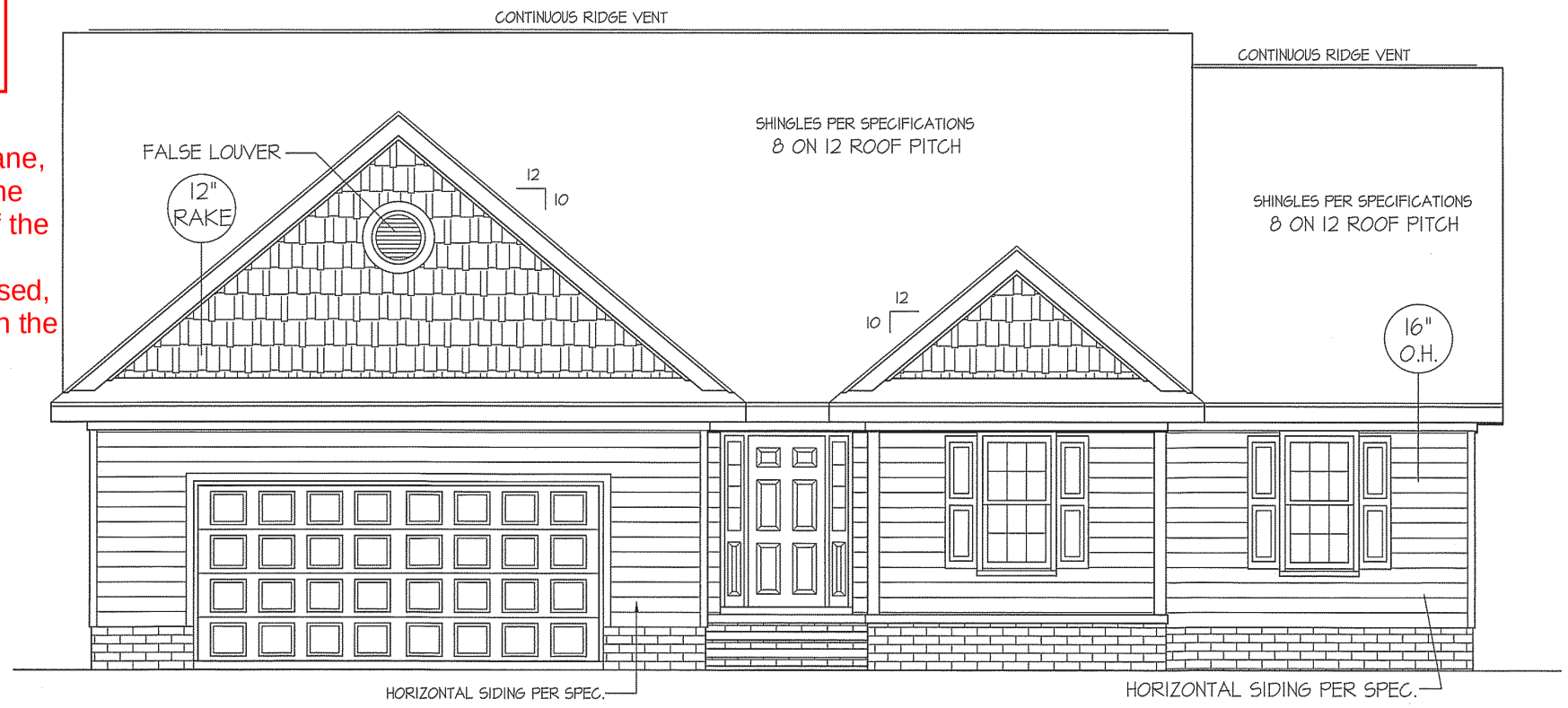
THIS PLAN IS DESIGNED TO MEET THE REQUIREMENTS OF THE NORTH CAROLINA RESIDENTIAL CODE 2018 EDITION

NOTICE TO CONTRACTOR
All construction must comply with current NC Building Codes and is subject to field inspection and verification.
APPROVED
Harnett County Building and/or its representatives are not responsible for full compliance with the code.
05/16/2023
Harnett COUNTY NORTH CAROLINA

While this is in a flood plane, the elevation shown on the site plan is at the edge of the flood plane. If flood vents/crawlspace were used, the water would not reach the vents.

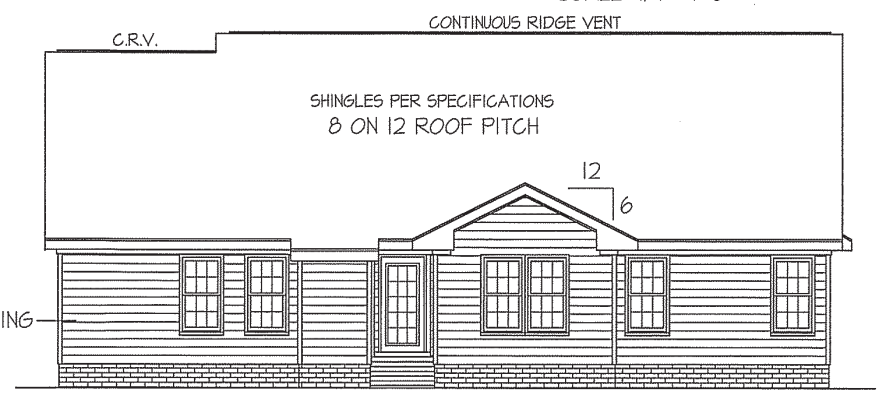


FRONT ELEVATION
SCALE: 1/4" =1'-0"

ROOF VENTILATION REQ'MTS.
2510 ATTIC SQ. FT. / 300 = 8.37

PROVIDED ON PLAN
97 L.F. RIDGE VENT = 18.19
124 L.F. SOFFIT VENT = 7.75
TOTAL = 25.94 S.F. FREE NET AREA

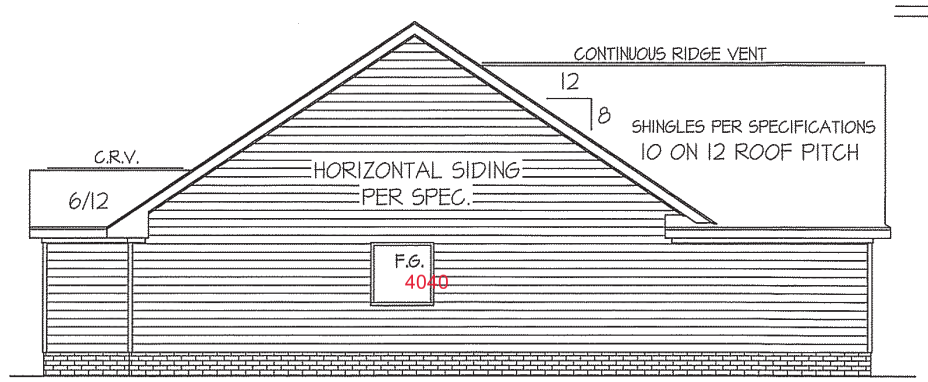
WIND ZONES (PER TABLE R301.2(4)	
COUNTY	MPH
HARNETT	120
JOHNSTON	120
SAMPSON	130
WAKE	115



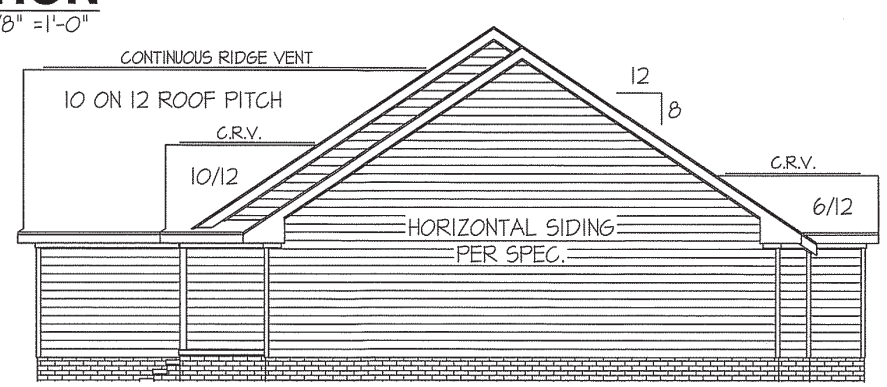
REAR ELEVATION
SCALE: 1/8" =1'-0"

INSULATION and FENESTRATION REQUIREMENTS		
CLIMATE ZONE	ZONE-3	ZONE-4
FENESTRATION U-FACTOR	0.35	0.35
GLAZED FENESTRATION SHGC	0.30	0.30
MINIMUM CEILING R-VALUE	R-38	R-38
MINIMUM WALL R-VALUE	R-15, 13+2.5	R-15, 13+2.5
MINIMUM FLOOR R-VALUE	R-19	R-19
MIN. CRAWL SPACE WALL R-VALUE	5/13	10/15
MIN. SLAB R-VALUE	0	R-10
PROVIDE STEPS AS REQUIRED GRADE MAY VARY - BUILDER TO VERIFY		

ALL EXTERIOR WALLS TO BE SHEATHED WITH CS-WSP (7/16" OSB) IN ACCORDANCE WITH SECTION R602.10.3 UNLESS OTHERWISE NOTED.



LEFT ELEVATION
SCALE: 1/8" =1'-0"



RIGHT ELEVATION
SCALE: 1/8" =1'-0"

DATE:
OCT. 18, 2019

FREEDOM FAMILY HOMES
P.O. BOX 608
DUNN, N.C. – 28335
O: (910) 892-1231 FAX: (910) 892-5680

EXCLUSIVE PLAN FOR
FREEDOM FAMILY HOMES

PLAN: **WILSON~LEFT**

SHEET NO.
1

MAIN COMPUTER FILE: FFH - WILSON -DEC.-2019

WIND ZONES (PER TABLE R301.2(4))	
COUNTY	MPH
HARNETT	120
JOHNSTON	120
SAMPSON	130
WAKE	115

HEADER SCHEDULE		
SYMBOL #	SIZE	JACKS
H-1	(2) 2x10	1
H-2	(2) 2x10	2
H-3	(2) 2x8	2
H-4	(2) 2x12	2
H-5	(2) 1.75 x 9.25 LVL	3

ALL EXTERIOR WALLS TO BE SHEATHED WITH CS-WSP (7/16" OSB) IN ACCORDANCE WITH SECTION R602.10.3 UNLESS OTHERWISE NOTED.

