# FRONT ELEVATION **WITH SIDE LOAD GARAGE**

**SCALE 1/8" = 1'-0"** 

# **PLANS DESIGNED TO THE 2018 NORTH CAROLINA STATE RESIDENTIAL BUILDING CODE**

MEAN RO	OF HEIGHT 25'-8	HEIGHT TO	RIDGE 30'=0"	
CLIMATE	ZONE	ZONE 3A	ZONE 4A	ZONE 5A
FENESTRAT	ION U-FACTOR	0.35	0.35	0.35
SKYLIGHT U	J-FACTOR	0.55	0.55	0.55
GLAZED FEN	NESTRATION SHGC	0.30	0.30	0.30
CEILING R-\	/ALUE	38 or 30ci	38 or 30ci	38 or 30ci
WALL R-VAL	UE	15	<b>1</b> 5	19
FLOOR R-VA	\LUE	19	19	30
* BASEMEN	T WALL R-VALUE	5/13	10/15	10/15
** SLAB R-\	/ALUE	0	10	10
* CRAWL SF	PACE WALL R-VALUE	5/13	10/15	10/19

\* "10/13" MEANS R-10 SHEATHING INSULATION OR R-13 CAVITY INSULATION \*\* INSULATION DEPTH WITH MONOLITHIC SLAB 24" OR FROM INSPECTION GAP TO BOTTOM OF FOOTING; INSULATION DEPTH WITH STEM WALL SLAB 24" OR TO BOTTOM OF FOUNDATION WALL

DESIGNED FOR WIND SPEED OF 120 MPH, 3 SECOND GUST (93 FASTEST MILE) EXPOSURE "B"									RE "B"
COMPONENT & CLADDING DESIGNED FOR THE FOLLO							<b>FOLLO</b>	WING	LOADS
	MEAN ROOF	UP T	O 30'	30'-1"	TO 35'	35'-1"	TO 40'	40'-1"	TO 45'
	ZONE 1	14.2	-15.0	14.9	-15.8	15.5	-16.4	15.9	-16.8
	ZONE 2	14.2	-18.0	14.9	-18.9	15.5	-19.6	15.9	-20.2
	ZONE 3	14.2	-18.0	14.9	-18.9	15.5	-19.6	15.9	-20.2
	ZONE 4	15.5	-16.0	16.3	-16.8	16.9	-17.4	17.4	-17.9
	ZONE 5	15.5	-20.0	16.3	-21.0	16.9	-21.8	17.4	-22.4

DESIGNED FOR WIND SPEED OF 130 MPH, 3 SECOND GUST (101 FASTEST MILE) EXPOSURE "B"								IRE "B"
COMPONENT & CLADDING DESIGNE					R THE	<b>FOLLO</b>	WING	LOADS
MEAN ROOF	UP T	O 30'	30'-1"	TO 35'	35'-1"	TO 40'	40'-1"	TO 45'
ZONE 1	16.7	-18.0	17.5	-18.9	18.2	-19.6	18.7	-20.2
ZONE 2	16.7	-21.0	17.5	<b>-22.1</b>	18.2	-22.9	18.7	-23.5
ZONE 3	16.7	-21.0	17.5	-22.1	18.2	-22.9	18.7	-23.5
ZONE 4	18.2	-19.0	19.1	-20.0	19.8	-20.7	20.4	-21.3
ZONE 5	18.2	-24.0	19.1	-25.2	19.8	-26.2	20.4	-26.9

# **AIR LEAKAGE**

## Section N1102.4

**N1102.4.1 Building thermal envelope.** The building thermal envelope shall be durably sealed with an air barrier system to limit infiltration. The sealing methods between dissimilar materials shall allow for differential expansion and contraction. For all homes, where present, the following shall be caulked, gasketed, weather stripped or otherwise sealed with an air barrier material or solid material consistent with Appendix E-2.4 of this code: 1. Blocking and sealing floor/ceiling systems and under knee walls open to unconditioned or exterior space

2. Capping and sealing shafts or chases, including flue shafts.

3. Capping and sealing soffit or dropped ceiling areas.

# **ROOF VENTILATION**

## **SECTION R806**

**R806.1 Ventilation required.** Enclosed *attics* and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain or snow. Ventilation openings shall have a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Ventilation openings having a least dimension larger than 1/4 inch (6.4 mm) shall be provided with corrosion-resistant wire cloth screening, hardware doth, or similar material with openings having a least dimension of 1/16 inch (1.6 mm) minimum and 1/4 inch (6.4 mm) maximum. Openings in roof framing members shall conform to the requirements of Section R802.7.

**R806.2 Minimum area.** The total net free ventilating area shall not be less than 1/150 of the area of the space ventilated except that reduction of the total area to 1/300 is permitted provided that at least 50 percent and not more than 80 percent of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet (914 mm) above the eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents. As an alternative, the net free cross-ventilation area may be reduced to 1/300 when a Class I or II vapor retarder is installed on the warm-in-winter side of the ceiling.

1. Enclosed attic/rafter spaces requiring less than 1 square foot (0.0929 m2) of ventilation may be vented with continuous soffit ventilation only. 2. Enclosed attic/rafter spaces over unconditioned space may be vented with continuous soffit vent only.

SQUARE FOOTAGE OF ROOF TO BE VENTED = 1558 SQ.FT. NET FREE CROSS VENTILATION NEEDED:

WITHOUT 50% TO 80% OF VENTING 3'-0" ABOVE EAVE = 10.39 SQ.FT. WITH 50% TO 80% OF VENTING 3'-0" ABOVE EAVE; OR WITH CLASS I OR II VAPOR RETARDER ON WARM-IN-WINTER SIDE OF CEILING = 5.16 SQ.FT.

## **GUARD RAIL NOTES**

## SECTION R312

R312.1 Where required. Guards shall be located along open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a guard.

R312.2 Height. Required guards at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches (914 mm) high measured vertically above the adjacent walking surface, adjacent fixed seating or the line connecting the leading edges of the treads. Exceptions:

1. Guards on the open sides of stairs shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the

2. Where the top of the *guard* also serves as a handrail on the open sides of stairs, the top of the *guard* shall not be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

**R312.3 Opening limitations.** Required *guards* shall not have openings from the walking surface to the required *quard* height which allow passage of a sphere 4 inches (102 mm)in diameter.

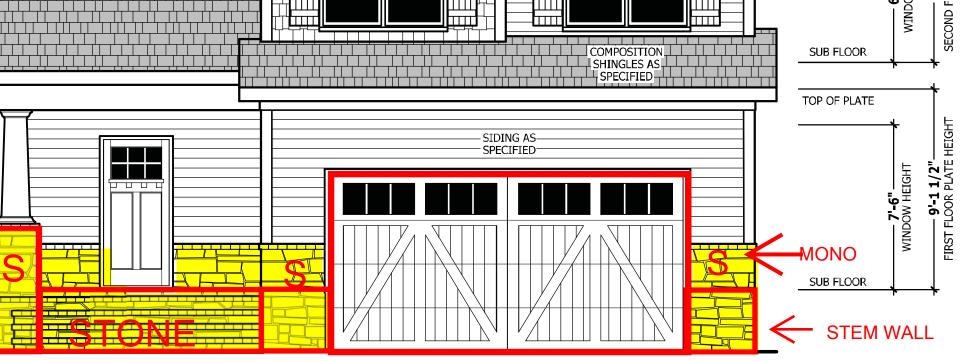
1. The triangular openings at the open side of a stair, formed by the riser, tread and bottom rail of a *guard*, shall not allow passage of a sphere 6 inches (153 mm) in diameter.

2. Guards on the open sides of stairs shall not have openings which allow passage of a sphere 4 3/8 inches (111 mm) in diameter.

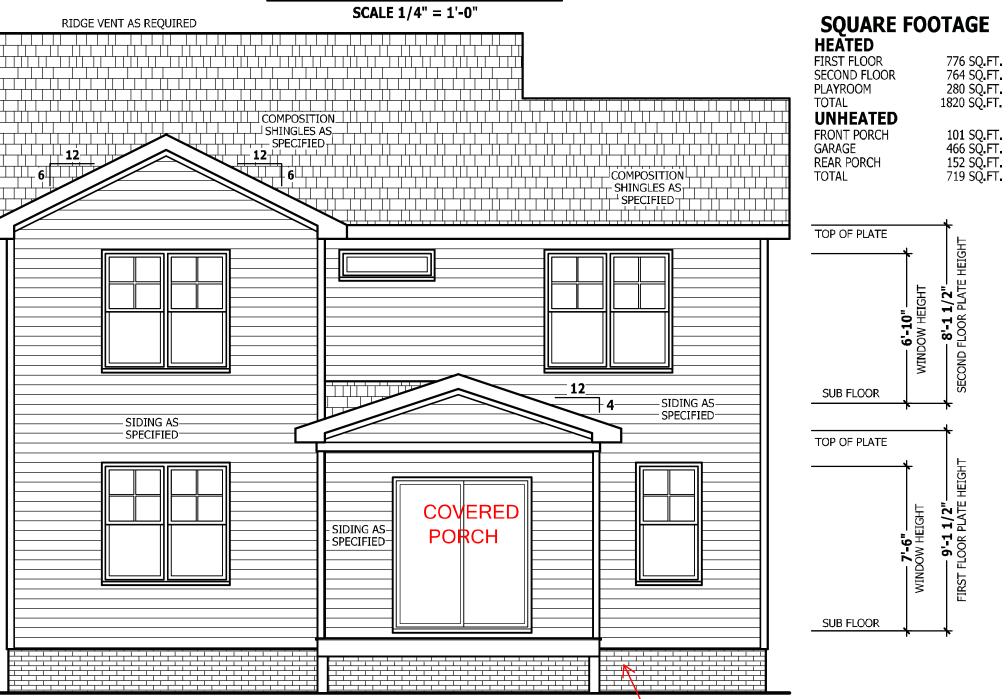
LOT 20 WEST PRESERVE 228 THISTLE CT

SANFORD, NC 27332 RIDGE VENT AS REQUIRED COMPOSITION SHINGLES AS SPECIFIED SHAKE AS TOP OF PLATE

3 CAR GARAGE



**FRONT ELEVATION** 



DIMENSIONS AND CONDITION HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR PROCEDURES.

CONTRACTORS PRACTICES AN CODES AND CONDITIONS MA VARY WITH LOCATION, A LOCAL DESIGNER, ARCHITECT OR ENGINEER SHOULD BE CONSULTED BEFORE CONSTRUCTION. THESE DRAWING ARE INSTRUMENTS OF SERVICE AI AS SUCH SHALL REMAIN PROPERTY OF THE DESIGNER

> **ELEVATIONS** STON REAR GA 품 **8 FRONT**

SQUARE FOOTAGE HEATED FIRST FLOOR SECOND FLOOR PLAYROOM TOTAL UNHEATED REAR PORCH TOTAL

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**PAGE 1 OF 8** 

SCALE 1/4" = 1'-0"

**REAR ELEVATION** 

**PARGE** 

Harnett

RIDGE VENT AS REQUIRED

COMPOSITION SHINGLES AS SPECIFIED

RAIL AS NEEDED

PER CODE

PURCHASER MUST VERIFY ALL DIMENSIONS AND CONDITIONS EFORE CONSTRUCTION BEGINS HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR CONTRACTORS PRACTICES AND PROCEDURES.

CODES AND CONDITIONS MAY VARY WITH LOCATION. A LOCAL DESIGNER, ARCHITECT OR NGINEER SHOULD BE CONSULTED BEFORE CONSTRUCTION.

THESE DRAWING ARE INSTRUMENTS OF SERVICE AND AS SUCH SHALL REMAIN PROPERTY OF THE DESIGNER.

**ELEVATIONS** GASTON **RIGHT** 뿔 య

 SQUARE FOOTAGE

 HEATED
 776 SQ.FT.

 FIRST FLOOR
 776 SQ.FT.

 SECOND FLOOR
 764 SQ.FT.

 PLAYROOM
 280 SQ.FT.

 TOTAL
 1820 SQ.FT.

 UNHEATED
 FRONT PORCH
 101 SQ.FT.

 GARAGE
 466 SQ.FT.

 REAR PORCH
 152 SQ.FT.

 TOTAL
 719 SQ.FT.

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PAGE 2 OF 8

## **ATTIC ACCESS** SECTION R807 **R807.1 Attic access.** An attic access opening shall be provided to attic areas that exceed 400 square feet (37.16 m2) and have a vertical height of 60 inches (1524 mm) or greater. The net

clear opening shall not be less than 20 inches by 30 inches (508 mm by 762 mm) and shall be located in a hallway or other readily accessible location. A 30-inch (762 mm) minimum unobstructed headroom in the attic space shall be provided at some point above the access opening. See Section M1305.1.3 for access requirements where mechanical equipment is located in attics.

### **Exceptions:**

1. Concealed areas not located over the main structure including porches, areas behind knee walls, dormers, bay windows, etc. are not required to have access.

2. Pull down stair treads, stringers, handrails, and hardware may protrude into the net dear opening.

# **WALL THICKNESSES**

Exterior walls and walls adjacent to a garage area are drawn as 4" or as noted 2 X 6 are drawn as 6" to include 1/2" sheathing or gypsum. Subtract 1/2" for stud face.

Interior walls are drawn as 3 1/2" or as noted 2 X 6 are drawn as 5 1/2", and do not include gypsum.

# **DWELLING / GARAGE SEPARATION**

## REFER TO SECTIONS R302.5, R302.6, AND R302.7

WALLS. A minimum 1/2" gypsum board must be installed on all walls supporting floor/ceiling assemblies used for separation required by this section.

STAIRS. A minimum of 1/2" gypsum board must be installed on the underside and exposed sides of all stairways.

