

Carriage Circle Lot 1154 - 150 Spruce Hollow Circle, Spring  
 Lake 28390 Harnett County  
 Created: 04/12/2021

Elevation Euro  
 Garage Left  
 Fiber Cement Siding



2550 Capitol Drive  
 Suite 105  
 Creedmoor, NC 27522  
 919-528-1347

# 2334 The Nicklaus II - LH

SQUARE FOOTAGE				
	HERITAGE EUROPEAN		HERITAGE FARMHOUSE	
	UNHEATED	HEATED	UNHEATED	HEATED
FIRST FLOOR	0	971	0	971
SECOND FLOOR	0	1363	0	1363
REAR COVERED PORCH	50	0	50	0
FRONT PORCH	120	0	120	0
GARAGE	472	0	472	0
SUBTOTALS	642	2334	642	2334
TOTAL UNDER ROOF	2976		2976	

OPTIONS		
	UNHEATED S.F.	HEATED S.F.
---	0	0
---	0	0
---	0	0
---	0	0
---	0	0
---	0	0
---	0	0
---	0	0
---	0	0
---	0	0

REVISION LOG						
Rev	Description	Drawn By	Date	Sheets Affected	Brochure Required	Engineering Required
1						
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ARCHITECTURAL DRAWINGS	
Sheet No.	Sheet Description
0.0	Cover Sheet
2.1	First Floor Plan
2.2	Second Floor Plan
3.A.0	Heritage European Front & Right Elevations
3.A.1	Heritage European Left & Rear Elevations
3.A.2	Heritage European Roof Plan
3.B.0	Heritage Farmhouse Front & Right Elevations
3.B.1	Heritage Farmhouse Left & Rear Elevations
3.B.2	Heritage Farmhouse Roof Plan
S.1.1	Crawl Foundation
S.1.2	Slab Foundation
S.2.1	Second Floor Framing
S.3.1	Attic Floor Framing
S.4.1	Roof Plan - Heritage European
S.4.2	Roof Plan - Heritage Farmhouse



2550 Capitol Drive  
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 919-528-1347

DATE	DESCRIPTION	REV#
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2334 - THE NICKLAUS II - LH  
 Cover Sheet

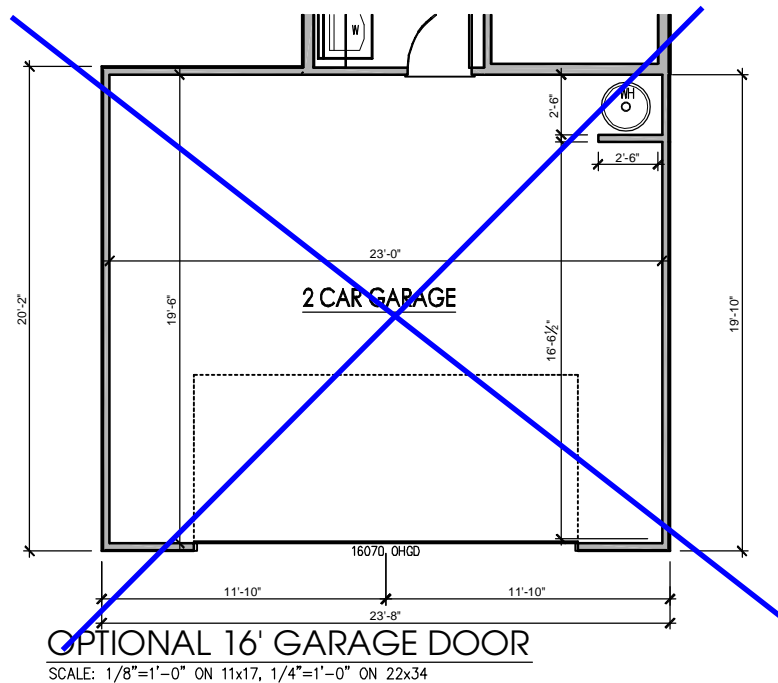
DRAWN BY:  
 South Designs  
 ISSUE DATE:  
 05/05/2017  
 CURRENT REVISION DATE:  
 XX/XX/XXXX  
 SCALE:  
 1/8" = 1'-0"  
 SHEET  
**0.0**

**General Floor Plan Notes**

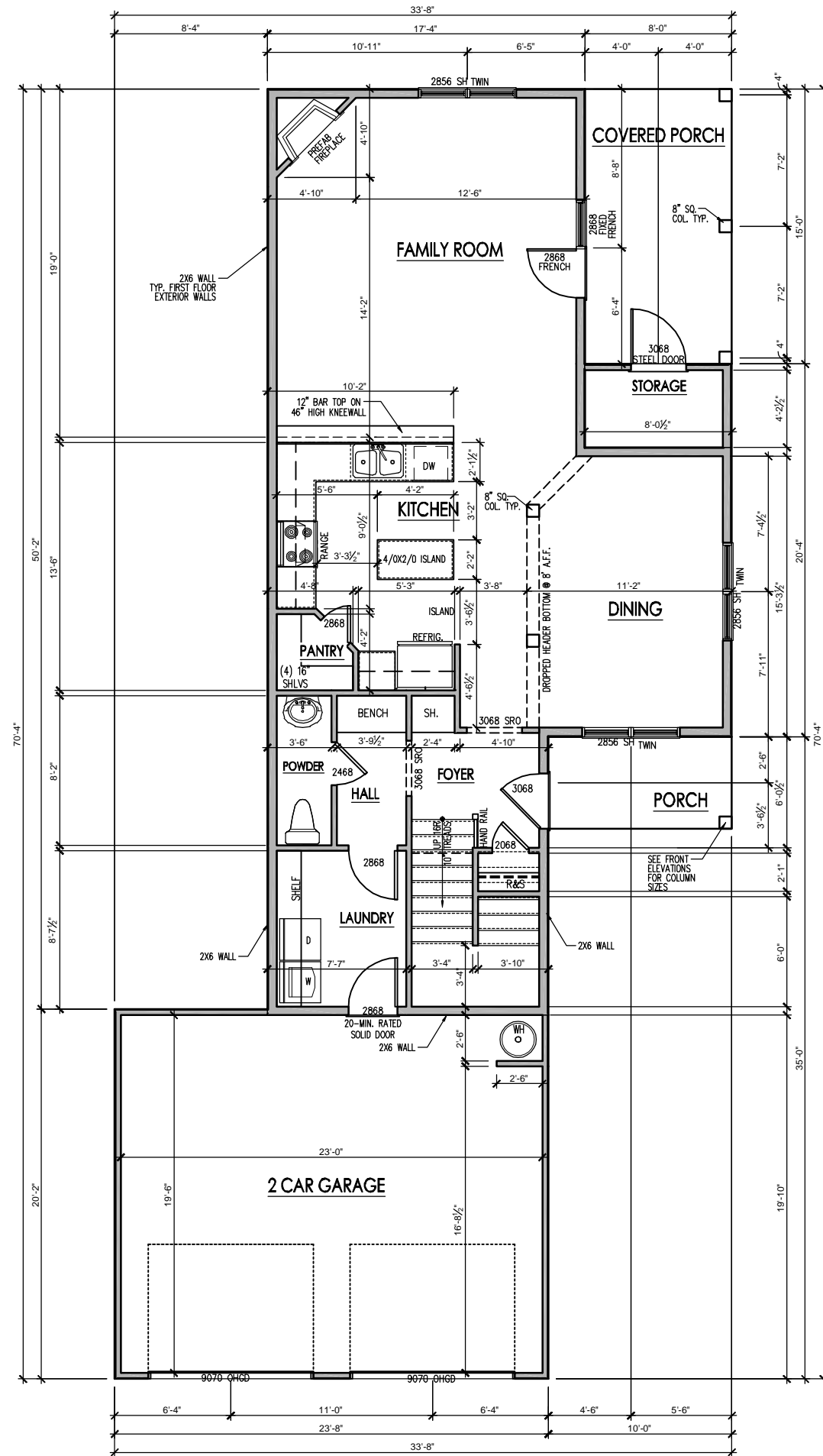
General Floor Plan Notes shall apply unless noted otherwise on plan.

1. Wall Heights: Typically 10'-1-1/2" at first floor and second floor, and 9'-1-1/2" at attics U.N.O.. All walls are constructed using a double top plate. Splices at Double Top Plate do not need to occur at Vertical Studs but must be at least 24" apart from Joint in other Top Plate layer. Special wall heights are noted on plans where they occur.
2. Wall Thickness is typically 4" at exterior walls, 3-1/2" at interior. 2x6 frame shall be used at walls that back up to plumbing fixtures. Walls greater than 10' high shall be framed with 2x6 framing or greater and will be noted as a special condition where it occurs on plan.
3. Header height shall be 8'-0" AFF at First Floor, and 7'-6" AFF at Second Floor unless noted otherwise.
4. Jacks: Openings up to 3'-4" wide shall have (1) 2x4 jack stud SPF on each side. Openings greater than 3'-4" wide shall have (2) 2x4 jack studs SPF on each side.
5. Soffits, Coffered Ceilings, Tray Ceilings and other significant ceiling plan elements are shown on the floor plans and are denoted as single dashed lines. Unless specifically call out as included, Kitchens **do not** include soffits over wall cabinetry.
6. Door & Window Frames, where occurring near corners, shall be a minimum of 6" from corner. Except for walk-in closets with doors near a corner, doors at closets shall be centered on closet.
7. Windows: Shall have at least (1) window in each sleeping room, that meets egress. Shall be provided with tempered glass at hazardous glazing areas. False windows shall be installed with obscure glazing.
8. Closets for clothing or coat storage shall be equipped with 1 rod/shelf, open wire. Closets for linen shall have 5 open wire shelves. Closets for pantries shall have 5 wood shelves, painted.
9. Stair treads shall be 10" deep, risers shall be a maximum of 7-3/4", unless noted otherwise.
10. Handrails and Guards at stairs shall be 34" above the finished surface of the ramp surface of the stair. Handrails at landings and overlooks of multilevel spaces shall be 36" above finished floor. Guards (pickets or balusters) shall be spaced with no more than 4" between guards.
11. Attic Access shall be provided at all attic area with a height greater than 30". Minimum clear attic access shall be 20' x 30". Pull down stairs and access doors in knee walls meeting minimum criteria are also acceptable.
12. Garage Door to Living Space shall be 2'-8" x 6'-8" minimum size and shall be 20 minute fire rated and weather sealed.
13. Garage Walls, as a minimum, shall be separated from living space and living space attic by installing 1/2" gypsum board on the garage side of the wall.

SQUARE FOOTAGE HERITAGE EUROPEAN & FARMHOUSE		
	UNHEATED S.F.	HEATED S.F.
FIRST FLOOR	0	971
SECOND FLOOR	0	1363
FRONT PORCH	50	0
COVERED PORCH	120	0
GARAGE	472	0
TOTAL	642	2334
OPTIONS		
	UNHEATED S.F.	HEATED S.F.



