



STRUCTURAL DESIGN

STANDARD PACKAGE ENCLOSED BUILDING

**MAXIMUM 30'- 0" WIDE X 14'- 0" HEIGHT-
BOX EAVE FRAME AND BOW FRAME**

5 February 2018

Revision 0

M&A Project No. 17259S

Prepared for:

5-Star Metal Structures

9283 US 601

Dobson, NC 27017

Prepared by:

Moore and Associates Engineering and Consulting, Inc.

1009 East Avenue

North Augusta, SC 29841

401 South Main Street

Mount Airy, NC 27030



**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING**

Building
50x50



STRENGTH DESIGN
STANDARD PACKAGE
ENCLOSURE BUILDING

MANUFACTURED BY WOOD & BOW FRAME
BOE FAVORITE AND BOE FRAME

2 February 1978
Revision 0
MSA System No. 17202

Printed for:

Structural Systems
1781 1/2 Ave
Tomball, TX 77375

Printed by:

Wilson and Associates Engineering and Consulting, Inc.

1001 Fossil Avenue
North Austin, TX 78741

401 West Main Street
Pleasant Hill, MO 63079



WILSON AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: AT		FIVE STAR METAL STRUCTURES	
CHECKED BY: PDH		9283 US 601	
PROJECT MGR: VSH		DOBSON, NC 27017	
DATE: 2-5-16		SCALE: NTS	JOB NO: 172595
CLIENT: FIVE STAR		SHT. 1	DWG. NO: SK-3
			REV: 0

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 THEREOF MAY BE SUBJECT TO LEGAL ACTION.



PROJECT NO. 2011-01 DATE 2-2-11 SCALE 1/2" = 1'-0" SHEET NO. 11-1 TOTAL SHEETS 11		MOORE AND ASSOCIATES ENGINEERS AND ARCHITECTS 1000 WEST 10TH STREET SUITE 200 WASHINGTON, NC 27578 TEL: 919-853-1111 FAX: 919-853-1112 WWW.MOOREANDASSOCIATES.COM	
---	--	--	--

DRAWING INDEX

SHEET 1	PE SEAL COVER SHEET
SHEET 2	DRAWING INDEX
SHEET 3	INSTALLATION NOTES AND SPECIFICATIONS
SHEET 3A	TYPICAL SIDE AND END ELEVATIONS
SHEET 4	TYPICAL RAFTER/COLUMN END AND SIDE FRAMING SECTION (BOX EAVE RAFTER)
SHEET 5A	COLUMN CONNECTION DETAILS (BOX EAVE STRUCTURE)
SHEET 5B	COLUMN CONNECTION DETAILS (BOX EAVE STRUCTURE)
SHEET 6	TYPICAL RAFTER/COLUMN END AND SIDE FRAMING SECTION (BOW RAFTER)
SHEET 7A	COLUMN CONNECTION DETAILS (BOW RAFTER STRUCTURE)
SHEET 7B	COLUMN CONNECTION DETAILS (BOW RAFTER STRUCTURE)
SHEET 8	BASE RAIL ANCHORAGE OPTIONS
SHEET 8A	BASE RAIL ANCHORAGE OPTIONS
SHEET 9	TYPICAL END WALL AND SIDE WALL FRAMING SECTIONS (BOX EAVE)
SHEET 10	TYPICAL END WALL AND SIDE WALL FRAMING SECTIONS (BOW RAFTER)
SHEET 11	CONNECTION DETAILS
SHEET 12	CONNECTION DETAILS
SHEET 13	LEAN-TO OPTIONS (BOX EAVE RAFTER)
SHEET 13A	LEAN-TO OPTIONS (BOX EAVE RAFTER)
SHEET 14	LEAN-TO OPTIONS (BOW RAFTER)
SHEET 15	BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: AT		FIVE STAR METAL STRUCTURES 9283 US 601 DOBSON, NC 27017	
	CHECKED BY: PDM		30'-0" x 14'-0" SP ENCLOSED STRUCTURE	
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.	PROJECT MGR: WSM	DATE: 2-5-18	SCALE: NTS	JOB NO: 172595
	CLIENT: FIVE STAR	SHT. 2	DWG. NO: SK-3	REV: 0

DRAWING INDEX

ENGINEERING AND CONSULTING LTD. <small>THE PROPERTY OF HOBBS AND ASSOCIATES ENGINEERING AND CONSULTING LTD. IS HEREBY REVOCATIONALLY CONFIRMED IN ORDER TO BE USED FOR THE PROJECT DESCRIBED AND NOT FOR ANY OTHER PROJECT.</small>		SHEET NO. 21-3 DATE: 5-8-78 SCALE: 1/8" = 1'-0"	PROJECT: M.A. M.S.M. CHECKED BY: R.W. DRAWN BY: A.T.	CLIENT: FIVE STAR PROJECT: FIVE STAR METAL STRUCTURES DOSSON, 2003 2003 DOSSON
---	--	---	--	---

INSTALLATION NOTES AND SPECIFICATIONS

- 1 DESIGN IS FOR MAXIMUM 30'-0" WIDE x 14'-0" EAVE HEIGHT ENCLOSED STRUCTURES
- 2 DESIGN WAS DONE IN ACCORDANCE WITH THE 2012 NORTH CAROLINA BUILDING CODE, 2009 INTERNATIONAL BUILDING CODE (IBC), 2012 IBC AND THE 2015 IBC
- 3 DESIGN LOADS ARE AS FOLLOWS
 - A) DEAD LOAD = 15 PSF
 - B) LIVE LOAD = 12 PSF
 - C) GROUND SNOW LOAD = 35 PSF
- 4 3-SECOND GUST ULTIMATE WIND SPEED (V_{ULT}) 105 TO 145 MPH (NOMINAL WIND SPEED 81 TO 112 MPH).
- 5 MAXIMUM RAFTER/POST SPACING = 5.0 FEET ($W \leq 24'-0"$) AND SPACING = 4.0 FEET ($24'-0" < W \leq 30'-0"$) (UNLESS NOTED OTHERWISE)
- 6 END POST SPACING = 5.0 FEET
- 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
- 10 AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR HAT CHANNELS, AND COLUMNS (INTERIOR OR END) = 10" OC (MAX)
- 11 FASTENERS CONSIST OF #12-14x3/4" SELF-DRILLING FASTENER (SDF), USE CONTROL SEAL WASHER WITH EXTERIOR FASTENERS SPECIFICATIONS APPLICABLE ONLY FOR MEAN ROOF HEIGHT OF 20 FEET OR LESS, AND ROOF SLOPES OF 14" (3/12 PITCH) OR LESS SPACING REQUIREMENTS FOR OTHER ROOF HEIGHTS AND/OR SLOPES MAY VARY.
- 12 GROUND ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6" OF EACH RAFTER COLUMN ALONG SIDES AND ENDS
- 13 GROUND ANCHORS CONSIST OF #4 REBAR W/ WELDED NUT x 36" LONG IN SUITABLE SOIL CONDITIONS. OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USED IN UNSUITABLE SOILS AS NOTED
- 14 WIND FORCES GOVERN OVER SEISMIC FORCES SEISMIC PARAMETERS ANALYZED ARE:
 SOIL SITE CLASS = D
 RISK CATEGORY I/II/III
 $R = 3.25$ $I_e = 10$
 $S_{DS} = 1.522$ $V = C_s W$
 $S_{D1} = 0.839$

**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: AT

CHECKED BY: PDM

PROJECT MGR: WSM

CLIENT: FIVE STAR

FIVE STAR METAL STRUCTURES

9283 US 601

DOBSON, NC 27017

30'-0"x14'-0" SP ENCLOSED STRUCTURE

DATE: 2-5-18

SCALE: NTS

JOB NO: 17259S

SHT. 3

DWG. NO: SK-3

REV: 0

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.