GIRDER AND HEADER SIZES AND JACK STUD REQUIREMENTS ON EXTERIOR AND INTERIOR LOAD BEARING WALLS ARE TO COINCIDE WITH TABLE EXT.~R602.7 (1) AND INT.~R602.7 (2).

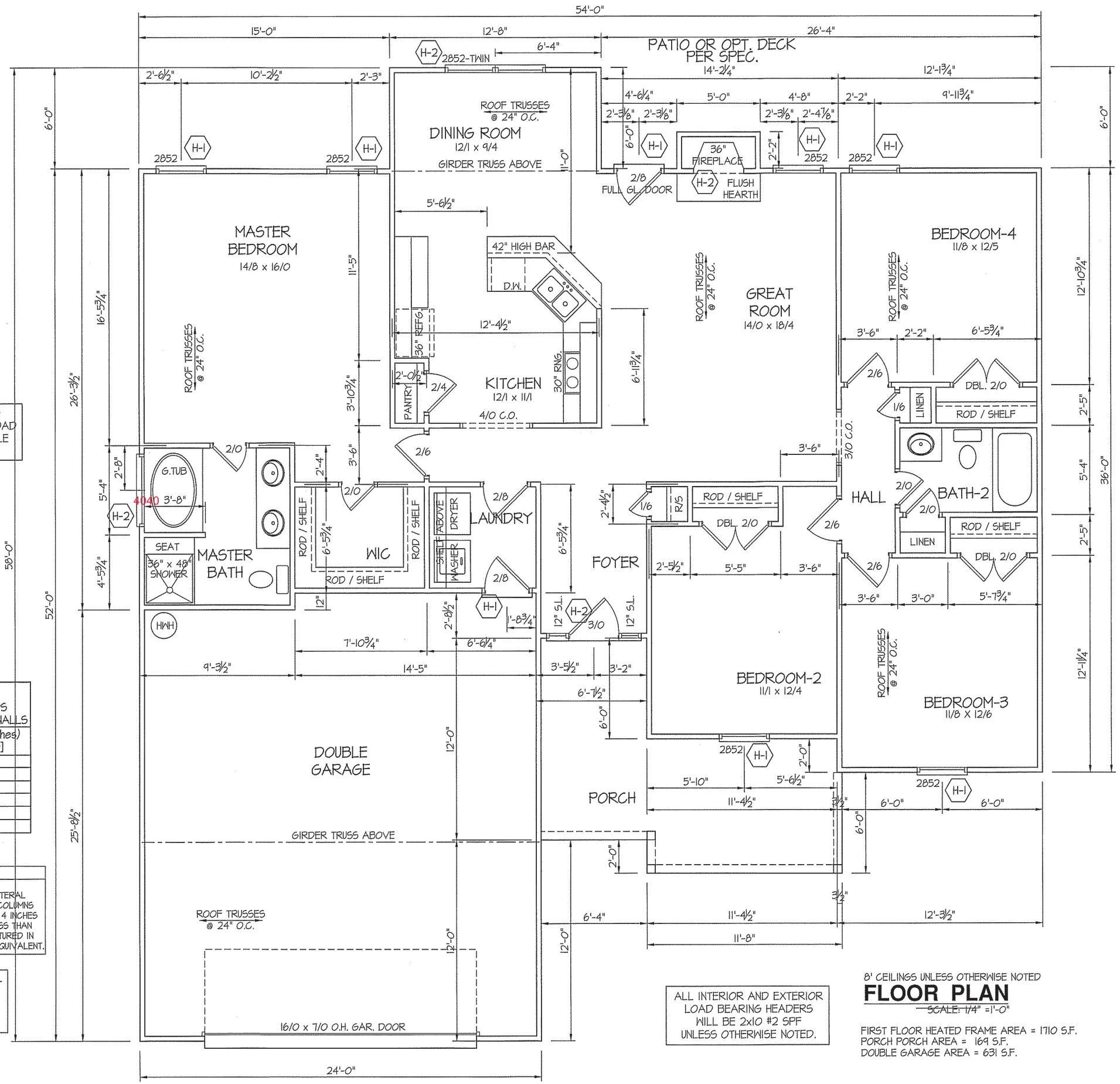


TABLE R602.7.5 MINIMUM NUMBER OF FULL HEIGHT STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS		
HEADER SPAN (feet)	MAX. STUD SPACING (Inches) [per Table R602.3(5)]	
	16	24
< 3'	1	1
4'	2	1
8'	3	2
12'	5	3
16'	6	4

SECTION R407~COLUMNS

R407.3 STRUCTURAL REQUIREMENTS.
THE COLUMNS SHALL BE RESTRAINED TO PREVENT LATERAL DISPLACEMENT AT THE TOP AND BOTTOM END. WOOD COLUMNS SHALL BE NOT LESS IN NOMINAL SIZE THAN 4 INCHES BY 4 INCHES (102 mm BY 102 mm). STEEL COLUMNS SHALL BE NOT LESS THAN 3-INCH-DIAMETER (76 mm) SCHEDULE 40 PIPE MANUFACTURED IN ACCORDANCE WITH ASTM A53 GRADE B OR APPROVED EQUIVALENT.

GARAGE DOOR WALL TO BE PORTAL FRAME CONSTRUCTION, COMPLYING SECTION R602.10.1 AND FIGURE~R602.10.1 METHOD PFG

ALL INTERIOR AND EXTERIOR LOAD BEARING HEADERS WILL BE 2x10 #2 SPF UNLESS OTHERWISE NOTED.

8' CEILINGS UNLESS OTHERWISE NOTED

FLOOR PLAN

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

FIRST FLOOR HEATED FRAME AREA = 1710 S.F.
PORCH PORCH AREA = 169 S.F.
DOUBLE GARAGE AREA = 631 S.F.

DATE:
OCT. 18, 2019

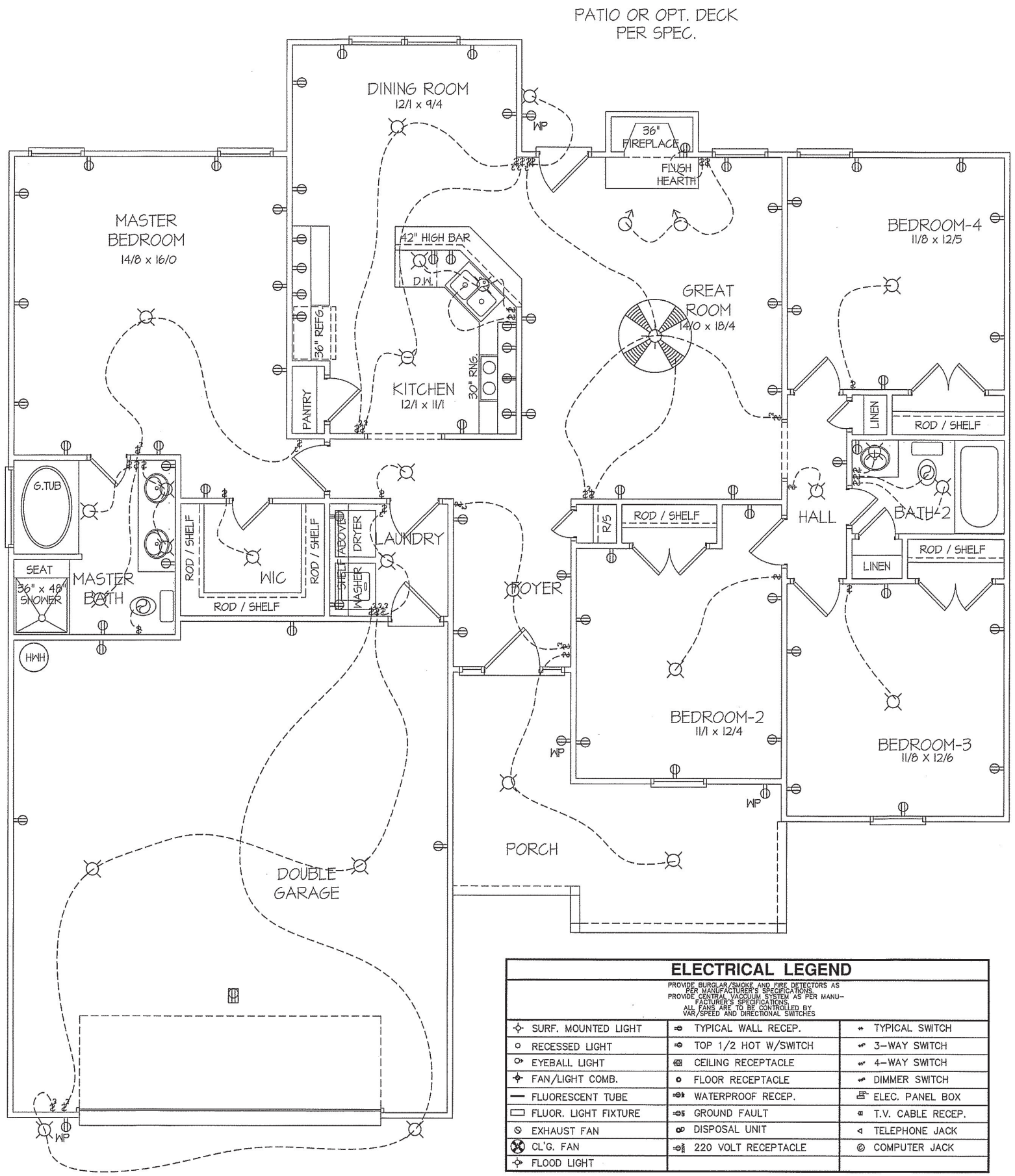
FREEDOM FAMILY HOMES
P.O. BOX 608
DUNN, N.C. – 28335
O: (910) 892-1231 FAX: (910) 892-5680

