

ENCLOSED GABLE END BUILDING MAXIMUM 50'-0" WIDE X 20'-0" EAVE HEIGHT WITH BOX FRAME / 145 M.P.H. WIND ZONE - 50 P.S.F. SNOW LOAD FOR:

NC CARPORTS & GARAGE

116 EAST MARKET STREET

ELKIN, NORTH CAROLINA

TELE: 336-368-0668

ISSUE DATE: 01.23.24

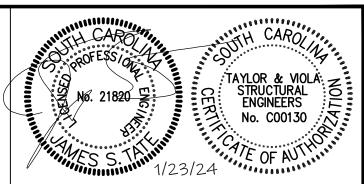




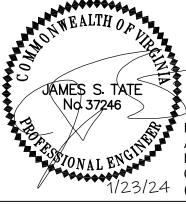




DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2018 NC BUILDING CODE (2015 IBC)



DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2021 SC BUILDING CODE (2021 IBC)



DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2018 VA CONSTRUCTION CODE (2018 IBC)



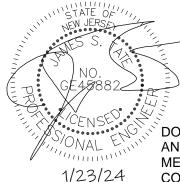
DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2012 IBC



DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2018 IBC



DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2020 BUILDING CODE OF NEW YORK STATE (2018 IBC)



DOCUMENTS DESIGNED AND DRAWN TO MEET THE 20210 BUILDING CODENEW JERSEY EDITION (2021 IBC)



DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2018 IBC



TAYLOR & VIOLA STRUCTURAL ENGINEERS P.O.B. 2616 HICKORY NORTH CAROLINA TELE: 828-328-6331 FAX: 828-322-1801 WWW . TAYLORVIOLA . COM

JCMT Associates, PLLC 211 Stone Drive, Pilot Mountain, NC 27041 Telephone: (336) 399-6277 NC CARPORTS & GARAGES

116 EAST MARKET STREET ELKIN, NORTH CAROLINA 28621 TELE: 336-368-0668

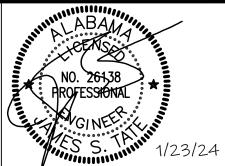
DRAWN BY:	PROJECT NO:
BKS	21014

DATE: 01.23.24

SHEET NO:



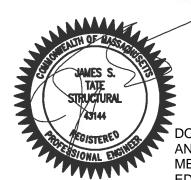
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DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2021 BUILDING CODE OF ALABAMA (2021 IBC)



DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2018 IBC



DOCUMENTS DESIGNED AND DRAWN TO MEET THE NINETH **EDITION OF THE MA** STATE BUILIDING CODE



DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2018 IBC



1/23/24

DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2017 IBC



DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2018 KENTUCKY BUILDING CODE (2015 IBC)



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DRAWN BY: BKS

PROJECT NO: 21014

DATE: 01.23.24 SHEET NO: **S1**

SHEET INDEX

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S4 ———	SIDE AND END ELEVATIONS
S5 ———	TYPICAL RAFTER /
	COLUMN FRAME SECTIONS
S5A ———	TYPICAL RAFTER / COLUMN FRAME AND SIDE FRAMING SECTION
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S7C ———	BASE RAIL ANCHORAGE
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S7E	BASE RAIL ANCHORAGE
S7F	BASE RAIL ANCHORAGE
S7G ———	BASE RAIL ANCHORAGE
S7H	BASE RAIL ANCHORAGE
S7J ———	BASE RAIL ANCHORAGE
S7K ———	BASE RAIL ANCHORAGE
S7L ———	BASE RAIL ANCHORAGE
S8 ———	BASE RAIL ANCHORAGE
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	SIDE WALL HEADER OPTIONS
S17A ———	END WALL HEADER OPTIONS



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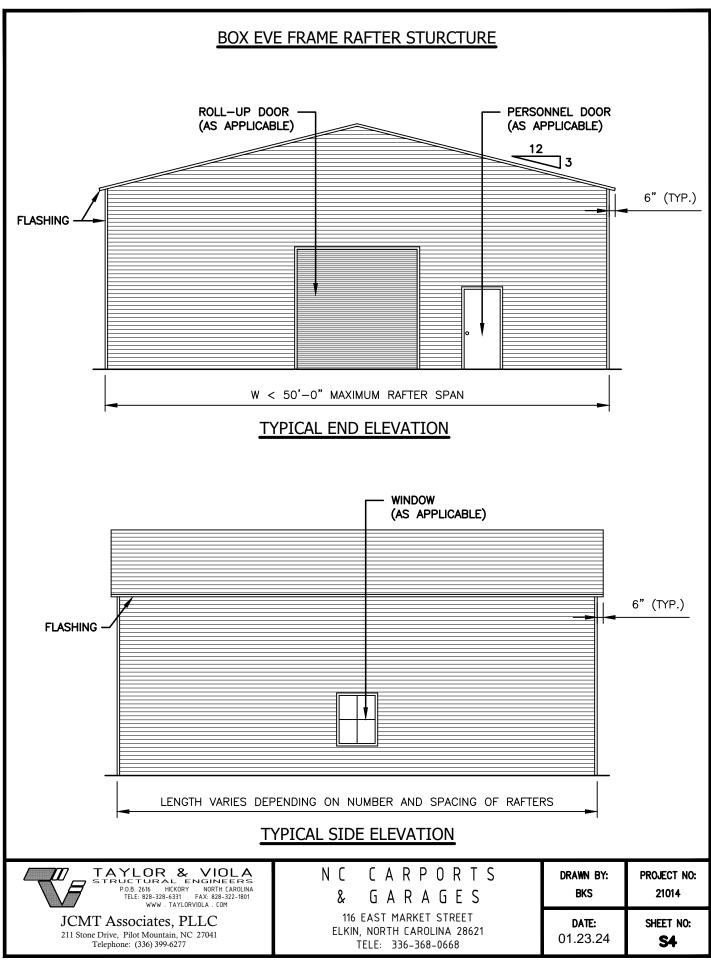
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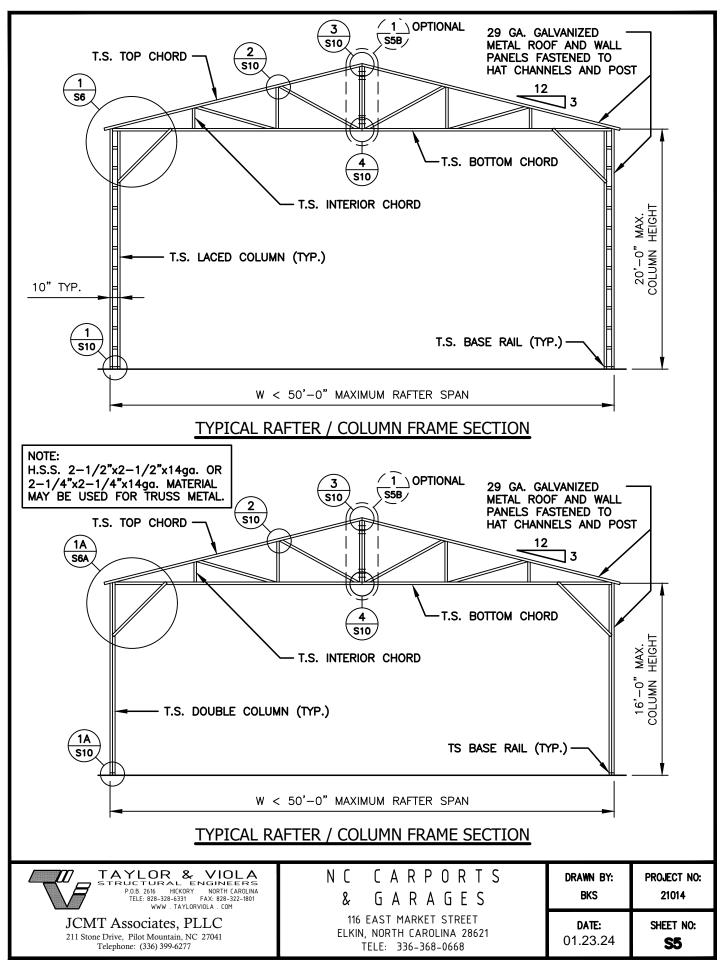
DESIGN LOADS:		
IMPORTANCE FACTORS	WIND (1w) 1.00 SNOW (1s) 1.00 SEISMIC (1e) 1.00	
DEAD LOADS	ROOF 13 P.S.F. ROOF COLLATERAL 0 P.S.F.	
LIVE LOADS	ROOF <u>20</u> P.S.F.	
GROUND SNOW LOAD:	50 P.S.F. * DRIFT LOAD HAS NOT BEEN CALCULATED	D.
WIND LOAD:		
SEISMIC DESIGN CATAGORY	A B X C D	
PROVIDE THE FOLLOWING S	EISMIC DESIGN PARAMETERS:	
OCCUPANCY CATEGORY	*NOT FOR SLEEPING QUARTERS	
SPECTRAL RESPONSE ACCE	(LERATION Ss <u>20.5</u> %g S1 <u>8.8</u> %g	
SITE CLASSIFICATION	D . FIELD TEST . PRESUMPTIVE . HISTORICAL DATA	
BASIC STRUCTURAL SYSTEM	A (CHECK ONE)	
BEARING WALL BUILDING FRAME MOMENT FRAME		
ANALYSIS PROCEDURE	SIMPLIFIEDX EQUIVALANT LATERAL FORCE MODAL	
LATERAL DESIGN CONTROL?	P EARTHQUAKE X _ WIND	
SOIL BEARING CAPACITIES: PRESUMPTIVE BEARING CAP	PACITIES: 2,000 P.S.F.	