**FIRST FLOOR PLAN**  
SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34



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919-528-1347

DATE	DESCRIPTION	REV.#
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		8

**2334 - THE NICKLAUS II - LH**

First Floor Plan

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South Designs

ISSUE DATE:  
05/05/2017

CURRENT REVISION DATE:  
XX/XX/XXXX

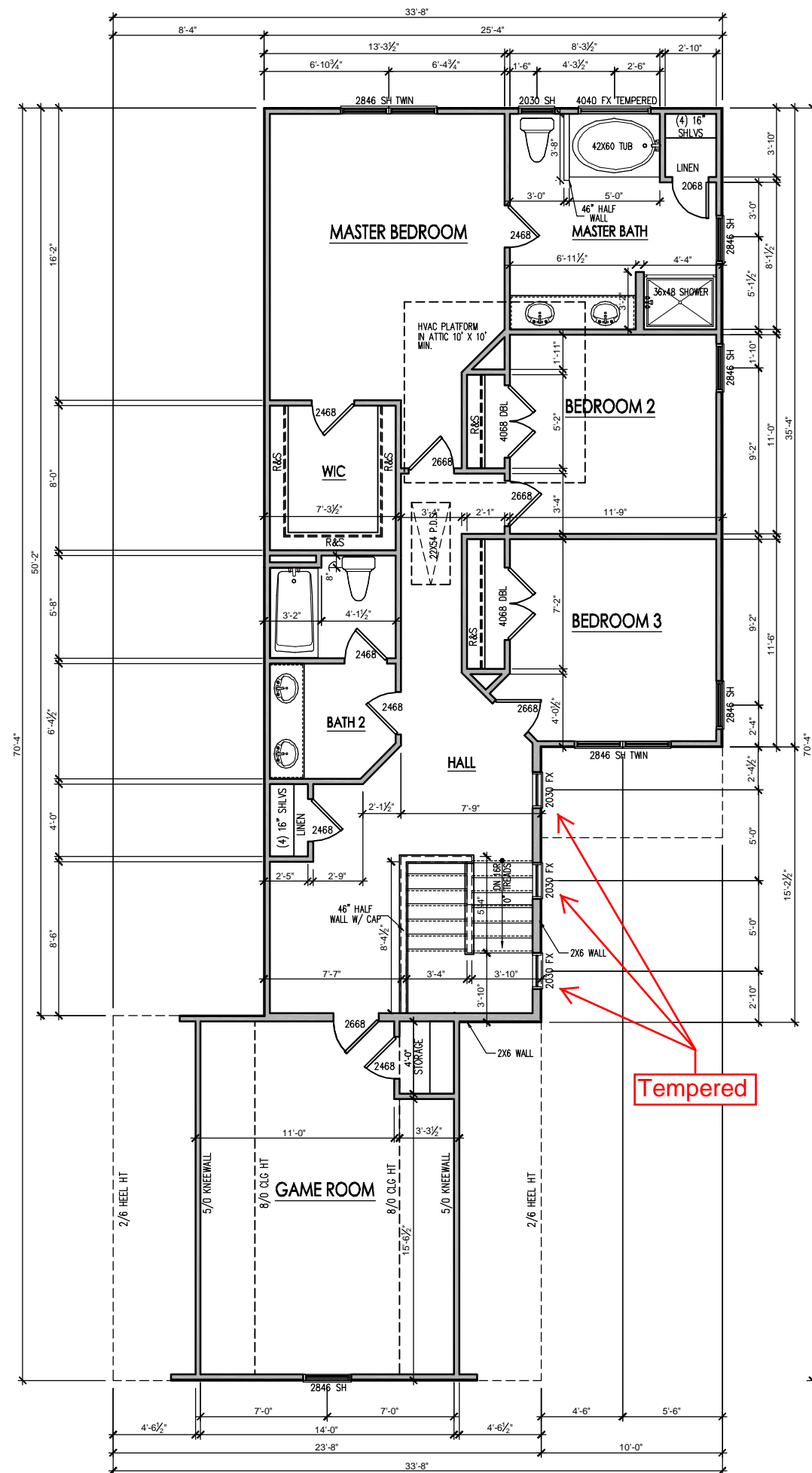
SCALE:  
1/8" = 1'-0"

SHEET  
**2.1**

**General Floor Plan Notes**

General Floor Plan Notes shall apply unless noted otherwise on plan.

1. Wall Heights: Typically 10'-1-1/2" at first floor and second floor, and 9' 1-1/2" at offices U.N.O.. All walls are constructed using a double top plate. Splices at Double Top Plate do not need to occur at Vertical Studs but must be at least 24" apart from Joint in other Top Plate layer. Special wall heights are noted on plans where they occur.
2. Wall Thickness is typically 4" at exterior walls, 3-1/2" at interior. 2x6 frame shall be used at walls that back up to plumbing fixtures. Walls greater than 10' high shall be framed with 2x6 framing or greater and will be noted as a special condition where it occurs on plan.
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12. Garage Door to Living Space shall be 2'-8" x 6'-8" minimum size and shall be 20 minute fire rated and weather sealed.
13. Garage Walls, as a minimum, shall be separated from living space and living space attic by installing 1/2" gypsum board on the garage side of the wall.



**SECOND FLOOR PLAN**  
SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34



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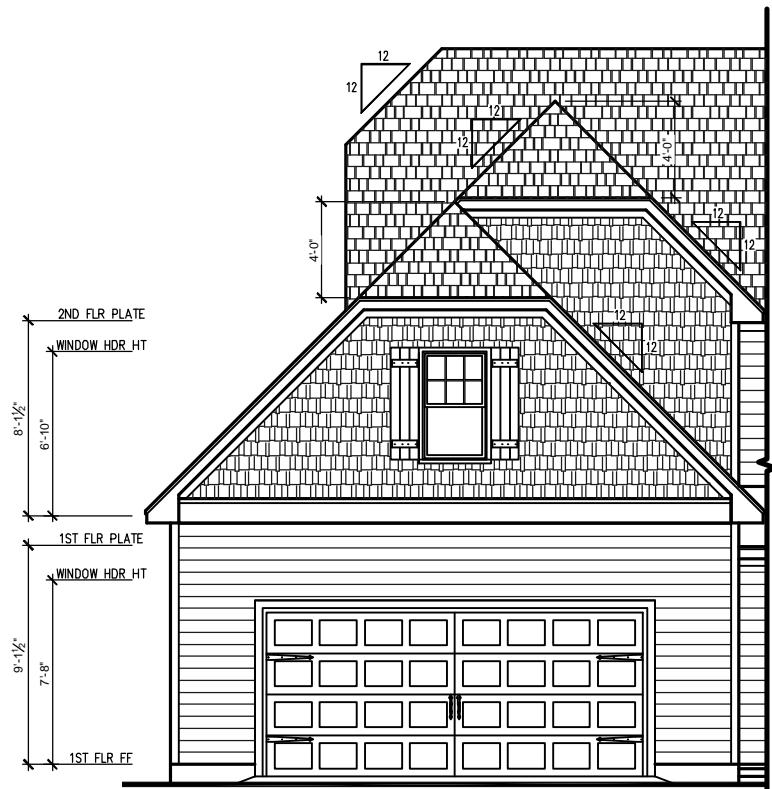


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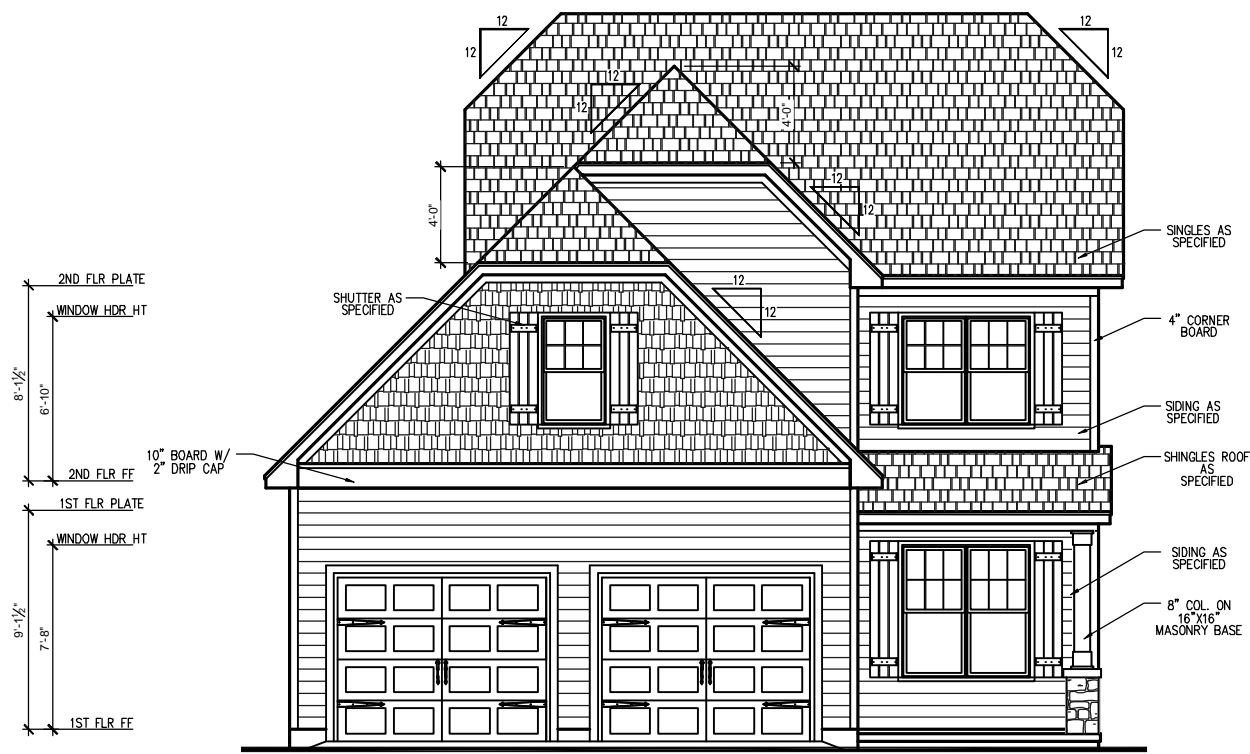
REV#	DATE	DESCRIPTION
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**2334 - THE NICKLAUS II - LH**  
**Second Floor Plan**

DRAWN BY:  
South Designs  
ISSUE DATE:  
05/05/2017  
CURRENT REVISION DATE:  
XX/XX/XXXX  
SCALE:  
1/8" = 1'-0"  
SHEET  
**2.2**



**FRONT ELEVATION - HERITAGE EUROPEAN**  
**SINGLE GARAGE DOOR OPTION**  
 SCALE: 1/4" = 1'-0" ON 22x34, 1/8" = 1'-0" ON 11x17  
**MONOLITHIC SLAB**



**FRONT ELEVATION - HERITAGE EUROPEAN**  
 SCALE: 1/4" = 1'-0" ON 22x34, 1/8" = 1'-0" ON 11x17  
**MONOLITHIC SLAB**



**RIGHT SIDE ELEVATION - HERITAGE EUROPEAN**  
 SCALE: 1/4" = 1'-0" ON 22x34, 1/8" = 1'-0" ON 11x17  
**MONOLITHIC SLAB**



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REV#	DATE	DESCRIPTION
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**2334 - THE NICKLAUS II - LH**

**Heritage European Front & Right Elevations**

DRAWN BY:  
 South Designs

ISSUE DATE:  
 05/05/2017

CURRENT REVISION DATE:  
 XX/XX/XXXX

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

SHEET

**3.A.0**



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REV.#	DESCRIPTION	DATE
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**2334 - THE NICKLAUS II - LH**