EXCLUSIVE PLAN FOR FREEDOM FAMILY HOMES

PLAN: WILSON~LEFT

SHEET NO. 2

MAIN COMPUTER FILE: FFH - WILSON -DEC.-2019



ELECTRICAL LEGEND

PROVIDE BURGLAR/SMOKE AND FIRE DETECTORS AS PER MANUFACTURER'S SPECIFICATIONS.
PROVIDE CENTRAL VACUUM SYSTEM AS PER MANUFACTURER'S SPECIFICATIONS.
ALL FANS ARE TO BE CONTROLLED BY VARIABLE SPEED AND DIRECTIONAL SWITCHES

SURF. MOUNTED LIGHT	TYPICAL WALL RECEP.	TYPICAL SWITCH
RECESSED LIGHT	TOP 1/2 HOT W/SWITCH	3-WAY SWITCH
EYEBALL LIGHT	CEILING RECEPTACLE	4-WAY SWITCH
FAN/LIGHT COMB.	FLOOR RECEPTACLE	DIMMER SWITCH
FLUORESCENT TUBE	WATERPROOF RECEP.	ELEC. PANEL BOX
FLUOR. LIGHT FIXTURE	GROUND FAULT	T.V. CABLE RECEP.
EXHAUST FAN	DISPOSAL UNIT	TELEPHONE JACK
CL'G. FAN	220 VOLT RECEPTACLE	COMPUTER JACK
FLOOD LIGHT		

8' CLG. UNLESS OTHERWISE NOTE

ELECTRICAL FLOOR PLAN

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

FIRST FLOOR HEATED FRAME AREA = 1710 S.F.
PORCH PORCH AREA = 169 S.F.
DOUBLE GARAGE AREA = 631 S.F.

DATE:
OCT. 18, 2019

FREEDOM FAMILY HOMES
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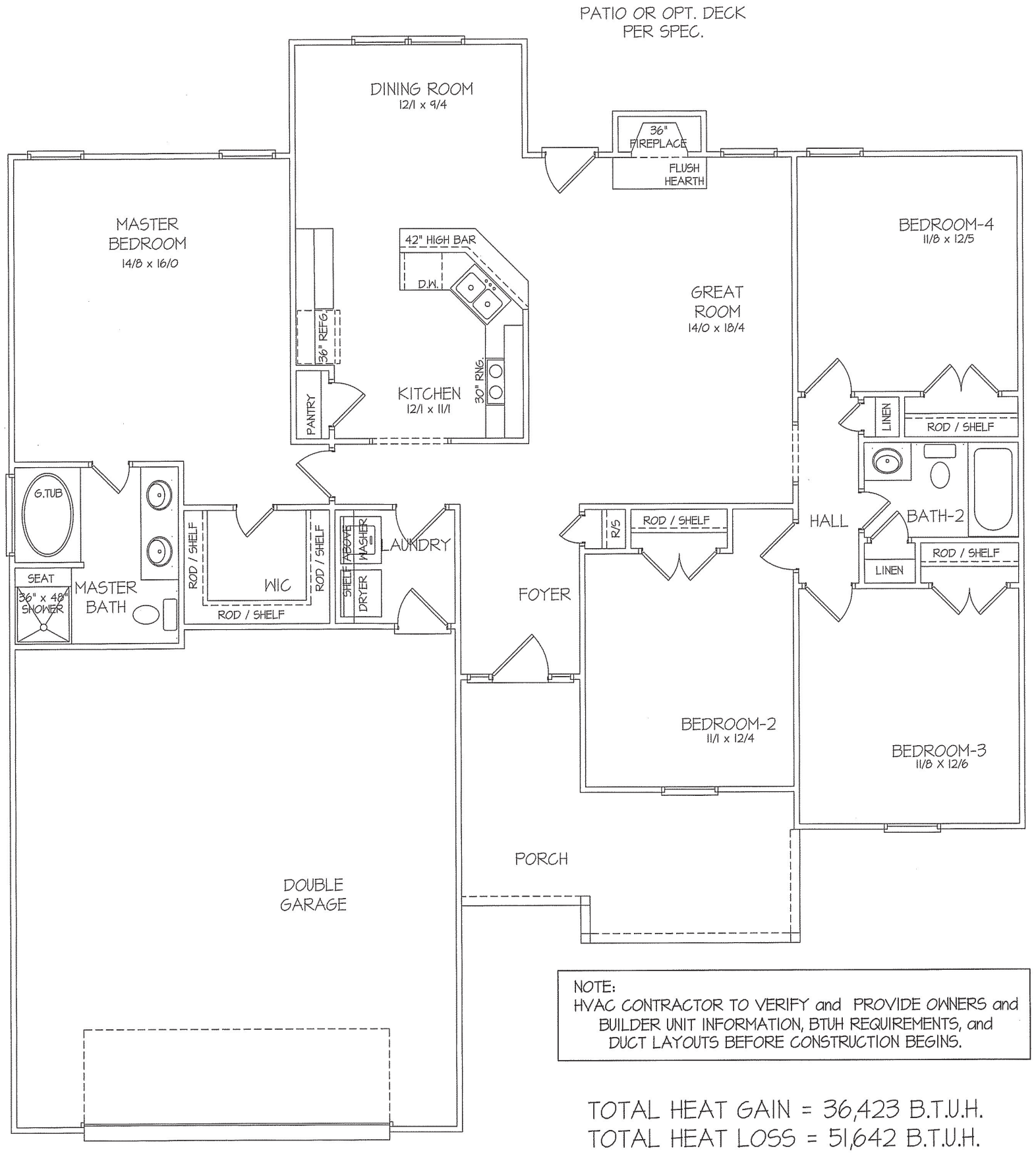
EXCLUSIVE PLAN FOR FREEDOM FAMILY HOMES

PLAN: **WILSON~LEFT**

SHEET NO. **4**

MAIN COMPUTER FILE: FFH - WILSON -DEC.-2019



NOTE:
HVAC CONTRACTOR TO VERIFY and PROVIDE OWNERS and BUILDER UNIT INFORMATION, BTUH REQUIREMENTS, and DUCT LAYOUTS BEFORE CONSTRUCTION BEGINS.

TOTAL HEAT GAIN = 36,423 B.T.U.H.
TOTAL HEAT LOSS = 51,642 B.T.U.H.

8' CEILINGS UNLESS OTHERWISE NOTED

HVAC FLOOR PLAN

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

FIRST FLOOR HEATED FRAME AREA = 1710 S.F.
PORCH PORCH AREA = 169 S.F.
DOUBLE GARAGE AREA = 631 S.F.

DATE:
OCT. 18, 2019

FREEDOM FAMILY HOMES
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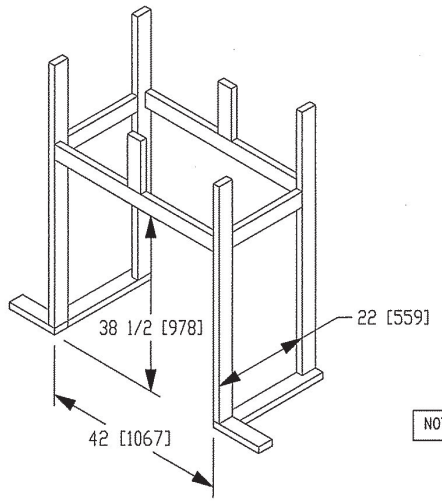
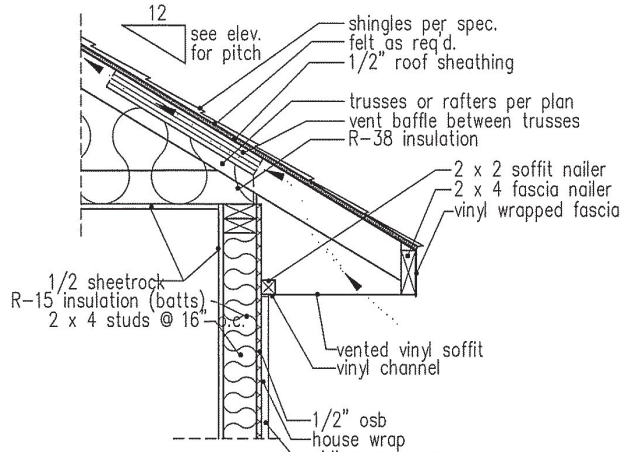
EXCLUSIVE PLAN FOR
FREEDOM FAMILY HOMES

PLAN: **WILSON~LEFT**

SHEET NO.
5

MAIN COMPUTER FILE: FFH - WILSON -DEC.-2019

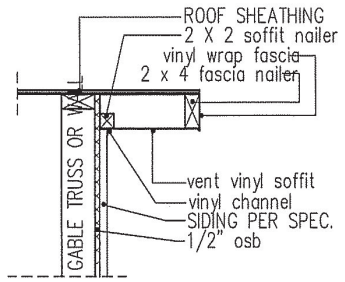




eave W/SIDING

NOTE: OVERHANG DISTANCE NOTED ON ELEVATION SHEET IS ALWAYS MEASURED FROM FRAME LINE

standard eave details



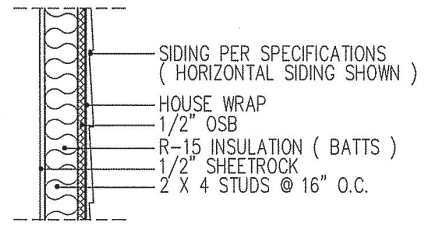
RAKE w/SIDING

NOTE: OVERHANG DISTANCE NOTED ON ELEVATION SHEET IS ALWAYS MEASURED FROM FRAME LINE

DIMENSIONS IN [ ] ARE MM

SPECIFICATIONS										
Model 6000-TR	Height		Front Width		Back Width		Depth		Glass Size	BTU Input
	Actual	Framing	Actual	Framing	Actual	Framing	Actual	Framing		
Inches	38	38-1/2	41	42	28-1/2	42	21-1/2	22		

Reference dimensions only. We recommend measuring individual units at installation.

