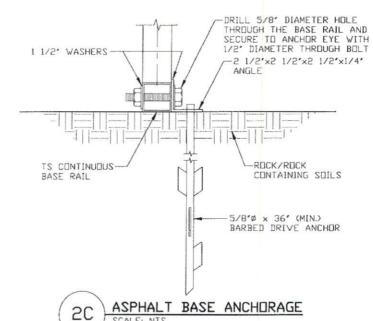
| MOORE AND ASSOCIATES   | DRAWN BY: JG     | ] 1           | M BUILT STRUC<br>124 N. SOUTH ST | TREET          |
|--|------------------|---------------|----------------------------------|----------------|
| ENGINEERING AND CONSULTING, INC.   | CHECKED BY: PDH  |               | AOUNT AIRY, NO<br>6'-0" ENCLOSED |                |
| THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND  | PROJECT MGR: WSM | DATE: 10-2-20 | SCALE: NTS                       | JDB ND: 201985 |
| CONSULTING THE UNAUTHBRIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF<br>THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY<br>BE SUBJECT TO LEGAL ACTION. | CLIENT: CBS      | SHT. 9        | DVG. NO SK-3                     | REV. 0         |

### BASE RAIL ANCHORAGE OPTIONS



GROUND BASE HELIX ANCHORAGE 2B

(CAN BE USED FOR ASPHALT) \* COURDINATE WITH LOCAL BUILDING CODE AND/ORD REGARDING MINIMUM FROST DEPTH (LENGTH).



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

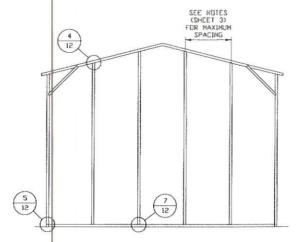
SCALE: NTS

| MOORE AND ASSOCIATES             |  |
|----------------------------------|--|
| ENGINEERING AND CONSULTING, INC. |  |

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

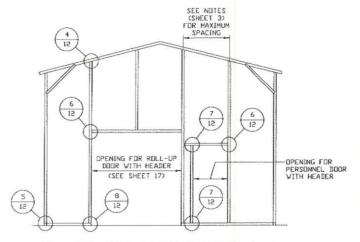
| CLIENT: CBS      | SHT. 9A   | DWG. NO SK- | 3 REV. 0      |  |  |  |
|------------------|---|-------------|---------------|--|--|--|
| PROJECT MGR: WSM | DATE: 10-2-20   | SCALE: NTS  | JUB NO 201982 |  |  |  |
| CHECKED BY: PDH  |   |             | ED STRUCTURE  |  |  |  |
| DRAWN BY: JG     | CUSTOM BUILT STRUCTURES, INC. 1124 N. SOUTH STREET MOUNT AIRY, NC 27030 |             |               |  |  |  |

## BOX EAVE RAFTER END WALL AND SIDE WALL OPENINGS



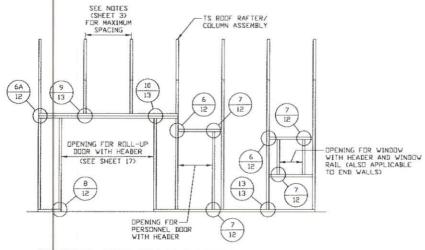
# TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION

SCALE: NTS



TYPICAL BOX EAVE RAFTER END WALL OPENINGS FRAMING SECTION

SCALE: NTS

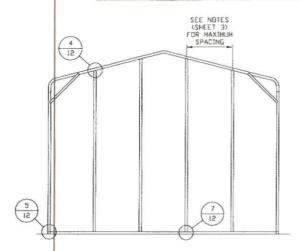


TYPICAL BOX EAVE RAFTER SIDE WALL OPENINGS FRAMING SECTION

SCALE: NTS

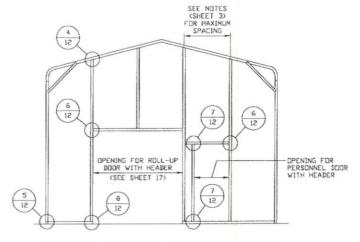
| MOORE AND ASSOCIATES  | DRAWN BYI JG     | 1             | M BUILT STRUCTU<br>124 N. SOUTH STRI   | EET           |
|---|------------------|---------------|--|---------------|
| ENGINEERING AND CONSULTING, INC.  | CHECKED BY: PDH  |               | MOUNT AIRY, NC 27<br>6'-0" ENCLOSED ST |               |
| THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING, THE UNAUTHRIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF                                      | PROJECT MGR: WSM | DATE: 10-2-20 | SCALE: NTS JE                          | S86103 IDI 80 |
| CONSULTING, THE UNAUTHURIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF<br>THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY<br>BE SUBJECT TO LEGAL ARTION. | CLIENT: CBS      | SHT. 10       | DWG. NO SK-3                           | REVA 0        |