ENGINEERING AND CONSULTING, INC. MAJOR AND ASSOCIATES

INCORPORATED IN THE STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEERS AND ARCHITECTS
 OFFICE: 1000 WEST 10TH AVENUE, SUITE 100, DENVER, COLORADO 80202
 PHONE: (303) 733-1111

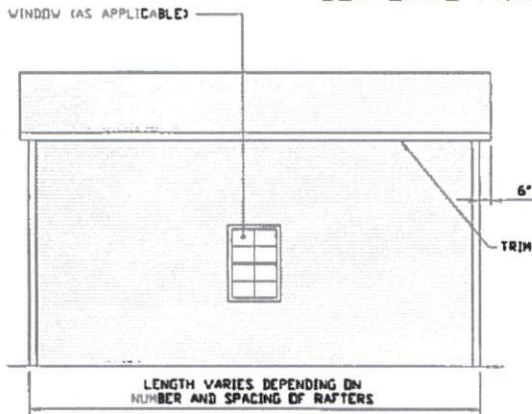
CLIENT: JAL ELEC	DATE: 3/1/88	JOB NO: 88-01	SHEET NO: 1
PROJECT: JAL ELEC	DATE: 3/1/88	PROJECT: JAL ELEC	DATE: 3/1/88
PROJECT: JAL ELEC	DATE: 3/1/88	PROJECT: JAL ELEC	DATE: 3/1/88
PROJECT: JAL ELEC PROJECT: JAL ELEC PROJECT: JAL ELEC			

204. 000
 205. 000
 206. 000
 207. 000
 208. 000
 209. 000
 210. 000
 211. 000
 212. 000
 213. 000
 214. 000
 215. 000
 216. 000
 217. 000
 218. 000
 219. 000
 220. 000
 221. 000
 222. 000
 223. 000
 224. 000
 225. 000
 226. 000
 227. 000
 228. 000
 229. 000
 230. 000
 231. 000
 232. 000
 233. 000
 234. 000
 235. 000
 236. 000
 237. 000
 238. 000
 239. 000
 240. 000
 241. 000
 242. 000
 243. 000
 244. 000
 245. 000
 246. 000
 247. 000
 248. 000
 249. 000
 250. 000
 251. 000
 252. 000
 253. 000
 254. 000
 255. 000
 256. 000
 257. 000
 258. 000
 259. 000
 260. 000
 261. 000
 262. 000
 263. 000
 264. 000
 265. 000
 266. 000
 267. 000
 268. 000
 269. 000
 270. 000
 271. 000
 272. 000
 273. 000
 274. 000
 275. 000
 276. 000
 277. 000
 278. 000
 279. 000
 280. 000
 281. 000
 282. 000
 283. 000
 284. 000
 285. 000
 286. 000
 287. 000
 288. 000
 289. 000
 290. 000
 291. 000
 292. 000
 293. 000
 294. 000
 295. 000
 296. 000
 297. 000
 298. 000
 299. 000
 300. 000

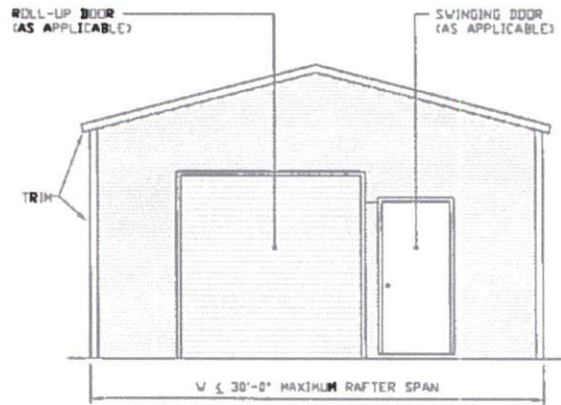
INSTALLATION NOTES AND SPECIFICATIONS

1. GENERAL: SEE ALL THE WORK SHOWN ON THE DRAWINGS.
 2. MATERIALS: ALL MATERIALS SHALL BE AS SPECIFIED ON THE DRAWINGS.
 3. WORKMANSHIP: ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL LOCAL ORDINANCES.
 4. PROTECTION: ALL WORK SHALL BE PROTECTED FROM DAMAGE BY OTHER TRADES.
 5. TESTING: ALL WORK SHALL BE TESTED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL LOCAL ORDINANCES.
 6. MAINTENANCE: ALL WORK SHALL BE MAINTAINED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL LOCAL ORDINANCES.
 7. SAFETY: ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL SAFETY REGULATIONS.
 8. CLEANLINESS: ALL WORK SHALL BE DONE IN A CLEAN AND NEAT MANNER.
 9. COMPLETION: ALL WORK SHALL BE COMPLETED WITHIN THE SPECIFIED TIME FRAME.
 10. WARRANTY: ALL WORK SHALL BE WARRANTED FOR A PERIOD OF ONE YEAR FROM THE DATE OF COMPLETION.

BOX EAVE FRAME RAFTER STRUCTURE

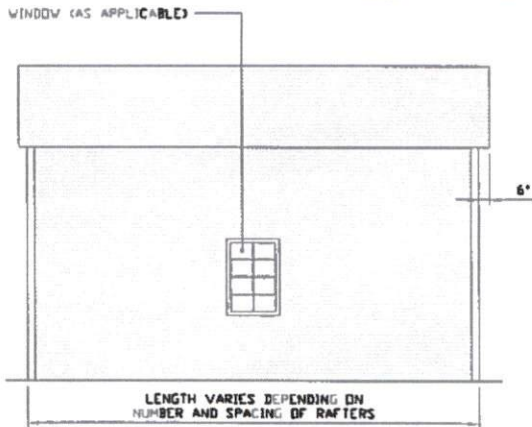


TYPICAL SIDE ELEVATION
SCALE: NTS

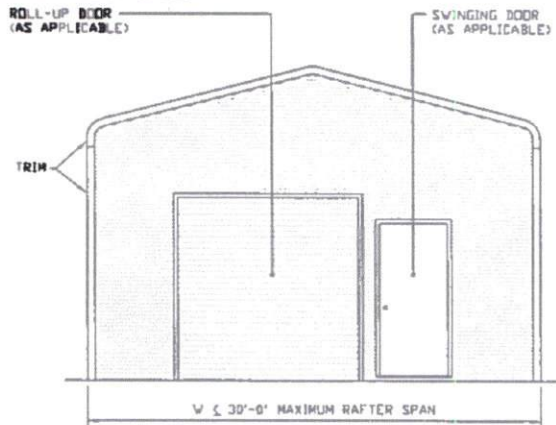


TYPICAL END ELEVATION
SCALE: NTS

BOW FRAME RAFTER STRUCTURE



TYPICAL SIDE ELEVATION
SCALE: NTS



TYPICAL END ELEVATION
SCALE: NTS

**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: AT
CHECKED BY: PDM

FIVE STAR METAL STRUCTURES
9283 US 601
DOBSON, NC 27017
30'-0" x 14'-0" SP ENCLOSED STRUCTURE

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.