**Heritage European Rear & Left Elevations**

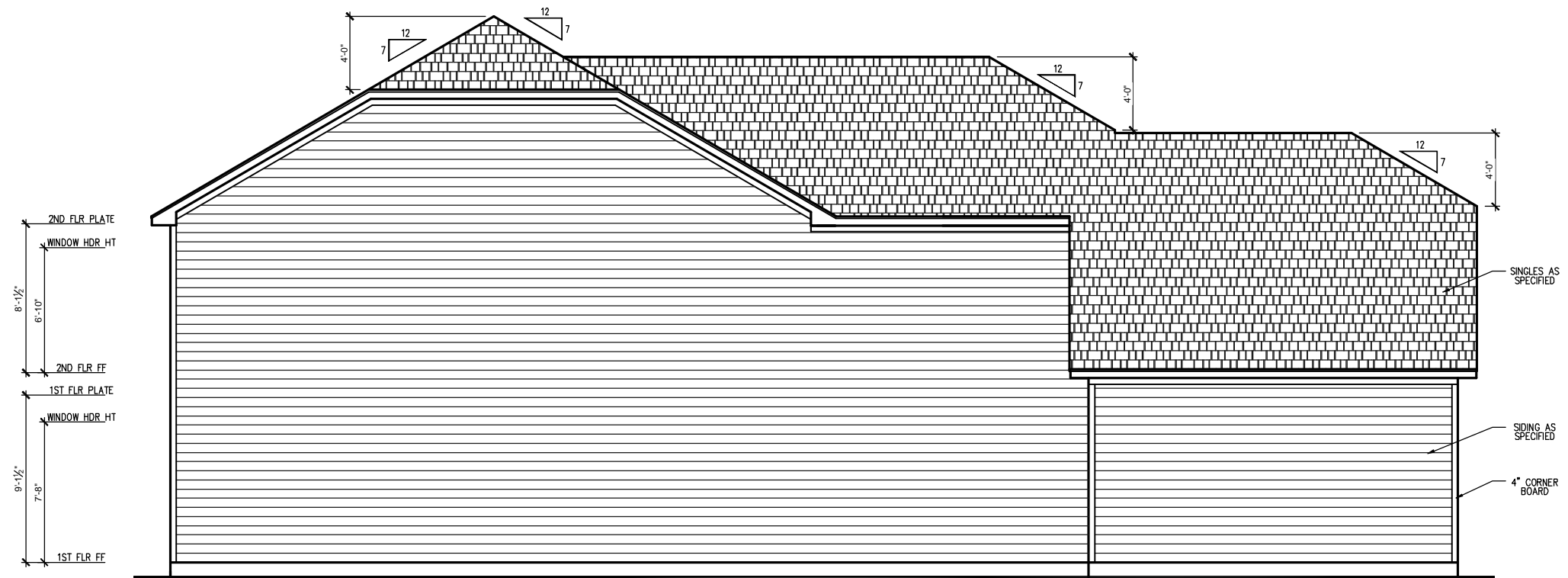
DRAWN BY:  
South Designs

ISSUE DATE:  
05/05/2017

CURRENT REVISION DATE:  
XX/XX/XXXX

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

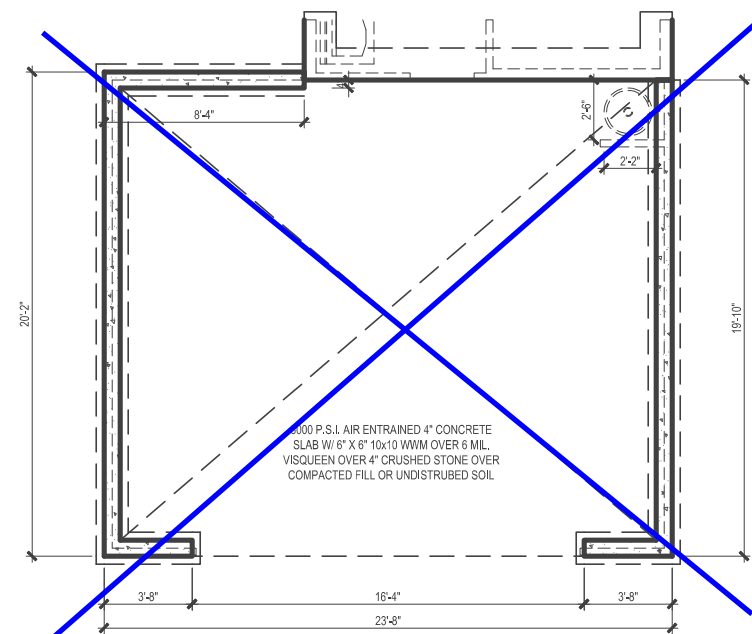
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**3.A.1**



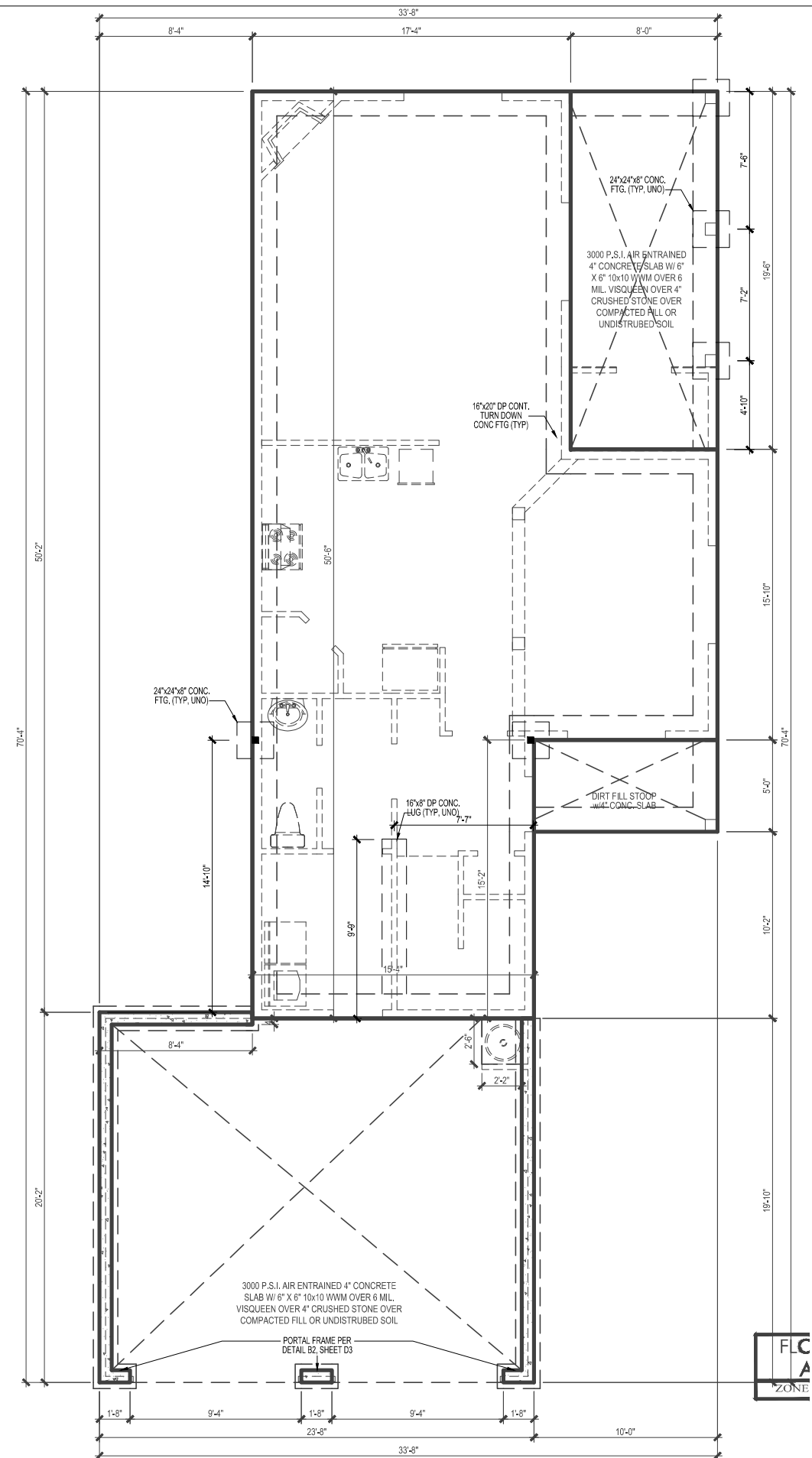
**LEFT SIDE ELEVATION - HERITAGE EUROPEAN**  
SCALE: 1/4" = 1'-0" ON 22x34, 1/8" = 1'-0" ON 11x17  
**MONOLITHIC SLAB**



**REAR ELEVATION - HERITAGE EUROPEAN**  
SCALE: 1/4" = 1'-0" ON 22x34, 1/8" = 1'-0" ON 11x17  
**MONOLITHIC SLAB**



**OPT. ONE GARAGE DOOR**  
SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34



**SLAB FOUNDATION AND FIRST FLOOR FRAMING PLAN**  
SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34

\* Engineers seal does not include construction means, methods, techniques, sequences, procedures or safety precaution.  
\* Any deviations or discrepancies on plans are to be brought to the immediate attention of Tyndall Engineering & Design, P.A. Failure to do so will void Tyndall Engineering & Design, P.A. liability.  
\* Please review these documents carefully. Tyndall Engineering & Design, P.A. will interpret that all dimensions, recommendations, etc. presented in these documents were deemed acceptable once construction begins.

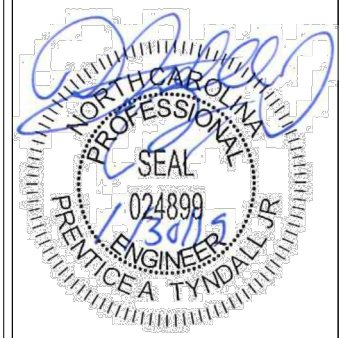
**TYNDALL**  
ENGINEERING & DESIGN, P.A.



T 919 778-1900 • F 919 778-9688  
280 Shipwash Drive • Garner • North Carolina • 27834  
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Client:  
**WYNN HOMES**

Plan:  
**THE NICKLAUSII GARAGE LEFT**



Project #: 1901-010039  
Date: 1/18/19  
Drawn/Design By: ISE  
DWG. Checked By: PAT  
Scale: SEE PLAN

REVISIONS		
No.	Date	Remarks

Sheet Number  
**S2**  
2 of 4

DESIGN LOADS

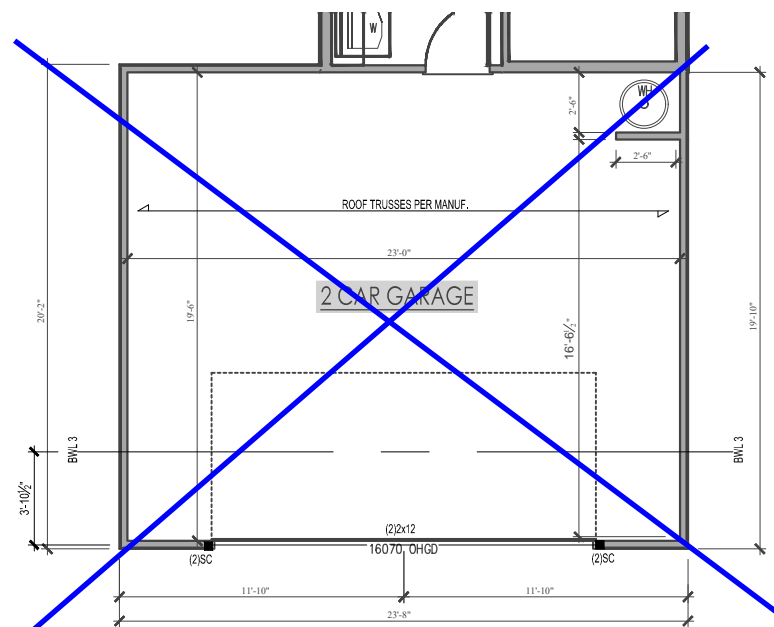
	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION	
			LL	TL
FLOOR (primary)	40	10	L/360	L/240
FLOOR (secondary)	40	10	L/360	L/240
ATTIC (w/ storage)	20	10	L/240	L/180
ATTIC (no access)	10	5	L/240	L/180
EXTERNAL BALCONY	40	10	L/360	L/240
ROOF	20	10	L/240	L/180
ROOF TRUSS	20	20	L/240	L/180
WIND LOAD	BASED ON 120 MPH (EXPOSURE B)			
SEISMIC	BASED ON SEISMIC ZONES A, B & C			

STRUCTURAL NOTES:

- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF "NORTH CAROLINA STATE 2018 RESIDENTIAL BUILDING CODE", IN ADDITION TO ALL LOCAL CODES AND REGULATIONS.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND SQUARE FOOTAGE PRIOR TO CONSTRUCTION. TYNDALL ENGINEERING & DESIGN, P.A. IS NOT RESPONSIBLE FOR DIMENSIONS AND SQUARE FOOTAGE ERRORS ONCE CONSTRUCTION BEGINS.
- ALL LUMBER SHALL BE SYP #2 (UNO)  
ALL LVL LUMBER TO BE 1.75" WIDE NOMINAL EACH SINGLE MEMBER AND Fb = 2600 PSF, E = 1.9M PSI (I.E. I-LEVEL MICROLAM)  
ALL LSL LUMBER IS TO BE 1.55E (Fb = 2325 PSI)  
ALL LOAD BEARING EXTERIOR WINDOW HEADERS WITH MAXIMUM SPAN OF 5'-6" SHOULD BE A (2) 2x10 w/ (1) 2x4 KING STUD AND (1) 2x4 JACK STUD NAILED TOGETHER w/ (2) 10d @ 8" O.C. PROVIDED THAT THE TOP OF THE WINDOW HEIGHT IS 6'-8", MINIMUM BOTTOM OF THE WINDOW HEIGHT IS 1'-6", OTHERWISE REFER TO TABLE R602.7(1).
- ALL INTERIOR LOAD BEARING HEADERS TO BE (2) 2x10 (UNO.) REFER TO TABLE R602.7(2) FOR JACK STUD REQUIREMENTS FOR HEADER SPANS FOR INTERIOR AND EXTERIOR LOAD CONDITIONS (UNO)
- REFER TO 2018 NC BUILDING CODE SECTION R602 FOR CONSTRUCTION OF ALL WALLS OVER 10'-0" IN HEIGHT.
- ALL STRUCTURAL STEEL SHALL BE ASTM A992 GRADE 50 Fy = 50 KSI MIN. (UNO)
- ALL EXTERIOR LUMBER TO BE #2 SYP PT
- ALL CONCRETE, fc = 3000 PSI MIN.
- PRESUMPTIVE BEARING CAPACITY = 2000 PSF
- 1/2" ANCHOR BOLTS SPACED AT MAXIMUM OF 6'-0" O.C. AND NOT MORE THAN 12" FROM THE CORNER, THERE SHALL BE A MINIMUM OF (2) BOLTS PER PLATE SECTION. ANCHOR BOLTS SHALL BE SPACED AT 3'-0" O.C. FOR BASEMENTS. ANCHOR BOLT SHALL EXTEND 7" INTO CONCRETE OR MASONRY.
- PSL COLUMNS DESIGNED WITH MAX. HEIGHT OF 9'-0" (UNO)
- PROVIDE A MINIMUM OF 500# UPLIFT & LATERAL CONNECTION AT TOP AND BOTTOM OF PORCH COLUMNS. (U.N.O.)
- PROVIDE CONTINUOUS SHEATHING PER SECTION 602.10.4 OF THE 2018 IRC.
- MAXIMUM MASONRY PIER HEIGHT SHALL NOT EXCEED FOUR TIMES ITS LEAST HORIZONTAL DIMENSION.
- UPLIFT LOADS GREATER THAN 500# SHALL BE CONTINUOUSLY ANCHORED TO THE FOUNDATION.
- METAL HANGERS SHALL BE SIMPSON OR APPROVED EQUAL.

STRUCTURAL SHEATHING NOTES

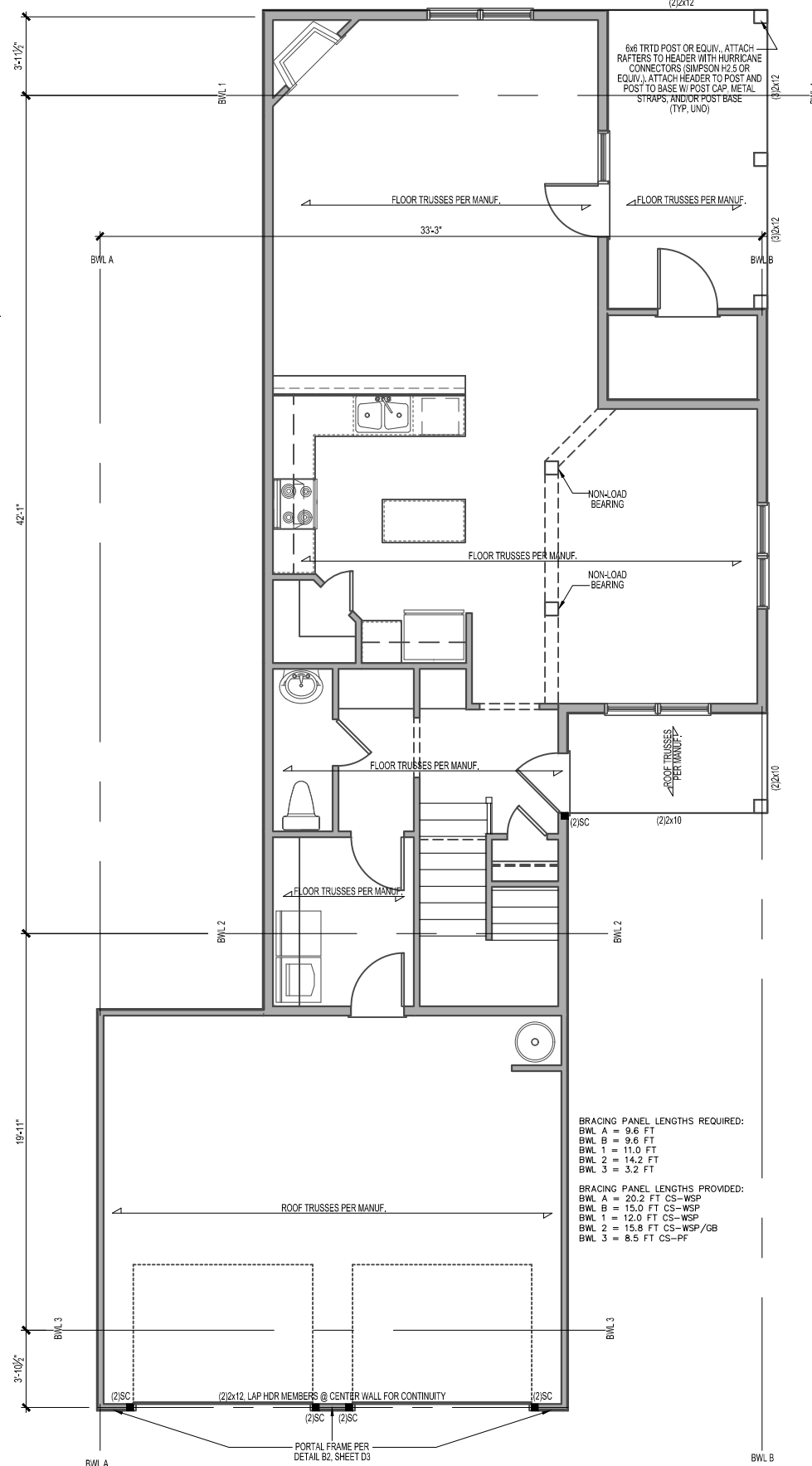
- DESIGNED FOR SEISMIC ZONE A-C AND WIND SPEEDS OF 120 MPH OR LESS.
- WALLS SHALL BE BRACED IN ACCORDANCE WITH SECTION R602.10 OF THE 2018 NCR.
- BRACING REQUIREMENTS SHALL BE PER TABLE R602.10.3. REFER TO SECTION R602.10.4 FOR LOAD PATH DETAILS INCLUDING CONNECTIONS & SUPPORT OF BRACED WALL PANELS.  
① REFERENCE FIGURE R602.10.4.3 OF THE 2018 NCR.
- INTERIOR BRACED WALL PANELS (BWP) INDICATED SHALL BE SHEATHED IN ACCORDANCE WITH THE GB METHOD OR WSP METHOD AS PRESCRIBED IN SECTION R602.10.1 (UNO)  
② 1/2" GYPSUM BOARD (GB) MINIMUM LENGTH OF 8'-0" (ISOLATED PANELS) OR 4'-0" (CONTINUOUS SHEATHING). SECURE w/ 5d COOLER NAILS (OR EQUAL PER TABLE R702.3.5) SPACED @ 7" O.C. AT PANEL EDGES, INCLUDING TOP AND BOTTOM PLATES & 7" O.C. AT INTERMEDIATE SUPPORTS  
③ 3/8" WOOD STRUCTURAL PANEL (WSP) SECURE w/ 6d COMMON NAILS SPACED AT 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS
- EXTERIOR BRACED WALL PANELS (BWP) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CS-WSP METHOD AS PRESCRIBED IN SECTION R602.10.3 (UNO)
- ALL SHEATHABLE SURFACES OF EXTERIOR WALLS (INCLUDING AREAS ABOVE AND BELOW OPENINGS AND GABLE END WALLS) SHALL BE CONTINUOUSLY SHEATHED WITH WOOD STRUCTURAL PANEL (WSP) SHEATHING WITH A MINIMUM THICKNESS OF 3/8". SHEATHING SHALL BE SECURED WITH MINIMUM 6d COMMON NAILS SPACED AT 6" O.C. AT PANEL EDGES AND SPACED AT 12" O.C. AT INTERMEDIATE SUPPORTS.
- MINIMUM BRACED WALL PANEL LENGTHS WITH CS-WSP METHOD SHALL BE AS FOLLOWS:  
- 24" ADJACENT TO OPENINGS NOT MORE THAN 67% OF WALL HEIGHT  
- 30" ADJACENT TO OPENINGS GREATER THAN 67% AND LESS THAN 85% OF WALL HEIGHT.  
- 48" FOR OPENINGS GREATER THAN 85% OF WALL HEIGHT
- SHEATH INTERIOR & EXTERIOR
- FOR CS-WSP METHOD, A MINIMUM 24" BRACED WALL PANEL CORNER RETURN SHALL BE PROVIDED AT BOTH ENDS OF A BRACED WALL LINE IN ACCORDANCE WITH FIGURE R602.10.3(4). IN LIEU OF A CORNER RETURN, EITHER A MIN. 48" BRACED WALL PANEL SHALL BE PROVIDED AT THE CORNER OR A HOLD-DOWN DEVICE WITH A MINIMUM UPLIFT DESIGN VALUE OF 800# SHALL BE FASTENED TO THE EDGE OF THE BRACED WALL PANEL CLOSEST TO THE CORNER AND TO THE FOUNDATION OR FRAMING BELOW.  
⑤ MINIMUM 800# HOLD-DOWN DEVICE



OPTIONAL 16' GARAGE DOOR

SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34

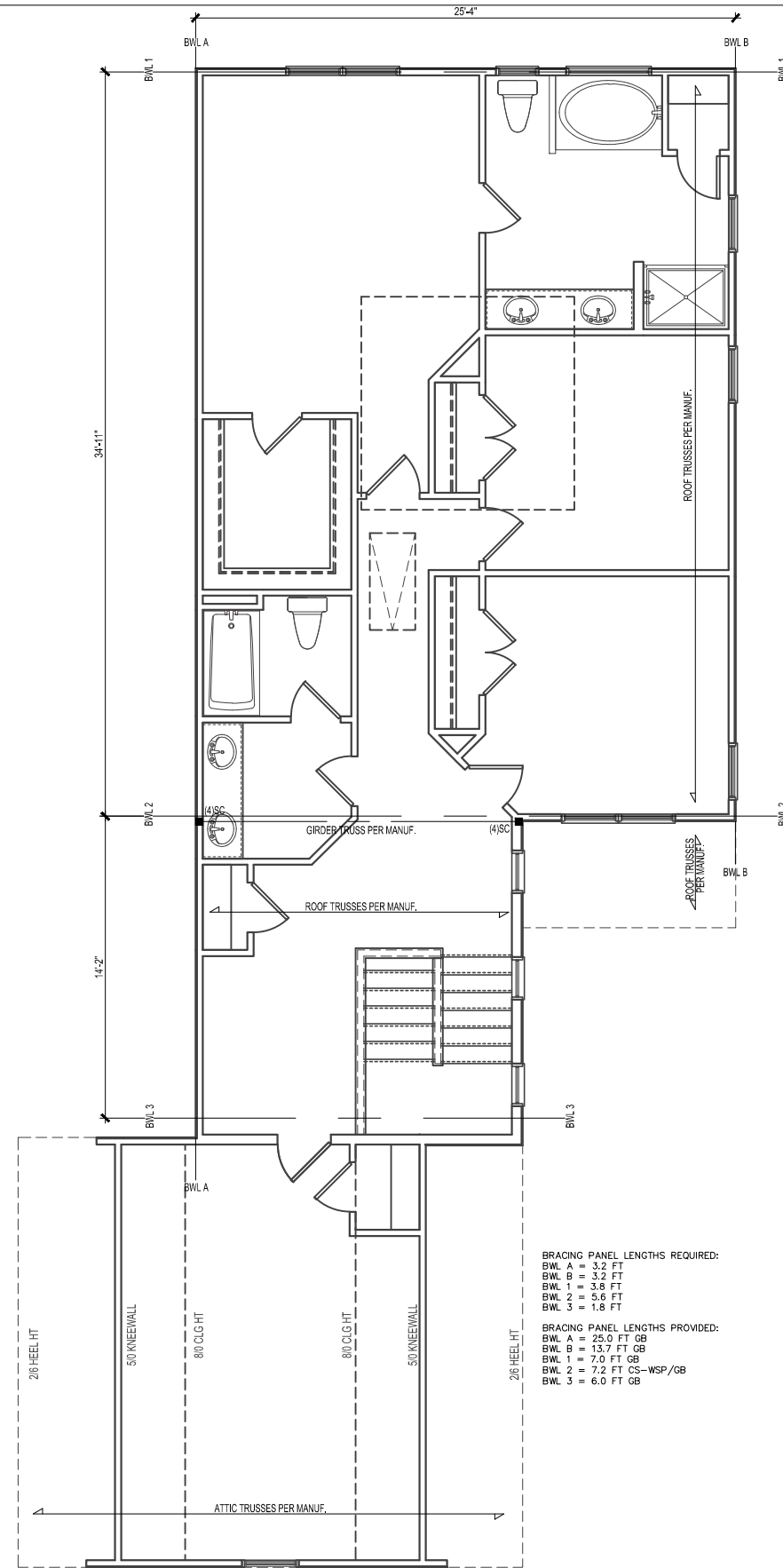
BRACING PANEL LENGTHS REQUIRED:  
BWL 3 = 3.2 FT  
BRACING PANEL LENGTHS PROVIDED:  
BWL 3 = 7.7 FT CS-WSP