# BOW EAVE RAFTER END WALL AND SIDE WALL OPENINGS



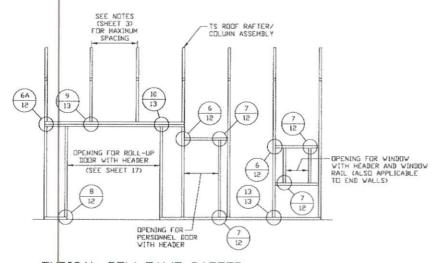
# TYPICAL BOW EAVE RAFTER END WALL FRAMING SECTION

SCALE: NTS



# TYPICAL BOW EAVE RAFTER END WALL OPENINGS FRAMING SECTION

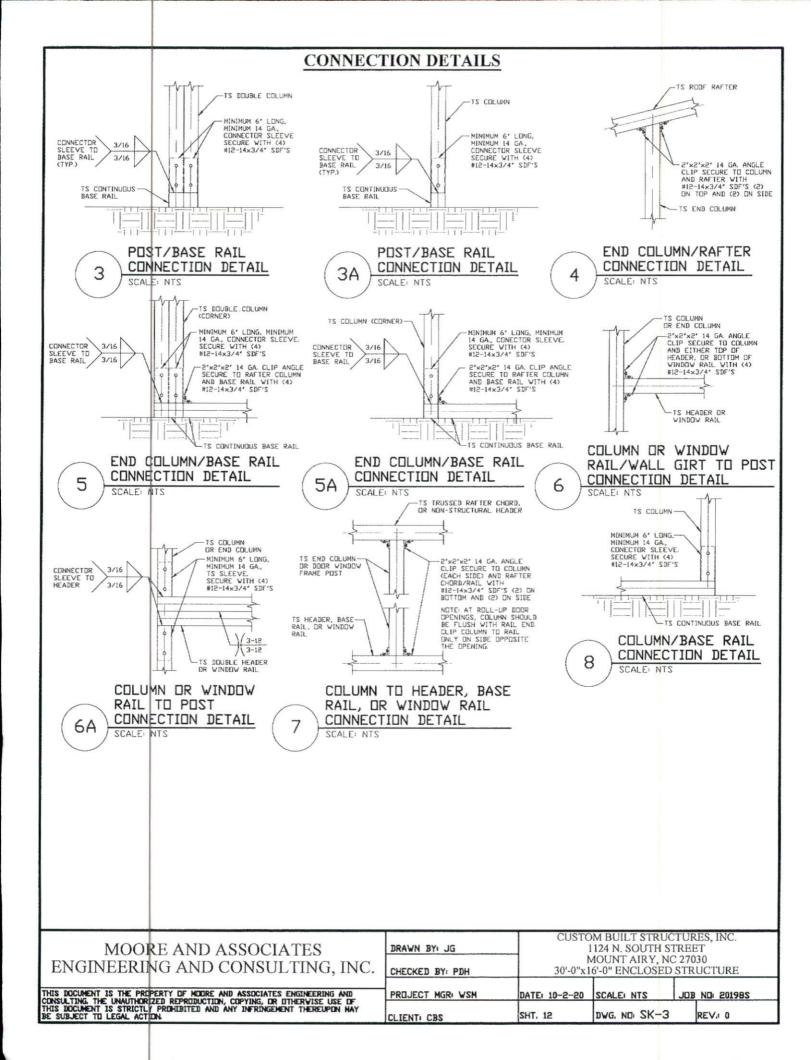
SCALE: NTS



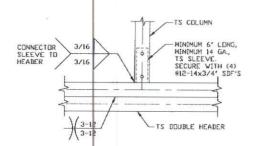
# TYPICAL BOW EAVE RAFTER SIDE WALL OPENINGS FRAMING SECTION

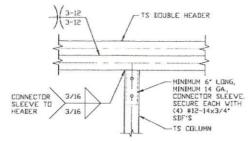
SCALE: NTS

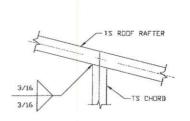
| MOORE AND ASSOCIATES  | DRAWN BY: JG     | CUSTOM BUILT STRUCTURES, INC. 1124 N. SOUTH STREET MOUNT AIRY, NC 27030 |                |                |
|---|------------------|---|----------------|----------------|
| ENGINEERING AND CONSULTING, INC.  | CHECKED BY: PDH  |   | 6'-0" ENCLOSED |                |
| THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE LINAUTHURIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF                              | PROJECT MGR: WSM | DATE: 10-2-20   | SCALE: NTS     | JDB ND: 20198S |
| CONSULTING, THE UNAUTHIRIZED REPRIBUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION. | CLIENT: CBS      | SHT. 11   | DWG, ND SK-3   | REV. 0         |



# CONNECTION DETAILS





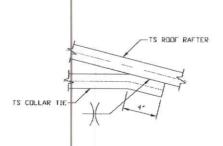


9 COLUMN/DOUBLE HEADER
CONNECTION DETAIL
SCALE: NTS

10 DOUBLE HEADER/COLUMN CONNECTION DETAIL

SCALE: NTS

RAFTER TO CHORD CONNECTION DETAIL SCALE, NTS



TS END COLUMN
OR DOOR VINDOV
FRAME POST

TS HEADER, BASE
RAIL, OR VINDOV
RAIL

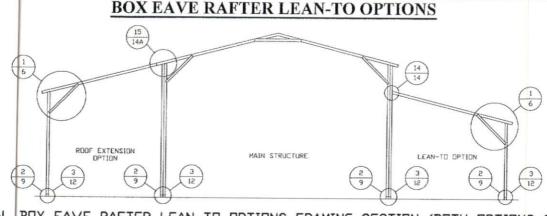
COLUMN TO HEADER

RAIL OR VINDOV

12 COLLAR TIE CONNECTION DETAIL

COLUMN TO HEADER
OR BASE RAIL
CONNECTION DETAIL