PROJECT MGR: VSH
CLIENT: FIVE STAR

DATE: 2-5-18
SHT. 3A
SCALE: NTS
DWG. NO: SK-3
JOB NO: 17259S
REV: 0

BOX END FRAME BATTERY STRUCTURE

TYPICAL END ELEVATION

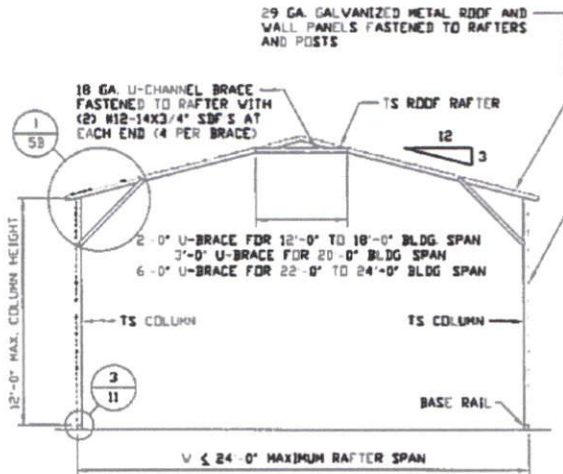
TYPICAL SIDE ELEVATION

BOX FRAME BATTERY STRUCTURE

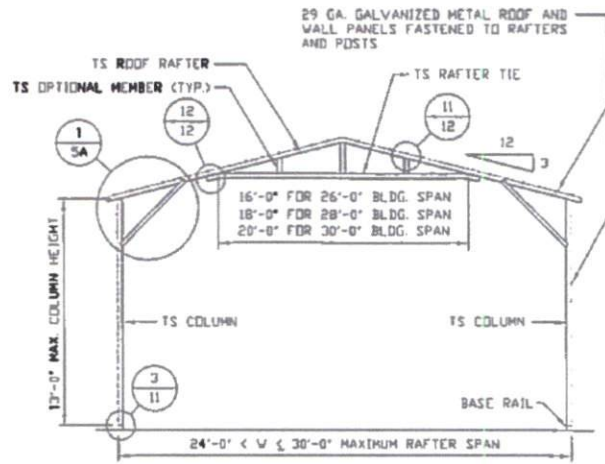
TYPICAL END ELEVATION

TYPICAL SIDE ELEVATION

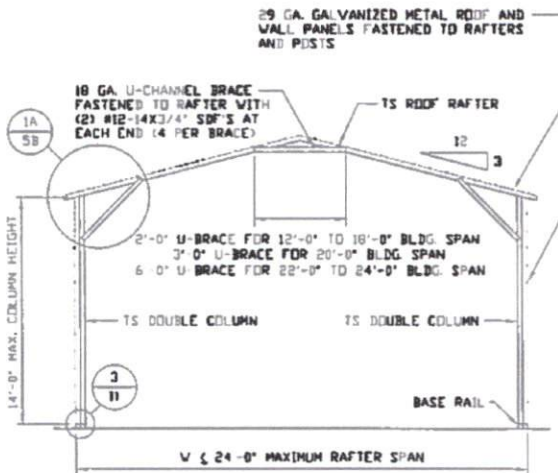
MOORE AND ASSOCIATES ENGINEERING AND CONSULTING INC.		DRAWING NO. 101 BOX END FRAME BATTERY STRUCTURE	
PROJECT NO. 101 BOX END FRAME BATTERY STRUCTURE		SHEET NO. 101 BOX END FRAME BATTERY STRUCTURE	
DATE: 10/1/50		SCALE: 1/2" = 1'-0"	
DRAWN BY: J. W. MOORE		CHECKED BY: J. W. MOORE	



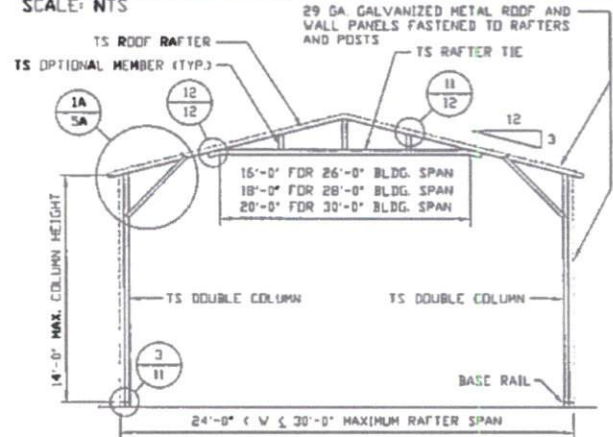
TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS



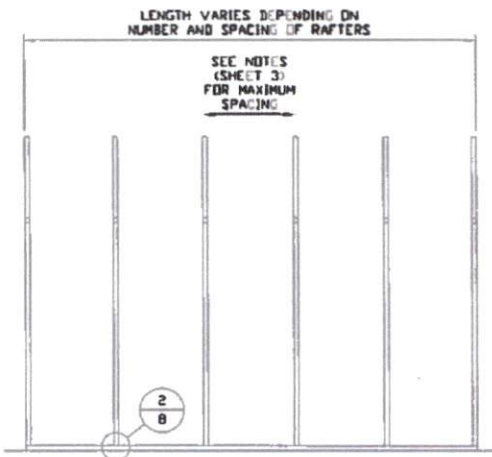
TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS

**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: AT

CHECKED BY: PDH

PROJECT MGR: VSH

CLIENT: FIVE STAR

FIVE STAR METAL STRUCTURES

9283 US 601

DOBSON, NC 27017

30'-0" x 14'-0" SP ENCLOSED STRUCTURE

DATE: 2-5-18

SHT. 4

SCALE: NTS

DWG. NO: SK-3

JOB NO: 17259S

REV: 0

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.

PROJECT NO. 24-3 SHEET NO. 101 DATE 10-1-58	DRAWN BY CHECKED BY APPROVED BY	PROJECT NO. 24-3 SHEET NO. 101 DATE 10-1-58	DRAWN BY CHECKED BY APPROVED BY
---	---------------------------------------	---	---------------------------------------