SECOND FLOOR FRAMING PLAN

SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34

BRACING PANEL LENGTHS REQUIRED:  
BWL A = 9.6 FT  
BWL B = 9.6 FT  
BWL 1 = 11.0 FT  
BWL 2 = 14.2 FT  
BWL 3 = 3.2 FT  
BRACING PANEL LENGTHS PROVIDED:  
BWL A = 20.2 FT CS-WSP  
BWL B = 15.0 FT CS-WSP  
BWL 1 = 12.0 FT CS-WSP  
BWL 2 = 15.8 FT CS-WSP/GB  
BWL 3 = 8.5 FT CS-PF

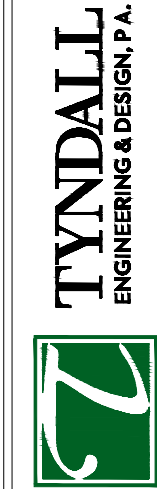


ATTIC FLOOR FRAMING PLAN

SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34

BRACING PANEL LENGTHS REQUIRED:  
BWL A = 3.2 FT  
BWL B = 3.2 FT  
BWL 1 = 3.8 FT  
BWL 2 = 5.6 FT  
BWL 3 = 1.8 FT  
BRACING PANEL LENGTHS PROVIDED:  
BWL A = 25.0 FT GB  
BWL B = 13.7 FT GB  
BWL 1 = 7.0 FT GB  
BWL 2 = 7.2 FT CS-WSP/GB  
BWL 3 = 6.0 FT GB

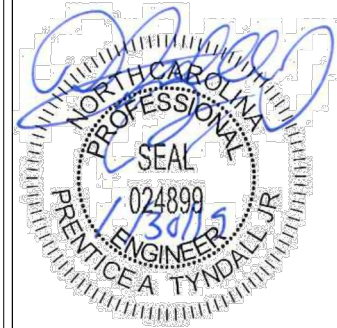
\*Engineers seal does not include construction means, methods, techniques, sequences, procedures or safety precaution.  
\*Any deviations or discrepancies on plans are to be brought to the immediate attention of Tyndall Engineering & Design, P.A. Failure to do so will void Tyndall Engineering & Design, P.A. liability.  
\*Please review these documents carefully. Tyndall Engineering & Design, P.A. will interpret that all dimensions, recommendations, etc. presented in these documents were deemed acceptable once construction begins.



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www.tyndalldesign.com

Client: WYNN HOMES

Plan: THE NICKLAUSII GARAGE LEFT

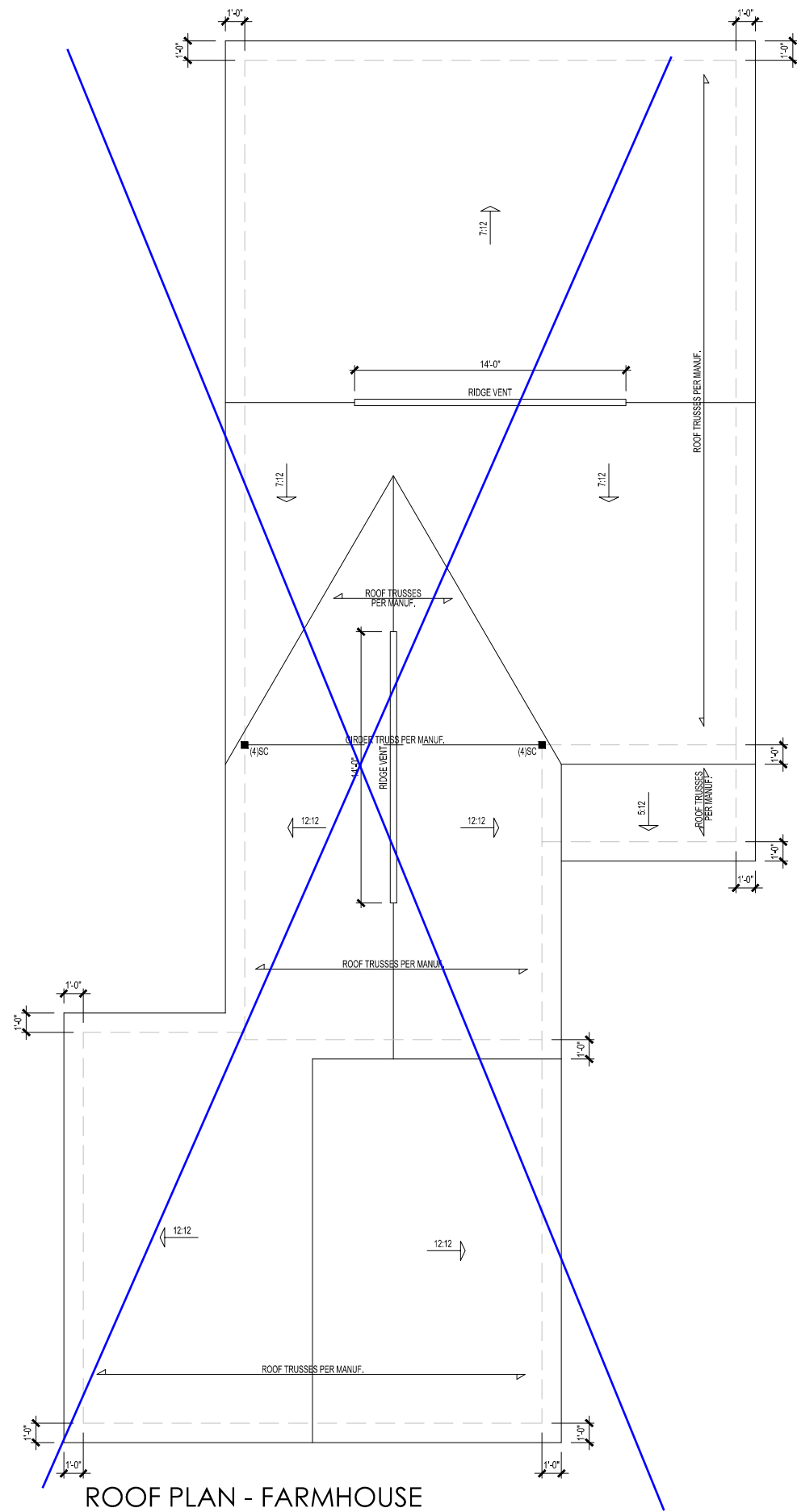


Project #: 1901-010039  
Date: 1/18/19  
Drawn/Design By: ISE  
DWG. Checked By: PAT  
Scale: SEE PLAN

No.	Date	Remarks

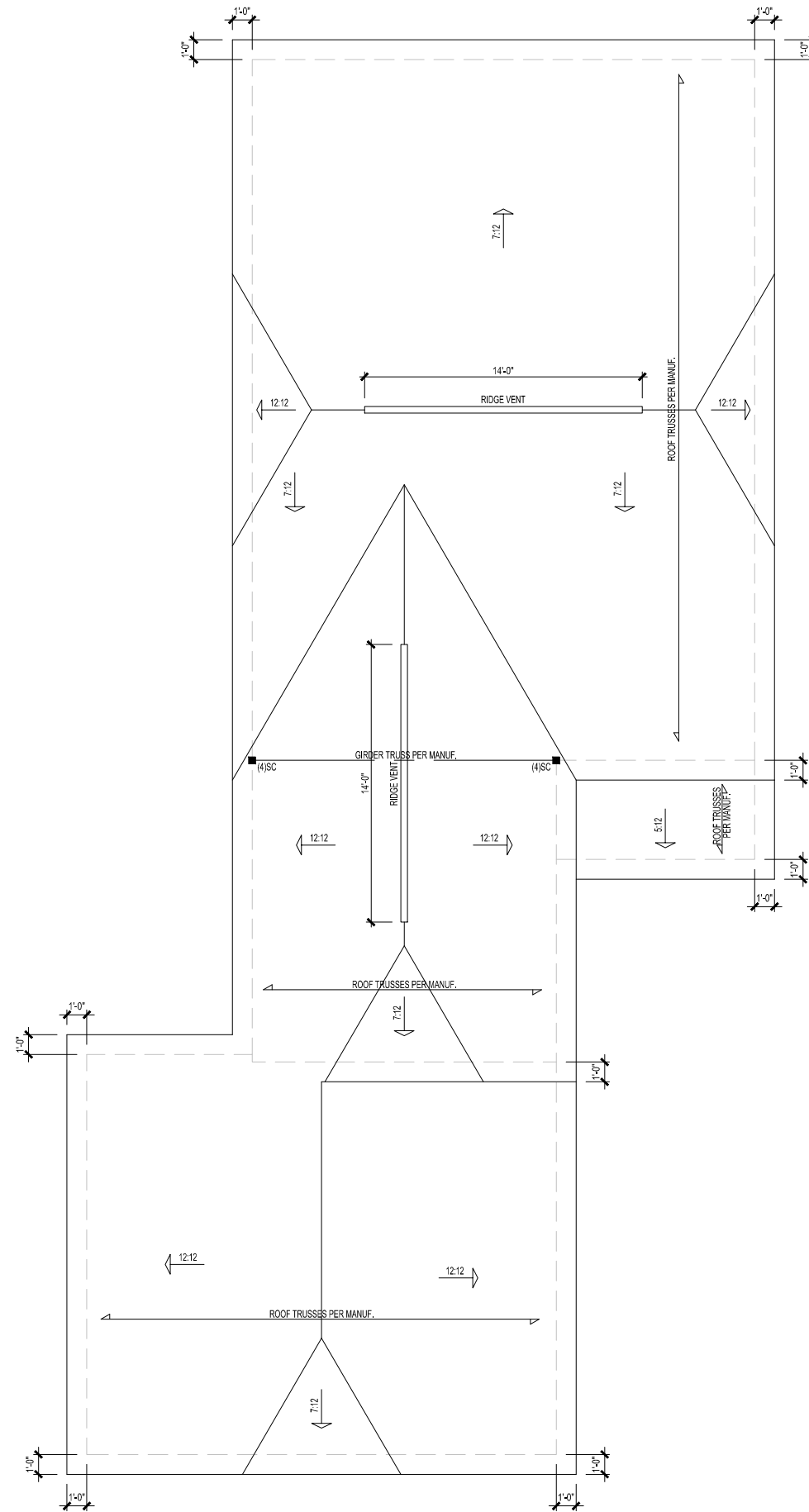
Sheet Number

S3



**ROOF PLAN - FARMHOUSE**

SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34



**ROOF PLAN - EUROPEAN**

SCALE: 1/8"=1'-0" ON 11x17, 1/4"=1'-0" ON 22x34

\* Engineers seal does not include construction means, methods, techniques, sequences, procedures or safety precaution.  
 \* Any deviations or discrepancies on plans are to be brought to the immediate attention of Tyndall Engineering & Design, P.A. Failure to do so will void Tyndall Engineering & Design, P.A. liability.  
 \* Please review these documents carefully. Tyndall Engineering & Design, P.A. will interpret that all dimensions, recommendations, etc. presented in these documents were deemed acceptable once construction begins.