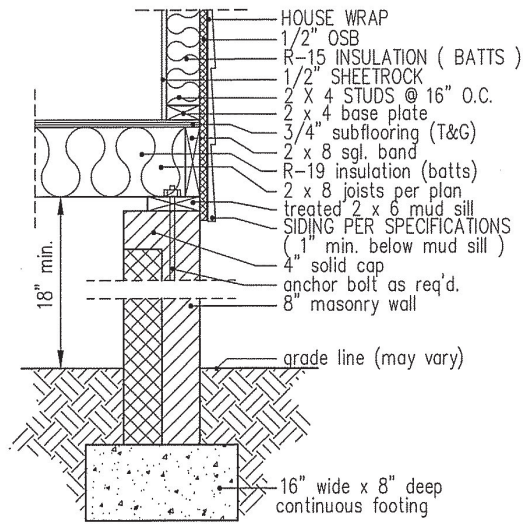


WALL W/siding

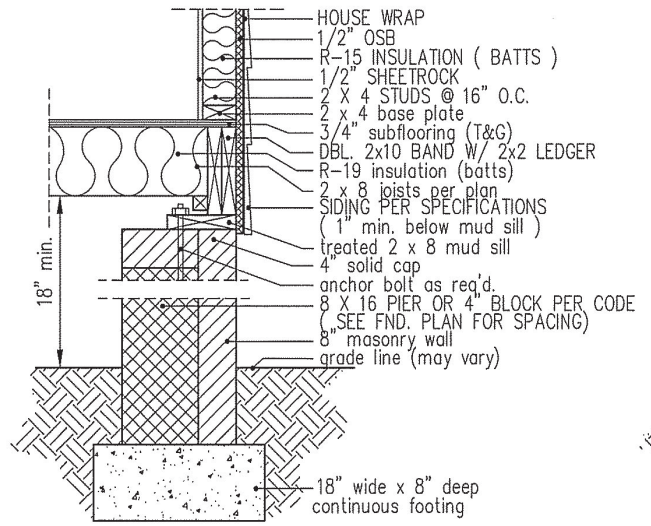
TABLE R602.7.5 MINIMUM NUMBER OF FULL HEIGHT STUDS AT EACH END OF HEADERS IN EXTERIOR WALLS		
HEADER SPAN (feet)	MAX. STUD SPACING (inches) [per Table R602.3(5)]	
	16	24
< 3'	1	1
4'	2	1
8'	3	2
12'	5	3
16'	6	4

GIRDER AND HEADER SIZES AND JACK STUD REQUIREMENTS ON EXTERIOR AND INTERIOR LOAD BEARING WALLS ARE TO COINCIDE WITH TABLE EXT.~R602.7 (1) AND INT.~R602.7 (2).

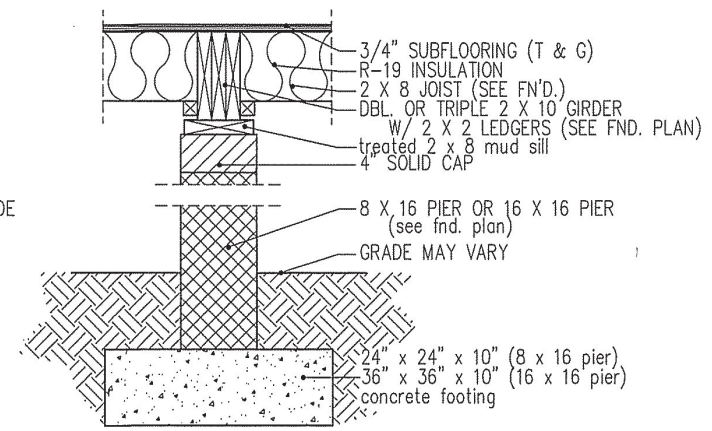
intermediate wall details



8" BOX SILL FOUNDATION WALL



PIER and CURTAIN FOUNDATION WALL



PIER and GIRDER DETAIL

DATE:
OCT. 18, 2019

FREEDOM FAMILY HOMES
P.O. BOX 608
DUNN, N.C. - 28335
O: (910) 892-1231 FAX: (910) 892-5680

EXCLUSIVE PLAN FOR FREEDOM FAMILY HOMES

PLAN: WILSON

SHEET NO. 6

MAIN COMPUTER FILE: FFH - WILSON -DEC.-2019

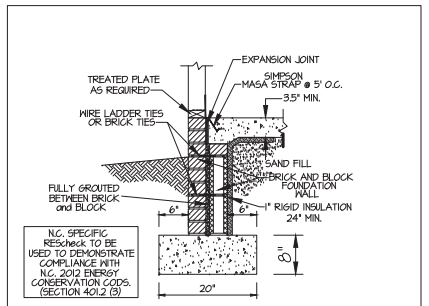


FIGURE R403(1)
GROUND SUPPORT SLAB
WITH MASONRY WALL
AND SPREAD FOOTING

HOUSE CONCRETE SLAB ON GRADE FOOTING AND WALL SECTION
1/2"= 1'-0"

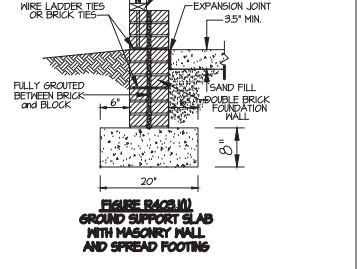


FIGURE R403(1)
GROUND SUPPORT SLAB
WITH MASONRY WALL
AND SPREAD FOOTING

GARAGE CONCRETE SLAB ON GRADE FOOTING AND WALL SECTION
1/2"= 1'-0"

N.C. SPECIFIC
COMcheck or ASHRAE 90.1
2013 COMcheck SHALL BE PERMITTED
TO DEMONSTRATE COMPLIANCE
WITH THE N.C. 2018 ENERGY
CONSERVATION CODES.
(SECTION C401.2 (3)

54'-0"
15'-0" 12'-8" 26'-4"
4'-6¼" 5'-0" 16'-9¾"
CONC. PATIO PER SPEC.
16" WIDE x 8" DEEP CONTINUOUS CONC. FTG.
6'-0"
36" FIREPLACE
2'-2"
15'-1¾" 12'-4½" 5'-1¾"
4" 3000 P.S.I. CONCRETE SLAB FLOOR ON FILLED AS REQ'D.
42" HIGH BAR
D.W.
2'-0½"
36" REFG.
PANTRY
3'-10¾"
KITCHEN
30" RNG.
3'-2¼"
6'-8¼"
6'-11¾"
9'-1¾" 6'-0"
10'-4"
3'-8"
3'-6"
G.TUB
3'-11½"
5'-4"
8'-4¾"
SEAT
36" x 48" SHOWER
MASTER BATH
LAUNDRY
WASHER
DRYER
6'-5¾"
6'-5¾"
1'-3¾"
12"
2'-8½"
26'-3½"
52'-0"
4'-5¾"
9'-3½" 14'-8½"
12'-0"
12'-0"
O.S.F.L.
6'-0"
11'-4½"
O.S.F.L.
2'-0"
PORCH
4" CONCRETE SLAB ON GRADE AS REQ'D.
6'-0"
36" SQ. x 12" DEEP CONC. FOOTING
36" SQ. x 12" DEEP CONC. FOOTING
25'-8½"
1'-3¾"
1'-3¾"
2'-0"
6'-4" 11'-8" 12'-0"
DOUBLE GARAGE
4" CONCRETE SLAB
FLOOR ON GRADE SLOPED TOWARD
GARAGE DOORS AS REQ'D.
12'-0"
12'-0"
3'-10½" 16'-3" 3'-10½"
24'-0"
4" 3000 P.S.I. CONCRETE SLAB FLOOR ON FILLED AS REQ'D.
8'-7¾"
2'-2" 6'-5¾"
2'-5"
BATH-2
2'-5"
3'-0" 5'-7¾"
8'-7¾"
12'-10¾"
7'-4"
36'-0"
15'-4¼"

FOUNDATION ANCHORAGE

THE WOOD SOLE PLATE AT EXTERIOR WALLS ON MONOLITHIC SLABS AND WOOD SILL PLATE SHALL BE ANCHORED TO THE FOUNDATION WITH ANCHOR BOLTS SPACED A MAXIMUM OF 4 FEET (1219.3 mm) ON CENTER AND NOT MORE THAN 12 INCHES (305 mm) FROM THE CORNER.

BOLTS SHALL BE AT LEAST 1/2 INCH (12.7 mm) IN DIAMETER AND SHALL EXTEND A MINIMUM OF 15 INCHES (178 mm) INTO MASONRY OR CONCRETE.

SLAB
FOUNDATION PLAN
SCALE: 1/4" =1'-0"