SECTION 1. SIDE ELEVATION



SECTION 2. END ELEVATION



SECTION 3. END ELEVATION



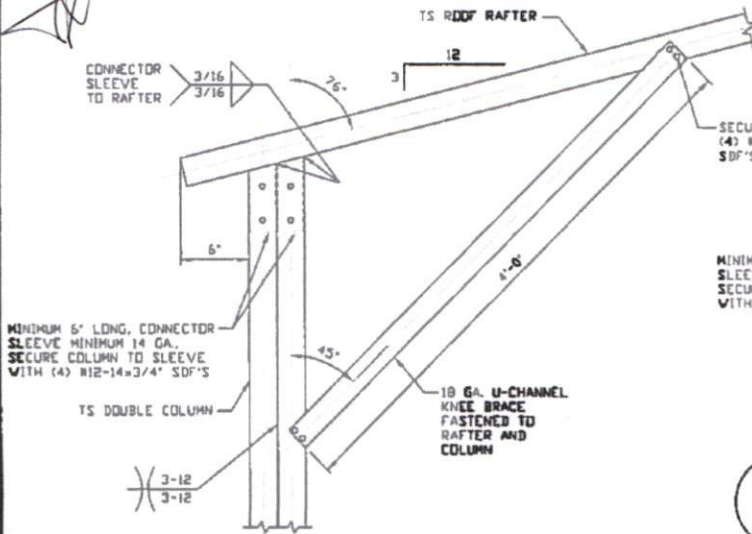
SECTION 4. END ELEVATION



SECTION 5. END ELEVATION

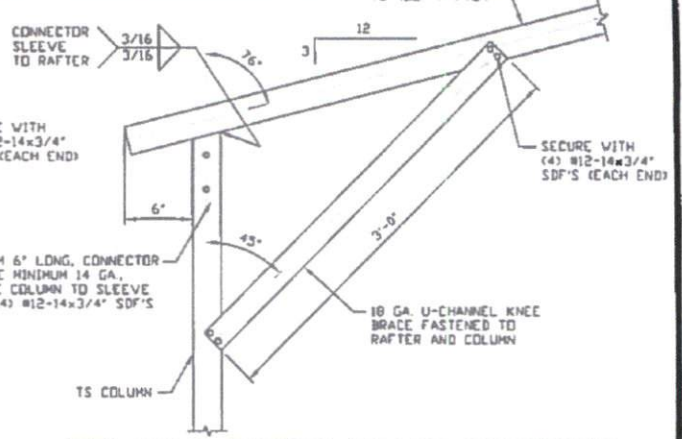


24'-0" < W ≤ 30'-0" MAXIMUM RAFTER SPAN



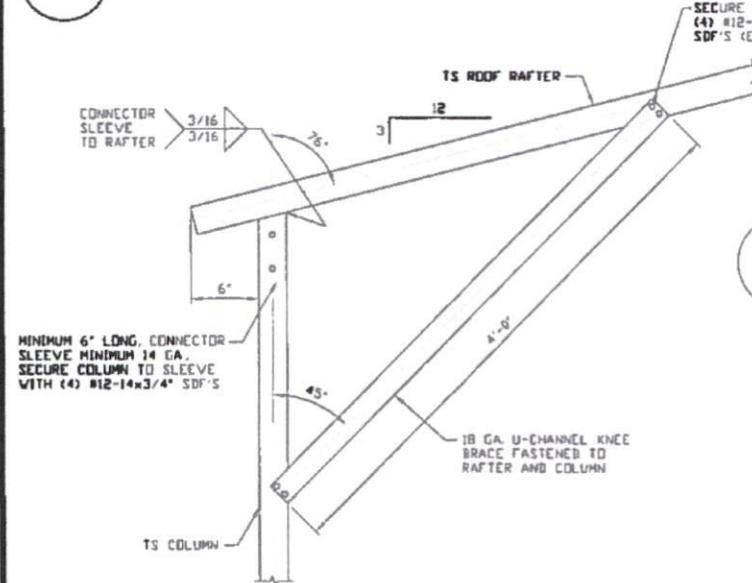
1A

**BOX EAVE RAFTER COLUMN CONNECTION
DETAIL FOR HEIGHTS 13'-0" < TO ≤ 14'-0"**
SCALE: NTS



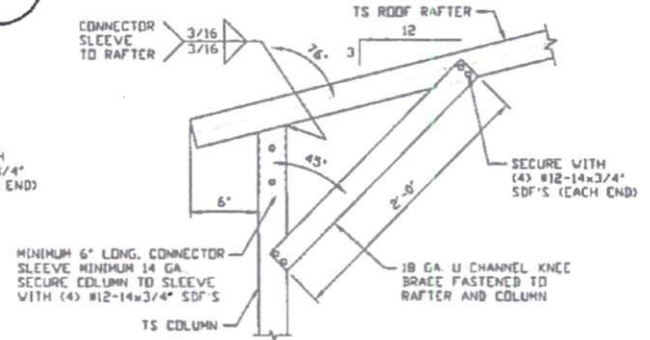
1C

**BOX EAVE RAFTER COLUMN CONNECTION
DETAIL FOR HEIGHTS 8'-0" < TO ≤ 12'-0"**
SCALE: NTS



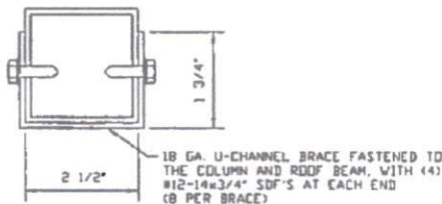
1B

**BOX EAVE RAFTER COLUMN CONNECTION
DETAIL FOR HEIGHTS 12'-0" < TO ≤ 13'-0"**
SCALE: NTS



1D

**BOX EAVE RAFTER COLUMN CONNECTION
DETAIL FOR HEIGHTS ≤ 8'-0"**
SCALE: NTS



BRACE SECTION
SCALE: NTS

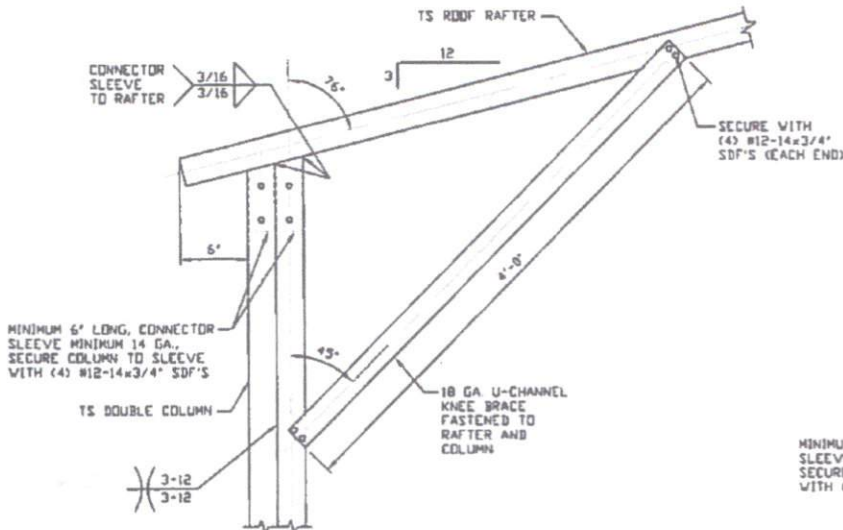
**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: AT
CHECKED BY: PDM
PROJECT MGR: WSN
CLIENT: FIVE STAR

FIVE STAR METAL STRUCTURES
9283 US 601
DOBSON, NC 27017
30'-0" x 14'-0" SP ENCLOSED STRUCTURE
DATE: 2-5-18
SCALE: NTS
JOB NO: 17259S
SHT. 5A
DWG. NO: SK-3
REV: 0

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.

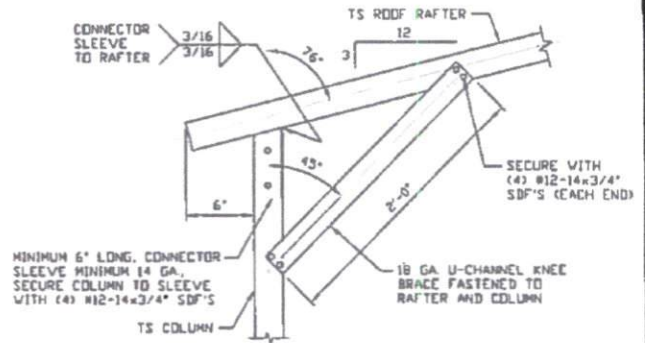
W ≤ 24'-0" MAXIMUM RAFTER SPAN



1A

BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 12'-0" < TO ≤ 14'-0"

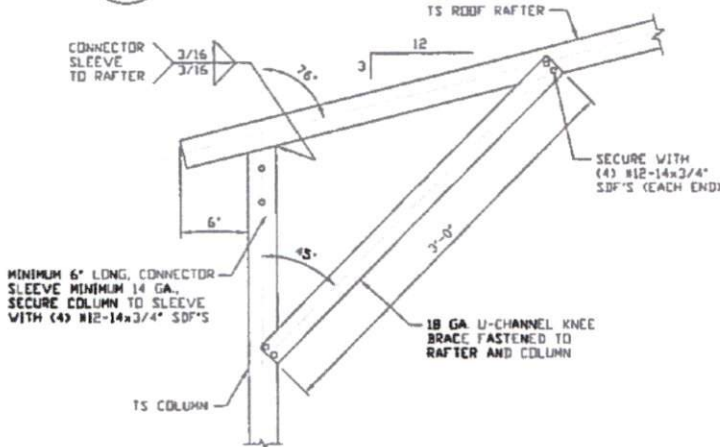
SCALE: NTS



1C

BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS ≤ 8'-0"

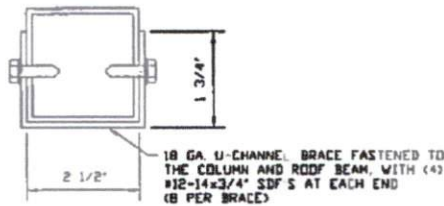
SCALE: NTS



1B

BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 8'-0" < TO ≤ 12'-0"

SCALE: NTS



BRACE SECTION

SCALE: NTS

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

DRAWN BY: AT

CHECKED BY: PDM

PROJECT MGR: VSM

CLIENT: FIVE STAR

FIVE STAR METAL STRUCTURES

9283 US 601

DOBSON, NC 27017

30'-0" x 14'-0" SP ENCLOSED STRUCTURE

DATE: 2-5-18

SHT. 3B

SCALE: NTS

DWG. NO: SK-3

JOB NO: 172595

REV: 0

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.

IV < 24'-0" MAXIMUM RAFTER SPAN



BOX EAVE RAFTER COLUMN
CONNECTION DETAIL FOR
HEIGHTS 8'-0" TO 14'-0"

BOX EAVE RAFTER COLUMN
CONNECTION DETAIL FOR
HEIGHTS 14'-0" TO 24'-0"

1A



BOX EAVE RAFTER COLUMN
CONNECTION DETAIL FOR
HEIGHTS 8'-0" TO 14'-0"

1B

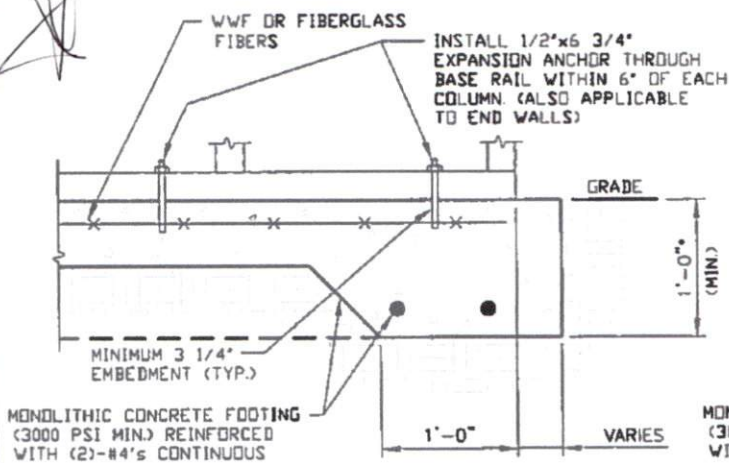
BRACE SECTION

ENGINEERING AND CONSULTING, INC.
MOORE AND ASSOCIATES

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. WITHOUT THE WRITTEN PERMISSION OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