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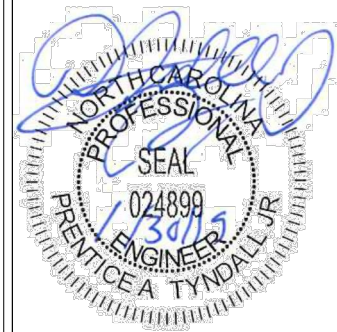
T 919 778-1900 • F 919 778-9688  
 280 Shipwash Drive • Garner • North Carolina • 27834  
 www.tyndalldesign.com

Client:

WYNN HOMES

Plan:

THE NICKLAUSII  
 GARAGE LEFT



Project #: 1901-010039  
 Date: 1/18/19  
 Drawn/Design By: ISE  
 DWG. Checked By: PAT  
 Scale: SEE PLAN

REVISIONS		
No.	Date:	Remarks

Sheet Number

**S4**



**STRUCTURAL NOTES**

- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF "NORTH CAROLINA STATE 2018 RESIDENTIAL BUILDING CODE", IN ADDITION TO ALL LOCAL CODES AND REGULATIONS.
- DESIGN LOADS:
 

	LIVE LOAD (PSF)	DEAD LOAD (PSF)	DEFLECTION	
			LL	TL
ALL FLOORS	40	10	L/360	L/240
ATTIC (w/ walk up stairs)	30	10	L/360	L/240
ATTIC (pull down access)	20	10	L/240	L/180
ATTIC (no access)	10	5	L/240	L/180
EXTERNAL BALCONY	40	10	L/360	L/240
ROOF TRUSS	20	20	L/240	L/180
WIND LOAD	BASED ON 120 MPH (EXPOSURE B)			
SEISMIC	SEISMIC ZONES A, B & C			
- MINIMUM ALLOWABLE SOIL BEARING PRESSURE = 2000 PSF
- CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF FIVE INCHES UNLESS NOTED OTHERWISE. (U.N.O.)
- MAXIMUM DEPTH OF UNBALANCED FILL AGAINST FOUNDATION WALLS TO BE LESS THAN 4'-0" WITHOUT USING SUFFICIENT WALL BRACING. REFER TO SECTION R404 OF 2018 NC BUILDING CODE FOR BACKFILL LIMITATIONS BASED ON WALL HEIGHT, WALL THICKNESS, SOIL TYPE, AND UNBALANCED BACKFILL HEIGHT.
- ALL FRAMING LUMBER SHALL BE SYP #2 (Fb = 800 PSI, BASED ON 2x10 UNO). ALL FRAMING LUMBER EXPOSED TO THE ELEMENTS SHALL BE TREATED MATERIAL. ALL LIV. LUMBER TO BE 1.75" WIDE NOMINAL EACH SINGLE MEMBER AND Fb = 2400 PSI, E = 1.9M PSI (U.N.O.) ALL LSL LUMBER TO BE 3.5" WIDE NOMINAL EACH SINGLE MEMBER AND Fb = 2325 PSI, E = 1.6M PSI (U.N.O.) ALL PSL LUMBER TO BE 3.5" WIDE NOMINAL EACH SINGLE MEMBER AND Fb = 2400 PSI, E = 1.8M PSI (U.N.O.)
- ALL LOAD BEARING EXTERIOR HEADERS SHALL BE AT (2) 2x10, (U.N.O.) REFER TO TABLE R602.7(1) & (2) FOR JACK STUD REQUIREMENTS FOR HEADER SPANS FOR INTERIOR AND EXTERIOR LOAD CONDITIONS UNLESS SPECIFICALLY NOTED ON PLANS.
- ALL STRUCTURAL STEEL W-SHAPES (I-BEAMS) SHALL BE ASTM A992 GRADE S60. ALL STEEL ANGLES, PLATES, AND C-CHANNELS SHALL BE ASTM A36. ALL STEEL PIPE SHALL BE ASTM A53 GRADE B.
- STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3-1/2" AND FULL FLANGE WIDTH. PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED TO EACH SUPPORT WITH TWO (2) LAG SCREWS (1/2" x 4" LONG). LATERAL SUPPORT IS CONSIDERED ADEQUATE PROVIDED THE JOISTS ARE TOE NAILED TO THE SOLE PLATES, AND THE SOLE PLATES ARE NAILED OR BOLTED TO THE BEAM FLANGES @ 48" O.C.
- PROVIDE ANCHOR BOLT PLACEMENT PER SECTION 403.1.6: 1/2" ANCHOR BOLTS SPACED AT 6'-0" O.C. AND PLACED 12" FROM THE END OF EACH PLATE SECTION. ANCHOR BOLTS SHALL BE SPACED AT 3'-0" O.C. FOR BASEMENTS. ANCHOR BOLT SHALL EXTEND 7" INTO CONCRETE OR MASONRY. THE BOLTS SHALL BE LOCATED IN THE MIDDLE THIRD OF THE WIDTH OF THE PLATE. THERE SHALL BE A MINIMUM TWO ANCHOR BOLTS PER PLATE SECTION.
- FOUNDATION DRAINAGE-DAMP PROOFING OR WATERPROOFING PER SECTION 405 AND 406 OF NC BUILDING CODE.
- WALL AND ROOF CLADDING VALUES: WALL CLADDING SHALL BE DESIGNED FOR 28.0 POUNDS PER SQUARE FOOT (LBS/SQFT) OR GREATER POSITIVE AND NEGATIVE PRESSURE. ROOF VALUES BOTH POSITIVE AND NEGATIVE SHALL BE AS FOLLOWS:  
39.0 LBS/SQFT FOR ROOF PITCHES 0/12 TO 1.5/12  
36.0 LBS/SQFT FOR ROOF PITCHES 1.5/12 TO 6/12  
18.0 LBS/SQFT FOR ROOF PITCHES 6/12 TO 12/12  
\*\*MAX ROOF HEIGHT 30'-0" OR LESS
- FOR ROOF SLOPES FROM 2/12 THROUGH 4/12, BUILDER TO INSTALL 2 LAYERS OF 15# FELT PAPER.
- REFER TO SECTION R602.3 FOR FRAMING OF ALL WALLS OVER 10'-0" IN HEIGHT.
- PROVIDE CONTINUOUS SHEATHING PER SECTION 602.10.3 OF THE 2018 IRC.
- UPLIFT LOADS GREATER THAN 500# SHALL BE CONTINUOUSLY ANCHORED TO THE FOUNDATION.
- REFER TO TABLE N1102.1 FOR PRESCRIPTIVE BUILDING ENVELOPE THERMAL COMPONENT CRITERIA.
- PSL COLUMNS DESIGNED WITH MAXIMUM HEIGHT OF 9'-0" (U.N.O.)
- PROVIDE A MINIMUM OF 500# UPLIFT & LATERAL CONNECTION AT TOP AND BOTTOM OF PORCH COLUMNS. (U.N.O.)
- MAXIMUM MASONRY PEIR HEIGHT SHALL NOT EXCEED FOUR TIMES ITS LEAST HORIZONTAL DIMENSION.
- IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND SQUARE FOOTAGE PRIOR TO CONSTRUCTION. TYNDALL ENGINEERING & DESIGN, PA IS NOT RESPONSIBLE FOR DIMENSION OR SQUARE FOOTAGE ERRORS ONCE CONSTRUCTION BEGINS.

**TABLE N1102.1 CLIMATE ZONES 3-5**

CLIMATE ZONES	VENTRATION U-FACTOR <sup>1</sup>	SKYLIGHT <sup>1</sup> U-FACTOR <sup>1</sup>	GLAZED FENESTRATION U-FACTOR <sup>1</sup>	CEILING <sup>1</sup> R-VALUE	WOOD FRAMED WALL <sup>1</sup> R-VALUE	MASS WALL <sup>1</sup> R-VALUE	FLOOR <sup>1</sup> R-VALUE	BASEMENT <sup>1</sup> R-VALUE	SLAB <sup>1</sup> WALL AND DEPTH R-VALUE	CRAWL SPACE <sup>1</sup> R-VALUE
3	0.35	0.55	0.30	38 or 30 cont.	15 or 13 + 2.5"	5/13 or 5/10 cont.	19	5/13	0	5/13
4	0.35	0.55	0.30	38 or 30 cont.	15 or 13 + 2.5"	5/13 or 5/10 cont.	19	10/15	10	10/15
5	0.35	0.55	NR	38 or 30 cont.	15 or 13 + 2.5"	13/17 or 13/12.5 cont.	30 <sup>2</sup>	10/15	10	10/15

- TABLE N1102.1 CLIMATE ZONES 3-5**
- R-VALUES ARE MINIMUM U-FACTORS AND SHG ARE MAXIMUMS. WHEN INSULATION IS INSTALLED IN A CAVITY WHICH IS LESS THAN THE LABEL OR DESIGN THICKNESS OF THE INSULATION, THE INSTALLED R-VALUE OF THE INSULATION SHALL NOT BE LESS THAN THE R-VALUE SPECIFIED IN THE TABLE.
  - THE FENESTRATION U-FACTOR COLUMN EXCLUDES SKYLIGHTS. THE SOLAR HEAT GAIN COEFFICIENT (SHGC) COLUMN APPLIES TO ALL GLAZED FENESTRATION.
  - SHG MEANS R-10 CONTINUOUS INSULATED SHEATHING ON THE INTERIOR OR EXTERIOR OF THE HOME OR R-15 CAVITY INSULATION AT THE INTERIOR OF THE BASEMENT WALL OR CRAWL SPACE WALL.
  - FOR MONOLITHIC SLABS, INSULATION SHALL BE APPLIED FROM THE INSPECTION GAP DOWNWARD TO THE BOTTOM OF THE FOOTING OR GRADE, WHICHEVER IS LESS. FOR FLOORING SLABS, INSULATION SHALL EXTEND TO THE BOTTOM OF THE FOUNDATION WALL OR 24" BELOW GRADE, WHICHEVER IS LESS. R-5 SHALL BE ADDED TO THE REQUIRED SLAB EDGE R-VALUES FOR HEATED SLABS.
  - SEALER
  - BASEMENT WALL INSULATION IS NOT REQUIRED IN BEAM-HEAD LOCATIONS AS DEFINED BY FIGURE N1102.2 AND TABLE N1102.2 OR INSULATION SUFFICIENT TO FILL THE FRAMING CAVITY. R-19 MINIMUM.
  - THE FIRST VALUE IS CAVITY INSULATION, THE SECOND VALUE IS CONTINUOUS INSULATION, "13+2.5" MEANS R-13 CAVITY INSULATION PLUS R-5 INSULATED SHEATHING. "16+2" MEANS R-10 CAVITY INSULATION PLUS R-3 INSULATED SHEATHING. STRUCTURAL SHEATHING COVERS 20% OR LESS OF THE EXTERIOR. INSULATED SHEATHING IS NOT REQUIRED WHERE THE STRUCTURAL SHEATHING IS USED. IF STRUCTURAL SHEATHING COVERS MORE THAN 20 PERCENT OF THE EXTERIOR, SHALL BE SUPPLEMENTED WITH INSULATED SHEATHING OF AT LEAST R-2, "13 + 2.5" MEANS R-13 CAVITY INSULATION PLUS R-2.5 SHEATHING.
  - FOR MASS WALLS, THE SECOND R-VALUE APPLIES WHEN MORE THAN HALF THE INSULATION IS ON THE INTERIOR MASS WALL.
  - IN ADDITION TO THE EXEMPTION IN SECTION N1102.2.3, A MAXIMUM OF TWO GLAZED FENESTRATION PRODUCT ASSEMBLIES HAVING A U-FACTOR NO GREATER THAN 0.50 SHALL BE PERMITTED TO BE SUBSTITUTED FOR MINIMUM CODE COMPLIANT FENESTRATION PRODUCT ASSEMBLIES WITHOUT PENALTY.
  - IN ADDITION TO THE EXEMPTION IN SECTION N1102.2.3, A MAXIMUM OF TWO GLAZED FENESTRATION PRODUCT ASSEMBLIES HAVING A SHGC NO GREATER THAN 0.70 SHALL BE PERMITTED TO BE SUBSTITUTED FOR MINIMUM CODE COMPLIANT FENESTRATION PRODUCT ASSEMBLIES WITHOUT PENALTY.
  - R-30 SHALL BE OBTAINED BY SATISFYING THE SOLAR INSULATION REQUIREMENT BEYOND THE FULL HEIGHT OF UNCOMPRESSED R-30 INSULATION EXTENDING OVER THE WALL TOP PLATE TO THE EXTERIOR SURFACE. R-30 INSULATION IS REQUIRED WHERE APPROPRIATE CLEARANCE EXISTENCE OR INSULATION MUST EXTEND TO EXCEED THE INSULATION BRIDGE OR BUSH 12 INCH OF THE ATTIC ROOF DECK.
  - SLAB VALUE PROVIDED ONLY FOR ROOF EDGE WHERE THE SPACE IS LIMITED BY THE PITCH OF THE ROOF. THERE THE INSULATION MUST FILL THE SPACE UP TO THE AIR BATTLE. R-19 FIBERGLASS BATTIS COMPRESSED AND INSTALLED IN A NOMINAL 2" x 6" FRAMING CAVITY IS DEFINED TO COMPLY. FIBERGLASS BATTIS R-19 OR HIGHER COMPRESSION SHOULD BE INSTALLED IN 2" x 6" WALL IS NOT PERMITTED TO COMPLY.
  - BASEMENT WALL MEETING THE MINIMUM MASS WALL SPECIFIC HEAT CONTENT REQUIREMENT MAY USE THE MASS WALL R-VALUE AS THE MINIMUM REQUIREMENT.