**CEILINGS.** A minimum of 1/2" gypsum must be installed on the garage ceiling if there are no habitable room above the garage. If there are habitable room above the garage a minimum of 5/8" type X gypsum board must be installed on the garage ceiling. **OPENING PENETRATIONS.** Openings between the garage and residence shall be equipped with solid wood doors not less than 1 3/8 inches (35 mm) in thickness, solid or honeycomb core steel doors not less than 1 3/8 inches (35 mm) thick, or 20-minute

**DUCT PENETRATIONS.** Ducts in the garage and ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other approved material and shall have no openings

OTHER PENETRATIONS. Penetrations through the separation required in Section R302.6 shall be protected as required by Section R302.11, Item 4.

# **EXTERIOR WINDOWS AND DOORS**

R612.1 General. This section prescribes performance and construction requirements for exterior windows and doors installed in walls. Windows and doors shall be installed and flashed in accordance with the fenestration manufacturer's written installation instructions. Window and door openings shall be flashed in accordance with Section R703.8. Written installation instructions shall be provided by the fenestration manufacturer for each window

**R612.2 Window sills.** In *dwelling* units, where the opening of an operable window is located more than 72 inches (1829 mm) above the finished *grade* or surface below, the lowest part of the clear opening of the window shall be a minimum of 24 inches (610 mm) above the finished floor of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4 inch (102 mm) diameter sphere where such openings are located within 24 inches (610 mm) of the finished floor.

1. Windows whose openings will not allow a 4-inch diameter (102 mm) sphere to pass through the opening when the opening is in its largest opened position. 2. Openings that are provided with window fall prevention devices that comply with Section

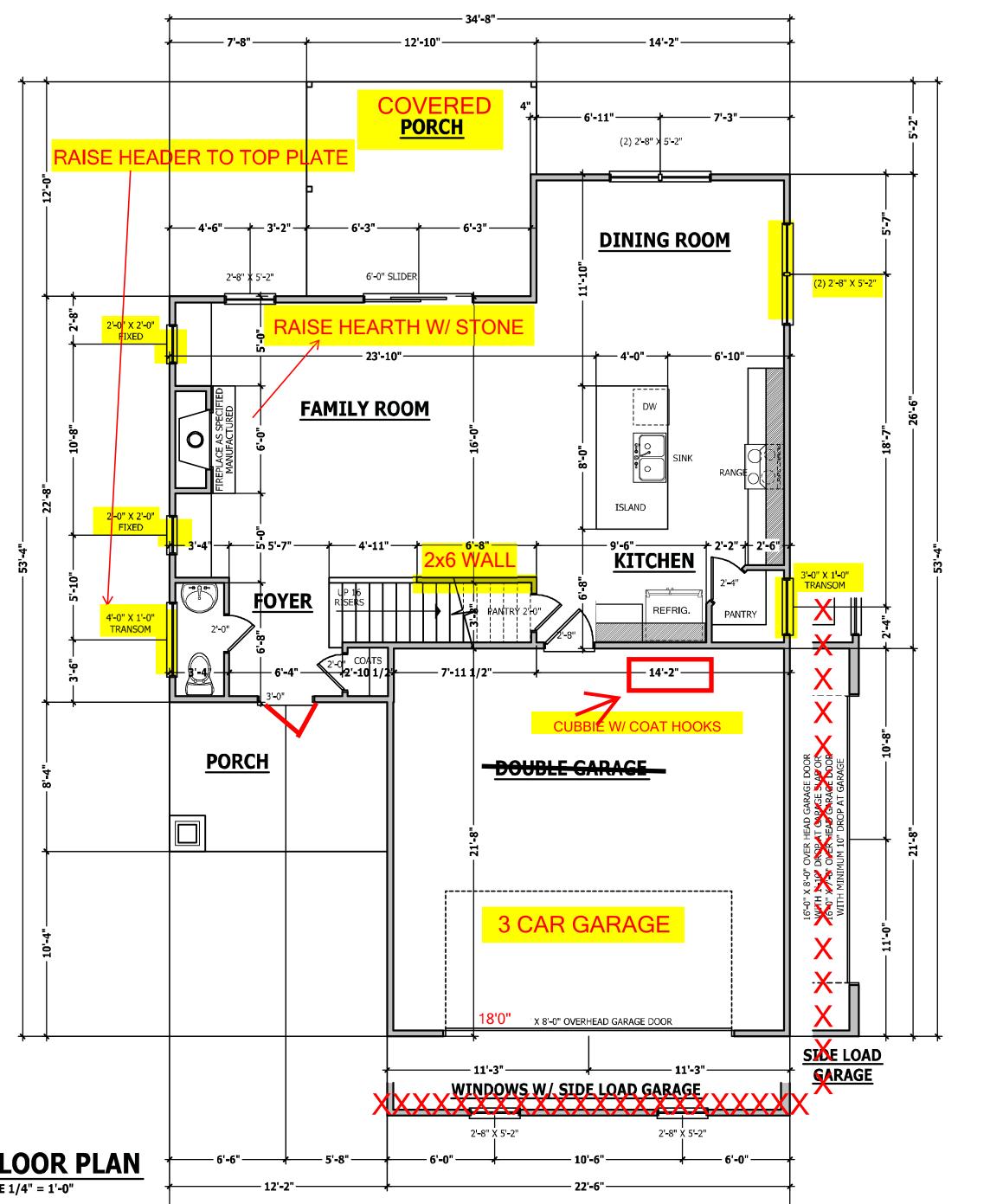
3. Openings that are provided with fall prevention devices that comply with ASTM F 2090. 4. Windows that are provided with opening limiting devices that comply with Section R612.4. **R612.3 Window fall prevention devices.** Window fall prevention devices and window guards, where provided, shall comply with the requirements of ASTM F 2090.

## **SQUARE FOOTAGE** HEĀTED

776 SQ.FT. 764 SQ.FT. FIRST FLOOR SECOND FLOOR 280 SQ FT 1820 SQ FT PLAYROOM UNHEATED 101 SQ.FT. 466 SQ.FT. 152 SQ.FT. 719 SQ.FT. FRONT PORCH GARAGE

REAR PORCH TOTAL

> **FIRST FLOOR PLAN** SCALE 1/4" = 1'-0"



34'-8"-

DIMENSIONS AND CONDITIONS BEFORE CONSTRUCTION BEGINS HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR CONTRACTORS PRACTICES AND PROCEDURES.

CODES AND CONDITIONS MAY VARY WITH LOCATION, A LOCAL DESIGNER, ARCHITECT OR NGINEER SHOULD BE CONSULTED BEFORE CONSTRUCTION

THESE DRAWING ARE INSTRUMENTS OF SERVICE AND AS SUCH SHALL REMAIN PROPERTY OF THE DESIGNER.

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FIRST FLOOR PLAN **GASTON** 뿔

SQUARE FOOTAGE HEATED FIRST FLOOR SECOND FLOOR PLAYROOM TOTAL

UNHEATED

FRONT PORCH
GARAGE
REAR PORCH
TOTAL

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Z:\Builder\Weaver Development Company, Inc\200128B Gaston II\200128B

PURCHASER MUST VERTEY ALL DIMENSIONS AND CONDITIONS EFORE CONSTRUCTION BEGINS HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR CONTRACTORS PRACTICES AND

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THESE DRAWING ARE NSTRUMENTS OF SERVICE AND PROPERTY OF THE DESIGNER

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SQUARE FOOTAGE
HEATED
FIRST FLOOR 776 SQ.FT.
SECOND FLOOR 764 SQ.FT.
PLAYROOM 280 SQ.FT.
TOTAL 1820 SQ.FT. TOTAL
UNHEATED
FRONT PORCH GARAGE REAR PORCH TOTAL

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# STRUCTURAL NOTES

All construction shall conform to the latest requirements of the 2018 North Carolina Residential Building Code, plus all local codes and regulations. This document in no way shall be construed to supersede the code.

JOB SITE PRACTICES AND SAFETY: Haynes Home Plans, Inc. assumes no liability for contractors practices and procedures or safety program. Haynes Home Plans, Inc. takes no responsibility for the contractor's failure to carry out the construction work in accordance with the contract documents. All members shall be framed, anchored, and braced in accordance with good construction practice and the building code.

SIGN	LOADS	

construction practice and the be	ilianing code.		
DESIGN LOADS	LIVE LOAD	DEAD LOAD	DEFLECTION
USE	(PSF)	(PSF)	(LL)
Attics without storage	10		L/240
Attics with limited storage	20	10	L/360
Attics with fixed stairs	40	10	L/360
Balconies and decks	40	10	L/360
Fire escapes	40	10	L/360
Guardrails and handrails	200		_
Guardrail in-fill components	50		_
Passenger vehicle garages	50	10	L/360
Rooms other than sleeping	40	10	L/360
Sleeping rooms	30	10	L/360
Stairs	40		L/360
Snow	20		_

FRAMING LUMBER: All non treated framing lumber shall be SPF #2 (Fb = 875 PSI) or SYP #2 (Fb = 750 PSI) and all treated lumber shall be SYP #2 (Fb = 750 PSI) unless noted other wise.

## **ENGINEERED WOOD BEAMS:**

Laminated veneer lumber (LVL) = Fb=2600 PSI, Fv=285 PSI, E=1.9x106 PSI Parallel strand lumber (PSL) = Fb=2900 PSI, Fv=290 PSI, E=2.0x106 PSI Laminated strand lumber (LSL) Fb=2250 PSI, Fv=400 PSI, E=1.55x106 PSI Install all connections per manufacturers instructions.

TRUSS AND I-JOIST MEMBERS: All roof truss and I-joist layouts shall be prepared in accordance with this document. Trusses and I-joists shall be installed according to the manufacture's specifications. Any change in truss or I-joist layout shall be coordinated with Haynes Homes Plans, Inc. LINTELS: Brick lintels shall be 3 1/2" x 3 1/2" x 1/4" steel angle for up to 6'-0" span. 6" x 4" x 5/16" steel angle with 6" leg vertical for spans up to 9'-0" unless noted otherwise. 3 1/2" x 3 1/2" x 1/4" steel angle with 1/2" bolts at 2'-0" on center for spans up to 18'-0" unless noted otherwise. FLOOR SHEATHING: OSB or CDX floor sheathing minimum 1/2" thick for 16" on center joist spacing, minimum 5/8" thick for 19.2" on center joist spacing, and minimum 3/4" thick for 24" on center joist spacing. ROOF SHEATHING: OSB or CDX roof sheathing minimum 3/8" thick. CONCRETE AND SOILS: See foundation notes.

# **ROOF TRUSS REQUIREMENTS**

TRUSS DESIGN. Trusses to be designed and engineered in accordance with these drawings. Any variation with these drawings must be brought to Haynes Home Plan, Inc. attention before construction begins. KNEE WALL AND CEILING HEIGHTS. All finished knee wall heights and ceiling heights are shown furred down 10" from roof decking for insulation. If for any reason the truss manufacturer fails to meet or exceed designated heel heights, finished knee wall heights, or finished ceiling heights shown on these drawings the finished square footage may vary. Any discrepancy must be brought to Haynes Home Plans, Inc. attention, so a suitable solution can be reached before construction begins. Any variation due to these conditions not being met is the reasonability of the truss manufacturer.

ANCHORAGE. All required anchors for trusses due to uplift or bearing shall meet the requirements as specified on the truss schematics. **BEARING.** All trusses shall be designed for bearing on SPF #2 plates or ledgers unless noted otherwise.

Plate Heights & Floor Systems. See elevation page(s) for plate heights and floor system thicknesses.

## **EXTERIOR HEADERS**

- (2) 2 X 6 WITH 1 JACK STUD EACH END **UNLESS NOTED OTHERWISE**
- KING STUDS EACH END PER TABLE BELOW

# INTERIOR HEADERS

- LOAD BEARING HEADERS (2) 2 X 6 WITH 1 JACK STUD AND 1 KING STUD EACH END **UNLESS NOTED OTHERWISE**
- NON LOAD BEARING HEADERS TO BE LADDER FRAMED

# **BRACE WALL PANEL NOTES**

EXTERIOR WALLS: All exterior walls to be sheathed with CS-WSP or CS-SFB in accordance with section R602.10.3 unless

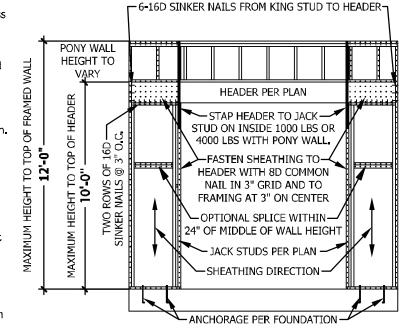
GYPSUM: All interior sides of exterior walls and both sides interior walls to have 1/2" gypsum installed. When not using GB to be fastened per table R602.10.1.