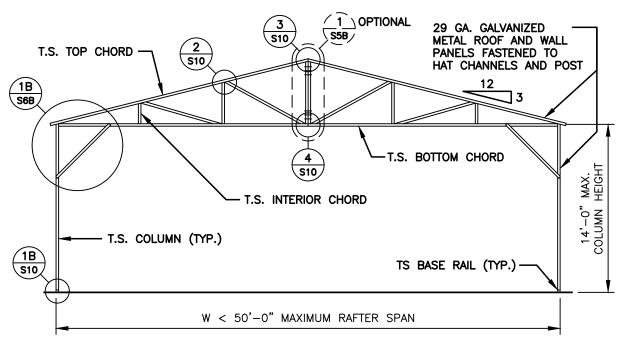
GENERAL NOTES:

- 1. MAX FRAME SPACING SHALL BE 48"oc UNLESS NOTED OTHERWISE.
- 2. MAX. END-WALL COLUMN SPACING SHALL BE 48"oc UNLESS NOTED OTHERWISE.
- 3. Tube material shall be 2–1/2" x 2–1/2" x 14gg. 50 K.S.I. Min. Unless noted otherwise.
- 4. ALL FASTENERS SHALL BE (2) #12 SELF TAPPING AT 9"o.c. UNLESS NOTED OTHERWISE.
- 5. 2,000 P.S.F. ASSUMED BEARING CAPACITY UNLESS NOTED OTHERWISE.
- 6. THESE DRAWINGS ARE NOT APPLICABLE TO PARTIALLY OPEN / ENCLOSED OR OPEN BUILDINGS.