SCALE: NTS

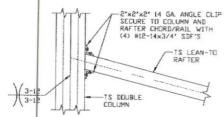
| MOCRE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.   | DRAWN BY: JG  CHECKED BY: PDH | 1<br>N                   | M BUILT STRUC<br>124 N. SOUTH ST<br>MOUNT AIRY, NO<br>6'-0" ENCLOSED | TREET 27030               |
|---|-------------------------------|--------------------------|--|---------------------------|
| THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION. | PROJECT MGR: WSM              | DATE: 10-2-20<br>SHT. 13 | SCALE: NTS DWG. NO: SK-3   | JUB NU: 20198S<br>REV.: 0 |



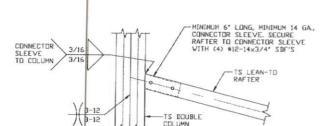
TYPICAL BOX EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN)

SCALE: NTS

IDTE: KNEE BRACE MUST BE 4'-0' REGARDLESS OF COLUMN HEIGHT.
FOR SHARED COLUMNS REFERENCE RAFTER COLUMN CONNECTION DETAILS FOR
APPROPRIATE COLUMN HEIGHT AND TUBING SPECIFICATIONS.



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"

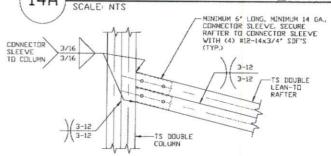
2'x2'x2' 14 GA ANGLE CLIP
SECURE TO COLLUMN AND
RAFTER CHIRD/RAIL WITH
(4) WI2-14x3/4' SIF'S

3-12

3-12

TS DOUBLE
COLUMN

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



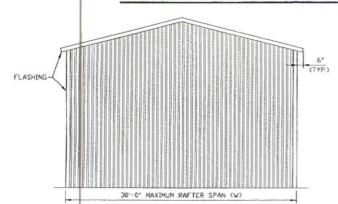
LEAN-TO RAFTER TO RAFTER
COLUMN CONNECTION DETAIL FOR
RAFTER SPANS 12'-0' < TO < 16'-0'
SCALE: NTS

| 100000 1370 1000 071             |   |
|----------------------------------|---|
| MOORE AND ASSOCIATES             |   |
| ENGINEERING AND CONSULTING, INC. |   |
| Enough of the Combolition, Inc.  | ٠ |

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING THE UNAUTHIRIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON HAY BE SUBJECT TO LEGAL ACTION.