DATE:
JULY 9, 2021

FREEDOM FAMILY HOMES
P.O. BOX 608
DUNN, N.C. – 28335
O: (910) 892-1231 FAX: (910) 892-5680

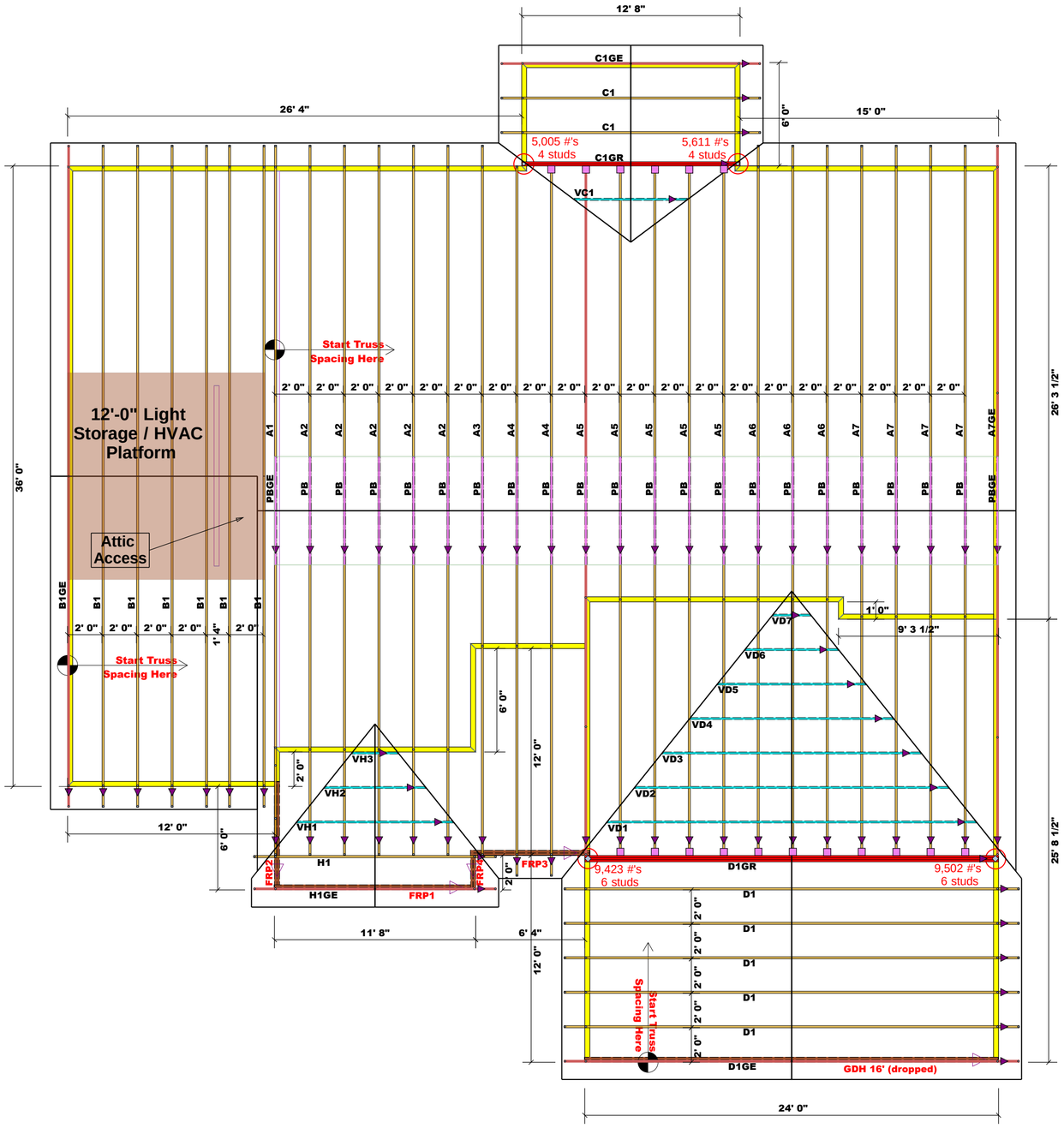
FFH

EXCLUSIVE PLAN FOR
FREEDOM FAMILY HOMES

PLAN:
WILSON~LEFT

SHEET NO.
3S

MAIN COMPUTER FILE: FFH - WILSON -DEC.-2019



Estimation			
Name	Selection	Formula	Calculation
Roof Area	1st Floor	Roof Area	3372.22
Roof Decking	1st Floor	Roof Decking	116

BEAM LEGEND					
PlotID	Length	Product	Plies	Net Qty	Fab Type
GDH 16' (dropped)	24' 0"	1-3/4"x 11-7/8" LVL Kerto-S	2	2	FF
FRP1	12' 0"	1-3/4"x 11-7/8" LVL Kerto-S	2	2	FF
FRP2	7' 0"	1-3/4"x 11-7/8" LVL Kerto-S	2	2	FF
FRP3	7' 0"	1-3/4"x 11-7/8" LVL Kerto-S	2	2	FF
FRP4	3' 0"	1-3/4"x 11-7/8" LVL Kerto-S	2	2	FF

Truss Placement Plan
SCALE: 3/16" = 1'-0"

	HUS28	USP	17		16d/3-1/2	16d/3-1/2"

▲= Denotes Left End of Truss
(Reference Engineered Truss Drawing)

All Truss Reactions are Less than 3,000 lbs. Unless Noted Otherwise.

-- Denotes Reaction Greater than 3,000 lbs. Reaction / # of Studs

COMTECH
ROOF & FLOOR TRUSSES & BEAMS
Reilly Road Industrial Park
Fayetteville, N.C. 28309
Phone: (910) 864-8787
Fax: (910) 864-4444

Bearing reactions less than or equal to 3000# are deemed to comply with the prescriptive Code requirements. The contractor shall refer to the attached Tables (derived from the prescriptive Code requirements) to determine the minimum foundation size and number of wood studs required to support reactions greater than 3000# but not greater than 15000#. A registered design professional shall be retained to design the support system for any reaction that exceeds those specified in the attached Tables. A registered design professional shall be retained to design the support system for all reactions that exceed 15000#.

Signature Lenny Norris

Lenny Norris

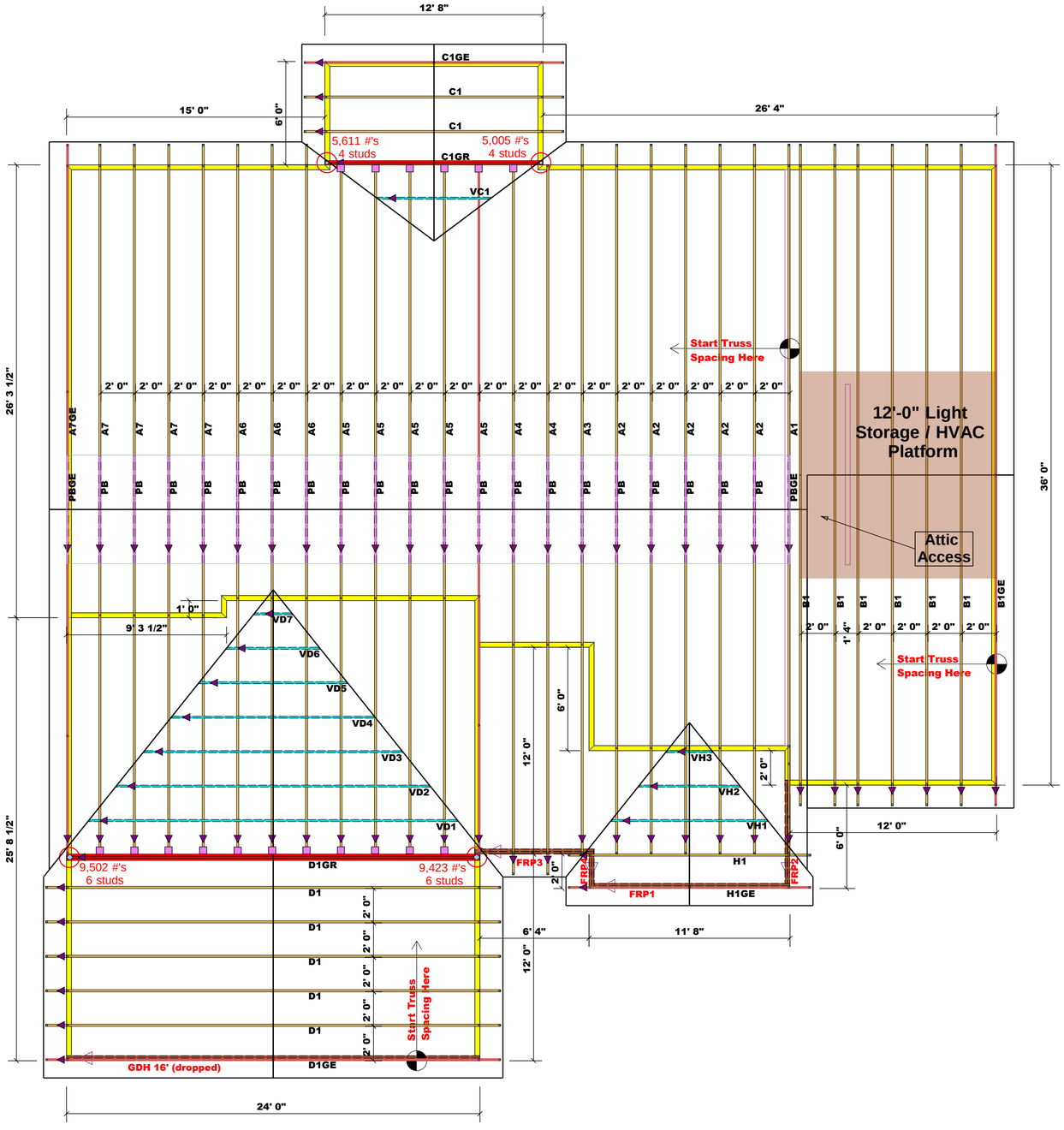
LOAD CHART FOR JACK STUDS

(BASED ON TABLES R502.5(1) & (b))

NUMBER OF JACK STUDS REQUIRED @ EA END OF HEADER/GIRDER

END REACTION (3P TO)	REQ'D # STUDS FOR (2) PLY HEADER	END REACTION (4P TO)	REQ'D # STUDS FOR (3) PLY HEADER	END REACTION (5P TO)	REQ'D # STUDS FOR (4) PLY HEADER
1700	1	2550	1	3400	1
3400	2	5100	2	6800	2
5100	3	7650	3	10200	3
6800	4	10200	4	13600	4
8500	5	12750	5	17000	5
10200	6	15300	6		
11900	7				
13600	8				
15300	9				

BUILDER	Freedom Constructors, Inc.
JOB NAME	Lot 17 The Cape
PLAN	Wilson
SEAL DATE	Seal Date
QUOTE #	Quote #
JOB #	J0523-2061
CITY / CO.	Harnett Co.
ADDRESS	
MODEL	Roof
DATE REV.	/ /
DRAWN BY	Lenny Norris
SALES REP.	Lenny Norris



Estimation			
Name	Selection	Formula	Calculation
Roof Area	1st Floor	Roof Area	3372.22
Roof Decking	1st Floor	Roof Decking	116

BEAM LEGEND					
PlotID	Length	Product	Plies	Net Qty	Fab Type
GDH 16' (dropped)	24' 0"	1-3/4"x 11-7/8" LVL Kerto-S	2	2	FF
FRP1	12' 0"	1-3/4"x 11-7/8" LVL Kerto-S	2	2	FF
FRP2	7' 0"	1-3/4"x 11-7/8" LVL Kerto-S	2	2	FF
FRP3	7' 0"	1-3/4"x 11-7/8" LVL Kerto-S	2	2	FF
FRP4	3' 0"	1-3/4"x 11-7/8" LVL Kerto-S	2	2	FF

Truss Placement Plan
SCALE: 3/16" = 1'-0"

	HUS28	USP	17		16d/3-1/2	16d/3-1/2"

▲= Denotes Left End of Truss
(Reference Engineered Truss Drawing)

All Truss Reactions are Less than 3,000 lbs. Unless Noted Otherwise.