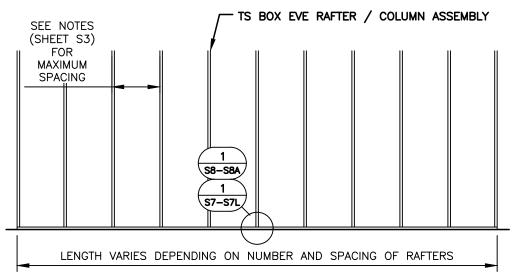






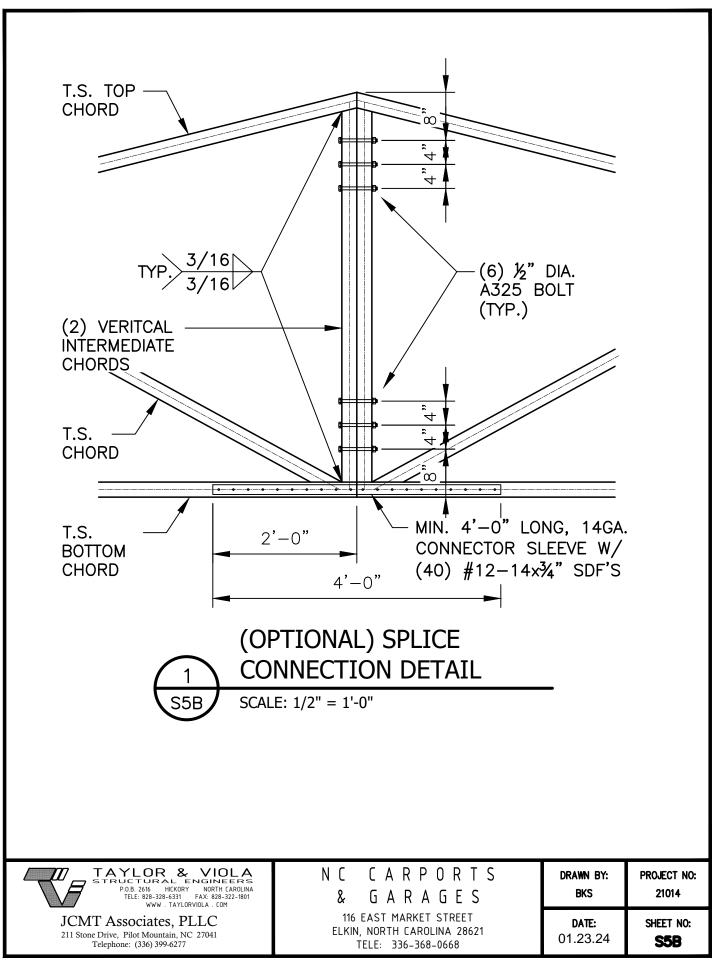
TYPICAL RAFTER / COLUMN FRAME SECTION

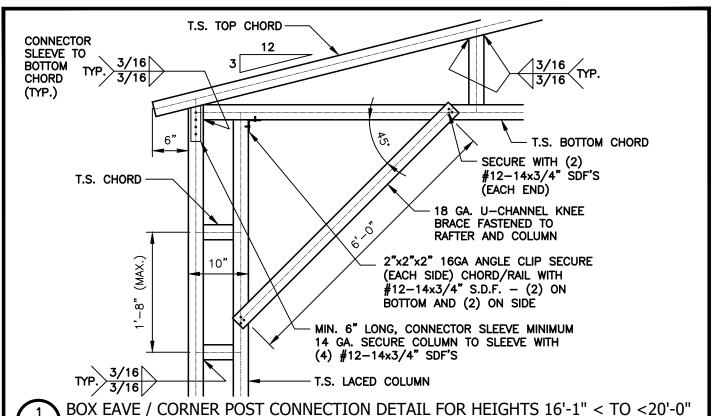
NOTE: H.S.S. 2-1/2"x2-1/2"x14ga. OR 2-1/4"x2-1/4"x14ga. MATERIAL MAY BE USED FOR TRUSS METAL.



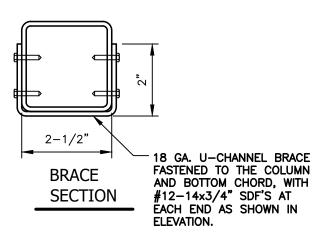
TYPICAL RAFTER / COLUMN SIDE FRAME SECTION



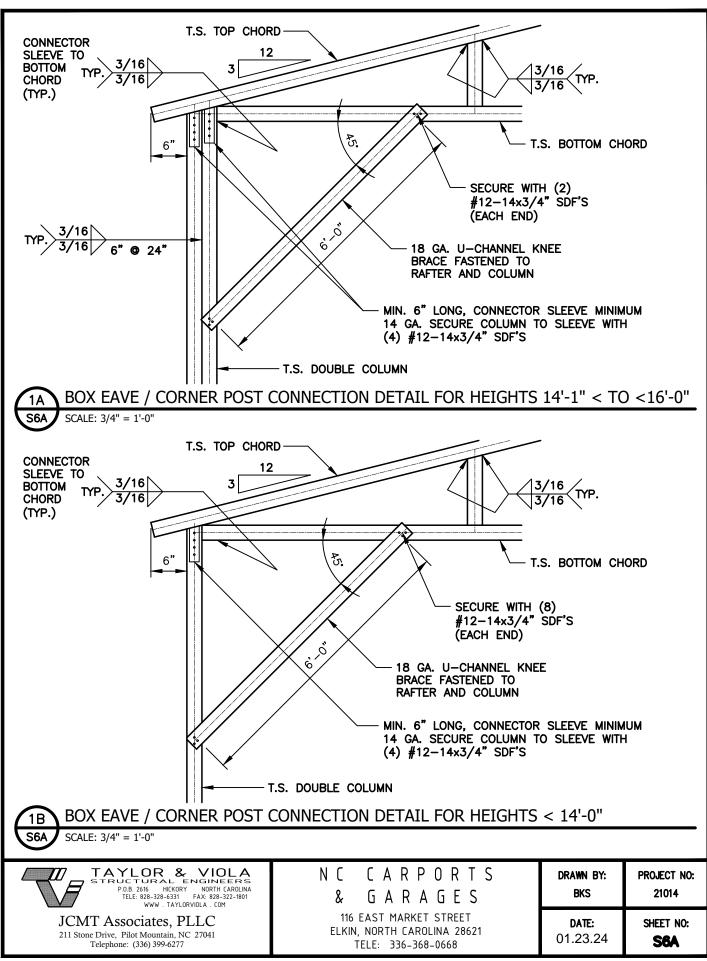




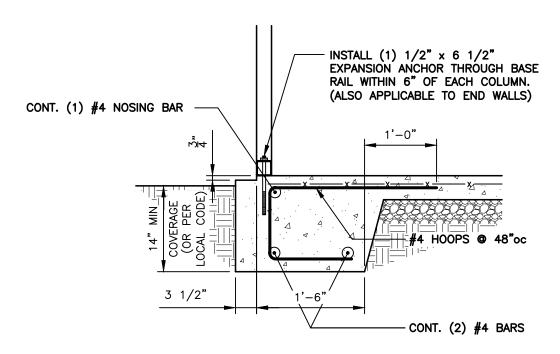
S6 SCALE: 3/4" = 1'-0"

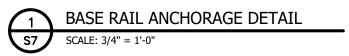






CONCRETE BASE RAIL ANCHORAGE





GENERAL NOTES:

ALL CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 2,000 P.S.F.

CONCRETE:

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 P.S.I. 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 AND WEATHER AND 1-1/2" ELSEWHERE.

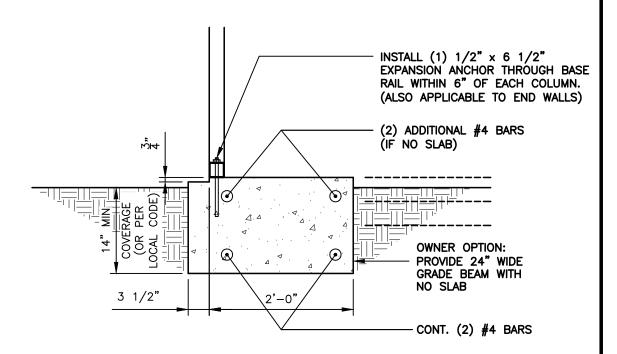
REINFORCING STEEL:

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.

- 1. REINFORCEMENT IS BENT COLD.
- 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.