**REQUIRED LENGTH OF BRACING:** Required brace wall length for each side of the circumscribed rectangle are interpolated per table R602.10.3. Methods CS-WSP and CS-SFB contribute their actual length. Method GB contributes 0.5 it's actual length. Method PF contributes 1.5 times its actual length. HD: 800 lbs hold down hold down device fastened to the edge

## of the brace wall panel dosets to the corner.

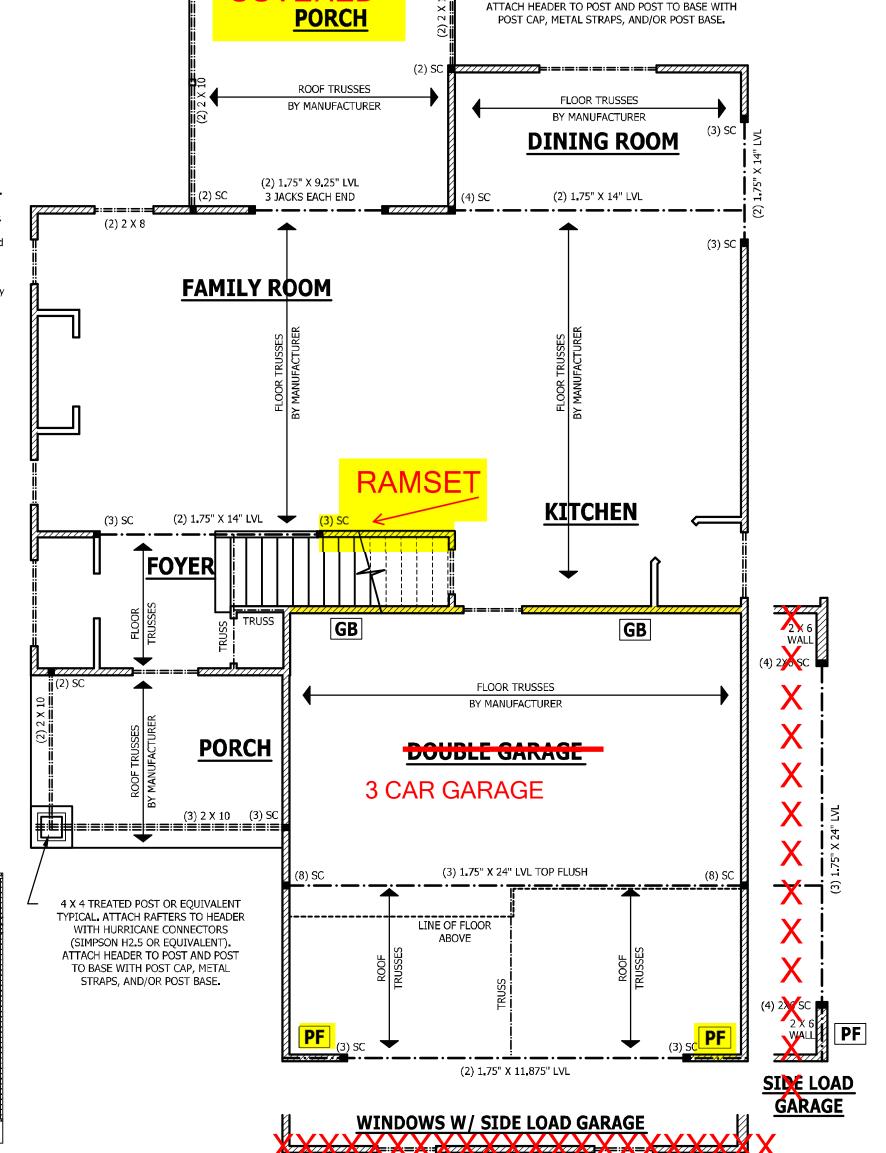
Methods Per Table R602.10.1 **CS-WSP**: Shall be minimum 3/8" OSB or CDX nailed at 6" on center at edges and 12" on center at intermediate supports with 6d common nails or 8d(2 1/2" long x 0.113" diameter). **CS-SFB:** Shall be minimum 1/2" structural fiber board nailed at 3" on center at edges and 3" on center at intermediate supports with 1 1/2" long x 0.12" diameter galvanized roofing

**GB:** Interior walls show as GB are to have minimum 1/2" gypsum board on both sides of the wall fastened at 7" on center at edges and 7" on center at intermediate supports with minimum 5d cooler nails or #6 screws. **PF**: Portal fame per figure R602.10.1



# PF PORTAL FRAME AT OPENING

SCALE 1/4" = 1'-0"



-4 X 4 TREATED POST OR EQUIVALENT TYPICAL. ATTACH RAFTERS TO HEADER WITH HURRICANE CONNECTORS (SIMPSON H2.5 OR EQUIVALENT).

FIRST FLOOR STRUCTURAL

SCALE 1/4" = 1'-0"

IMENSIONS AND CONDITION BEFORE CONSTRUCTION BEGINS HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR CONTRACTORS PRACTICES AND PROCEDURES

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**FIRST FLOOR STRUCTURAL** STON GA

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SQUARE FOOTAGE HEATED FIRST FLOOR SECOND FLOOR PLAYROOM TOTAL
UNHEATED
FRONT PORCH REAR PORCH

© Copyright 2016 Haynes Home Plans, Inc 5/19/2020 181035B PAGE 5 OF 8 JOB SITE PRACTICES AND SAFETY: Haynes Home Plans, Inc. assumes no liability for contractors practices and procedures or safety program. Haynes Home Plans, Inc. takes no responsibility for the contractor's failure to carry out the construction work in accordance with the contract documents. All members shall be framed, anchored, and braced in accordance with good construction practice and the building code.

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DESIGN LOADS	LIVE LOAD	DEAD LOAD	DEFLECTIO
USE	(PSF)	(PSF)	(LL)
Attics without storage	10	10	L/240
Attics with limited storage	20	10	L/360
Attics with fixed stairs	40	10	L/360
Balconies and decks	40	10	L/360
Fire escapes	40	10	L/360
Guardrails and handrails	200	-	-
Guardrail in-fill components	50	-	-
Passenger vehicle garages	50	10	L/360
Rooms other than sleeping	40	10	L/360
Sleeping rooms	30	10	L/360
Stairs	40	-	L/360
Snow	20	-	-

FRAMING LUMBER: All non treated framing lumber shall be SPF #2 (Fb = 875 PSI) or SYP #2 (Fb = 750 PSI) and all treated lumber shall be SYP #2 (Fb = 750 PSI) unless noted other wise.

### **ENGINEERED WOOD BEAMS:**

Laminated veneer lumber (LVL) = Fb=2600 PSI, Fv=285 PSI, E=1.9x106 PSI Parallel strand lumber (PSL) = Fb=2900 PSI, Fv=290 PSI, E=2.0x106 PSI Laminated strand lumber (LSL) Fb=2250 PSI, Fv=400 PSI, E=1.55x106 PSI Instal a connections per manufacturers instructions.

## TRUSS AND I-JOIST MEMBERS: All roof truss and I-joist layouts shall be prepared in accordance with this document. Trusses and I-joists shall be installed according to the manufacture's specifications. Any change in truss or I-joist layout shall be coordinated with Haynes Homes Plans, Inc. LINTELS: Brick lintels shall be 3 1/2" x 3 1/2" x 1/4" steel angle for up to 6'-0" span. 6" x 4" x 5/16" steel angle with 6" leg vertical for spans up to 9'-0" unless noted otherwise. 3 1/2" x 3 1/2" x 1/4" steel angle with 1/2" bolts at 2'-0" on center for spans up to 18'-0" unless noted otherwise. FLOOR SHEATHING: OSB or CDX floor sheathing minimum 1/2" thick for 16" on center joist spacing, minimum 5/8" thick for 19.2" on center joist spacing, and minimum 3/4" thick for 24" on center joist spacing.

**ROOF SHEATHING:** OSB or CDX roof sheathing minimum CONCRETE AND SOILS: See foundation notes.

# **ATTIC ACCESS**

**R807\_1 Attic access.** An attic access opening shall be provided to attic areas that exceed 400 square feet (37.16 m2) and have a vertical height of 60 inches (1524 mm) or greater. The net dear opening shall not be less than 20 inches by 30 inches (508 mm by 762 mm) and shall be located in a hallway or other readily accessible location. A 30-inch (762 mm) minimum unobstructed headroom in the attic space shall be provided at some point above the access opening. See Section M1305.1.3 for access requirements where mechanical equipment is located

## **Exceptions:**

1. Concealed areas not located over the main structure including porches, areas behind knee walls, dormers, bay windows, etc. are not required to have access. 2. Pull down stair treads, stringers, handrails, and hardware may

## **EXTERIOR HEADERS**

-(2) 2 X 6 WITH 1 JACK STUD EACH END **UNLESS NOTED OTHERWISE** - KING STUDS EACH END PER TABLE BELOW HEADER SPAN < 3' 3'-4' 4'-8' 8'-12' 12'-16' KING STUD(S) 1 2 3 5 6

# **INTERIOR HEADERS**

- LOAD BEARING HEADERS (2) 2 X 6 WITH 1 JACK STUD AND 1 KING STUD EACH END **UNLESS NOTED OTHERWISE** 

- NON LOAD BEARING HEADERS TO BE LADDER FRAMED

# **ROOF TRUSS REQUIREMENTS**

TRUSS DESIGN. Trusses to be designed and engineered in accordance with these drawings. Any variation with these drawings must be brought to Haynes Home Plan, Inc. attention before construction begins. KNEE WALL AND CEILING HEIGHTS. All finished knee wall heights and ceiling heights are shown furred down 10" from roof decking for insulation. If for any reason the truss manufacturer fails to meet or exceed designated heel heights, finished knee wall heights, or finished ceiling heights shown on these drawings the finished square footage may vary. Any discrepancy must be brought to Haynes Home Plans, Inc. attention, so a suitable solution can be reached before construction begins. Any variation due to these conditions not being met is the reasonability of the truss manufacturer.

ANCHORAGE. All required anchors for trusses due to uplift or bearing shall meet the requirements as specified on the truss schematics. **BEARING.** All trusses shall be designed for bearing on SPF #2 plates or ledgers unless noted otherwise.

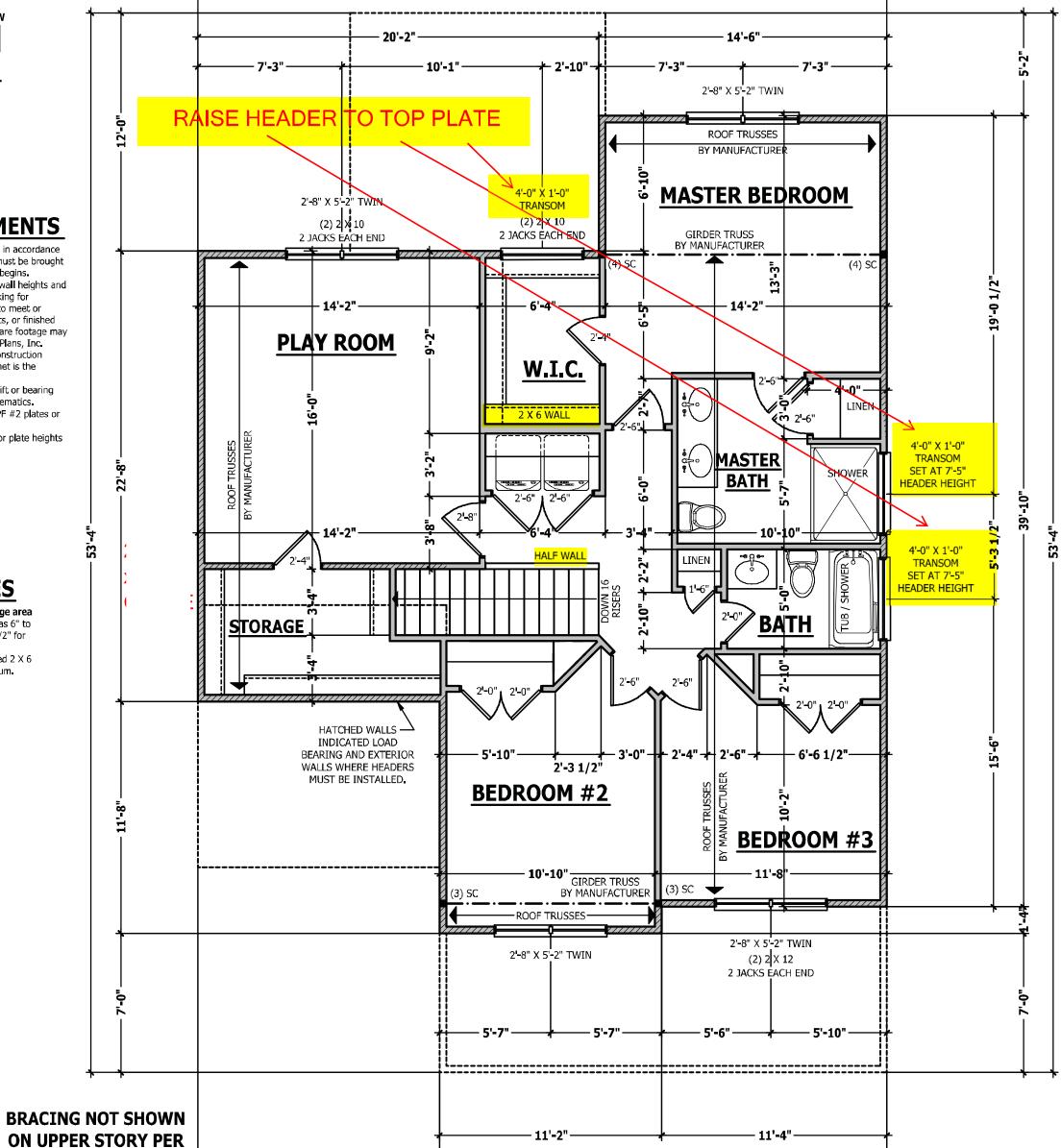
Plate Heights & Floor Systems. See elevation page(s) for plate heights and floor system thicknesses.

# **WALL THICKNESSES**

Exterior walls and walls adjacent to a garage area are drawn as 4" or as noted 2 X 6 are drawn as 6" to include 1/2" sheathing or gypsum. Subtract 1/2" for

Interior walls are drawn as 3 1/2" or as noted 2 X 6 are drawn as 5 1/2", and do not include gypsum.

R602.10.3.2 (5) & (6)



# **EXTERIOR WINDOWS AND DOORS**

## SECTION R612

protrude into the net dear opening.

R612.1 General. This section prescribes performance and construction requirements for exterior windows and doors installed in walls. Windows and doors shall be installed and flashed in accordance with the fenestration manufacturer's written installation instructions. Window and door openings shall be flashed in accordance with Section R703.8. Written installation instructions shall be provided by the fenestration manufacturer for each window

**R612.2 Window sills.** In *dwelling* units, where the opening of an operable window is located more than 72 inches (1829 mm) above the finished *grade* or surface below, the lowest part of the clear opening of the window shall be a minimum of 24 inches (610 mm) above the finished floor of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4 inch (102 mm) diameter sphere where such openings are located within 24 inches (610 mm) of the finished floor. Exceptions:

1. Windows whose openings will not allow a 4-inch diameter (102 mm) sphere to pass through the opening when the opening is in its largest opened position. 2. Openings that are provided with window fall prevention devices that comply with Section

3. Openings that are provided with fall prevention devices that comply with ASTM F 2090. 4. Windows that are provided with opening limiting devices that comply with Section R612.4. R612.3 Window fall prevention devices. Window fall prevention devices and window guards, where provided, shall comply with the requirements of ASTM F 2090.