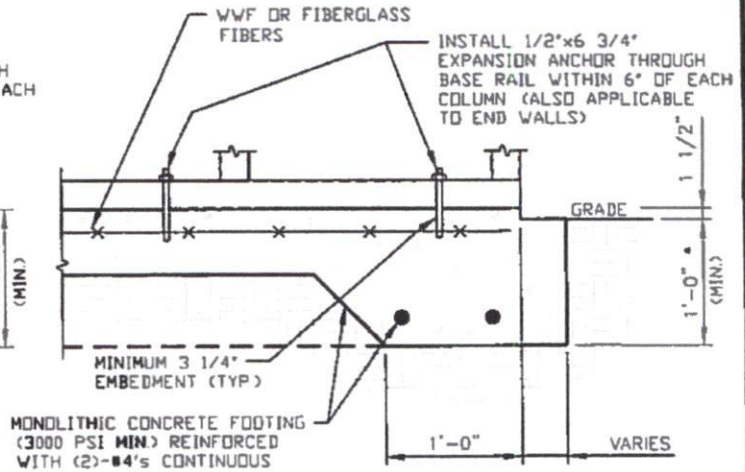
CLIENT: FIVE STAR	DATE: 08	REV: 1
PROJECT: HOV-425N	SCALE: NTS	DATE: 08-18
CHECKED BY: RSH	70'-0" x 14'-0" SP ENCLOSED STRUCTURE	DATE: 08-18
DRAWN BY: AT	DOBSON, NC 27017	2583 US 601
	FIVE STAR METAL STRUCTURES	

BASE RAIL ANCHORAGE OPTIONS



**2A CONCRETE MONOLITHIC SLAB
BASE RAIL ANCHORAGE**
SCALE: NTS
MINIMUM ANCHOR EDGE DISTANCE IS 4"

* COORDINATE WITH LOCAL BUILDING CODE AND/OR BUILDING OFFICIAL REGARDING REQUIRED FOOTING DEPTH.



**2B CONCRETE MONOLITHIC SLAB
BASE RAIL ANCHORAGE**
SCALE: NTS
MINIMUM ANCHOR EDGE DISTANCE IS 4"

* COORDINATE WITH LOCAL BUILDING CODE AND/OR BUILDING OFFICIAL REGARDING REQUIRED FOOTING DEPTH.

GENERAL NOTES

CONCRETE:

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:

- 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 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.

**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: AT

CHECKED BY: PJH

PROJECT MGR: VSM

CLIENT: FIVE STAR

FIVE STAR METAL STRUCTURES

9283 US 601

DOBSON, NC 27017

30'-0" x 14'-0" SP ENCLOSED STRUCTURE

DATE: 2-3-18

SHT. 8

SCALE: NTS

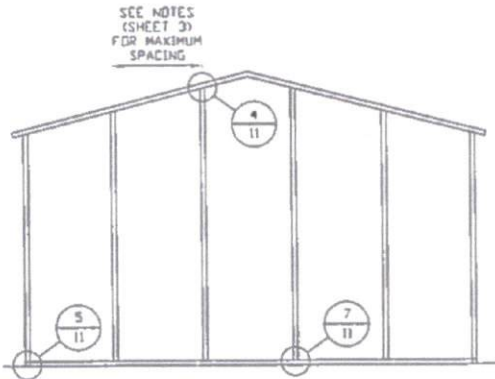
BVG. NO: SK-3

JOB NO: 172395

REV: 0

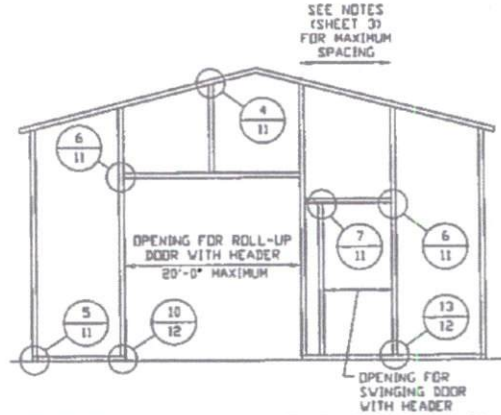
THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

BOX EAVE RAFTER END WALL AND SIDE WALL OPENINGS



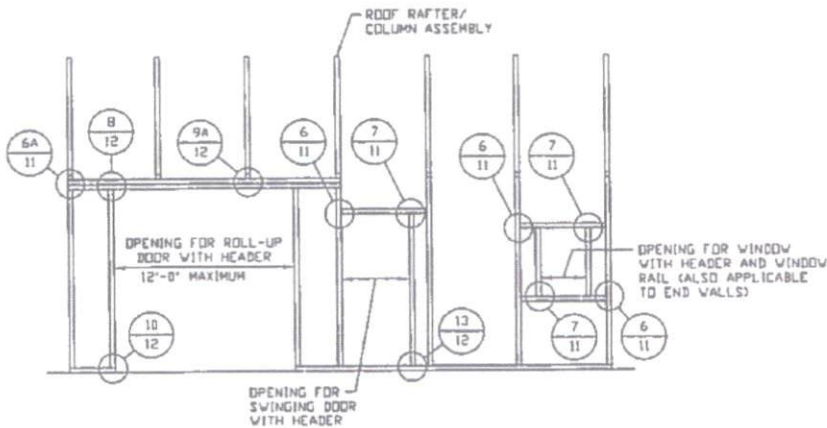
**TYPICAL BOX EAVE RAFTER
END WALL FRAMING SECTION**

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
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: AT

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: FIVE STAR

FIVE STAR METAL STRUCTURES
9283 US 601
DOBSON, NC 27017
30'-0"x14'-0" SP ENCLOSED STRUCTURE

DATE: 2-5-19

SHT. 9

SCALE: NTS

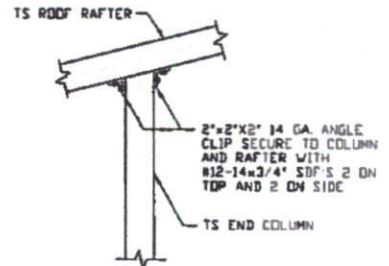
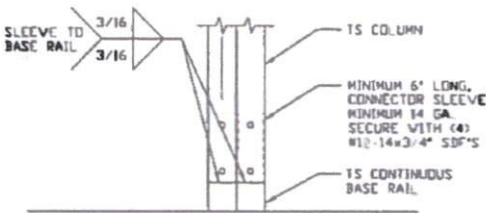
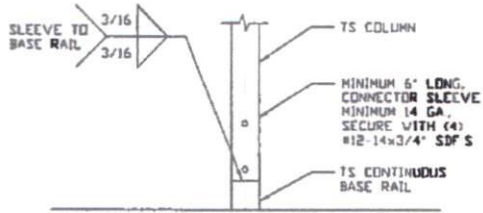
DWG. NO: SK-3

JOB NO: 172595

REV: 0

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.

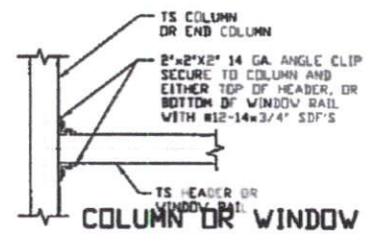
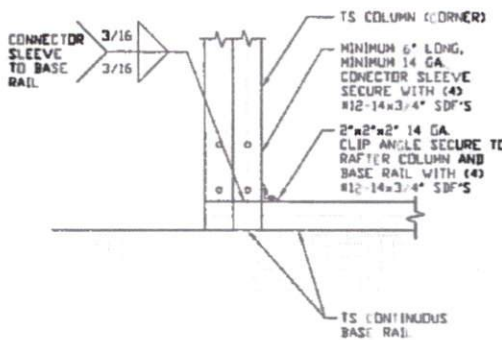
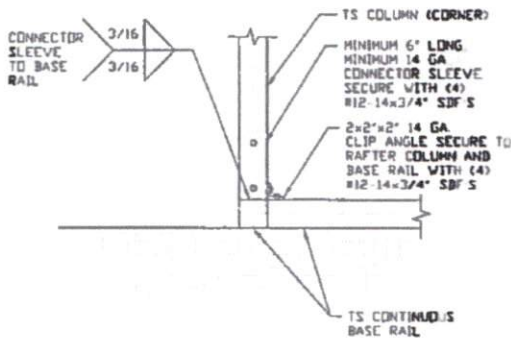
CONNECTION DETAILS