CONCRETE BASE RAIL ANCHORAGE (NO SLAB)





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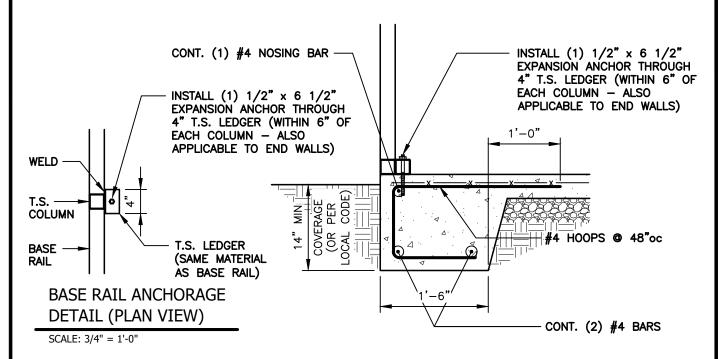
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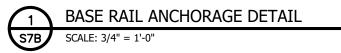
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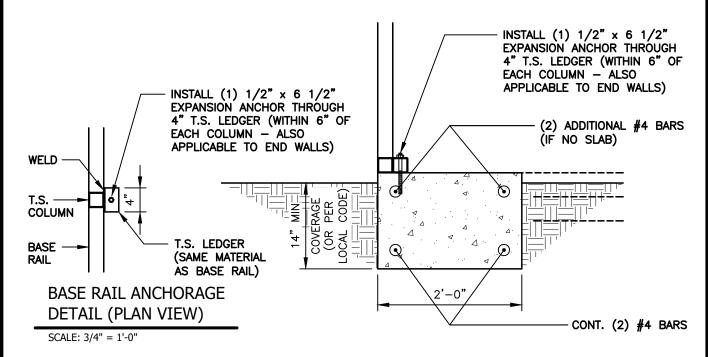
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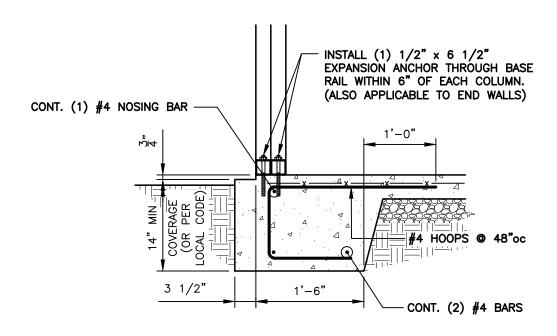
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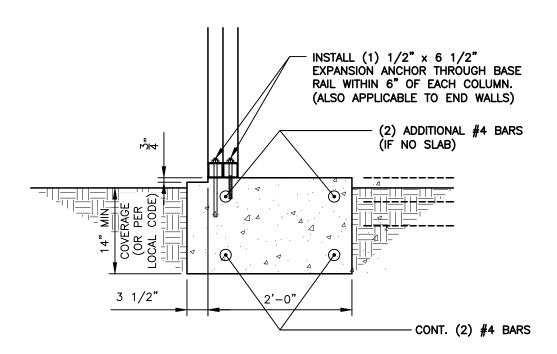
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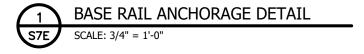
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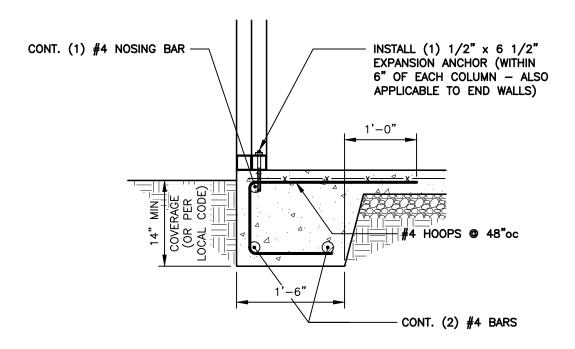
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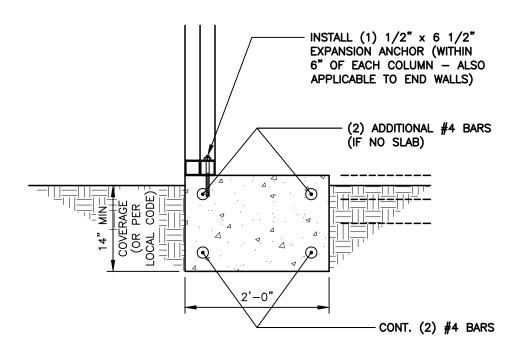
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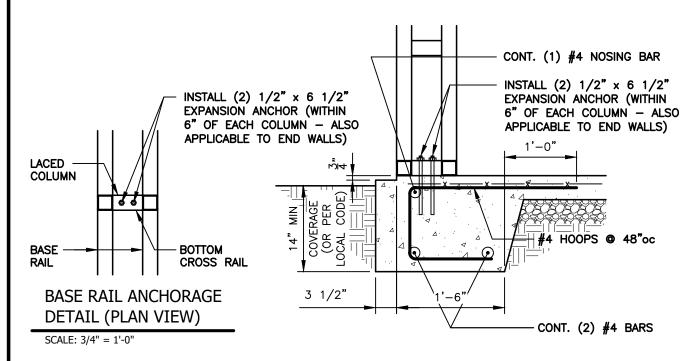
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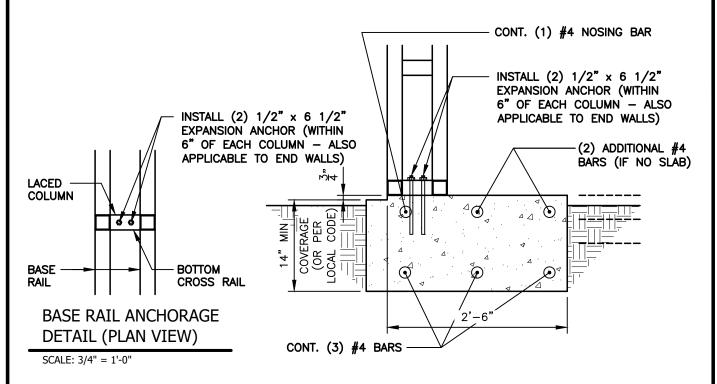
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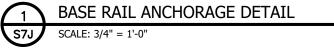
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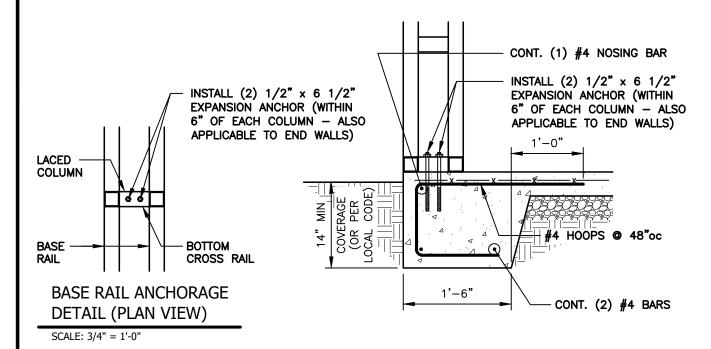
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CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 P.S.I. AT 28 DAYS.

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 AND WEATHER AND 1-1/2" ELSEWHERE.