**SECOND FLOOR PLAN** 

SCALE 1/4" = 1'-0"

IMENSIONS AND CONDITION BEFORE CONSTRUCTION BEGINS HAYNES HOME PLANS, INC. CONTRACTORS PRACTICES AND PROCEDURES.

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THESE DRAWING ARE INSTRUMENTS OF SERVICE AND AS SUCH SHALL REMAIN PROPERTY OF THE DESIGNER.

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**GASTON** 

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**SECOND FLOOR PLAN** 

SQUARE FOOTAGE HEATED UNHEATED

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ledgers unless noted otherwise.

Plate Heights & Floor Systems. See elevation page(s) for plate heights

HEEL HEIGHT ABOVE SECOND FLOOR PLATE

and floor system thicknesses.

HEEL HEIGHT ABOVE

FIRST FLOOR PLATE

SCALE 1/4" = 1'-0"

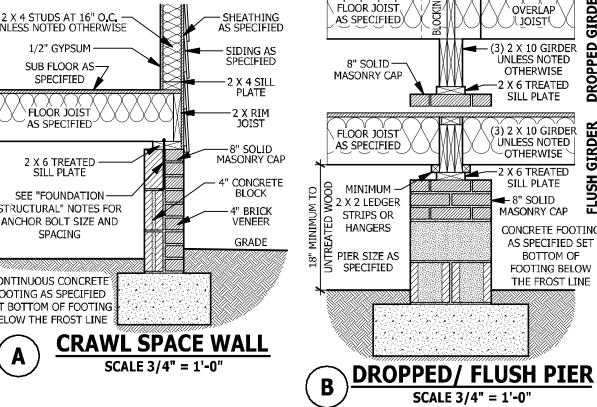
PURCHASER MUST VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE CONSTRUCTION BEGINS. HAYNES HOME PLANS, INC, ASSUMES NO LIABLITY FOR CONTRACTORS PRACTICES AND PROCEDURES.

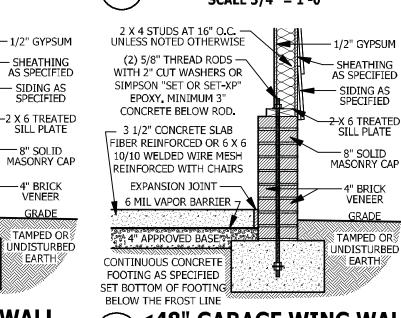
PROCEDURES,
CODES AND CONDITIONS MAY
VARY WITH LOCATION, A LOCAL
DESIGNER, ARCHITECT OR
ENGINEER SHOULD BE CONSULTED
BEFORE CONSTRUCTION,
THESE DRAWING ARE
INSTRUMENTS OF SERVICE AND
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PROPERTY OF THE DESIGNER,

**THE GASTON ROOF PLAN** 

| SQUARE FOOTAGE | HEATED | FIRST FLOOR | 776 SQ.FT. | SECOND FLOOR | 260 SQ.FT. | TOTAL | 1820 SQ.FT. | UNHEATED | FRONT PORCH | 101 SQ.FT. | GARAGE | 466 SQ.FT. | REAR PORCH | 152 SQ.FT. | TOTAL | 719 SQ.FT. |

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**GRADE** 

§ EARTH §

# **DECK STAIR NOTES**

SECTION AM110 AM110.1 Stairs shall be constructed per Figure AM110.

Stringer spans shall be no greater than 7 foot span between supports. Spacing between stringers shall be based upon decking material used per AM107.1. Each Stringer shall have minimum 3 1/2 inches between step cut and back of stringer. If used, suspended headers shall shall be attached with 3/8 inch galvanized bolts with nuts and washers to securely support stringers at the top.

## **DECK BRACING**

**SECTION AM109** 

see Chapter 45.

AM109.1 Deck bracing. Decks shall be braced to provide lateral stability. The following are acceptable means to provide lateral stability.

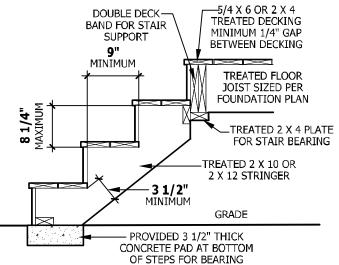
AM109\_1\_1. When the deck floor height is less than 4'-0" above finished grade per Figure AM109 and the deck is attached to the structure in accordance with Section AM104, lateral bracing is not required. AM109.1.2. 4 x 4 wood knee braces may be provided on

each column in both directions. The knee braces shall attach to each post at a point not less than 1/3 of the post length from the top of the post, and the braces shall be angled between 45 degrees and 60 degrees from the horizontal. Knee braces shall be bolted to the post and the girder/double band with one 5/8 inch hot dipped galvanized bolt with nut and washer at both ends of the brace per Figure AM109.1

AM109.1.3. For freestanding decks without knee braces or AS SPECIFIED diagonal bracing, lateral stability may be provided by embedding the post in accordance with Figure AM109.2

POST SIZE	TRIBUTARY AREA	MAX. POST HEIGHT	EMBEDMENT DEPTH	CONCRETE DIAMETER
4 X 4	48 SF	4'-0"	2 <b>'-</b> 6"	1'-0"
6 X 6	120 SF	6'-0"	3'-6"	1'-8"

AM109\_1.4\_ 2 x 6 diagonal vertical cross bracing may be provided in two perpendicular directions for freestanding decks or parallel to the structure at the exterior column line for attached decks. The 2 x 6's shall be attached to the posts with one 5/8 inch hot dipped galvanized bolt with nut and washer at each end of each bracing member per Figure AM109.3. AM109\_1.5. For embedment of piles in Coastal Regions,



# FIGURE AM110 TYPICAL DECK STAIR DETAIL

SCALE 3/4" = 1'-0"

-STONE VEENER

AS SPECIFIED

VAPOR BARRIER

WEEP SCREED

MINIMUM 4" TO

**GROUND OR 2"** 

TO PAVEMENT

SHEATHING -

SEE FOUNDATION

FOR FOUNDATION

DETAILS

WEEP SCREED

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

## **WEEP SCREEDS**

All weep screeds and stone veneer to be installed per manufactures instructions and per the 2012 North Carolina Residential Building code.

**R703.6.2.1** - A minimum 0.019-inch (0.5 mm) (No. 26 galvanized sheet gage), corrosion-resistant weep screed or plastic weep screed, with a minimum vertical attachment flange of 31/2 inches (89 mm) shall be provided at or below the foundation plate line on exterior stud walls

in accordance with ASTM C 926. The weep screed shall be placed a minimum of 4 inches (102 mm) above the earth or 2 inches (51 mm) above paved areas and shall be of a type that will allow trapped water to drain to the exterior of the shall cover and terminate on the attachment flange of the weep screed.

2 X 4 SILL ELEVATION — SHINGLES AS SPECIFIED SPECIFIED FOR PITCH SHEATHING AS SPECIFIED \ FLOOR JOIST - 15# BUILDING FELT AS SPECIFIED -8" SOLID MASONRY CAP ROOF TRUSSES BY MANUFACTUR**E**R 2 X 6 TREATED SILL PLATE BLOCK PORCH HEADER PER --4" BRICK VENEER SEE "FOUNDATION -PLAN INSTALLED OVER - EXPANSION JOINT STRUCTURAL" NOTES FOR CENTER OF COLUMN BASE VINYL OR HARDIE SOFFIT ANCHOR BOLT SIZE AND -6 MIL VAPOR INSTALLED PER MANUFACTURERS **BLOCKING INSTALLED-BARRIER** SPACING INSTRUCTIONS ON BOTH SIDES & UNDER 🛊 3 1/2" SLAB HEADER AS DESIRED TAPERED COLUMN OVER 🍰 4" BASE CONTINUOUS CONCRETE 1 X MATERIAL · MASONRY BASE ATTACHED TO HEADER TAMPED OR FOOTING AS SPECIFIED CENTER LINE OF HEADER -JNDISTURBED WITH POST CAP SET BOTTOM OF FOOTING AND COLUMN BELOW THE FROST LINE **PORCH HEADER WITH TAPERED COLUMN** 

-1/2" GYPSUM

SEE ROOF

PLAN OR

← EDGED OR PORCH FLOOR

PITCH PER ROOF PLAN

OR ELEVATIONS

ROOF INSULATION

PER CLIMATE ZONE

SEE CODE NOTE ON

BLEVATION PAGES

(2) 2 X 4 TOP PLATE

— 1/2" GYPSUM

WALL INSULATION

PER CLIMATE ZONE

SEE CODE NOTE ON

ELEVATION PAGES

3/4" SUBFLOOR:

FLOOR TRUSSES

WALL INSULATION PER -

CLIMATE ZONE SEE CODE

NOTE ON ELEVATION PAGES

2 X 4 STUDS AT 16" O.C. -JNLESS NOTED OTHERWISE

1/2" GYPSUM

SUB FLOOR AS-

SPECIFIED

FLOOR JOIST

AS SPECIFIED

2 X 6 TREATED

SEE "FOUNDATION-

STRUCTURAL" NOTES FOR

ANCHOR BOLT SIZE AND

SPACING

CONTINUOUS CONCRETE

FOOTING AS SPECIFIED

SET BOTTOM OF FOOTING

BELOW THE FROST LINE

MAXIMUM 6" GAP

BETWEEN WALL

MOUNTED AND

OPEN RAIL

SILL PLATE

AS SPECIFIED

- SHINGLES AS SPECIFIED

-15# BUILDING FELT

—SHEATHING AS SPECIFIED

**└**SOFFIT

└ SOFFIT VENTING

2 X 4 STII

PLATE

SHEATHING

AS SPECIFIED

- SIDING AS

(2) 2 X 4 TOP

PLATE

2 X 4 STUDS AT

16" ON CENTER

**UNLESS NOTED** 

OTHERWISE

SHEATHING

AS SPECIFIED

SIDING AS

SPECIFIED

PLATE

- 2 X RIM

JOIST

MASONRY CAR

4" CONCRETE

4" BRICK

GRADE

TYPICAL WALL DETAIL

CONTINUOUS HANDRAIL

34 TO 38 INCHES

ABOVE TREAD NOSING

TYPICAL STAIR DETAIL

SCALE 1/4" = 1'-0"

OPTIONAL 1 X 4 FRIEZE

- INSULATION BAFFLE

X 8 FASCIA

## CRAWL SPACE AT GARAGE SCALE 3/4" = 1'-0"

2 X 4 STUDS AT 16" O.C.

UNLESS NOTED OTHERWISE

SUB FLOOR AS-

OVERLAP"

ÚNLESS NOTED

OTHERWISE

-2 X 6 TREATED

SILL PLATE

(3) 2 X 10 GIRDER

**ÚNLESS NOTED** 

 $\sim$ otherwise  $\sim$ 

SILL PLATE

■ 8" SOLID

MASONRY CAP

CONCRETE FOOTING

AS SPECIFIED SET

BOTTOM OF

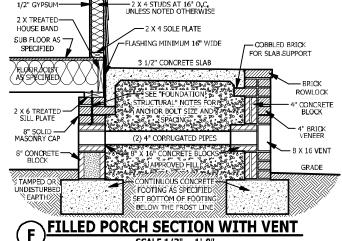
FOOTING BELOW

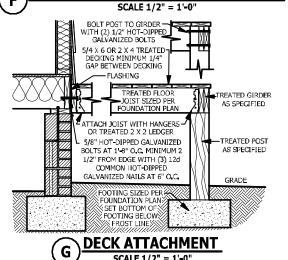
THE FROST LINE

2 X 6 TREATED

(3) 2 X 10 GIRDER

ASHING MINIMUM 16" WIDE FOR SLAB SUPPORT





## **SMOKE ALARMS**

SCALE 1/2" = 1'-0"

R314.1 Smoke detection and notification. All smoke alarms shall be listed in accordance with UL 217 and installed in accordance with the provisions of this code and the household fire warning

equipment provisions of NFPA 72. R314.2 Smoke detection systems. Household fire alarm systems installed in accordance with NFPA 72 that include smoke alarms, or a combination of smoke detector and audible notification device installed as required by this section for smoke alarms, shall be permitted. The household fire alarm system shall provide the same level of smoke detection and alarm as required by this section for smoke alarms. Where a household fire warning system is installed using a combination of smoke detector and audible notification owned by the homeowner. The system shall be monitored by an approved supervising station and be maintained in accordance with

Exception: Where smoke alarms are provided meeting the requirements of Section R314.4.

R314.3 Location. Smoke alarms shall be installed in the following 1. In each sleeping room.

2. Outside each separate sleeping area in the immediate vicinity of the bedrooms. 3. On each additional *story* of the *dwelling*, including *basements* 

and habitable attics (finished) but not including crawl spaces, uninhabitable (unfinished) attics and uninhabitable (unfinished) attic-stories. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full  $\mathit{story}$ below the upper level.

When more than one smoke alarm is required to be installed within in such a manner that the actuation of one alarm will activate all of between the wall and the handrails. the alarms in the individual unit.

R314.4 Power source. Smoke alarms shall receive their primary power from the building wiring when such wiring is served from a building. The weather-resistant barrier shall commercial source, and when primary power is interrupted, shall lap the attachment flange. The exterior lath receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for overcurrent protection. Smoke alarms shall be interconnected.

# **CARBON MONOXIDE ALARMS**

SCALE 3/4" = 1'-0"

SECTION R315

R315.1 Carbon monoxide alarms. In new construction, dwelling units shall be provided with an approved carbon monoxide alarm installed outside of each separate sleeping area in the immediate vicinity of the bedroom(s) as directed by the alarm manufacturer.