-- Denotes Reaction Greater than 3,000 lbs. Reaction / # of Studs

COMTECH
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Reilly Road Industrial Park
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Bearing reactions less than or equal to 3000# are deemed to comply with the prescriptive Code requirements. The contractor shall refer to the attached Tables (derived from the prescriptive Code requirements) to determine the minimum foundation size and number of wood studs required to support reactions greater than 3000# but not greater than 15000#. A registered design professional shall be retained to design the support system for any reaction that exceeds those specified in the attached Tables. A registered design professional shall be retained to design the support system for all reactions that exceed 15000#.

Signature Lenny Norris

Lenny Norris

LOAD CHART FOR JACK STUDS

(BASED ON TABLES R502.5(1) & (b))

NUMBER OF JACK STUDS REQUIRED @ EA END OF HEADER/GIRDER

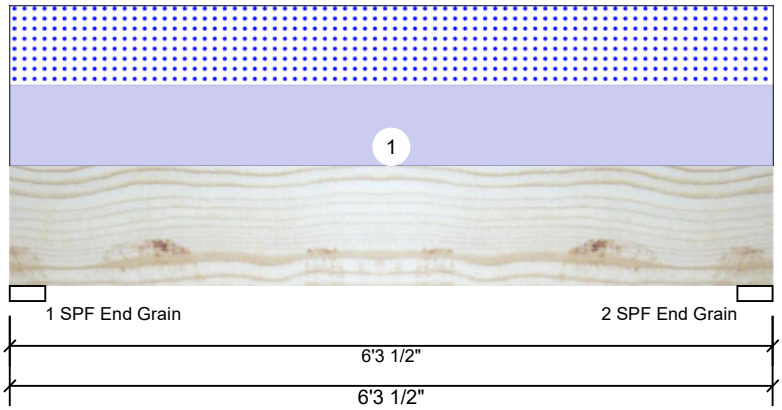
END REACTION (UP TO)	REQ'D STUDS FOR (2) PLY HEADER	END REACTION (UP TO)	REQ'D STUDS FOR (3) PLY HEADER	END REACTION (UP TO)	REQ'D STUDS FOR (4) PLY HEADER
1700	1	2550	1	3400	1
3400	2	5100	2	6800	2
5100	3	7650	3	10200	3
6800	4	10200	4	13600	4
8500	5	12750	5	17000	5
10200	6	15300	6		
11900	7				
13600	8				
15300	9				

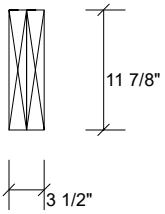
BUILDER	Freedom Constructors, Inc.
JOB NAME	Lot 17 The Cape
PLAN	Wilson
SEAL DATE	Seal Date
QUOTE #	Quote #
JOB #	J0523-2061
CITY / CO.	Harnett Co.
ADDRESS	
MODEL	Roof
DATE REV.	/ /
DRAWN BY	Lenny Norris
SALES REP.	Lenny Norris

Client:	FREEDOM	Date:	5/1/2023
Project:		Input by:	Lenny Norris
Address:		Job Name:	WILSON
		Project #:	

BP3 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	526	497	0	0
2	Vertical	0	526	497	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	10%	526 / 497	1023	L	D+S
2 - SPF End Grain	3.500"	Vert	10%	526 / 497	1023	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1383 ft-lb	3'1 3/4"	22897 ft-lb	0.060 (6%)	D+S	L
Unbraced	1383 ft-lb	3'1 3/4"	14335 ft-lb	0.097 (10%)	D+S	L
Shear	616 lb	5' 1/8"	10197 lb	0.060 (6%)	D+S	L
LL Defl inch	0.006 (L/11519)	3'1 3/4"	0.146 (L/480)	0.042 (4%)	S	L
TL Defl inch	0.013 (L/5596)	3'1 3/4"	0.292 (L/240)	0.043 (4%)	D+S	L

Design Notes

1. Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2. Girders are designed to be supported on the bottom edge only.
3. Multiple plies must be fastened together as per manufacturer's details.
4. Top loads must be supported equally by all plies.
5. Top must be laterally braced at end bearings.
6. Bottom must be laterally braced at end bearings.
7. Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	158 PLF	0 PLF	158 PLF	0 PLF	0 PLF	G1 TRUSS
	Self Weight				9 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Manufacturer Info

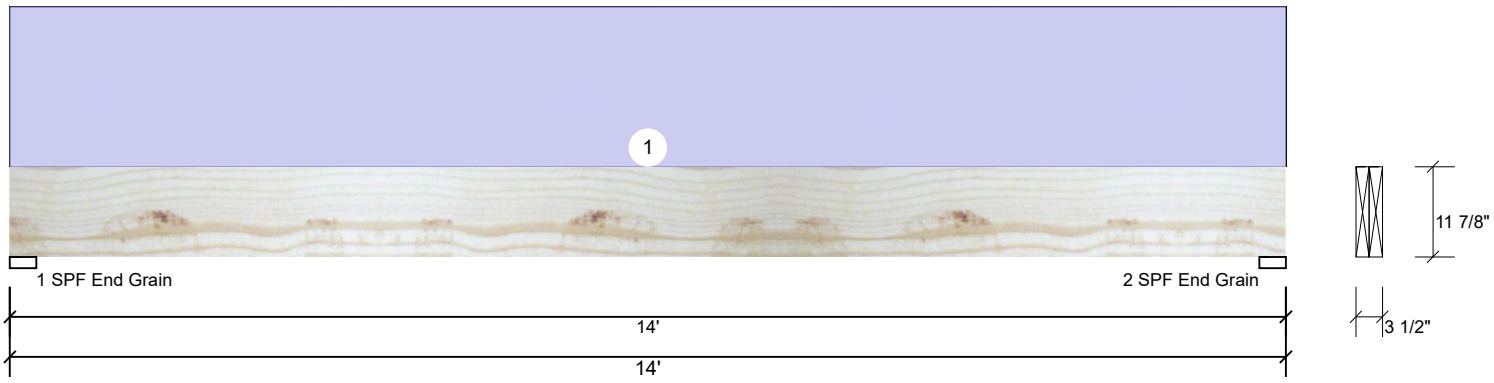
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

Client:	FREEDOM	Date:	5/1/2023
Project:		Input by:	Lenny Norris
Address:		Job Name:	WILSON
		Project #:	

BP2 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	765	0	0	0
2	Vertical	0	765	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	7%	765 / 0	765	Uniform	D
2 - SPF End Grain	3.500"	Vert	7%	765 / 0	765	Uniform	D

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	2504 ft-lb	7'	17919 ft-lb	0.140 (14%)	D	Uniform
Unbraced	2504 ft-lb	7'	7212 ft-lb	0.347 (35%)	D	Uniform
Shear	634 lb	1'3 3/8"	7980 lb	0.079 (8%)	D	Uniform
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.092 (L/1775)	7' 1/16"	0.677 (L/240)	0.135 (14%)	D	Uniform

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
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3 Multiple plies must be fastened together as per manufacturer's details.
4 Top loads must be supported equally by all plies.
5 Top must be laterally braced at end bearings.
6 Bottom must be laterally braced at end bearings.
7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	100 PLF	0 PLF	0 PLF	0 PLF	0 PLF	GABLE END
	Self Weight				9 PLF					

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

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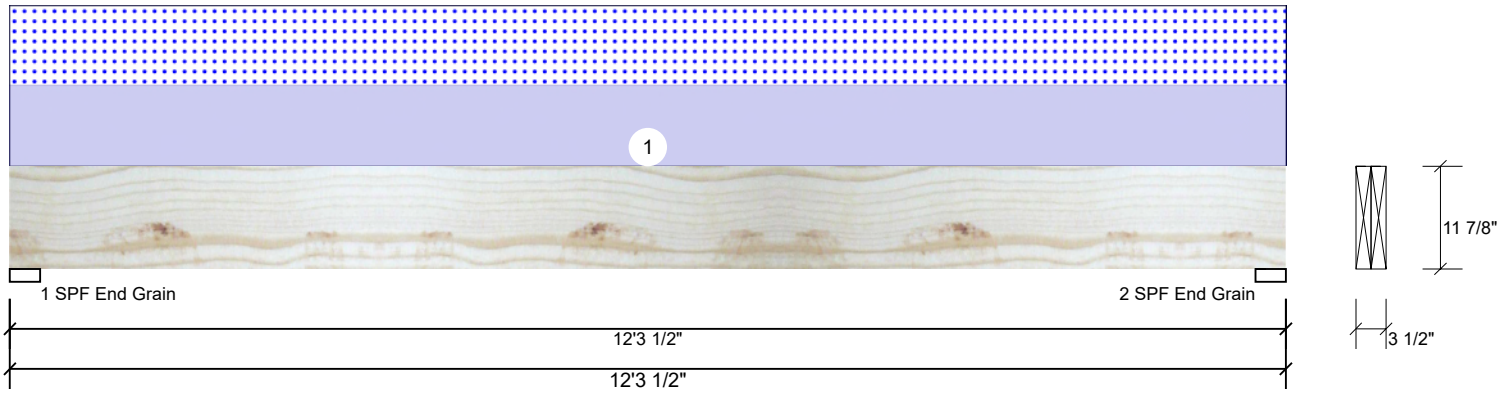
Client:	FREEDOM	Date:	5/1/2023
Project:		Input by:	Lenny Norris
Address:		Job Name:	WILSON
		Project #:	