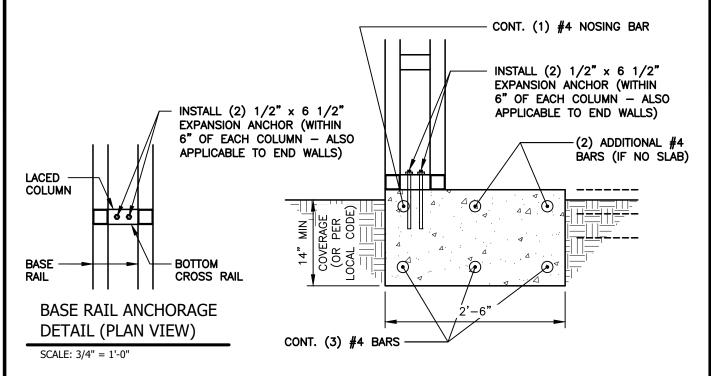
REINFORCING STEEL:

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.

- 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.



CONCRETE BASE RAIL ANCHORAGE (NO SLAB)





GENERAL NOTES:

ALL CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 2,000 P.S.F.

CONCRETE:

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 P.S.I. 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 AND WEATHER AND 1-1/2" ELSEWHERE.

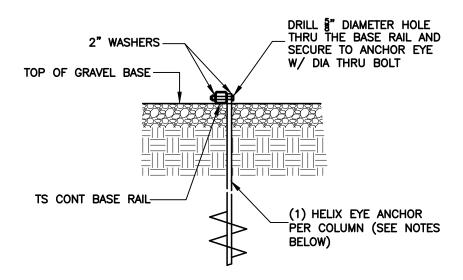
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- 3. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT.



SOIL NAIL BASE RAIL ANCHORAGE





BASE RAIL ANCHORAGE DETAIL

SCALE: 3/4" = 1'-0"

HELIX EMBEDMENT INFORMATION:

FOR VERY DENSE OR CEMETED SANDS, COARSE GRAVEL, COBBLES, CALICHE, PRELOADED SILTS AND CLAYS, USE MIN. (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH 50" EMBEDMENT — ONE EACH END BASE RAIL AND 20'-0"oc MAX. WITH #4 REBAR AT 5'-0"oc BETWEEN.

FOR CORAL, USE MIN (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH 50" EMBEDMENT — ONE EACH END BASE RAIL AND 20'-0"oc MAX. WITH #4 REBAR AT 5'-0"oc BETWEEN.

FOR MED DENSE COARSE SANDS, SANDY GRAVEL, VERY STIFF SILTS, AND CLAYS, USE MIN (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH 50" EMBEDMENT — ONE EACH END BASE RAIL AND 20'-0"oc MAX. WITH #4 REBAR AT 5'-0"oc BETWEEN.

FOR LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS, USE MIN (2) 6" HELICES WITH MINIMUM 50" EMBEDMENT — ONE EACH END BASE RAIL AND 20'-0"oc MAX. WITH #4 REBAR AT 5'-0"oc BETWEEN.

FOR VERY LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILTS AND ALLUVIAL FILL, USE MIN (2) 8" HELICES WITH MINIMUM 60" EMBEDMENT — ONE EACH END BASE RAIL AND 20'-0"oc MAX. WITH #4 REBAR AT 5'-0"oc BETWEEN.

NOTE:

IN ALL CASES, IF FROST DEPTH EXCEEDS STATED DEPTH, ANCHOR SHOULD EXTEND A MIN. OF 12" BELOW FROST LINE.



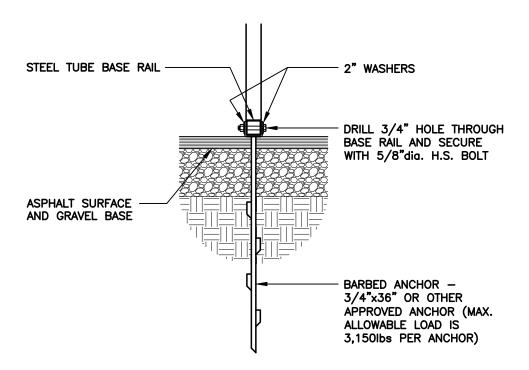
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116 EAST MARKET STREET ELKIN, NORTH CAROLINA 28621 TELE: 336-368-0668 DRAWN BY: BKS PROJECT NO: 21014

DATE: 01.23.24

SHEET NO:

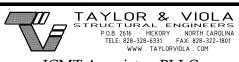
ASPHALT ANCHOR BASE RAIL ANCHORAGE





ASPHALT / BASE RAIL ANCHORAGE DETAIL

SCALE: 3/4" = 1'-0"



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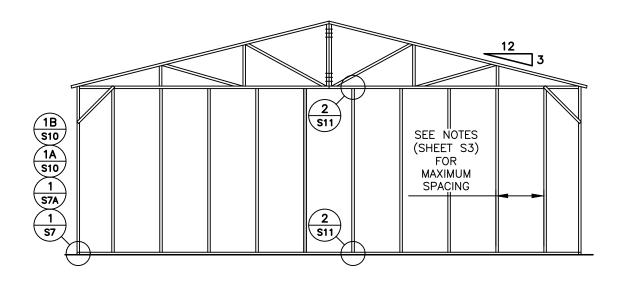
116 EAST MARKET STREET ELKIN, NORTH CAROLINA 28621 TELE: 336-368-0668 DRAWN BY: BKS

PROJECT NO: 21014

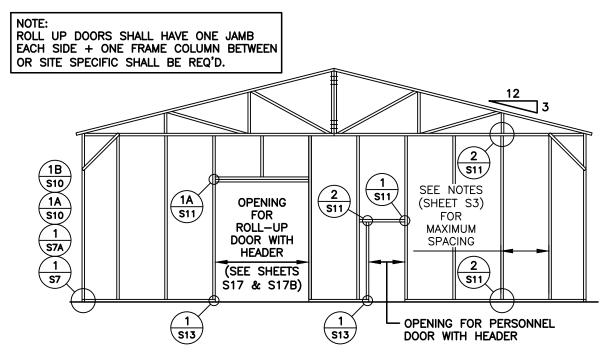
DATE: 01.23.24

SHEET NO:

BOX EVE RAFTER END WALL OPENINGS



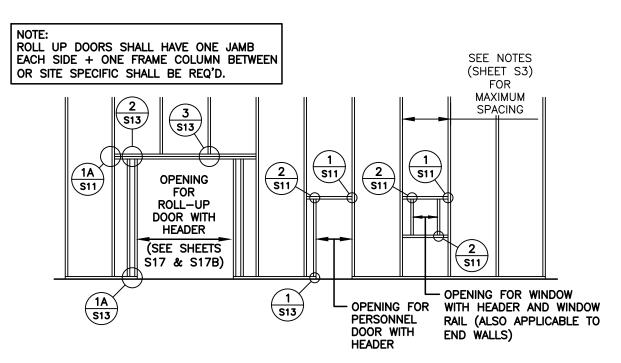
TYPICAL BOX EVE RAFTER / END WALL COLUMN FRAME SECTION



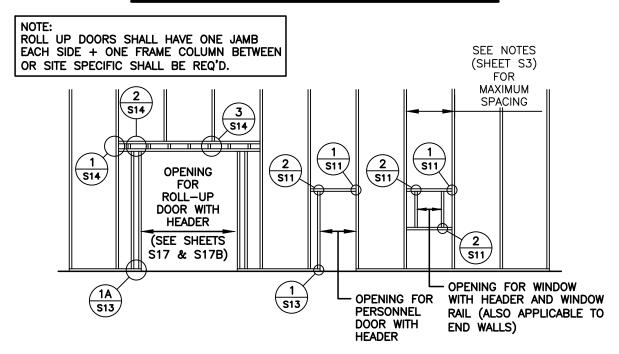
TYPICAL BOX EVE RAFTER END WALL OPENINGS FRAMING SECTION



BOX EVE RAFTER END WALL AND SIDE WALL OPENINGS

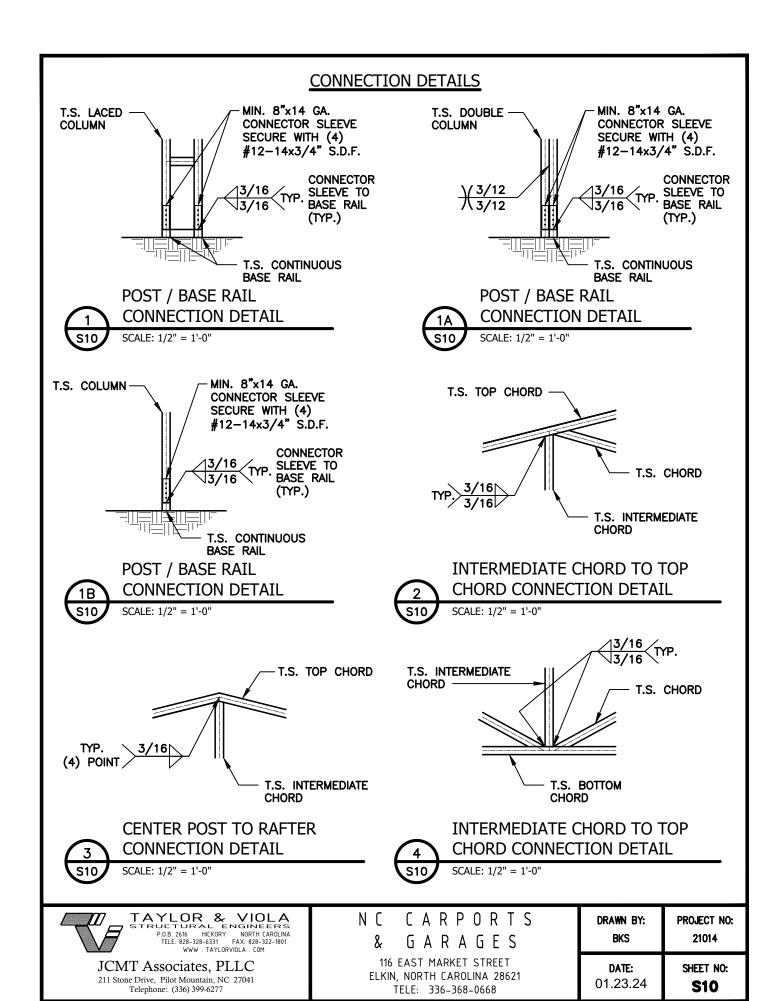


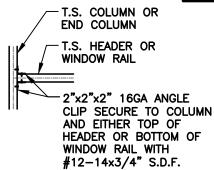
TYPICAL END WALL OPENING FRAMING SECTION



TYPICAL SIDE WALL OPENING FRAMING SECTION



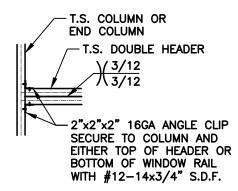




COLUMN OR WINDOW RAIL / WALL GIRT TO POST CONNECTION DETAIL

<u>S11</u>

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



COLUMN / DOUBLE HEADER CONNECTION DETAIL



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

T.S. END POST OR
DOOR WINDOW
FRAME POST

T.S.
NON-STRUCTURAL
HEADER, BASE
RAIL, OR
WINDOW RAIL

T.S. TRUSS RAFTER
CHORD OR HEADER

2"x2"x2" 16GA ANGLE
CLIP SECURE TO POST
(EACH SIDE) AND
RAFTER CHORD/RAIL
WITH #12-14x3/4" SDF
(2) ON BOTTOM AND (2)

DOOR OR WINDOW HEADER RAIL TO POST CONNECTION DETAIL

ON SIDE

2 S11

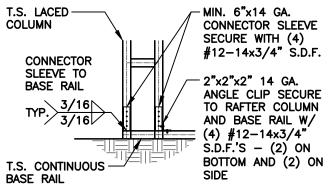
SCALE: 1/2" = 1'-0"



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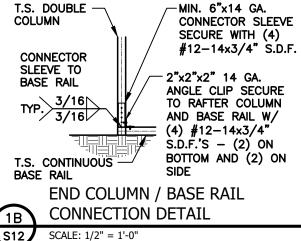
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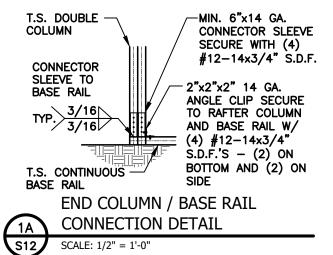


END COLUMN / BASE RAIL

S12

CONNECTION DETAIL SCALE: 1/2" = 1'-0" MIN. 6"x14 GA.



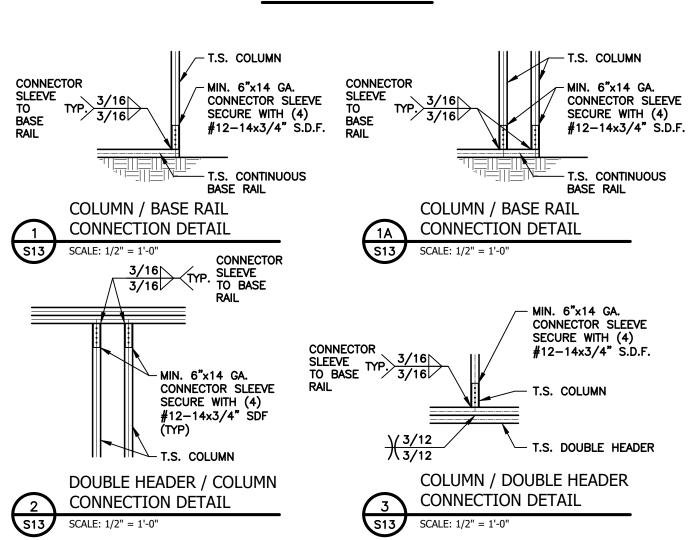


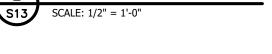


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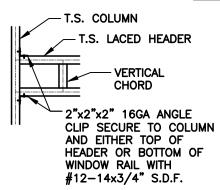
CARPORTS N C GARAGES 116 EAST MARKET STREET ELKIN, NORTH CAROLINA 28621 TELE: 336-368-0668