R315.2 Where required in existing dwellings. In existing dwellings, where interior alterations, repairs, fuel-fired appliance replacements, or additions requiring a permit occurs, or where one or more sleeping rooms are added or created, carbon monoxide alarms shall be provided in accordance with Section

R315,3 Alarm requirements. The required carbon monoxide alarms shall be audible in all bedrooms over background noise levels with all intervening doors closed. Single station carbon monoxide alarms shall be listed as complying with UL 2034 and shall be installed in accordance with this code and the manufacturer's installation instructions.

## **STAIRWAY NOTES**

R311.7.2 Headroom. The minimum headroom in all parts of the stairway shall not be less than 6 feet 8 inches (2032 mm) measured vertically from the sloped line adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stairway.

R311.7.4 Stair treads and risers. Stair treads and risers shall meet the requirements of this section. For the purposes of this section all dimensions and dimensioned surfaces shall be exclusive of carpets, rugs or runners. R311.7.4.1 Riser height. The maximum riser height shall be 8 1/4 inches (210 mm). The riser shall be measured vertically between leading edges of

R311.7.4.2 Tread depth. The minimum tread depth shall be 9 inches (229 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. Winder treads shall have a minimum tread depth of 9 inches (229 mm) measured as above at a point 12 inches (305 mm) from the side where the treads are narrower. Winder treads shall have a minimum tread depth of 4 inches (102 mm) at any point.

**R311.7.4.3 Profile.** The radius of curvature at the nosing shall be no greater device(s), it shall become a permanent fixture of the occupancy and than 9/16 inch (14 mm). A nosing not less than 3/4 inch (19 mm) but not more than 1 1/4 inches (32 mm) shall be provided on stairways with solid

> **R311.7.7 Handrails.** Handrails shall be provided on at least one side of each continuous run of treads or flight with four or more risers. R311.7.7.1 Height. Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches (864 mm)and not more than 38 inches (965 mm).

> Exceptions 1. The use of a volute, turnout or starting easing shall be allowed over the owest tread.

> 2. When handrail fittings or bendings are used to provide continuous transition between flights, the transition from handrail to guardrail, or used at the start of a flight, the handrail height at the fittings or bendings shall be permitted to exceed the maximum height.

**R311.7.7.2 Continuity.** Handrails for stairways shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails an individual dwelling unit the alarm devices shall be interconnected adjacent to a wall shall have a space of not less than 11/2 inch (38 mm) Exceptions:

1. Handrails shall be permitted to be interrupted by a newel post. 2. The use of a volute, turnout, starting easing or starting newel shall be

allowed over the lowest tread. 3. Two or more separate rails shall be considered continuous if the termination of the rails occurs within 6 inches (152 mm) of each other. If transitioning between a wall-mounted handrail and a guardrail/handrail, the wall-mounted rail must return into the wall.

IMENSIONS AND CONDITION BEFORE CONSTRUCTION BEGINS HAYNES HOME PLANS, INC. CONTRACTORS PRACTICES AND PROCEDURES.

ARY WITH LOCATION, A LOCAL DESIGNER, ARCHITECT OR GINEER SHOULD BE CONSUL' BEFORE CONSTRUCTION. THESE DRAWING ARE

AS SUCH SHALL REMAIN PROPERTY OF THE DESIGNER

**DETAILS** 

STON **TYPICAL** ⋖ Ú Ш

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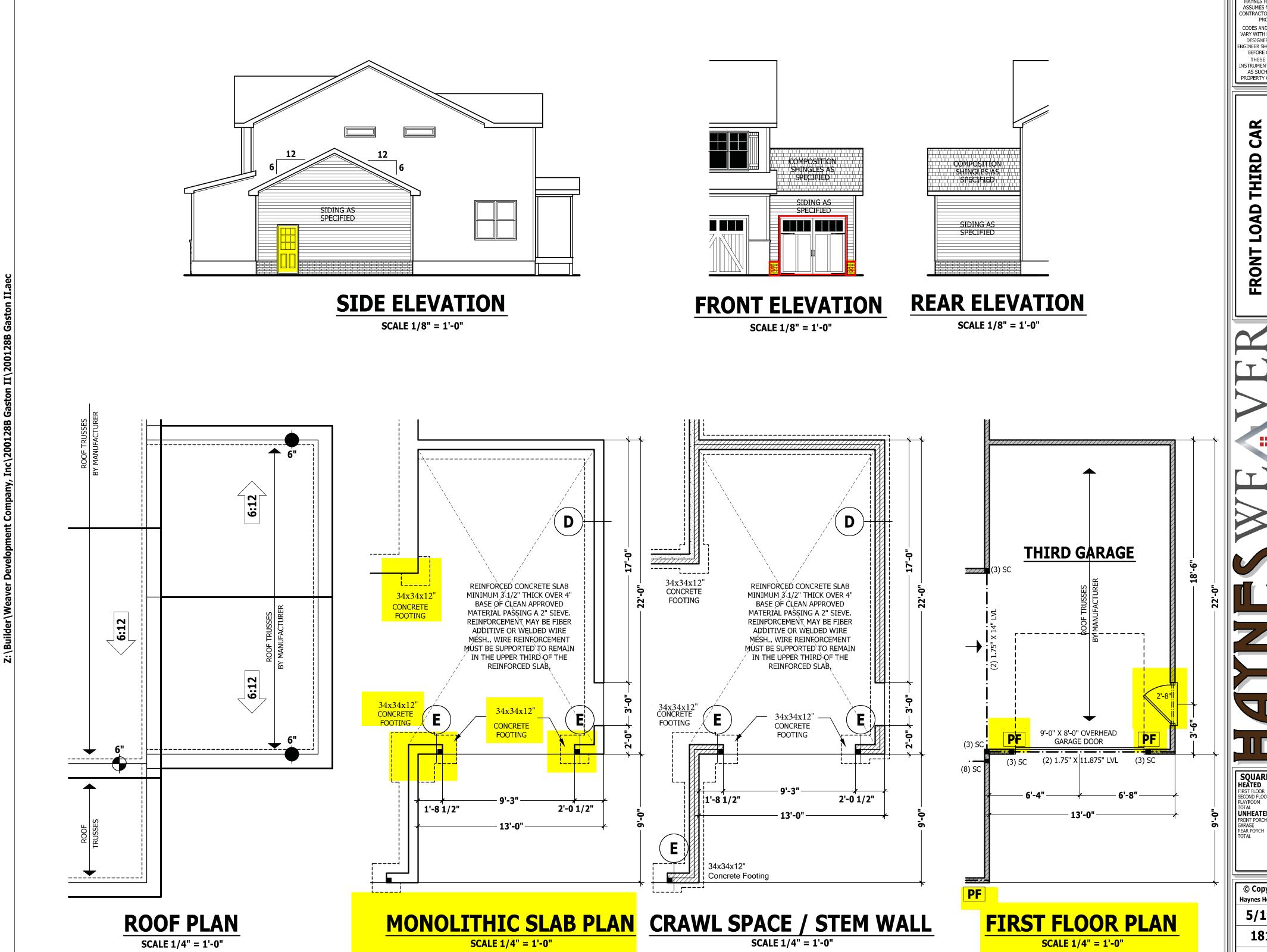
SQUARE FOOTAGE HEATED

181035B

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PURCHASER MUST VERIFY ALL EFORE CONSTRUCTION BEGINS HAYNES HOME PLANS, INC. ASSUMES NO LIABILITY FOR CONTRACTORS PRACTICES AND

CODES AND CONDITIONS MAY DESIGNER, ARCHITECT OR NGINEER SHOULD BE CONSULTED BEFORE CONSTRUCTION.

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**GASTON** 뽀

 SQUARE FOOTAGE

 HEATED
 776 SQ.FI

 FIRST FLOOR
 776 SQ.FI

 SECOND FLOOR
 764 SQ.FI

 PLAYROOM
 280 SQ.FI

 TOTAL
 1820 SQ.FI

 UNHEATED
 FRONT PORCH
 101 SQ.FI

 GARAGE
 466 SQ.FI

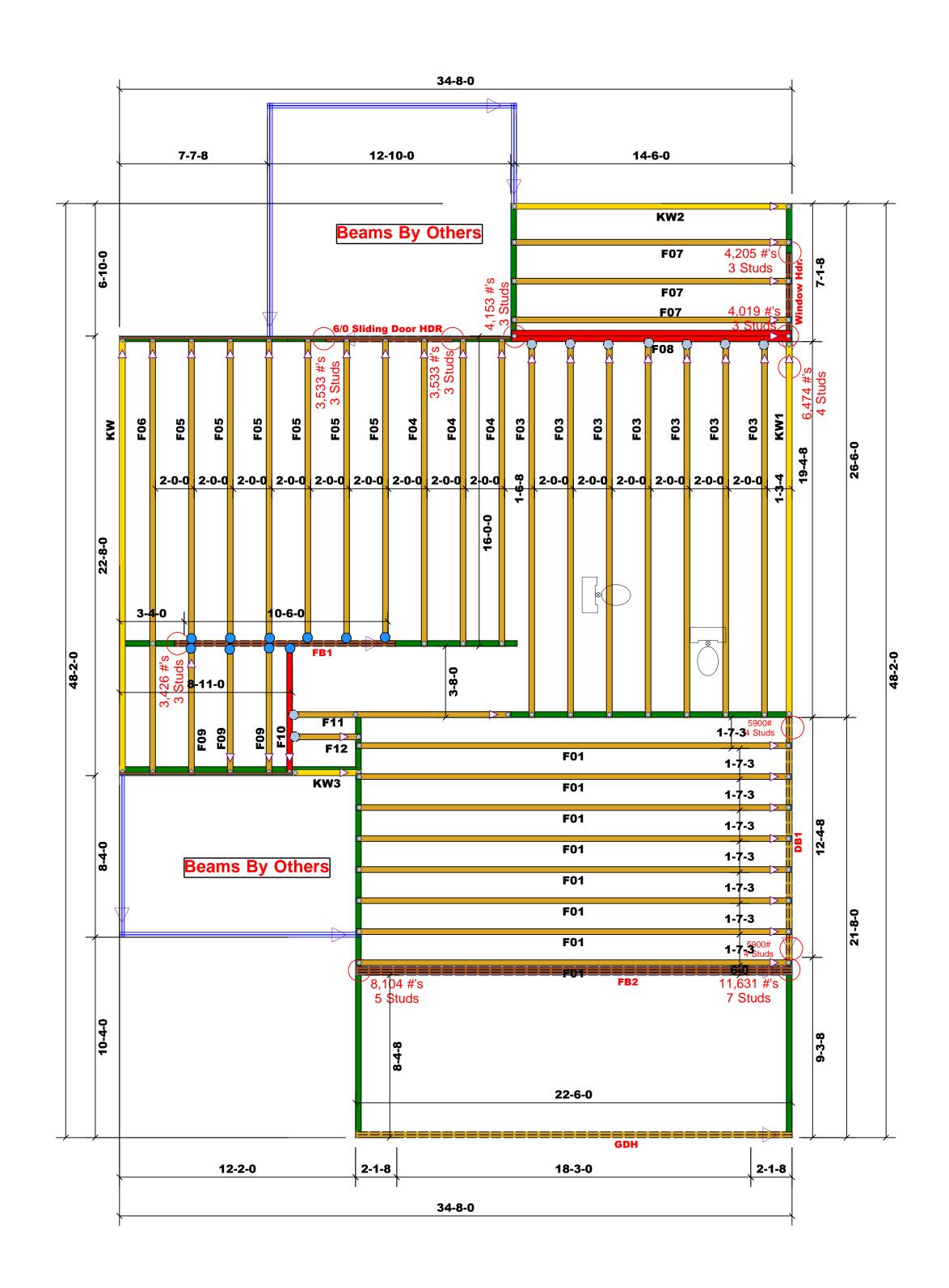
 REAR PORCH
 152 SQ.FI

 TOTAL
 719 SQ.FI

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181035B

**ADDENDUM** 



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

-- Denotes Reaction Greater than 3,000 lbs.