BP1 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	813	756	0	0
2	Vertical	0	813	756	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	15%	813 / 756	1569	L	D+S
2 - SPF End Grain	3.500"	Vert	15%	813 / 756	1569	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4468 ft-lb	6'1 3/4"	22897 ft-lb	0.195 (20%)	D+S	L
Unbraced	4468 ft-lb	6'1 3/4"	8162 ft-lb	0.547 (55%)	D+S	L
Shear	1251 lb	11' 1/8"	10197 lb	0.123 (12%)	D+S	L
LL Defl inch	0.062 (L/2308)	6'1 3/4"	0.296 (L/480)	0.208 (21%)	S	L
TL Defl inch	0.128 (L/1112)	6'1 3/4"	0.592 (L/240)	0.216 (22%)	D+S	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
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4 Top loads must be supported equally by all plies.
5 Top must be laterally braced at end bearings.
6 Bottom must be laterally braced at end bearings.
7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	123 PLF	0 PLF	123 PLF	0 PLF	0 PLF	G1,C1,C2 TRUSSES
	Self Weight				9 PLF					

Notes

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Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

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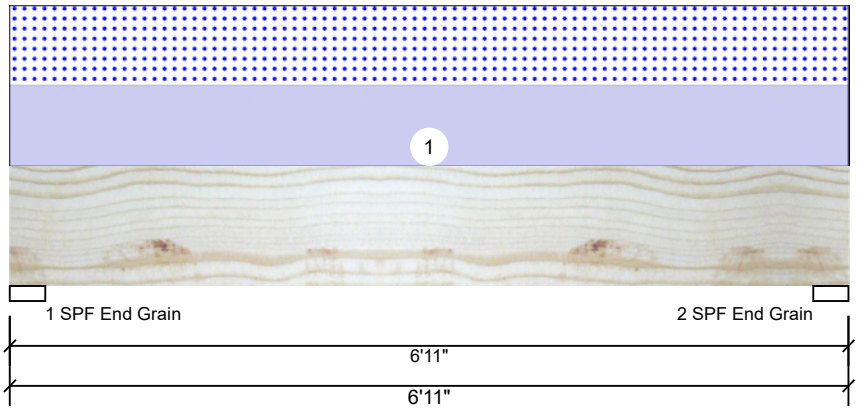
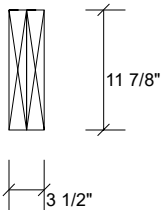
910-864-TRUS

Client:	FREEDOM	Date:	5/1/2023
Project:		Input by:	Lenny Norris
Address:		Job Name:	WILSON
		Project #:	

FRP3 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1484	1453	0	0
2	Vertical	0	1484	1453	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	29%	1484 / 1453	2937	L	D+S
2 - SPF End Grain	3.500"	Vert	29%	1484 / 1453	2937	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4428 ft-lb	3'5 1/2"	22897 ft-lb	0.193 (19%)	D+S	L
Unbraced	4428 ft-lb	3'5 1/2"	13146 ft-lb	0.337 (34%)	D+S	L
Shear	1858 lb	1'3 3/8"	10197 lb	0.182 (18%)	D+S	L
LL Defl inch	0.023 (L/3384)	3'5 1/2"	0.161 (L/480)	0.142 (14%)	S	L
TL Defl inch	0.046 (L/1674)	3'5 1/2"	0.323 (L/240)	0.143 (14%)	D+S	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Girders are designed to be supported on the bottom edge only.
3 Multiple plies must be fastened together as per manufacturer's details.
4 Top loads must be supported equally by all plies.
5 Top must be laterally braced at end bearings.
6 Bottom must be laterally braced at end bearings.
7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	420 PLF	0 PLF	420 PLF	0 PLF	0 PLF	A4,A3 TRUSS
	Self Weight				9 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

Manufacturer Info

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(800) 622-5850
www.metsawood.com/us

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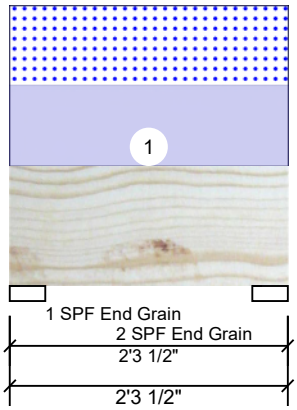
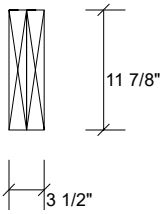
Fayetteville, NC
USA
28314
910-864-TRUS

Client:	FREEDOM	Date:	5/1/2023
Project:		Input by:	Lenny Norris
Address:		Job Name:	WILSON
		Project #:	

FRP4 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	162	151	0	0
2	Vertical	0	162	151	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	3%	162 / 151	313	L	D+S
2 - SPF End Grain	3.500"	Vert	3%	162 / 151	313	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	115 ft-lb	1'1 3/4"	22897 ft-lb	0.005 (1%)	D+S	L
Unbraced	115 ft-lb	1'1 3/4"	22013 ft-lb	0.005 (1%)	D+S	L
Shear	28 lb	1'3 3/8"	10197 lb	0.003 (0%)	D+S	L
LL Defl inch	0.000 (L/116983)	1'1 13/16"	0.046 (L/480)	0.004 (0%)	S	L
TL Defl inch	0.000 (L/56514)	1'1 13/16"	0.092 (L/240)	0.004 (0%)	D+S	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Girders are designed to be supported on the bottom edge only.
3 Multiple plies must be fastened together as per manufacturer's details.
4 Top loads must be supported equally by all plies.
5 Top must be laterally braced at end bearings.
6 Bottom must be laterally braced at end bearings.
7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	132 PLF	0 PLF	132 PLF	0 PLF	0 PLF	H1,H1GE TRUSS
	Self Weight				9 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

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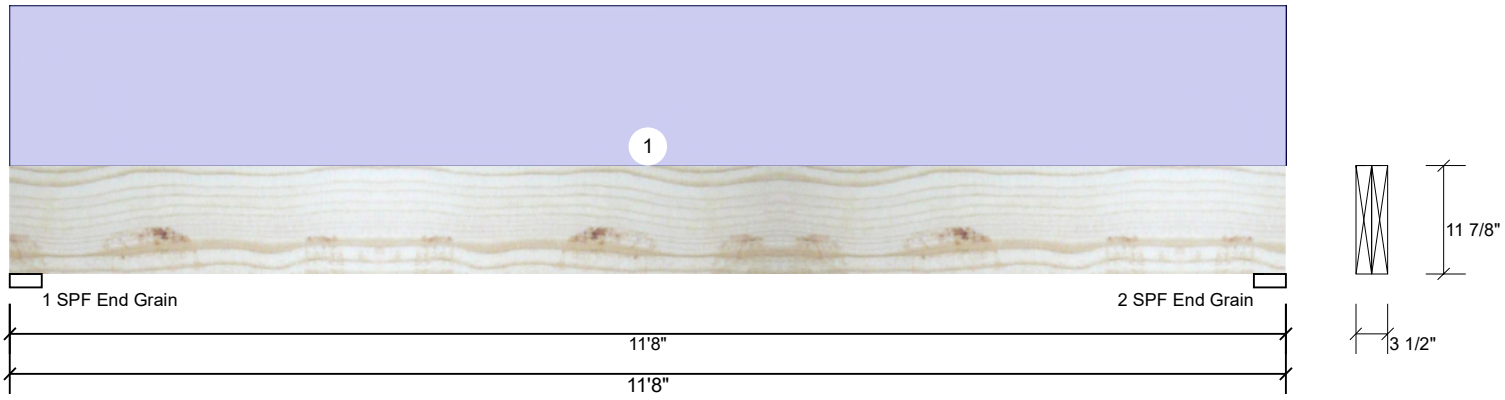
Client:	FREEDOM	Date:	5/1/2023
Project:		Input by:	Lenny Norris
Address:		Job Name:	WILSON
		Project #:	

FRP1 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level



Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	637	0	0	0
2	Vertical	0	637	0	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	6%	637 / 0	637	Uniform	D
2 - SPF End Grain	3.500"	Vert	6%	637 / 0	637	Uniform	D

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1715 ft-lb	5'10"	17919 ft-lb	0.096 (10%)	D	Uniform
Unbraced	1715 ft-lb	5'10"	8417 ft-lb	0.204 (20%)	D	Uniform
Shear	506 lb	10'4 5/8"	7980 lb	0.063 (6%)	D	Uniform
LL Defl inch	0.000 (L/999)	0	999.000 (L/0)	0.000 (0%)		
TL Defl inch	0.044 (L/3025)	5'10"	0.560 (L/240)	0.079 (8%)	D	Uniform

Design Notes

1. Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2. Girders are designed to be supported on the bottom edge only.
3. Multiple plies must be fastened together as per manufacturer's details.
4. Top loads must be supported equally by all plies.
5. Top must be laterally braced at end bearings.
6. Bottom must be laterally braced at end bearings.
7. Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	100 PLF	0 PLF	0 PLF	0 PLF	0 PLF	GABLE END
	Self Weight				9 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
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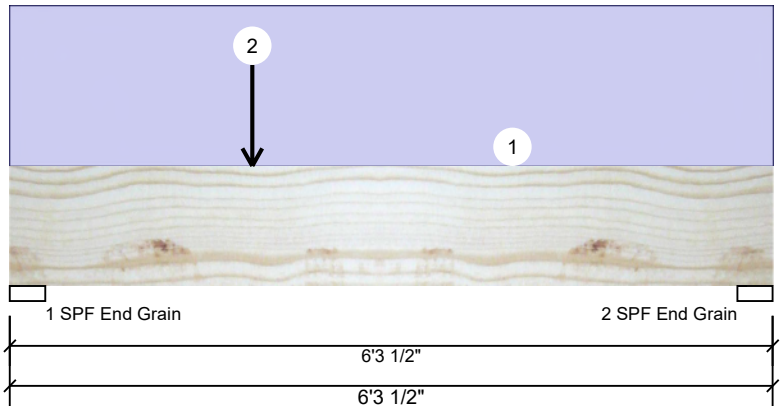
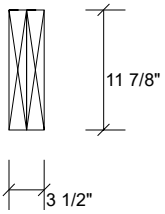
Client:	FREEDOM	Date:	5/1/2023
Project:		Input by:	Lenny Norris
Address:		Job Name:	WILSON
		Project #:	