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COLUMN / LACED HEADER CONNECTION DETAIL SCALE: 1/2" = 1'-0" T.S. LACED HEADER

VERTICAL CHORD

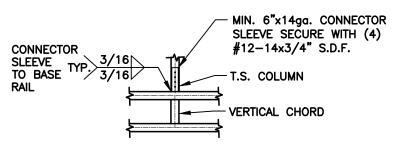
MIN. 6"x14ga. CONNECTOR SLEEVE SECURE WITH (4) #12-14x3/4" S.D.F.

T.S. COLUMN

LACED HEADER / COLUMN
CONNECTION DETAIL

2 S14

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



COLUMN / LACED HEADER CONNECTION DETAIL

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

3

S14

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STRUCTURAL ENGINEERS
P.O.B. 2616 HICKORY NORTH CAPOLINA
TELE: 828-328-331 FAX: 828-322-1801
WWW - TAYLORVIOLA - COM

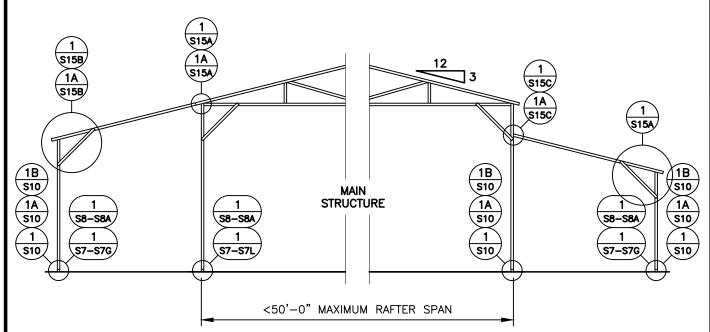
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DATE: SHEET NO: 01.23.24

S14

BOX EVE RAFTER LEAN-TO OPTIONS



TYPICAL LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN)

MAXIMUM WIDTH OF SINGLE MEMBER ROOF EXTENSION AND LEAN-TO OPTION IS 10'-0" MAXIMUM WIDTH OF DOUBLE MEMBER ROOF EXTENSION AND LEAN-TO IS 15'-0" 12'-0" MAX. LEAN-TO HEIGHT SINGLE COLUMN 16'-0" MAX. LEAN-TO HEIGHT DOUBLE COLUMN



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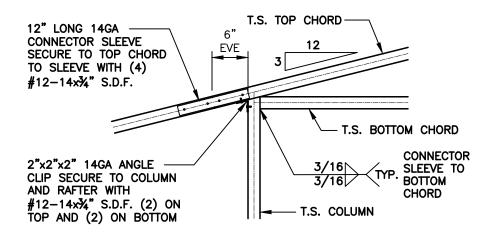
NC CARPORTS GARAGES

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DATE: 01.23.24	SHEET NO:

S15

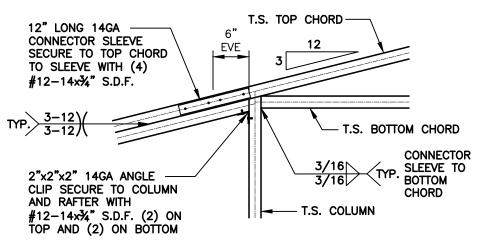
LEAN-TO CONNECTION DETAILS



ROOF EXTENSION RAFTER / CORNER POST DETAIL FOR WIDTHS < 10'-0"

S15A

SCALE: 3/4" = 1'-0"



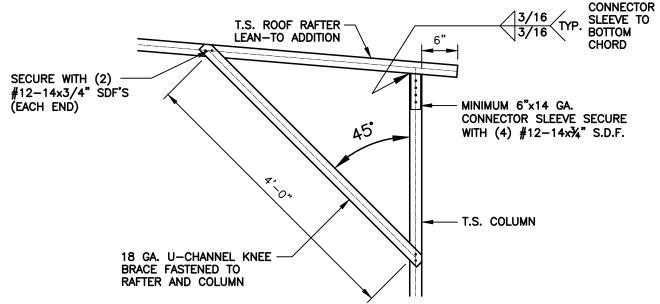
ROOF EXTENSION RAFTER / CORNER POST DETAIL FOR WIDTHS < 10'-0''

1A S15A

SCALE: 3/4" = 1'-0"



LEAN-TO CONNECTION DETAILS



BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR LEAN-TO RAFTER SPAN <10'-0"

SCALE: 3/4" = 1'-0" CONNECTOR 3/16 TYP. SLEEVE TO T.S. ROOF RAFTER 3/16 **BOTTOM** LEAN-TO ADDITION CHORD SECURE WITH (2) — #12-14x3/4" SDF'S (EACH END) MINIMUM 6"x14 GA. CONNECTOR SLEEVE SECURE 45° WITH (4) #12-14x3/4" S.D.F. T.S. COLUMN 18 GA. U-CHANNEL KNEE BRACE FASTENED TO RAFTER AND COLUMN

BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR LEAN-TO RAFTER SPAN <15'-0"

1A S15B

SCALE: 3/4" = 1'-0"



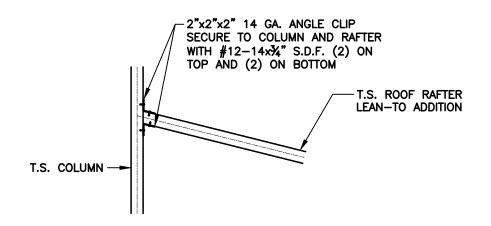
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DATE: SHEET NO: 01.23.24

DRAWN BY: PROJECT NO: 21014

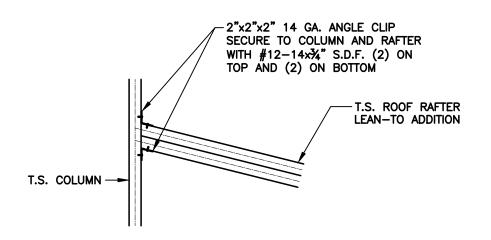
LEAN-TO CONNECTION DETAILS





LEAN-TO RAFTER TO RAFTER POST CONNECTION DETAIL FOR WIDTHS < 10'-0"

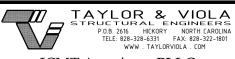
SCALE: 3/4" = 1'-0"





LEAN-TO RAFTER TO RAFTER POST CONNECTION DETAIL FOR WIDTHS < 15'-0"