Reaction / # of Studs

	HUS410	USP	10	NA	16d/3-1/2"	16d/3-1/2"
	MSH422	USP	9	Varies	10d/3"	10d/3"

PlotID	Length	Product	Plies	Net Qty	Fab Type
6/0 Sliding Door HDR	7-0-0	1-3/4"x 9-1/4" LVL Kerto-S	2	2	FF
GDH	23-0-0	1-3/4"x 14" LVL Kerto-S	2	2	FF
DB1	13-0-0	1-3/4"x 14" LVL Kerto-S	2	2	FF
FB1	12-0-0	1-3/4"x 14" LVL Kerto-S	2	2	FF
Window Hdr.	7-0-0	1-3/4"x 14" LVL Kerto-S	2	2	FF
FB2	23-0-0	1-3/4"x 23-7/8" LVL Kerto-S	3	3	FF

## Truss Placement Plan SCALE: 1/4"=1'

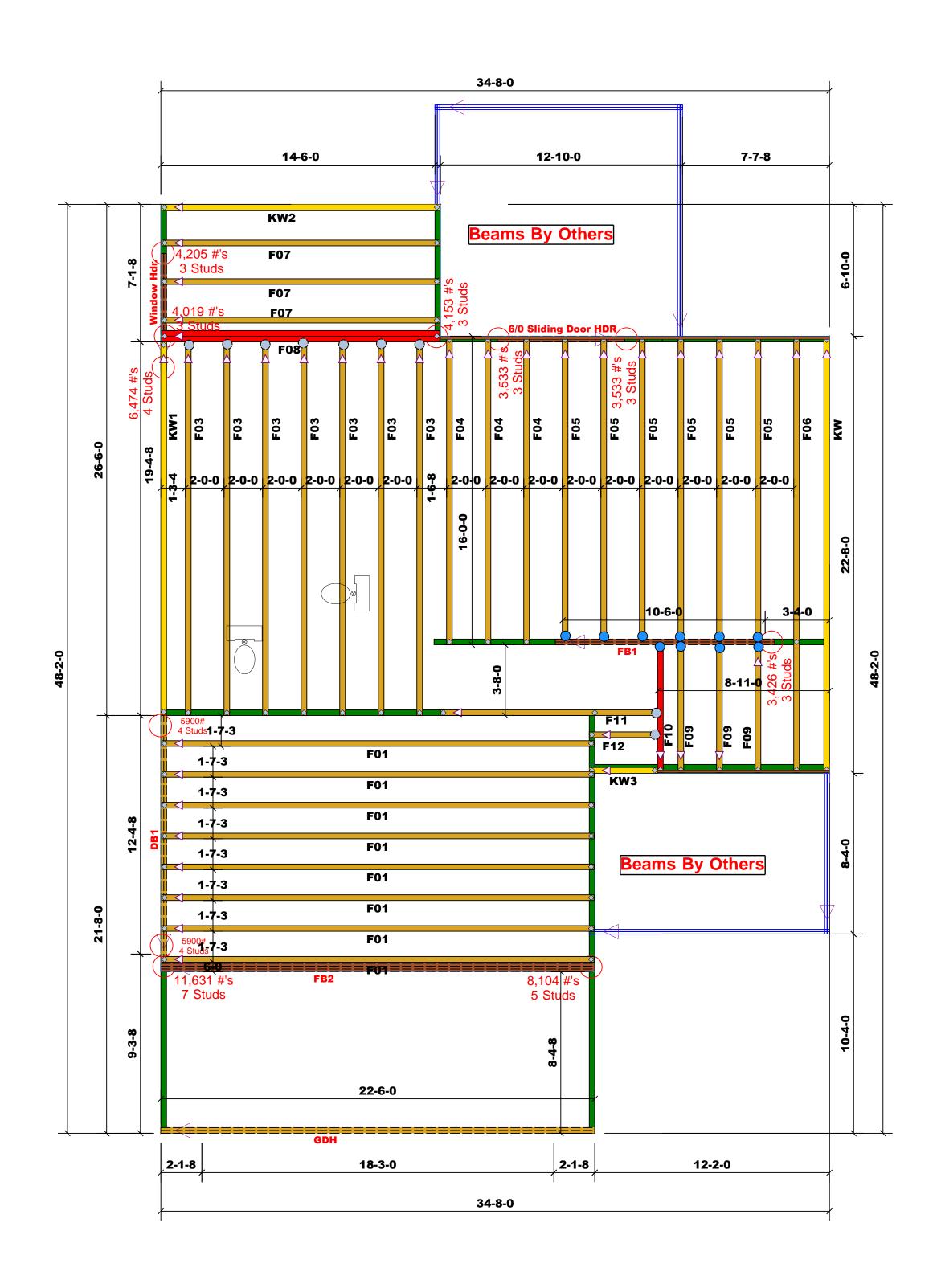
= Indicates Left End of Truss
(Reference Engineered Truss Drawing)
Do NOT Erect Truss Backwards

LOAD CHART FOR JACK STUDS							S
(BASED ON TABLES R502.5(1) & (b))							
NUMBER OF JACK STUDS REQUIRED @ EA ENI 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	Weaver Homes, Inc.	COUNTY	Harnett	THIS IS A TRUSS PLACEMENT DIAGRAM ONLY.  These trusses are designed as individual building components to be incorpor the building design at the specification of the building designer. See individual sheets for each truss design identified on the placement drawing. The building
JOB NAME	Lot 20 West Preserve	ADDRESS	Thistle Court	is responsible for temporary and permanent bracing of the roof and floor syst the overall structure. The design of the truss support structure including head walls, and columns is the responsibility of the building designer. For general g regarding bracing, consult BCSI-B1 and BCSI-B3 provided with the truss deliv
PLAN	Gaston II (181035B) 3rd Car 3 Car	MODEL	Floor	or online @ sbcindustry.com  Bearing reactions less than or equal to 3000# are deemed to comply we prescriptive Code requirements. The contractor shall refer to the attact.
SEAL DATE	N/A	DATE REV.	/ /	(derived from the prescriptive Code requirements) to determine the r foundation size and number of wood studs required to support reactit than 3000# but not greater than 15000#. A registered design profession be retained to design the support system for any reaction that exceed
QUOTE#	Quote #	DRAWN BY	Marshall Naylor	specified in the attached Tables. A registered design professional sha retained to design the support system for all reactions that exceed 15
JOB#	J0123-0239	SALESMAN	Lenny Norris	Marshall Naylor



Phone: (910) 864-8787 Fax: (910) 864-4444



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

-- Denotes Reaction Greater than 3,000 lbs.

Reaction / # of Studs

HUS410	USP	10	NA	16d/3-1/2"	16d/3-1/2"
MCH422	LICD	0	Varios	104/2"	104/2"

Products							
PlotID	Length	Product	Plies	Net Qty	Fab Type		
6/0 Sliding Door HDR	7-0-0	1-3/4"x 9-1/4" LVL Kerto-S	2	2	FF		
GDH	23-0-0	1-3/4"x 14" LVL Kerto-S	2	2	FF		
DB1	13-0-0	1-3/4"x 14" LVL Kerto-S	2	2	FF		
FB1	12-0-0	1-3/4"x 14" LVL Kerto-S	2	2	FF		
Window Hdr.	7-0-0	1-3/4"x 14" LVL Kerto-S	2	2	FF		
FB2	23-0-0	1-3/4"x 23-7/8" LVL Kerto-S	3	3	FF		

## Truss Placement Plan SCALE: 1/4"=1'

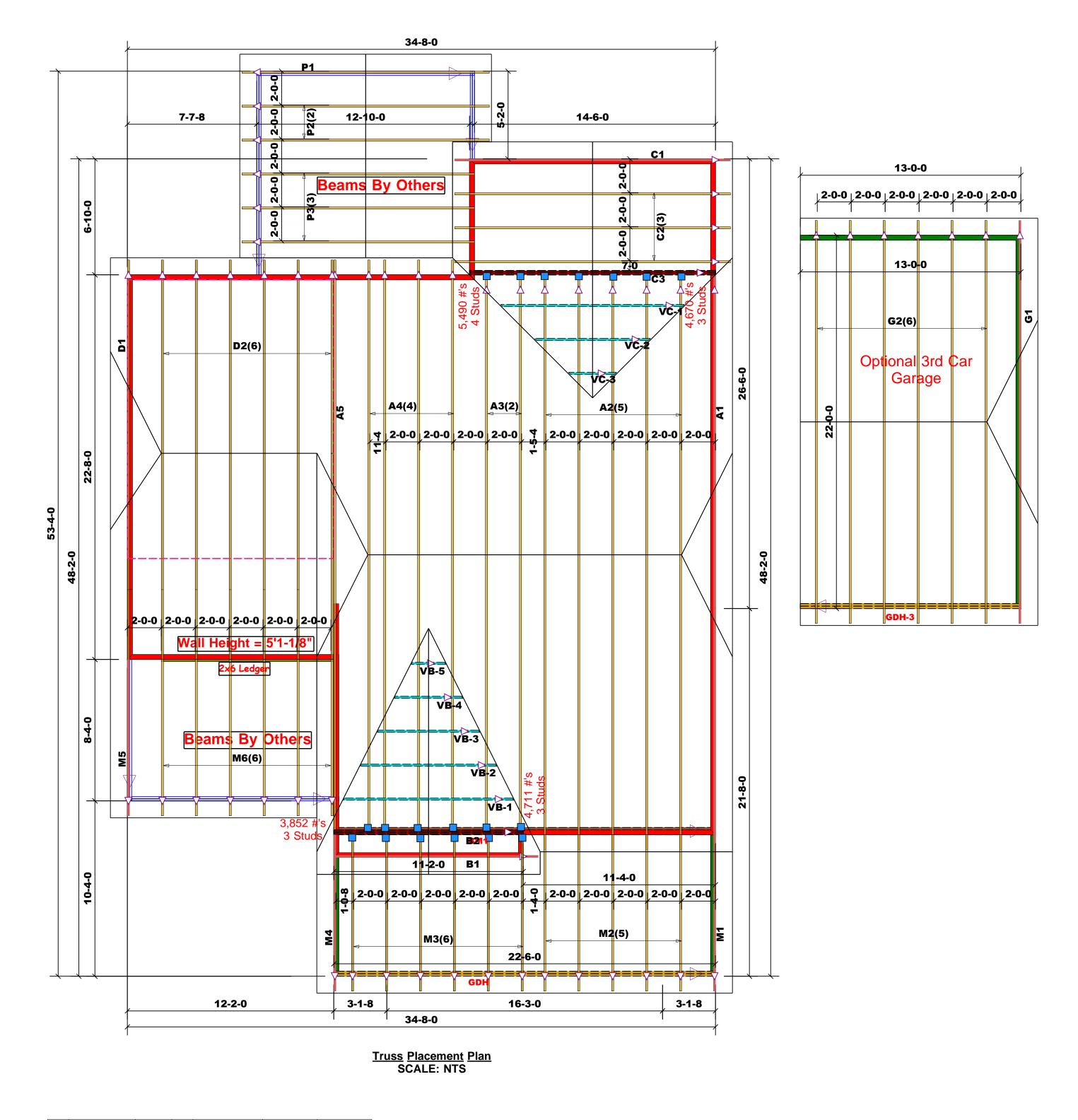
= Indicates Left End of Truss
(Reference Engineered Truss Drawing)
Do NOT Erect Truss Backwards

LO	AD (	CHAR	T FO	RЈ	ACK .	STUD	S
	(B	ASED O	N TABLES	5 R502	.5(1) & (1	o))	
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 STUBS 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						

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BUILDER	Weaver Homes, Inc.	COUNTY	Harnett	THIS IS A TRUSS PLACEMENT DIAGRAM ONLY.  These trusses are designed as individual building components to be incorporated into the building design at the specification of the building designer. See individual design sheets for each truss design identified on the placement drawing. The building designer
JOB NAME	Lot 20 West Preserve	ADDRESS	Thistle Court	is responsible for temporary and permanent bracing of the roof and floor system and for the overall structure. The design of the truss support structure including headers, beams, walls, and columns is the responsibility of the building designer. For general guidance regarding bracing, consult BCSI-B1 and BCSI-B3 provided with the truss delivery package
PLAN	Gaston II (181035B) 3rd Car 3 Car	MODEL	Floor	or online @ sbcindustry.com  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
SEAL DATE	N/A	DATE REV.	//	( 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
QUOTE#	Quote #	DRAWN BY	Marshall Naylor	specified in the attached Tables. A registered design professional shall be retained to design the support system for all reactions that exceed 15000#.
JOB#	J0123-0239	SALESMAN	Lenny Norris	Signature Marshall Naylor



Phone: (910) 864-8787 Fax: (910) 864-4444



HUS26 USP 19 NA 16d/3-1/2" | 16d/3-1/2"

= 1st Level Wall

= 2nd Level Wall

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

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

LVL							
PlotID	Length	Product	Plies	Net Qty	Fab Type		
GDH-3	13-0-0	1-3/4"x 11-7/8" LVL Kerto-S	2	2	FF		

= Indicates Left End of Truss (Reference Engineered Truss Drawing) Do NOT Erect Truss Backwards

(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 TC)	REQ'D STUDS FOR 3	`	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							

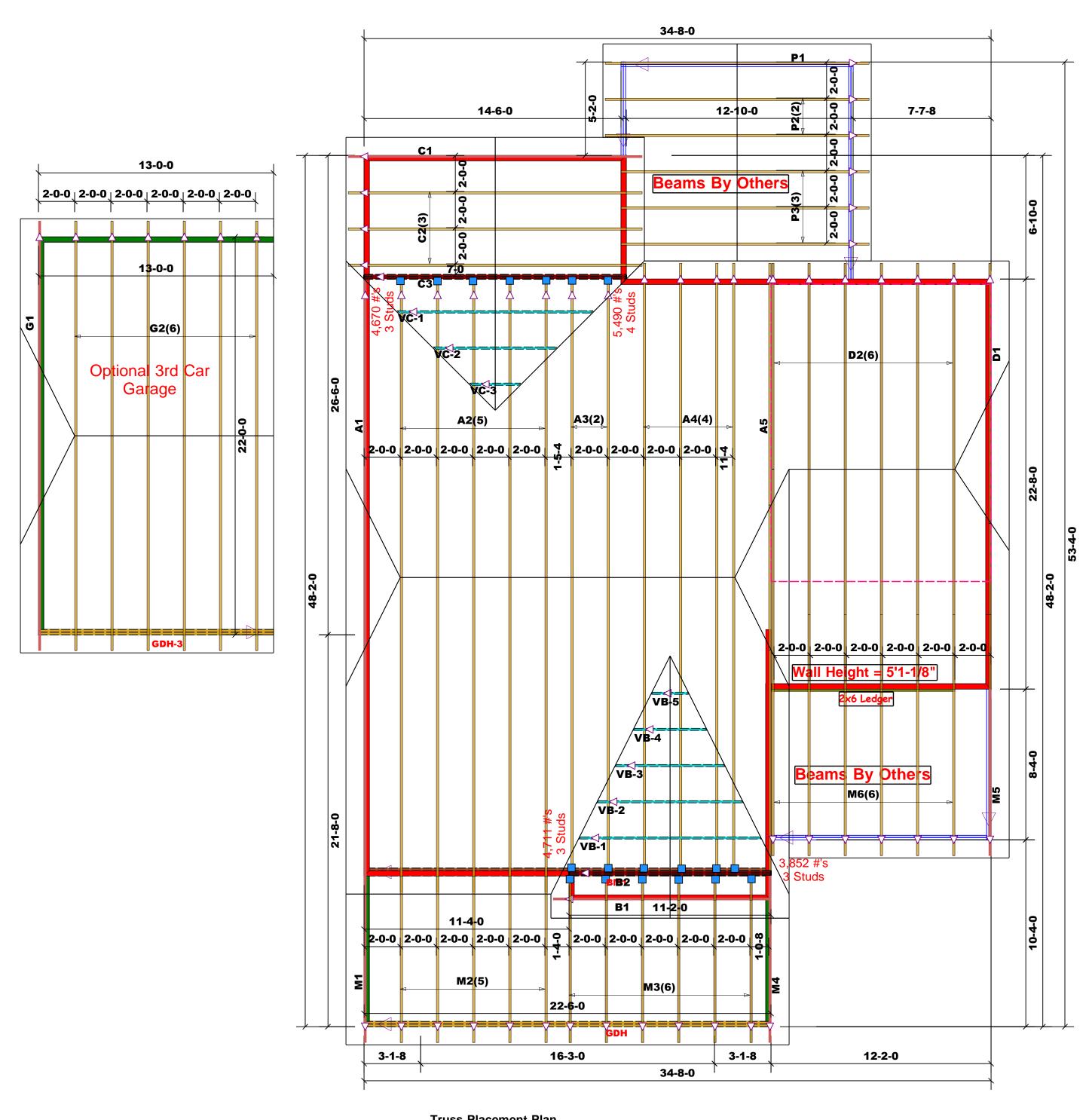
				_
BUILDER	Weaver Homes, Inc.	COUNTY	Harnett	THIS IS A These trusse the building of sheets for ea
JOB NAME	Lot 20 West Preserve	ADDRESS Thistle Court		is responsibl the overall st walls, and co regarding bra
PLAN	Gaston II (181035B) Tudor/3 Car	MODEL	Roof	Bearing rea prescriptive
SEAL DATE	N/A	DATE REV.	//	( derived fro foundation than 3000# be retained
QUOTE#		DRAWN BY	Marshall Naylor	specified in retained to
JOB#	J0123-0238	SALESMAN	Lenny Norris	

A TRUSS PLACEMENT DIAGRAM ONLY.