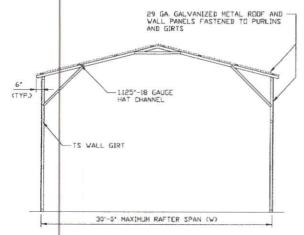
| DRAWN BY: JG<br>CHECKED BY: PDH | -             | OM BUILT STRU<br>1124 N. SOUTH<br>MOUNT AIRY,<br>16'-0" ENCLOSE | STRE<br>NC 270 | ET<br>030  |
|---------------------------------|---------------|---|----------------|------------|
| PROJECT MGR: WSM                | DATE: 10-2-20 | SCALE NTS   | JOI            | ND: 20198S |
| CLIENT: CBS                     | SHT. 14       | DWG. NO SK-   | 3              | REV. 0     |

### BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION



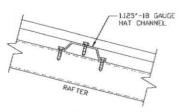
# TYPICAL END ELEVATION VERTICAL ROOF/SIDING

SCALE: NTS



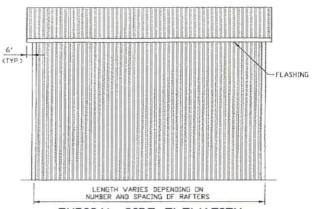
# TYPICAL SECTION VERTICAL ROOF/SIDING OPTION

SCALE: NTS



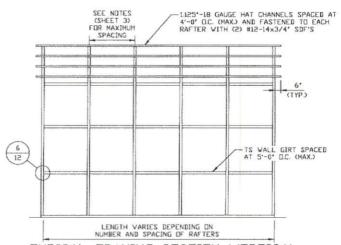
### PANEL ATTACHMENT

(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

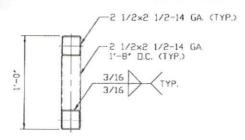
SCALE: NTS

| MOC      | RE AND ASSOCIATES       |
|----------|-------------------------|
| ENGINEER | NG AND CONSULTING, INC. |

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHIRIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

| DRAWN BY: JG     | CUSTOM BUILT STRUCTURES, INC. 1124 N. SOUTH STREET MOUNT AIRY, NC 27030 30'-0"x16'-0" ENCLOSED STRUCTURE |             |    |              |
|------------------|--|-------------|----|--------------|
| CHECKED BY: PDH  |  |             |    |              |
| PROJECT MGR: WSM | DATE: 10-2-20  | SCALE: NTS  | JO | 286102 IDN 8 |
| CLIENT: CBS      | SHT. 16  | DWG. NO SK- | 3  | REV. 0       |

## SIDE WALL HEADER OPTIONS





SCALE: NTS (12'-0' < LENGTHS < 16'-0' FOR SNOW LDADS < 35 PSF)



TS DOUBLE HEADER

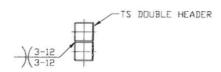
HEADER DETAIL FOR SIDE WALL DOOR OPENINGS 6'-0' < LENGTH < 10'-0"

SCALE: NTS (6'-0' < LENGTHS ( 12'-0' FOR SNOW LOADS ( 35 PSF)

HEADER DETAIL FOR SIDE WALL DOOR OPENINGS ≤ 6'-0'

SCALE: NTS

### END WALL HEADER OPTIONS



HEADER DETAIL FOR SIDE WALL DOOR OPENINGS 12'-0" < LENGTH \( \) 16-0"

SCALE: NTS

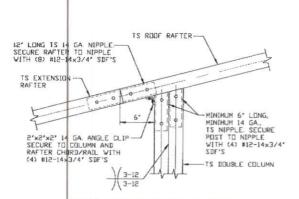


HEADER DETAIL FOR END WALL DOOR OPENINGS ≤ 12'-0'

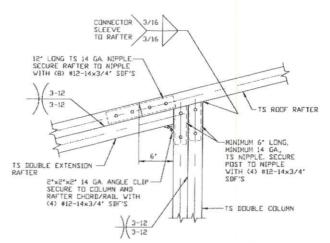
SCALE: NTS

| MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.   | DRAWN BY: JG CHECKED BY: PDH |               | CUSTOM BUILT STRUCTURES, INC.<br>1124 N. SOUTH STREET<br>MOUNT AIRY, NC 27030<br>30'-0"x16'-0" ENCLOSED STRUCTURE |                |  |  |
|---|------------------------------|---------------|---|----------------|--|--|
| THIS DOCUMENT IS THE FROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF | PROJECT MGR: WSM             | DATE: 10-2-20 | SCALE: NTS  | JOB NO: 20198S |  |  |
| THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.   | CLIENT: CBS                  | SHT. 17       | DWG. NO SK-3  | REV. 0         |  |  |