FRP2 Kerto-S LVL 1.750" X 11.875" 2-Ply - PASSED

Level: Level





Member Information

Type:	Girder	Application:	Floor
Plies:	2	Design Method:	ASD
Moisture Condition:	Dry	Building Code:	IBC/IRC 2015
Deflection LL:	480	Load Sharing:	No
Deflection TL:	240	Deck:	Not Checked
Importance:	Normal - II		
Temperature:	Temp <= 100°F		

Reactions UNPATTERNED lb (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	527	184	0	0
2	Vertical	0	424	80	0	0

Bearings

Bearing	Length	Dir.	Cap.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	7%	527 / 184	711	L	D+S
2 - SPF End Grain	3.500"	Vert	5%	424 / 80	504	L	D+S

Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	1044 ft-lb	2'	22897 ft-lb	0.046 (5%)	D+S	L
Unbraced	1044 ft-lb	2'	14335 ft-lb	0.073 (7%)	D+S	L
Shear	581 lb	1'3 3/8"	10197 lb	0.057 (6%)	D+S	L
LL Defl inch	0.002 (L/30093)	2'4 13/16"	0.146 (L/480)	0.016 (2%)	S	L
TL Defl inch	0.009 (L/8041)	2'9 9/16"	0.292 (L/240)	0.030 (3%)	D+S	L

Design Notes

1 Provide support to prevent lateral movement and rotation at the end bearings. Lateral support may also be required at the interior bearings by the building code.
2 Girders are designed to be supported on the bottom edge only.
3 Multiple plies must be fastened together as per manufacturer's details.
4 Top loads must be supported equally by all plies.
5 Top must be laterally braced at end bearings.
6 Bottom must be laterally braced at end bearings.
7 Lateral slenderness ratio based on single ply width.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Top	100 PLF	0 PLF	0 PLF	0 PLF	0 PLF	GABLE END
2	Point	2-0-0		Top	264 lb	0 lb	264 lb	0 lb	0 lb	H1 TRUSS
	Bearing Length	0-3-8								
	Self Weight				9 PLF					

Notes

Calculated Structured Designs is responsible only of the structural adequacy of this component based on the design criteria and loadings shown. It is the responsibility of the customer and/or the contractor to ensure the component suitability of the intended application, and to verify the dimensions and loads.

Lumber

1. Dry service conditions, unless noted otherwise
2. LVL not to be treated with fire retardant or corrosive chemicals

Handling & Installation

1. LVL beams must not be cut or drilled
2. Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
3. Damaged Beams must not be used
4. Design assumes top edge is laterally restrained
5. Provide lateral support at bearing points to avoid lateral displacement and rotation
6. For flat roofs provide proper drainage to prevent ponding

This design is valid until 11/3/2024

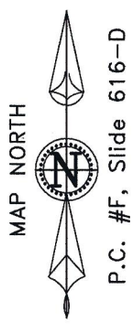
Manufacturer Info

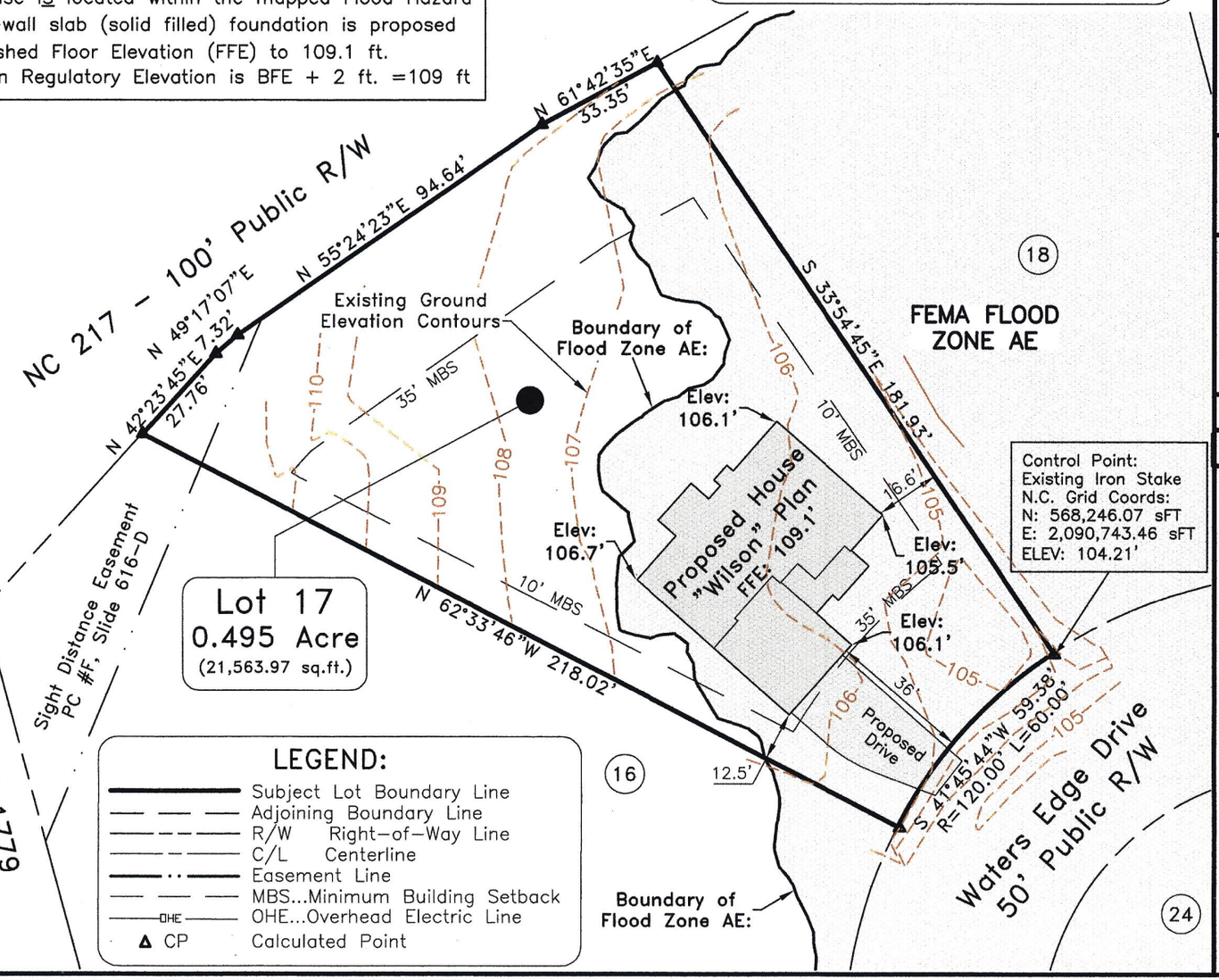
Metsä Wood
301 Merritt 7 Building, 2nd Floor
Norwalk, CT 06851
(800) 622-5850
www.metsawood.com/us

Comtech, Inc.
1001 S. Reilly Road, Suite #639
Fayetteville, NC
USA
28314
910-864-TRUS

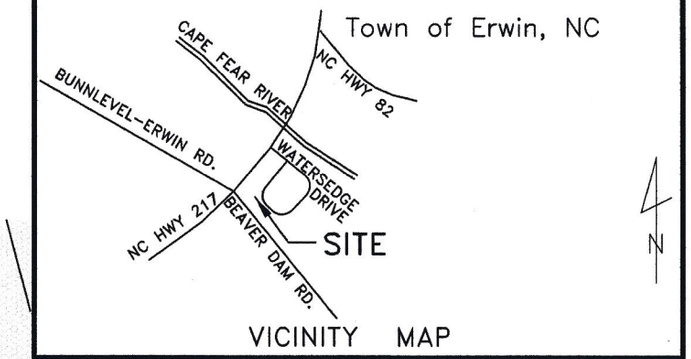
FLOOD ZONE NOTES:
–The Flood Hazard boundary line shown hereon was imported and geo–referenced from NC Flood Risk Information System.
–A portion of the subject lot is within Flood Zone "AE" and subject to a 1% annual chance flood event.
–The FEMA Base Flood Elevation (BFE) is 107.0 ft.
–The proposed house IS located within the mapped Flood Hazard Zone and a stem–wall slab (solid filled) foundation is proposed to elevate the Finished Floor Elevation (FFE) to 109.1 ft.
–The Town of Erwin Regulatory Elevation is BFE + 2 ft. =109 ft

FEMA FLOOD HAZARD STATEMENT
A portion of the Lot shown on this plat is located within the FEMA 1% annual chance, Zone "A" or "AE", Flood Hazard Area as shown on FEMA map No. 3720059600 J
Effective date: Oct. 3, 2006





LEGEND:
- Subject Lot Boundary Line
- Adjoining Boundary Line
- R/W Right–of–Way Line
- C/L Centerline
- Easement Line
- MBS...Minimum Building Setback
- OHE...Overhead Electric Line
- ▲ CP Calculated Point



VICINITY MAP

~ 243 Waters Edge Dr., Erwin ~
Lot 17, The Cape, Section Two
Plat Cabinet #F, Slide 616–D

Survey For:
Freedom Family Homes
RESIDENTIAL PLOT PLAN & FLOOD ELEVATION SURVEY

Stewarts Creek Twsp.	Harnett County
Scale: 1" = 40'	Date: 3/28/2023

Surveyed & Mapped By
STREAMLINE LAND SURVEYING, Inc.
NC FIRM C–1898
870 NC 55 W, Coats, N.C. 27521
Phone: 910–897–7715

I, Robert Edward Godwin, Jr., certify that this map was drawn from an actual survey made under my direct supervision; The ratio of precision or positional accuracy exceeds the standards for a Class A survey; and that this survey was performed in accordance with The Standards of Practice for Land Surveying in North Carolina (21 NCAC 56.1600).

4-27-2023

NORTH CAROLINA PROFESSIONAL SEAL L–3790 LAND SURVEYOR Robert E. Godwin, Jr.

0 20 40 80
GRAPHIC SCALE

DATA\0596\230328WE.dwg (L17–PlotPlan)

NOT FOR RECORDATION