972 SQ. FT. OF CRAWL SPACE / 150 = 6.48 SQ. FT. OF REQ'D VENTILATION WITHOUT CROSS VENTILATION  
6.48 SQ. FT. OF VENTILATION REQ'D / 0.45 SQ.FT. PER VENT = 15 VENTS REQ'D!

—OR—

972 SQ. FT. OF CRAWL SPACE / 1500 = 0.65 SQ. FT. OF REQ'D VENTILATION WITH CROSS VENTILATION  
0.65 SQ. FT. OF VENTILATION REQ'D / 0.45 SQ.FT. PER VENT = 2 VENTS REQ'D!

- VENT LOCATIONS MAY VARY FROM THOSE SHOWN ON PLAN, HOWEVER VENTS SHALL BE PLACED TO PROVIDE ADEQUATE VENTILATION AT ALL POINTS AND TO PREVENT DEAD AIR POCKETS.
  - THE TOTAL AREA OF VENTILATION OPENINGS MAY BE REDUCED TO 1/1000 OF THE CRAWL SPACE GROUND AREA WHERE THE REQUIRED OPENING IS PLACED SO AS TO PROVIDE CROSS VENTILATION OF THE CRAWL SPACE. THE INSTALLATION OF OPERABLE Louvers SHALL NOT BE PROHIBITED. ONE FOUNDATION VENT SHALL BE INSTALLED WITHIN 5 FEET OF EACH CORNER OF THE BUILDING TO PREVENT RAINWATER ENTRY WHEN THE CRAWL SPACE IS BUILT ON A SLOPED SITE, THE UPPER FOUNDATION WALLS MAY BE CONSTRUCTED WITHOUT VENTS PROVIDED THE UPPER FOUNDATION WALLS MEET THE MINIMUM MASS WALL SPECIFIC HEAT CONTENT REQUIREMENT. VENTS SHALL BE PROVIDED WHEN THE BOTTOM OF THE FOUNDATION VENT OPENING IS LESS THAN 4 INCHES ABOVE THE FINISHED EXTERIOR GRADE.
- WALL VENTED CRAWL SPACES REQUIRE FULL COVERAGE GROUND VAPOR RETARDERS.

**CRAWL SPACE VENTILATION CALCULATION**

1650 SQ. FT. OF ATTIC / 300 = 5.50 SQ. FT. INLETS/OUTLETS REQUIRED

- CALCULATION BASED ON VENTILATORS USED AT LEAST 3'-0" ABOVE THE CORNER VENTS WITH THE BALANCE OF VENTILATION PROVIDED BY EAVE VENTS.
- CATHEDRAL CEILING SHALL HAVE A 1" MINIMUM CLEARANCE BETWEEN THE BOTTOM OF THE ROOF DECK AND THE INSULATION.

**ATTIC VENTILATION CALCULATION**

**DEFINITIONS FOR COMMON ABBREVIATIONS**

ALT = ALTERNATE	MAX = MAXIMUM
CANT = CANTILEVER	MIN = MINIMUM
CJ = CEILING JOIST	NOM = NOMINAL
CMU = CONCRETE MASONRY UNIT	O.C. = ON CENTER
COL = COLUMN	PLATE = PLATE
CONC = CONCRETE	PT = PRESSURE TREATED
CONT = CONTINUOUS	REIN = REINFORCED
CT = COLLAR TIE	REQD = REQUIRED
DBL = DOUBLE	RJ = ROOF JOIST
DIA = DIAMETER	RS = ROOF SUPPORT
DJ = DOUBLE JOIST	SC = STUD COLUMN
DR = DOUBLE RAFTER	SCH = SCHEDULE
EA = EACH	SPEC = SPECIFIED
EE = EACH END	THK = THICK
FJ = FLOOR JOIST	TJ = TRIPLE JOIST
FND = FOUNDATION	TRD = TREATED
GALV = GALVANIZED	TYP = TYPICAL
HORIZ = HORIZONTAL	UNO = UNLESS NOTED OTHERWISE
HT = HEIGHT	W = WIDE FLANGE BEAM
MANUF = MANUFACTURER	WWF = WELDED WIRE FABRIC
	XJ = EXTRA JOIST

**1) MAXIMUM HEIGHT OF DECK SUPPORT POSTS AS FOLLOWS:**

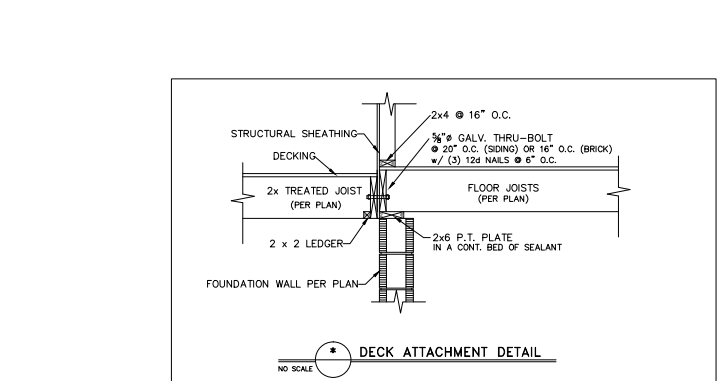
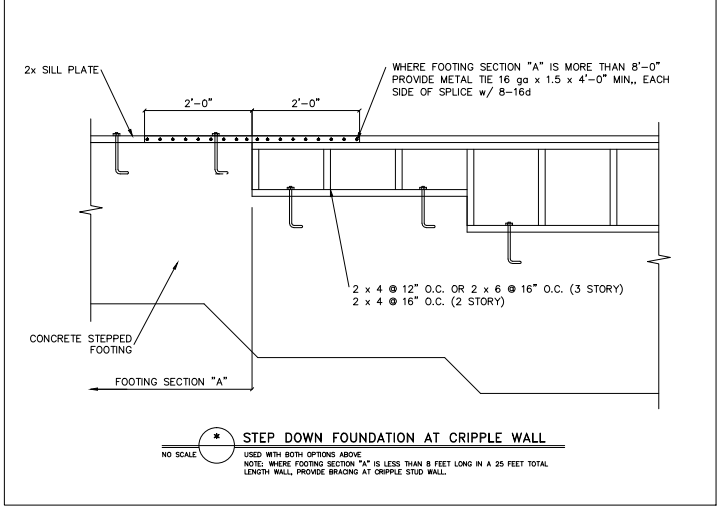
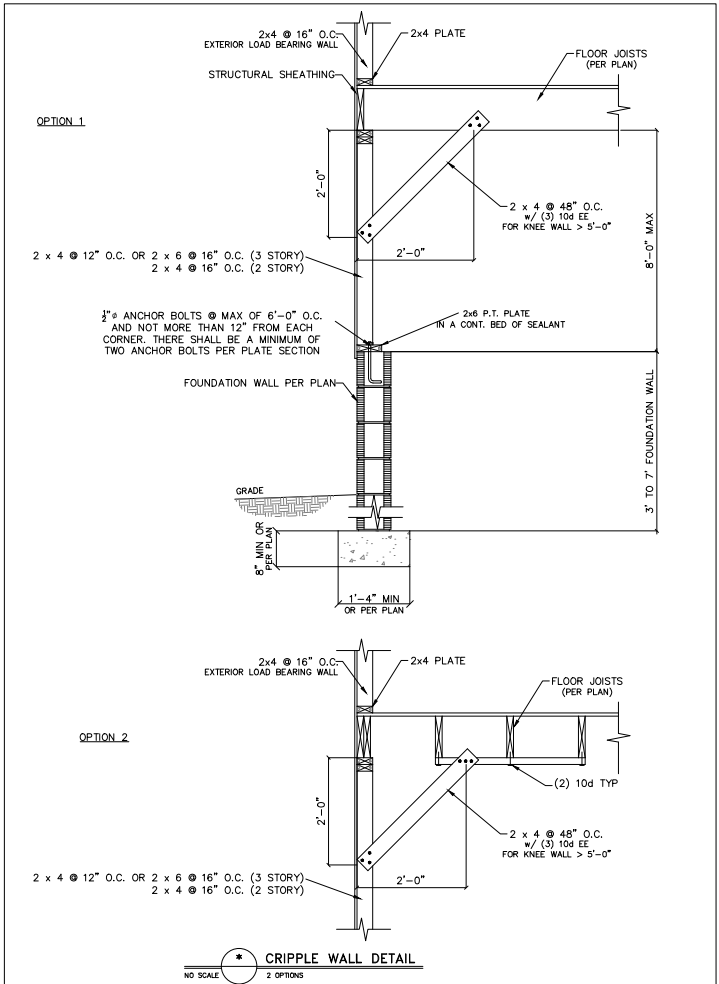
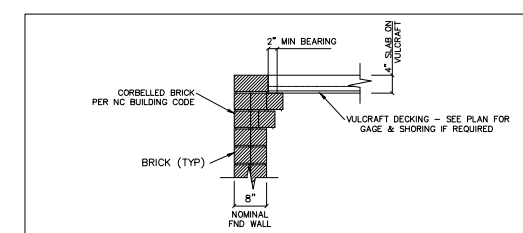
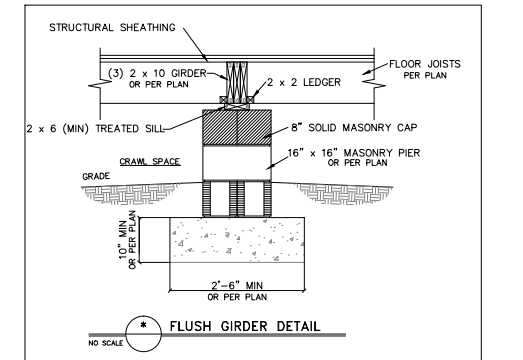
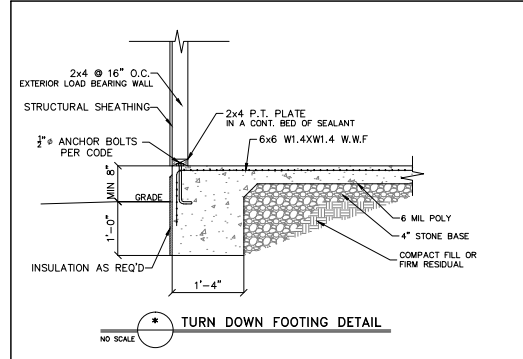
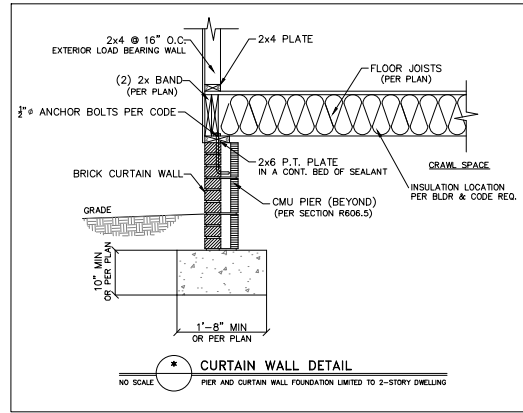
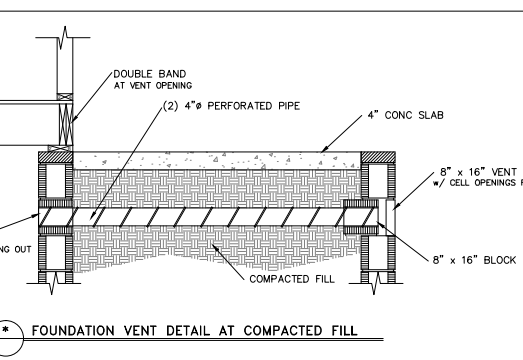
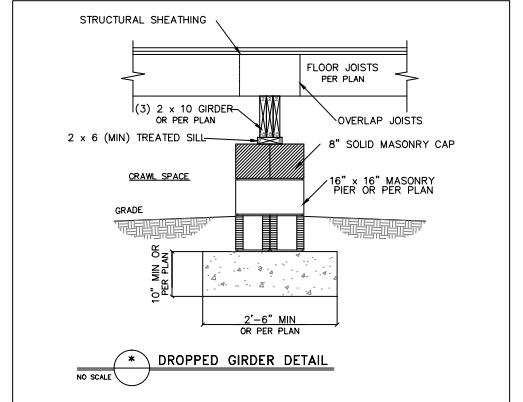
POST SIZE	MAX. POST HEIGHT**
4 x 4	8'-0"
6 x 6	20'-0"
***	OVER 20'-0"