SCALE: 3/4" = 1'-0"



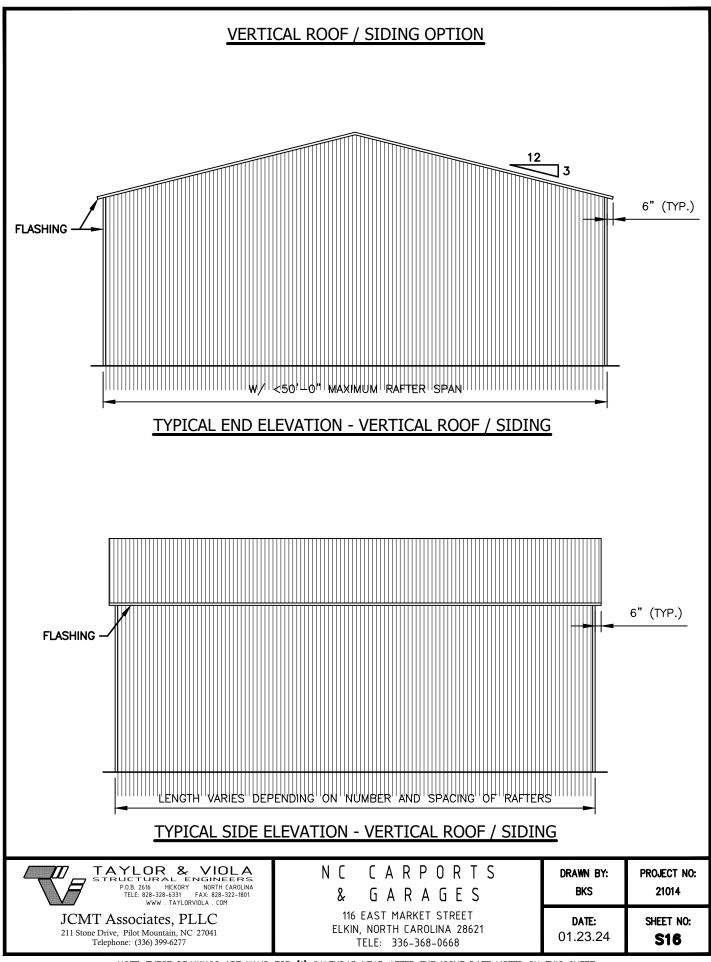
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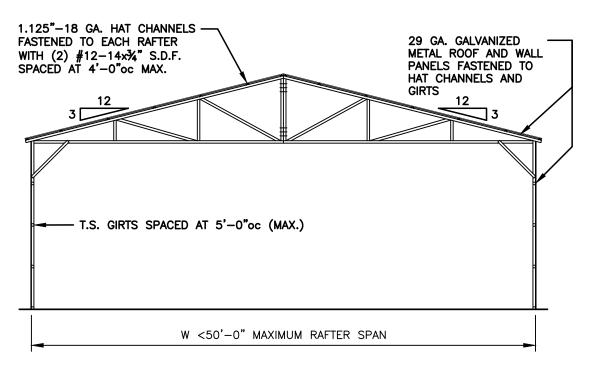
116 EAST MARKET STREET ELKIN, NORTH CAROLINA 28621 TELE: 336-368-0668

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BKS	21014

DATE: SHEET NO: 01.23.24 S15C



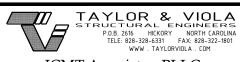
VERTICAL ROOF / SIDING OPTION



TYPICAL SECTION VERTICAL ROOF / SIDING OPTION

NOTE:

H.S.S. 2-1/2"x2-1/2"x14ga. OR 2-1/4"x2-1/4"x14ga. MATERIAL MAY BE USED FOR TRUSS METAL.



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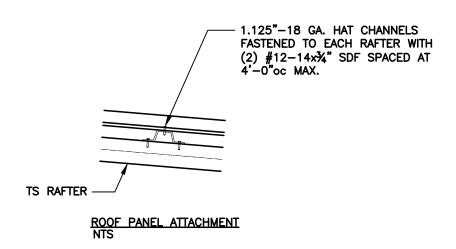
116 EAST MARKET STREET ELKIN, NORTH CAROLINA 28621 TELE: 336-368-0668 DRAWN BY: BKS PROJECT NO: 21014

DATE: 01.23.24

SHEET NO: S16A

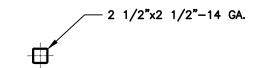
SEE NOTES (SHEET S3) FOR MAXIMUM SPACING 1.125"-18 GA. HAT CHANNELS FASTENED TO EACH RAFTER WITH (2) #12-14x¾" S.D.F. SPACED AT 4'-0"oc MAX. TS GRTS SPACED AT 5'-0"oc (MAX.) LENGTH VARIES DEPENDING ON NUMBER AND SPACING OF RAFTERS

TYPICAL SIDE FRAMING SECTION VERTICAL ROOF / SIDING OPTION

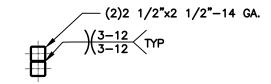




SIDE WALL HEADER OPTIONS



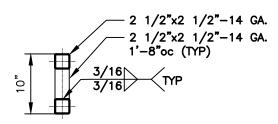
HEADER DETAIL FOR DOOR OPENINGS < 4'-0"



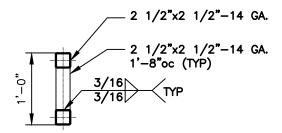
HEADER DETAIL FOR DOOR

OPENINGS 4'-1" < TO < 6'-0"

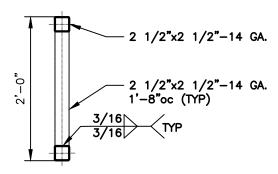
NTS



LACED HEADER DETAIL FOR DOOR OPENINGS 6'-1" < TO < 11'-0" NTS



LACED HEADER DETAIL FOR DOOR OPENINGS 11'-1" < TO < 15'-0"



LACED HEADER DETAIL FOR DOOR OPENINGS 15'-1" < TO < 20'-0"

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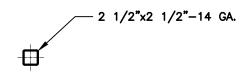
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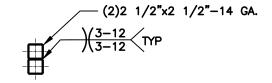
NC CARPORTS

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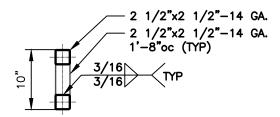
END WALL HEADER OPTIONS



HEADER DETAIL FOR DOOR OPENINGS < 7'-0" NTS



HEADER DETAIL FOR DOOR
OPENINGS 7'-1" < TO < 13'-0"



LACED HEADER DETAIL FOR DOOR OPENINGS 13'-1" < TO < 20'-0"

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116 EAST MARKET STREET ELKIN, NORTH CAROLINA 28621

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BKS	

DATE:

21014 SHEET NO: **S17A**

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