3 RAFTER COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS

3A RAFTER COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS

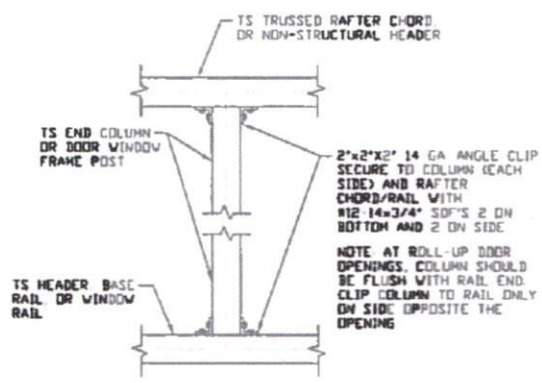
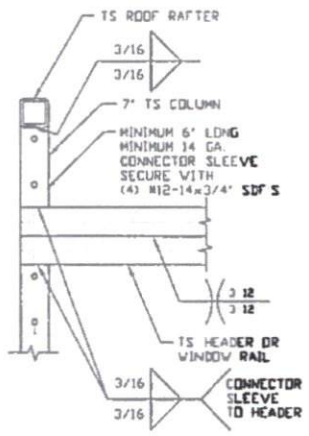
4 END COLUMN/RAFTER CONNECTION DETAIL
SCALE: NTS



5 END COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS

5A END COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS

6 COLUMN OR WINDOW RAIL TO POST CONNECTION DETAIL
SCALE: NTS



6A COLUMN OR WINDOW RAIL TO POST CONNECTION DETAIL
SCALE: NTS

7 COLUMN TO WINDOW RAIL CONNECTION DETAIL
SCALE: NTS

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: AT	FIVE STAR METAL STRUCTURES 9283 US 601 DOBSON, NC 27017 30'-0" x 14'-0" SP ENCLOSED STRUCTURE		
	CHECKED BY: PDH			
PROJECT MGR: WSM	DATE: 2-5-18	SCALE: NTS	JOB NO: 17259S	
CLIENT: FIVE STAR	SHT. 11	DWG. NO: SK-3	REV: 0	

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.

RESTRUCTURE DATA BATTER 3078 H08 30 18 00 7 10 52 30 18 00 D 08 30 18 00	2TH 2 18 00	91-2-5 27 00	11 21 12	DATE TIME RECEIVED	DATE TIME RECEIVED	RECEIVED FOR ROOM	BY	REMARKS
RESTRUCTURE DATA BATTER 3078 H08 30 18 00	2TH 2 18 00	91-2-5 27 00	11 21 12	DATE TIME RECEIVED	DATE TIME RECEIVED	RECEIVED FOR ROOM	BY	REMARKS
RESTRUCTURE DATA BATTER 3078 H08 30 18 00	2TH 2 18 00	91-2-5 27 00	11 21 12	DATE TIME RECEIVED	DATE TIME RECEIVED	RECEIVED FOR ROOM	BY	REMARKS

RESTRUCTURE DATA BATTER 3078
H08 30 18 00

AD
 VOYNNY AD VIMBLO
 T209 DT 11 13
 DATE TIME RECEIVED

AC
 VOYNNY DT VIMBLO
 DATE TIME RECEIVED

AD
 VOYNNY DT VIMBLO
 T209 DT 11 13
 DATE TIME RECEIVED

AC

AC
 VOYNNY DT VIMBLO
 T209 DT 11 13
 DATE TIME RECEIVED

2
 VOYNNY DT VIMBLO
 T209 DT 11 13
 DATE TIME RECEIVED

AC
 VOYNNY DT VIMBLO
 T209 DT 11 13
 DATE TIME RECEIVED

3
 VOYNNY DT VIMBLO
 T209 DT 11 13
 DATE TIME RECEIVED

3
 VOYNNY DT VIMBLO
 T209 DT 11 13
 DATE TIME RECEIVED

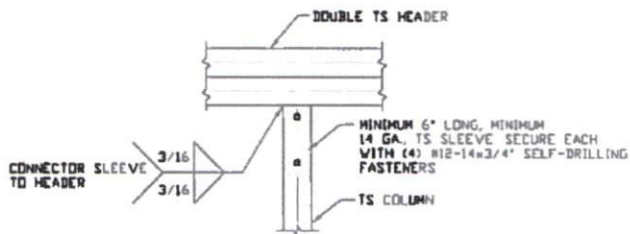
AC
 VOYNNY DT VIMBLO
 T209 DT 11 13
 DATE TIME RECEIVED

4
 VOYNNY DT VIMBLO
 T209 DT 11 13
 DATE TIME RECEIVED

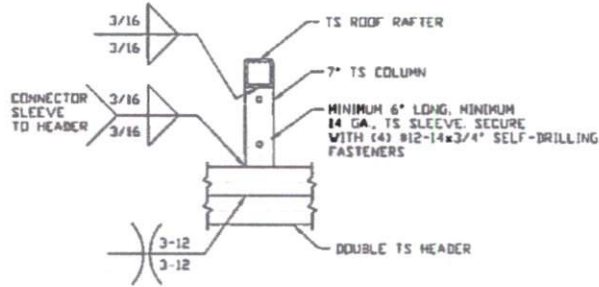


СОВМЕЩЕНИЕ ДЕТАЛЕЙ

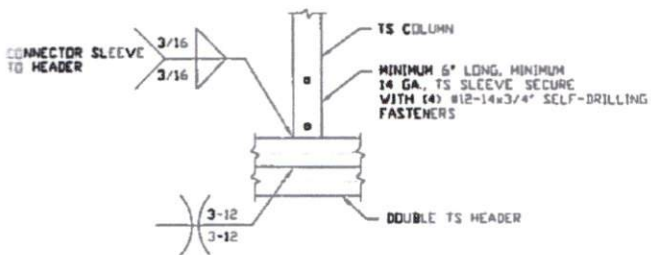
CONNECTION DETAILS



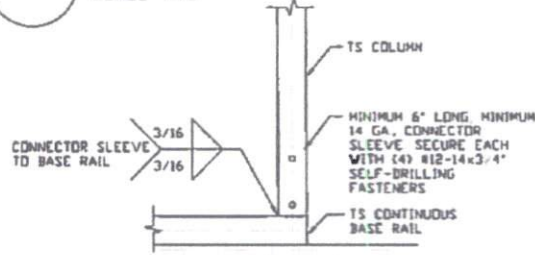
8 **DOUBLE HEADER/COLUMN CONNECTION DETAIL**
SCALE: NTS



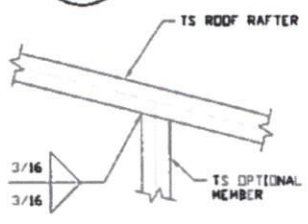
9A **COLUMN/DOUBLE HEADER CONNECTION DETAIL**
SCALE: NTS



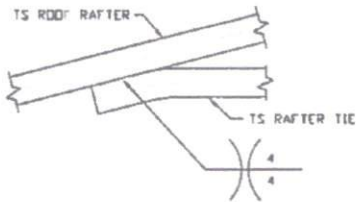
9B **COLUMN/DOUBLE HEADER CONNECTION DETAIL**
SCALE: NTS



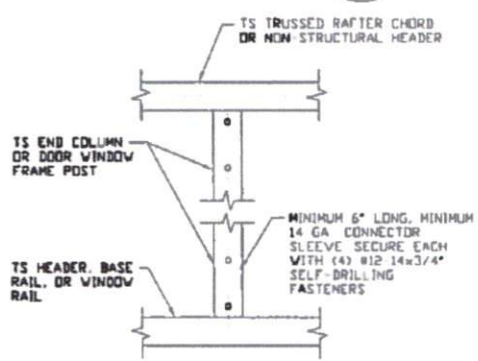
10 **COLUMN/BASE RAIL CONNECTION DETAIL**
SCALE: NTS



11 **RAFTER TO OPTIONAL MEMBER CONNECTION DETAIL**
SCALE: NTS



12 **RAFTER TIE CONNECTION DETAIL**
SCALE: NTS



13 **COLUMN TO HEADER OR BASE RAIL CONNECTION DETAIL**
SCALE: NTS

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: AT	FIVE STAR METAL STRUCTURES 9283 US 601 DOBSON, NC 27017 30'-0" x 14'-0" SP ENCLOSED STRUCTURE		
	CHECKED BY: PDM	PROJECT MGR: WSM	DATE: 2-5-18	SCALE: NTS
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.	CLIENT: FIVE STAR	SHT. 12	DWG. NO: SK-3	JOB NO: 172595 REV: 0