## BOX EAVE RAFTER LEAN-TO OPTIONS



SIDE EXTENSION RAFTER/COLUMN DETAIL FOR SPANS <u>\</u> 12'-0"

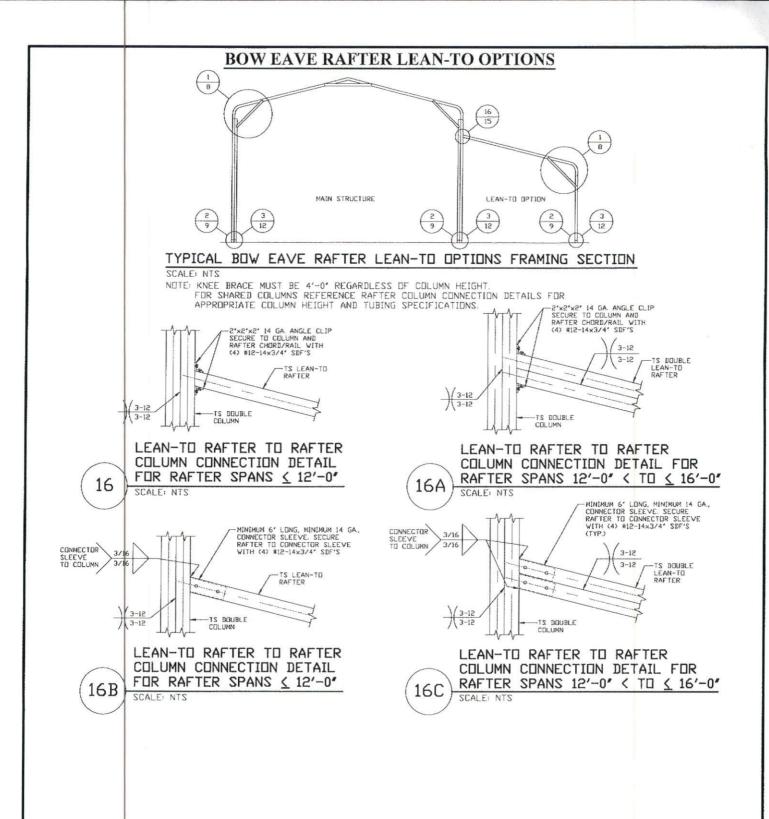


SIDE EXTENSION RAFTER/COLUMN DETAIL FOR SPANS 12'-0" < TO ≤ 16'-0" 15A SCALE: NTS

| MOO                    | RE AND ASSOCIATES  | DRAWN B | Yı JG  |
|------------------------|--|---------|--------|
| ENGINEER               | ING AND CONSULTING, INC.   | CHECKED | BY: P  |
| THIS DOCUMENT IS THE P | ROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND<br>DRIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF | PROJECT | MGR: 1 |

THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

| DRAWN BY: JG     |                                  | OM BUILT STRI<br>I 124 N. SOUTH<br>MOUNT AIRY, |               |
|------------------|----------------------------------|--|---------------|
| CHECKED BY: PDH  | 30'-0"x16'-0" ENCLOSED STRUCTURE |  |               |
| PROJECT MGR: WSM | DATE: 10-2-20                    | SCALE: NTS                                     | JOB NO 20198S |
| CLIENT: CBS      | SHT. 14A                         | DVG. NO SK-                                    | 3 REV. D      |



| MOORE AND ASSOCIATES  | DRAWN BY: JG     | CUSTOM BUILT STRUCTURES, INC. 1124 N. SOUTH STREET     |              |                |  |
|---|------------------|--|--------------|----------------|--|
| ENGINEERING AND CONSULTING, INC.  | CHECKED BY: PDH  | MOUNT AIRY, NC 27030<br>30'-0"x16'-0" ENCLOSED STRUCTU |              |                |  |
| THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING, THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF | PROJECT MGR: WSM | DATE: 10-2-20  | SCALE: NTS   | JOB NO: 20198S |  |
| THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY  BE SUBJECT TO LEGAL ACTION   | CLIENT: CRS      | SHT. 15  | DWG, NO SK-3 | REVA 0         |  |