Marshall Naylor



Reilly Road Industrial Park Fayetteville, N.C. 28309 Phone: (910) 864-8787 Fax: (910) 864-4444



Truss Placement Plan SCALE: NTS

HUS26 USP 19 NA 16d/3-1/2" 16d/3-1/2"

= 1st Level Wall

= 2nd Level Wall

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

-- Denotes Reaction Greater than 3,000 lbs.

Reaction / # of Studs

LVL							
PlotID	Length	Product	Plies	Net Qty	Fab Type		
GDH-3	13-0-0	1-3/4"x 11-7/8" LVL Kerto-S	2	2	FF		

= Indicates Left End of Truss
(Reference Engineered Truss Drawing)
Do NOT Erect Truss Backwards

LOAD CHART FOR JACK STUDS									
(BASED ON TABLES R502.5(1) & (b))									
NU	MBER C		STUDS P			A END OF	:		
END REACTION (UP TO) REQ'D STUDS FOR (C) PLY HEADER (UP TO) REQ'D STUDS FOR (J) PLY HEADER (J) PTO) REQ'D STUDS FOR (HP TO) REQ'D STUDS FOR (HP TO)									
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	Weaver Homes, Inc.	COUNTY	Harnett	THIS IS These true the building
JOB NAME	Lot 20 West Preserve	ADDRESS	Thistle Court	is respons the overall walls, and regarding
PLAN	Gaston II (181035B) Tudor/3 Car	MODEL	Roof	Bearing r
SEAL DATE	N/A	DATE REV.	//	( derived foundatio than 3000 be retained
QUOTE#		DRAWN BY	Marshall Naylor	specified retained t
JOB#	J0123-0238	SALESMAN	Lenny Norris	



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

in the attached Tables. A registered design professional shall be be design the support system for all reactions that exceed 15000#.

Signature\_\_\_\_\_\_

Marshall Naylor



Reilly Road Industrial Park Fayetteville, N.C. 28309 Phone: (910) 864-8787 Fax: (910) 864-4444



Weaver Homes

Project:

Address: Gaston II (181035B) Date: 2/16/2024

Input by: Marshall Naylor Job Name: Gaston II (181035B) Page 1 of 2

Const

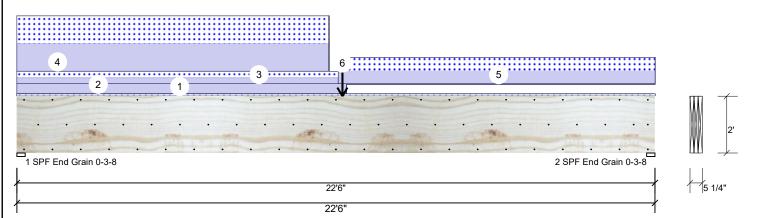
Project #:

**Kerto-S LVL** FB2

1.750" X 24.000"

3-Ply - PASSED





Member Info	rmation	Rea	Reactions UNPATTERNED lb (Uplift)					
Type:	Girder	Application:	Floor	Brg	Direction	Live	Dead	Snow
Plies:	3	Design Method:	ASD	1	Vertical	225	6536	5095
Moisture Condition	on: Dry	Building Code:	IBC 2012	2	Vertical	225	4429	3676
Deflection LL:	480	Load Sharing:	Yes					
Deflection TL:	360	Deck:	Not Checked					
Importance:	Normal - II							
Temperature:	Temp <= 100°F							
	•			Bea	rings			

## **Analysis Results**

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	65477 ft-lb	11'5 3/4"	131295 ft-lb	0.499 (50%)	D+S	L
Unbraced	65477 ft-lb	11'5 3/4"	65512 ft-lb	0.999 (100%)	D+S	L
Shear	10076 lb	2'3 1/2"	30912 lb	0.326 (33%)	D+S	L
LL Defl inch	0.226 (L/1171)	11'1 11/16"	0.552 (L/480)	0.410 (41%)	S	L
TL Defl inch	0.501 (L/528)	11' 7/8"	0.735 (L/360)	0.682 (68%)	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 Fasten all plies using 3 rows of 10d Box nails (.128x3") at 12" o.c. Maximum end distance not to exceed 6". Nail from both sides.
- 3 Refer to last page of calculations for fasteners required for specified loads.
- 4 Girders are designed to be supported on the bottom edge only.
- 5 Top loads must be supported equally by all plies.
- 6 Top must be laterally braced at a maximum of 4' 3/8" o.c.
- 7 Bottom must be laterally braced at end bearings.

Rea	ctions UNP	ATTERNED	lb (Uplift	)	
Bra	Direction	Live	Dead	Snow	Wind

1	Vertical	225	6536	5095	0	0
2	Vertical	225	4429	3676	0	0

Bearings	5						
Bearing	Length	Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.500"	Vert	75%	6536 / 5095	11631	L	D+S
2 - SPF End Grain	3.500"	Vert	53%	4429 / 3676	8104	L	D+S

8 Lateral slende	rness ratio based on s	ingle 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	Tie-In	0-0-0 to 22-6-0	0-6-0	Far Face	15 PSF	40 PSF	0 PSF	0 PSF	0 PSF	1' Floor	
2	Part. Uniform	0-0-0 to 11-7-8		Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall	
3	Part. Uniform	0-0-0 to 11-4-0		Near Face	79 PLF	0 PLF	79 PLF	0 PLF	0 PLF	M2	
4	Part. Uniform	0-0-0 to 11-0-0		Тор	341 PLF	0 PLF	341 PLF	0 PLF	0 PLF	A2	

Continued on page 2...

### 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.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- L. UV. beams must not be cut or drilled
   Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
   Damaged Beams must not be used

- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation

For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

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

Manufacturer Info

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







Weaver Homes

Project:

Address: Gaston II (181035B) Date: 2/16/2024

Input by: Marshall Naylor Job Name: Gaston II (181035B) Page 2 of 2

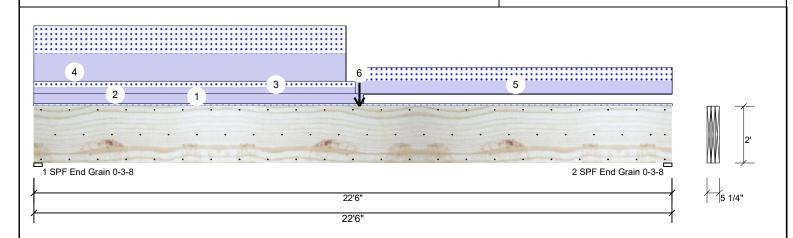
Project #:

**Kerto-S LVL** FB2

1.750" X 24.000"

3-Ply - PASSED

Level: Level



Continued fr	rom page 1									
ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
5	Part. Uniform	11-4-0 to 22-6-0		Near Face	164 PLF	0 PLF	164 PLF	0 PLF	0 PLF	M3
6	Point	11-5-12		Тор	2293 lb	0 lb	2293 lb	0 lb	0 lb	B2
	Bearing Length	0-3-8								
	Self Weight				28 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.

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

## Handling & Installation

Handling & Installation

1. IVI 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

For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

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

Manufacturer Info

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







Project: Address:

Weaver Homes

Gaston II (181035B)

Date: 2/16/2024

Input by: Marshall Naylor Job Name: Gaston II (181035B)

Project #:

**Kerto-S LVL** 1.750" X 14.000" 2-Ply - PASSED FB1

Application:

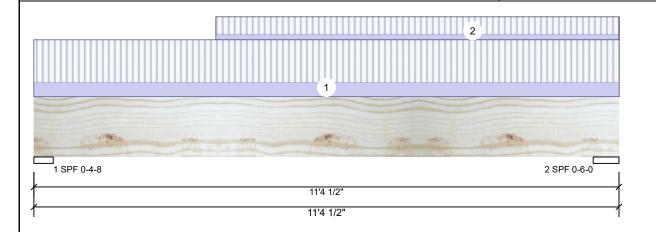
Design Method:

**Building Code:** 

Load Sharing:

Deck:

Level: Level



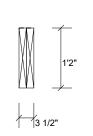
Floor

ASD

No

IBC 2012

Not Checked



Page 1 of 1

### Member Information

Type: Plies: 2 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 360 Importance: Temperature:

Normal - II Temp <= 100°F

## Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	2129	771	0	0	0
2	Vertical	2523	904	0	0	0

## **Bearings**

Bearing Length	Dir.	Cap. I	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF 4.500"	Vert	43%	771 / 2129	2899	L	D+L
2 - SPF 6.000"	Vert	38%	904 / 2523	3426	L	D+L

### Analysis Results

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	8168 ft-lb	5'9 3/16"	26999 ft-lb	0.303 (30%)	D+L	L
Unbraced	8168 ft-lb	5'9 3/16"	10268 ft-lb	0.795 (80%)	D+L	L
Shear	2421 lb	9'8 1/2"	10453 lb	0.232 (23%)	D+L	L
LL Defl inch	0.090 (L/1419)	5'8 3/16"	0.266 (L/480)	0.338 (34%)	L	L
TL Defl inch	0.122 (L/1044)	5'8 3/16"	0.354 (L/360)	0.345 (34%)	D+L	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			Тор	106 PLF	318 PLF	0 PLF	0 PLF	0 PLF	F5
2	Part. Uniform	3-6-8 to 11-4-8		Тор	44 PLF	132 PLF	0 PLF	0 PLF	0 PLF	F9

Self Weight 11 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.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals Damaged Beams must not be used
- Design assumes top edge is laterally restrained
  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 6/28/2026

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Manufacturer Info

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







Project: Address:

Weaver Homes

Gaston II (181035B)

Date: 2/16/2024

Input by: Marshall Naylor Job Name: Gaston II (181035B)

Project #:

**Kerto-S LVL** 1.750" X 9.250" 2-Ply - PASSED 6/0 SLIDER

Application:

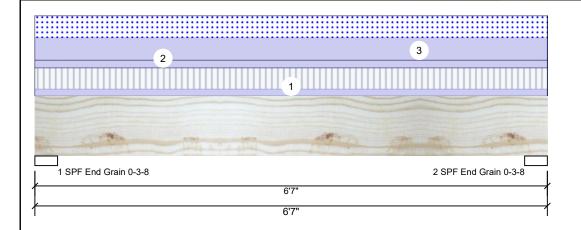
Design Method:

**Building Code:** 

Load Sharing:

Deck:

Level: Level



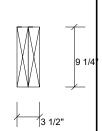
Floor

ASD

No

IBC 2012

Not Checked



Page 1 of 1

## Member Information

Girder Type Plies: 2 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 360 Importance:

Normal - II Temperature: Temp <= 100°F

## Reactions UNPATTERNED Ib (Uplift)

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	1060	1887	1113	0	0
2	Vertical	1060	1887	1113	0	0

### Analysis Results

Analysis Actual Location Allowed Capacity Comb. Case 5009 ft-lb 0.347 (35%) D+0.75(L+S) L Moment 3'3 1/2" 14423 ft-lb Unbraced 5009 ft-lb 3'3 1/2" 10451 ft-lb 0.479 (48%) D+0.75(L+S) L 0.300 (30%) D+0.75(L+S) L 2387 lb 1' 3/4" 7943 lb Shear LL Defl inch 0.042 (L/1741) 3'3 1/2" 0.153 (L/480) 0.276 (28%) 0.75(L+S) L TL Defl inch 0.091 (L/807) 3'3 1/2" 0.204 (L/360) 0.446 (45%) D+0.75(L+S) L

## Bearings

End

Grain

Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. D+0.75(L+S) 1 - SPF 3.500" Vert 1887 / 1629 3516 L End Grain D+0.75(L+S) 2 - SPF 3.500" Vert 1887 / 1629 3516 L

## Design Notes

- 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.

e	sign 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.