CONNECTION DETAILS

DOUBLE HEADER COLUMN CONNECTION DETAIL
 8A

DOUBLE HEADER COLUMN CONNECTION DETAIL
 8

COLUMN BASE RAIL CONNECTION DETAIL
 10

COLUMN DOUBLE HEADER CONNECTION DETAIL
 9B

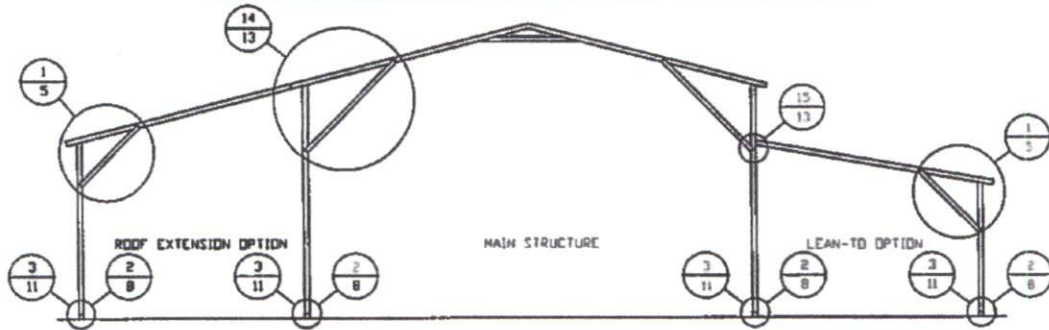
RAILER TO ORIGINAL CONNECTION DETAIL
 9

RAILER TO ORIGINAL MEMBER CONNECTION DETAIL
 11

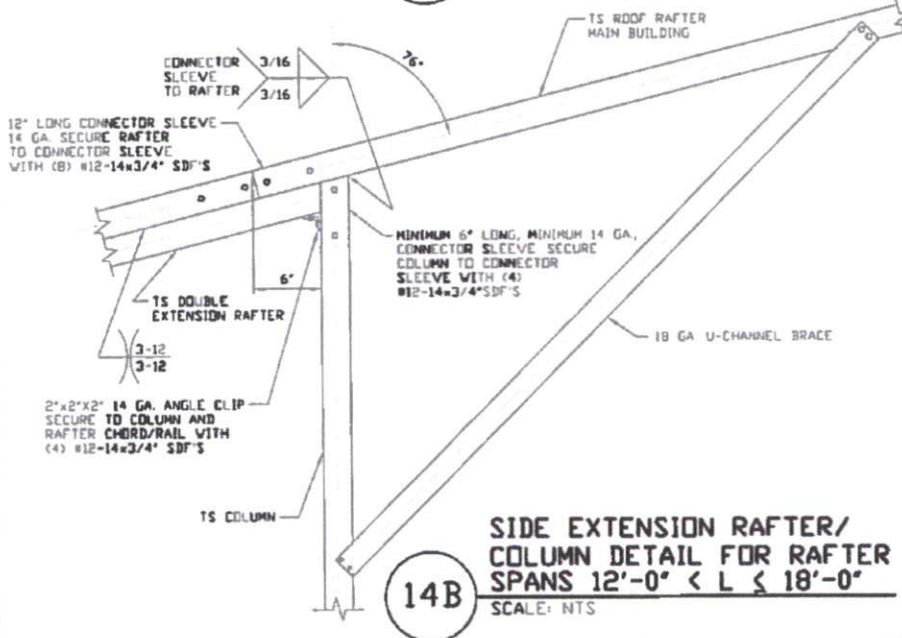
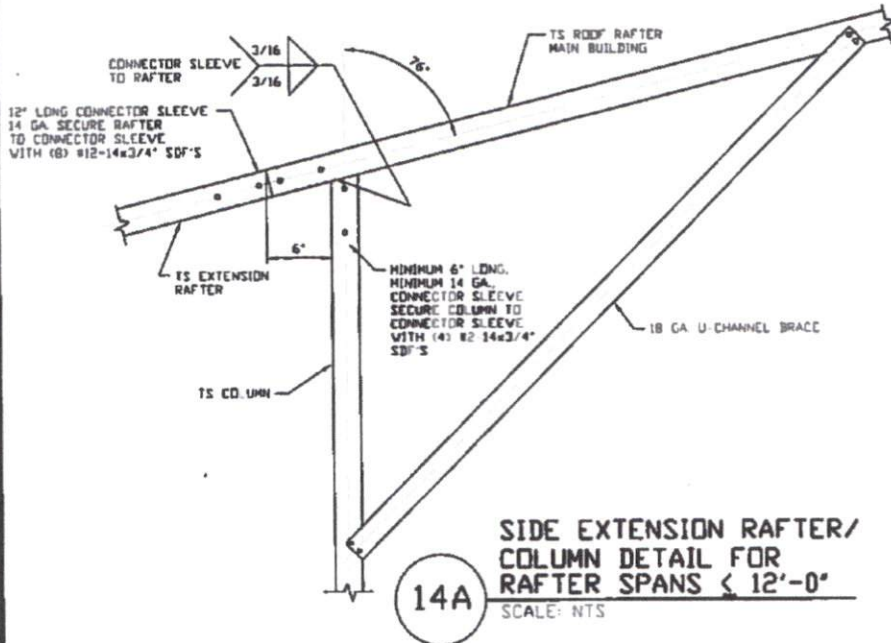
COLUMN TO HEADER OR BASE RAIL CONNECTION DETAIL
 12

FIVE STAR METAL STRUCTURES 2001 US 801 DOBSON, NC 27013 IN 07/14/07, 21 ENCLOSED STRUCTURE		DRAWN BY: AT CHECKED BY: RSM	MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC. 1000 W. 10TH STREET, SUITE 100 DENVER, CO 80202 (303) 733-1100 www.mooreandassociates.com
PROJECT NO: 07-14-07-21 DATE: 07-19-07 SCALE: 1/8" = 1'-0"	SHEET NO: 07-14-07-21-01 TOTAL SHEETS: 07-14-07-21-01	PROJECT NO: 07-14-07-21 DATE: 07-19-07 SCALE: 1/8" = 1'-0"	
07-14-07-21-01 07-14-07-21-01	07-14-07-21-01 07-14-07-21-01	07-14-07-21-01 07-14-07-21-01	07-14-07-21-01 07-14-07-21-01

BOX EAVE RAFTER LEAN-TO OPTIONS



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



**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: AT
CHECKED BY: PDH
PROJECT MGR: VSM
CLIENT: FIVE STAR

FIVE STAR METAL STRUCTURES
9283 US 601
DOBSON, NC 27017
30'-0" x 14'-0" SP ENCLOSED STRUCTURE

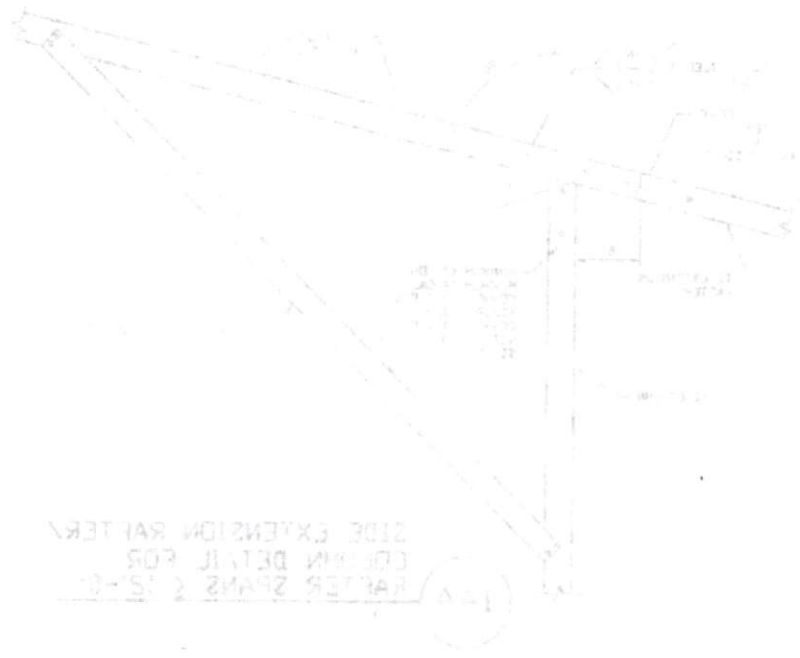
DATE: 2-5-18
SCALE: NTS
JOB NO: 17259S
SHT. 13
DWG. NO: SK-3
REV: 0

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.

BOX END RAFTER LEAN-TO OPTIONS



THE BOX END RAFTER LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN)



SIDE EXTENSION RAFTER
COLUMN DETAIL FOR
RAFTER SPANS 2'-0"

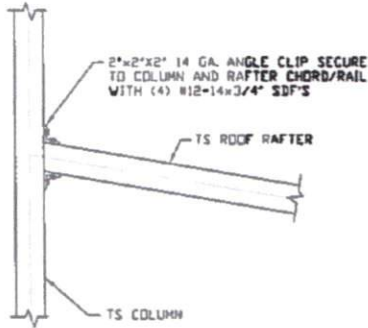
SIDE EXTENSION RAFTER
COLUMN DETAIL FOR RAFTER
SPANS 2'-0" & 18'-0"

14B

ENGINEERING AND CONSULTING, INC.
MINORE AND ASSOCIATES
 1000 ...
 ...
 ...

CLIENT: FIVE STAR	DATE: 12/13	DWG NO: 2K-0	PROJECT: FIVE STAR
PROJECT: FIVE STAR	DATE: 12/13	REVISION: 1	PROJECT: FIVE STAR
CHECKED BY: BJA	DATE: 12/13	REVISION: 1	PROJECT: FIVE STAR
DESIGNED BY: BJA	DATE: 12/13	REVISION: 1	PROJECT: FIVE STAR
PROJECT: FIVE STAR	DATE: 12/13	REVISION: 1	PROJECT: FIVE STAR
PROJECT: FIVE STAR	DATE: 12/13	REVISION: 1	PROJECT: FIVE STAR
PROJECT: FIVE STAR	DATE: 12/13	REVISION: 1	PROJECT: FIVE STAR
PROJECT: FIVE STAR	DATE: 12/13	REVISION: 1	PROJECT: FIVE STAR

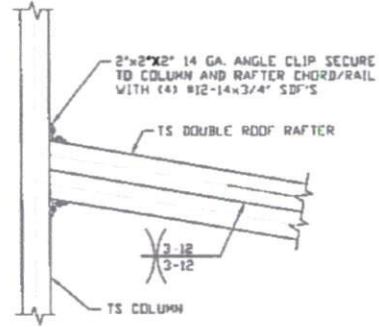
BOX EAVE RAFTER LEAN-TO OPTIONS



**LEAN-TO RAFTER TO RAFTER
COLUMN CONNECTION DETAIL
FOR RAFTER SPANS $\leq 12'-0''$**

15A

SCALE: NTS



**LEAN-TO RAFTER TO RAFTER
COLUMN CONNECTION DETAIL
FOR RAFTER SPANS $12'-0'' < L \leq 18'-0''$**

15B

SCALE: NTS

**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: AT

CHECKED BY: PDH

PROJECT MGR: VSM

CLIENT: FIVE STAR

FIVE STAR METAL STRUCTURES

9283 US 601

DOBSON, NC 27017

30'-0" x 14'-0" SP ENCLOSED STRUCTURE

DATE: 2-5-18

SHT. 13A

SCALE: NTS

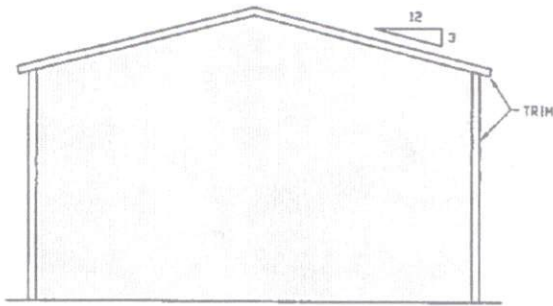
DWG. NO: SK-3

JOB NO: 17259S

REV: 0

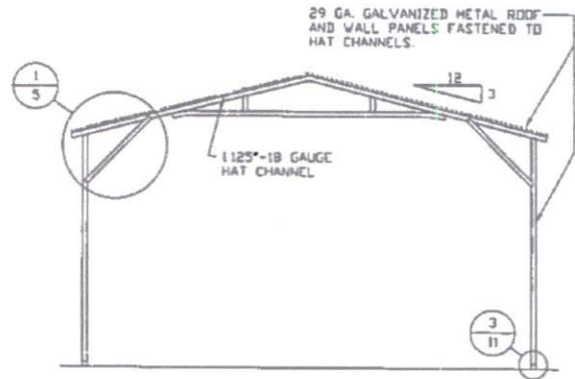
THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION



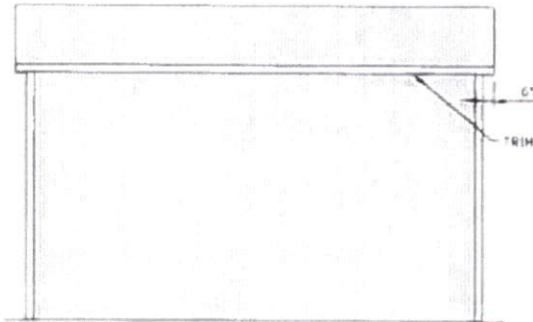
**TYPICAL END ELEVATION
VERTICAL ROOF/SIDING**

SCALE: NTS



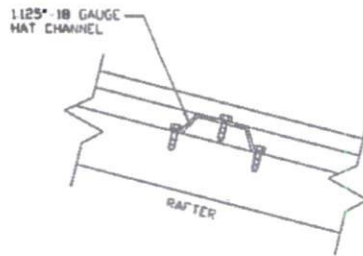
**TYPICAL SECTION VERTICAL
ROOF/SIDING OPTION**

SCALE: NTS



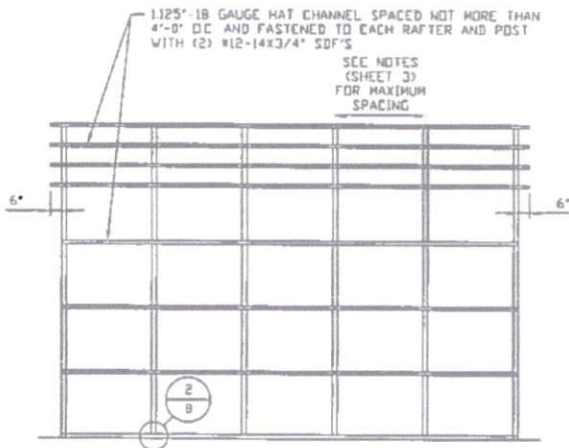
**TYPICAL SIDE ELEVATION
VERTICAL ROOF/SIDING**

SCALE: NTS



PANEL ATTACHMENT

(ALTERNATE FOR VERTICAL ROOF PANELS)
SCALE: NTS



**TYPICAL FRAMING SECTION
VERTICAL ROOF/SIDING OPTION**

SCALE: NTS

**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: AT
CHECKED BY: PDM

FIVE STAR METAL STRUCTURES
9283 US 601
DOBSON, NC 27017
30'-0" x 14'-0" 5P ENCLOSED STRUCTURE

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.

PROJECT MGR: WSM
CLIENT: FIVE STAR

DATE: 2-5-18
SHT. 15
SCALE: NTS
JOB NO: 172595
DWG. NO: SK-3
REV: 0

BOX EAVE RAFTER VERTICAL ROOF SIDING OPTION

TYPICAL SECTION VERTICAL ROOF SIDING OPTION

TYPICAL END ELEVATION VERTICAL ROOF SIDING

PANEL ATTACHMENT

TYPICAL SIDE ELEVATION VERTICAL ROOF SIDING

TYPICAL FRAMING SECTION VERTICAL ROOF SIDING OPTION

MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED ON THESE PLANS. IT IS NOT TO BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. WITHOUT THE WRITTEN PERMISSION OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

PROJECT NO. 14-01	DATE: 02-28-10	SCALE: 1/8" = 1'-0"	JOB NO. 14-01
PROJECT NAME: FIVE STAR METAL STRUCTURES	CLIENT: MTR	DATE: 02-28-10	JOB NO. 14-01
PROJECT ADDRESS: 3201 S. DORRAN, DORRAN, NC 27011	CLIENT: MTR	DATE: 02-28-10	JOB NO. 14-01
PROJECT BY: AT	CLIENT: MTR	DATE: 02-28-10	JOB NO. 14-01