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments	
1	Uniform			Тор	108 PLF	322 PLF	0 PLF	0 PLF	0 PLF	F4	
2	Uniform			Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL	
3	Uniform			Тор	338 PLF	0 PLF	338 PLF	0 PLF	0 PLF	A4	
	Self Weight				7 PI F						

### 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.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVL beams must not be cut or drilled
  Refer to manufacturer's product information
  regarding installation requirements, multi-ply
  fastening details, beam strength values, and code
  approvals Damaged Beams must not be used
- Design assumes top edge is laterally restrained
  Provide lateral support at bearing points to avoid
  lateral displacement and rotation
- For flat roofs provide proper drainage to prevent ponding

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Manufacturer Info

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This design is valid until 6/28/2026



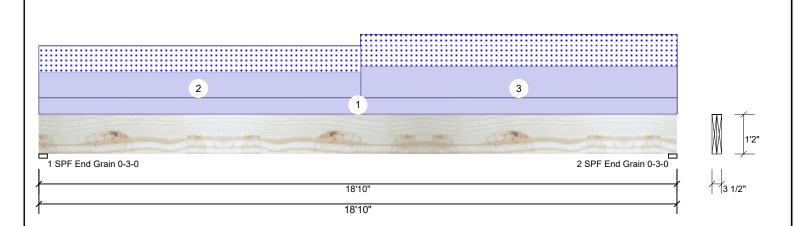
Project:

Address: Gaston II (181035B) Date: 2/16/2024

Input by: Marshall Naylor Job Name: Gaston II (181035B) Page 1 of 1

Project #:

Kerto-S LVL 1.750" X 14.000" Front GDH 2-Ply - PASSED Level: Level



### Member Information R Type: Application: Floor Plies: Design Method: ASD Moisture Condition: Dry **Building Code:** IBC 2012 Deflection LL: 480 Load Sharing: No Deflection TL: 360 Deck: Not Checked Importance: Normal - II Temperature: Temp <= 100°F

Analys	is Re	sults
--------	-------	-------

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	12090 ft-lb	9'8 7/8"	31049 ft-lb	0.389 (39%)	D+S	L
Unbraced	12090 ft-lb	9'8 7/8"	12128 ft-lb	0.997 (100%)	D+S	L
Shear	2353 lb	17'5"	12021 lb	0.196 (20%)	D+S	L
LL Defl inch	0.184 (L/1202)	9'6 3/16"	0.461 (L/480)	0.399 (40%)	S	L
TL Defl inch	0.491 (L/451)	9'5 13/16"	0.615 (L/360)	0.798 (80%)	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 a maximum of 8'7 13/16" o.c.
- 6 Bottom must be laterally braced at end bearings.
- 7 Lateral slenderness ratio based on single ply width.

Reactions	UNPATTERNED	lb (Up	lift)
-----------	-------------	--------	-------

Brg	Direction	Live	Dead	Snow	Wind	Const
1	Vertical	0	1619	952	0	0
2	Vertical	0	1720	1052	0	0

Bearings	5						
Bearing	Length	Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	29%	1619 / 952	2571	L	D+S
2 - SPF End Grain	3.000"	Vert	31%	1720 / 1052	2772	L	D+S

ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments
1	Uniform			Тор	60 PLF	0 PLF	0 PLF	0 PLF	0 PLF	wall
2	Part. Uniform	0-0-0 to 9-6-0		Тор	96 PLF	0 PLF	96 PLF	0 PLF	0 PLF	M2
3	Part. Uniform	9-6-0 to 18-10-0		Тор	117 PLF	0 PLF	117 PLF	0 PLF	0 PLF	M3
	Self Weight				11 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.

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

### Handling & Installation

andling & Installation

LVL beams must not be out or drilled
Refer to manufacturer's product information regarding installation requirements, multi-ply fastening details, beam strength values, and code approvals
Damaged Beams must not be used
Design assumes top edge is laterally restrained.
Provide lateral support at bearing points to avoid lateral displacement and rotation

- For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

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Manufacturer Info

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







Project:

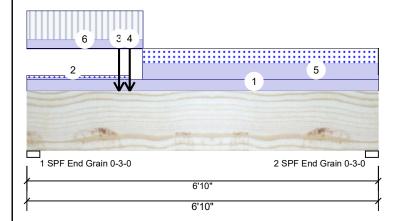
Address: Gaston II (181035B) Date: 2/16/2024

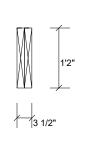
Input by: Marshall Naylor Job Name: Gaston II (181035B)

Project #:

Window Hdr. Kerto-S LVL 1.750" X 14.000" 2-Ply - PASSED

Level: Level





0

0

Page 1 of 2

### Member Information

Type: Girder Plies: 2 Moisture Condition: Dry Deflection LL: 480 Deflection TL: 360 Importance: Normal - II Temperature: Temp <= 100°F Application: Floor Design Method: ASD **Building Code:** IBC 2012 Load Sharing: No Deck: Not Checked Reactions UNPATTERNED Ib (Uplift) Wind Brg Direction Live Dead Snow Const Vertical 2861 3387 1990 0 1 873 1906 O 2 Vertical 1168

## **Analysis Results**

•						
Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	11172 ft-lb	2'	31049 ft-lb	0.360 (36%)	D+0.75(L+S)	L
Unbraced	11172 ft-lb	2'	15767 ft-lb	0.709 (71%)	D+0.75(L+S)	L
Shear	6407 lb	1'5"	12021 lb	0.533 (53%)	D+0.75(L+S)	L
LL Defl inch	0.033 (L/2343)	2'7 5/8"	0.161 (L/480)	0.205 (20%)	0.75(L+S)	L
TL Defl inch	0.067 (L/1165)	2'8 7/8"	0.215 (L/360)	0.309 (31%)	D+0.75(L+S)	L

## **Bearings**

Grain

Bearing Length Dir. Cap. React D/L lb Total Ld. Case Ld. Comb. 3387 / 3638 D+0.75(L+S) 1 - SPF 3.000" Vert 7025 I End Grain 1906 / 1531 3437 L D+0.75(L+S) 2 - SPF 3.000" Vert End

## **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			Тор	120 PLF	0 PLF	0 PLF	0 PLF	0 PLF	WALL	
2	Tie-In	0-0-0 to 2-0-0	1-0-0	Тор	20 PSF	0 PSF	20 PSF	0 PSF	0 PSF	2' ROOF	
3	Point	1-9-8		Тор	1040 lb	3115 lb	0 lb	0 lb	0 lb	F08	
	Bearing Length	0-3-8									
4	Point	2-0-0		Тор	2385 lb	0 lb	2385 lb	0 lb	0 lb	C3	
	Bearing Length	0-3-8									

Continued on page 2...

### 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.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- LVI beams must not be cut or drilled
  Refer to manufacturer's product information
  regarding installation requirements, multi-ply
  fastening details, beam strength values, and code
  approvals
- Damaged Beams must not be used
- Design assumes top edge is laterally restrained Provide lateral support at bearing points to avoid lateral displacement and rotation
- For flat roofs provide proper drainage to prevent ponding

This design is valid until 6/28/2026

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

Manufacturer Info

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







Project: Address:

Gaston II (181035B)

Date: 2/16/2024

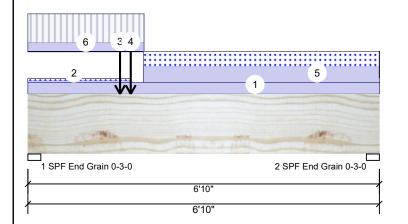
Input by: Marshall Naylor Job Name: Gaston II (181035B)

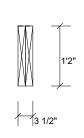
Project #:

Window Hdr. **Kerto-S LVL** 1.750" X 14.000"

2-Ply - PASSED

Level: Level





Page 2 of 2

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ID	Load Type	Location	Trib Width	Side	Dead 0.9	Live 1	Snow 1.15	Wind 1.6	Const. 1.25	Comments	
5	Part. Uniform	2-3-0 to 6-10-0		Тор	160 PLF	0 PLF	160 PLF	0 PLF	0 PLF	C2	
6	Part. Uniform	2-3-0 to 0-0-0		Тор	97 PLF	300 PLF	0 PLF	0 PLF	0 PLF	F07	
	Self Weight				11 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.

- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive

## Handling & Installation

Handling & Installation

1. IVI. 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

For flat roofs provide proper drainage to prevent ponding

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Manufacturer Info

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This design is valid until 6/28/2026



Project:

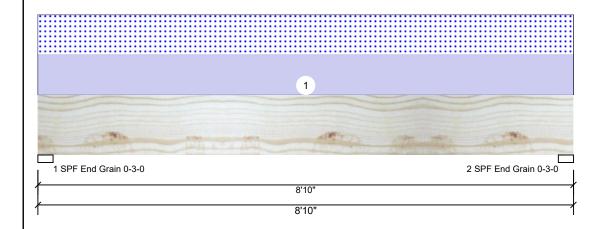
Address: Gaston II (181035B) Date: 2/16/2024

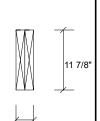
Input by: Marshall Naylor Job Name: Gaston II (181035B)

Project #:

1.750" X 11.875" 2-Ply - PASSED GDH-2 **Kerto-S LVL** 

Level: Level





Page 1 of 1

## Member Information

Type:	Girder
Plies:	2
Moisture Condition:	Dry
Deflection LL:	480
Deflection TL:	360
Importance:	Normal - II
Temperature:	Temp <= 100°F

Application: Floor Design Method: ASD **Building Code:** IBC 2012 Load Sharing: No Deck: Not Checked Reactions UNPATTERNED Ib (Uplift) Brg Direction Wind Live Dead Snow Const Vertical 0 1145 1104 0 0 1 O 1145 O 0 2 Vertical 1104

## **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	4554 ft-lb	4'5"	22897 ft-lb	0.199 (20%)	D+S	L
Unbraced	4554 ft-lb	4'5"	10675 ft-lb	0.427 (43%)	D+S	L
Shear	1627 lb	1'2 7/8"	10197 lb	0.160 (16%)	D+S	L
LL Defl inch	0.036 (L/2845)	4'5 1/16"	0.211 (L/480)	0.169 (17%)	S	L
TL Defl inch	0.073 (L/1397)	4'5 1/16"	0.282 (L/360)	0.258 (26%)	D+S	L

## Bearings

Bearing	Length	Dir.	Сар.	React D/L lb	Total	Ld. Case	Ld. Comb.
1 - SPF End Grain	3.000"	Vert	26%	1145 / 1104	2249	L	D+S
2 - SPF End Grain	3.000"	Vert	26%	1145 / 1104	2249	L	D+S

## **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 Trib Width Side Dead 0.9 Comments Location Live 1 Snow 1.15 Wind 1.6 Const. 1.25 1 Uniform Top 250 PLF 0 PLF 250 PLF 0 PLF 0 PLF

> Self Weight 9 PLF

### Notes

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- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive

## Handling & Installation

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

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This design is valid until 6/28/2026



Weaver Homes

Project: Address:

Gaston II (181035B)

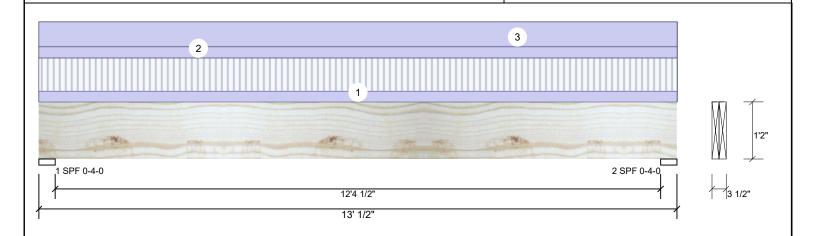
Date: 2/16/2024

Input by: Marshall Naylor Job Name: Gaston II (181035B) Page 1 of 1

Project #:

1.750" X 14.000" 2-Ply - PASSED Kerto-S LVL **GCO** 

Level: Level



Member Information					Reactions UNPATTERNED lb (Uplift)							
Туре:	Girder	Application:	Floor	Brg	Direction	Live	Dead	Snow	Wind	Const		
Plies:	2	Design Method:	ASD	1	Vertical	2374	3468	0	0	0		
Moisture Condition:	: Dry	Building Code:	IBC 2012	2	Vertical	2374	3468	0	0	0		
Deflection LL:	480	Load Sharing:	No									
Deflection TL:	240	Deck:	Not Checked									
Importance:	Normal - II											
Temperature:	Temp <= 100°F											
Bearings												
				Bea	ring Length	Dir. (	Cap. React D/L lb	Total	Ld. Case	Ld. Comb.		
				1 - 3	SPF 4.000"	Vert	98% 3468 / 2374	5842	L	D+L		
					SPF 4 000"	Vert	98% 3468 / 2374	5842	1	D+I		

### **Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	17498 ft-lb	6'6 1/4"	26999 ft-lb	0.648 (65%)	D+L	L
Unbraced	17498 ft-lb	6'6 1/4"	17512 ft-lb	0.999 (100%)	D+L	L
Shear	4511 lb	1'6"	10453 lb	0.432 (43%)	D+L	L
LL Defl inch	0.142 (L/1059)	6'6 1/4"	0.312 (L/480)	0.453 (45%)	L	L
TL Defl inch	0.349 (L/430)	6'6 1/4"	0.625 (L/240)	0.558 (56%)	D+L	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 a maximum of 5'7 3/8" o.c.
- 6 Bottom must be laterally braced at end bearings.
- 7 Lateral slenderness ratio based on single ply width

1 Lateral sienderness ratio based on single pry 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			Тор	122 PLF	364 PLF	0 PLF	0 PLF	0 PLF	F01
2	Uniform			Тор	125 PLF	0 PLF	0 PLF	0 PLF	0 PLF	Wall
3	Uniform			Тор	274 PLF	0 PLF	0 PLF	0 PLF	0 PLF	A1
	Self Weight				11 PLF					

## Notes

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- Dry service conditions, unless noted otherwise
   LVL not to be treated with fire retardant or corrosive
- Handling & Installation
- Handling & Installation

  1. UVI 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

- For flat roofs provide proper drainage to prevent ponding

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This design is valid until 6/28/2026 CSD BUILD