- \* THIS TABLE IS BASED ON NO. 2 TREATED SOUTHERN PINE POSTS. MAXIMUM TRIBUTARY AREA IS BASED ON 128 TOTAL SQUARE FEET WHICH MAY BE LOCATED AT DIFFERENT LEVELS.
- \*\* FROM TOP OF FOOTING TO BOTTOM OF GIRDER.
- \*\*\* DECKS WITH POST HEIGHTS OVER 20'-0" SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT.

**2) DECKS SHALL BE BRACED TO PROVIDE LATERAL STABILITY BY ONE OF THESE METHODS:**

- THE DECK FLOOR HEIGHT IS LESS THAN 4'-0" AND THE DECK IS ATTACHED TO THE STRUCTURE IN ACCORDANCE WITH SECTION (4) ABOVE. LATERAL BRACING IS NOT REQUIRED.
- 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° AND 60° FROM THE HORIZONTAL. KNEE BRACES SHALL BE BOLTED TO THE POST AND GIRDER WITH ONE 5/8" HOT DIPPED GALVANIZED BOLT AT EACH END OF THE BRACE.
- FOR FREESTANDING DECKS WITHOUT KNEE BRACES OR DIAGONAL BRACING, LATERAL STABILITY MAY BE PROVIDED BY EMBEDDING THE POSTS IN ACCORDANCE WITH THE FOLLOWING:
 

POST SIZE	MAX. TRIBUTARY AREA	MAX. POST HEIGHT	EMBEDMENT DEPTH	CONCRETE DIAMETER
4 x 4	48 SQ. FT.	4'-0"	2'-6"	1'-0"
6 x 6	120 SQ. FT.	6'-0"	3'-6"	1'-8"
- 2 x 6 DIAGONAL VERTICAL CROSS BRACING MAY BE PROVIDED IN TWO (2) PERPENDICULAR DIRECTIONS FOR FREESTANDING DECKS OR PARALLEL TO THE STRUCTURE AT THE EXTERIOR COLUMN LINE FOR ATTACHED DECKS. THE 2 x 6s SHALL BE ATTACHED TO THE POSTS WITH ONE 5/8" HOT DIPPED GALVANIZED BOLT AT EACH END OF EACH BRACING MEMBER.
- FOR EMBEDMENT OF PILES IN COASTAL REGIONS, SEE CHAPTER 46.



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\* Any deviations or discrepancies on plans are to be brought to the immediate attention of Tyndall Engineering & Design, P.A. Failure to do so will void Tyndall Engineering & Design, P.A. liability.  
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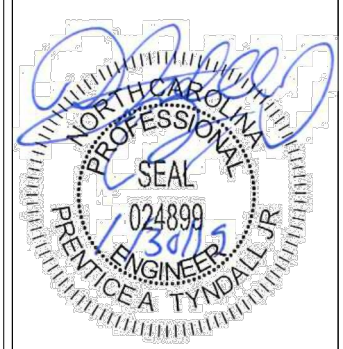
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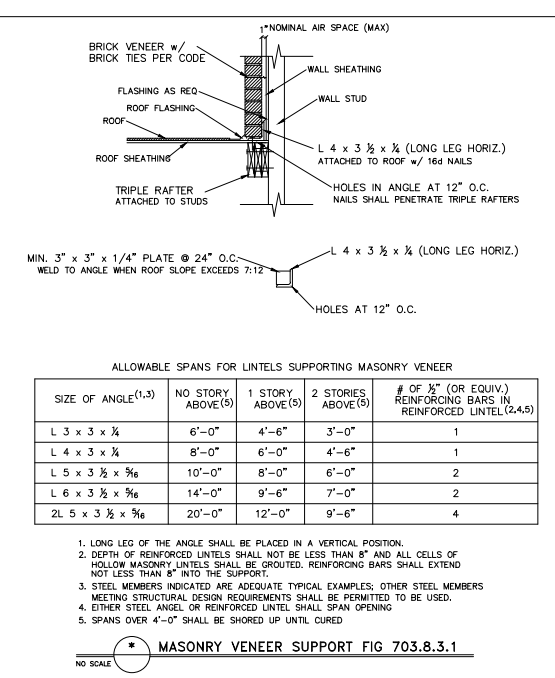
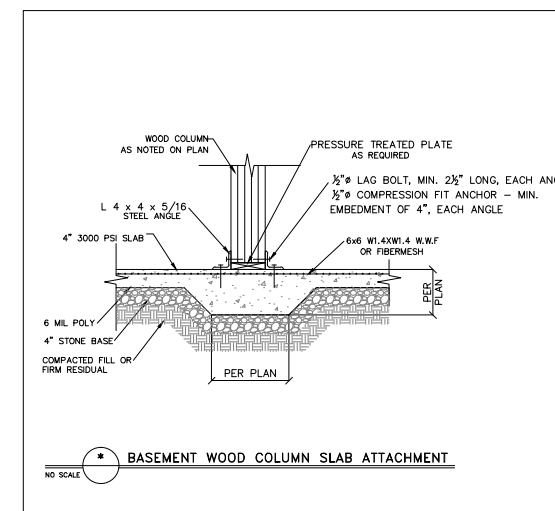
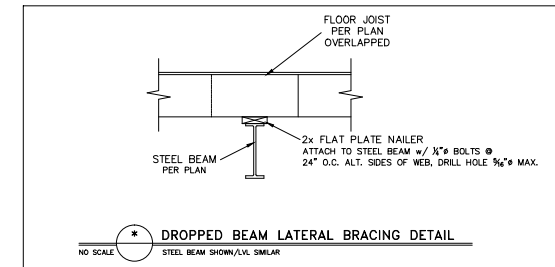
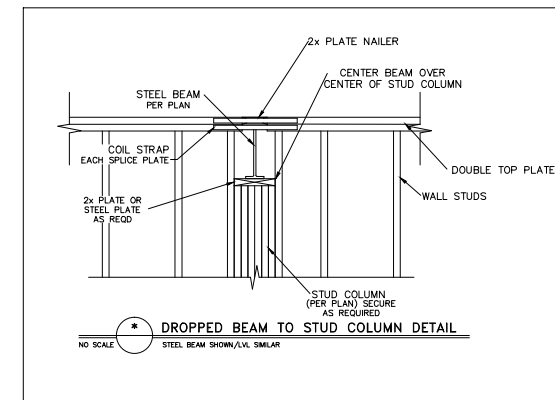
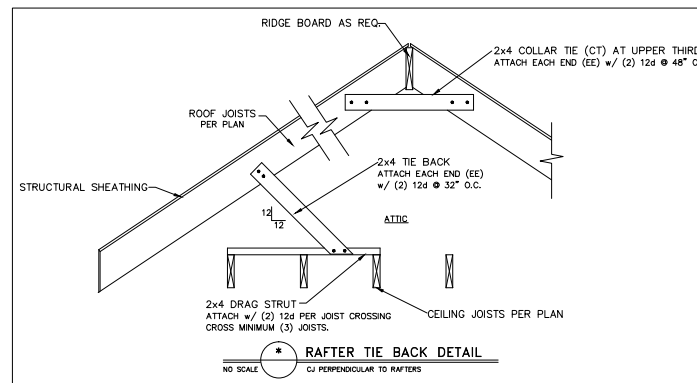
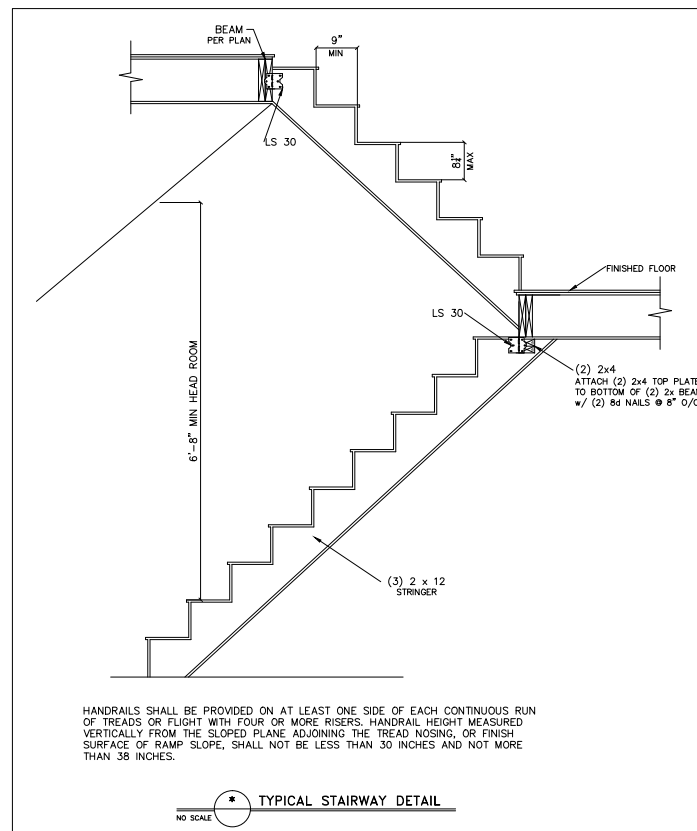
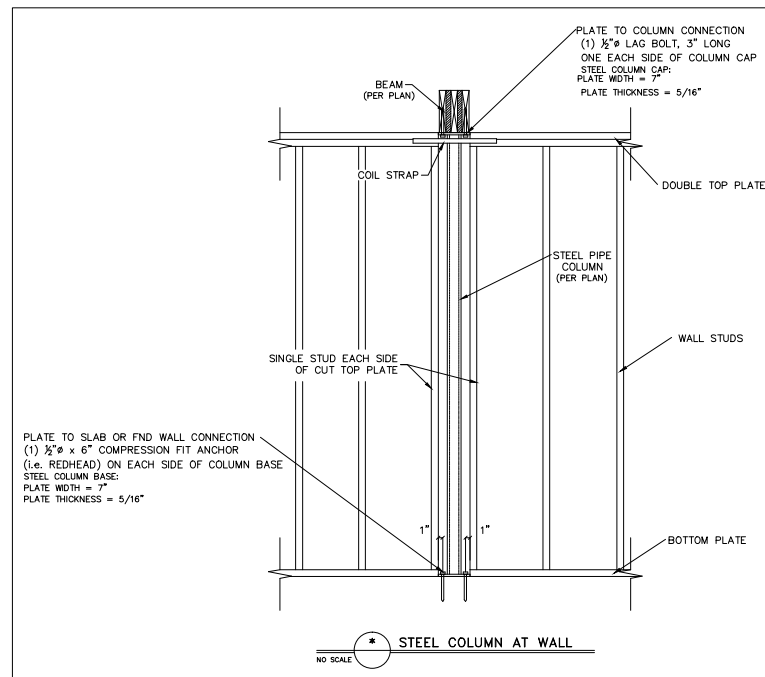
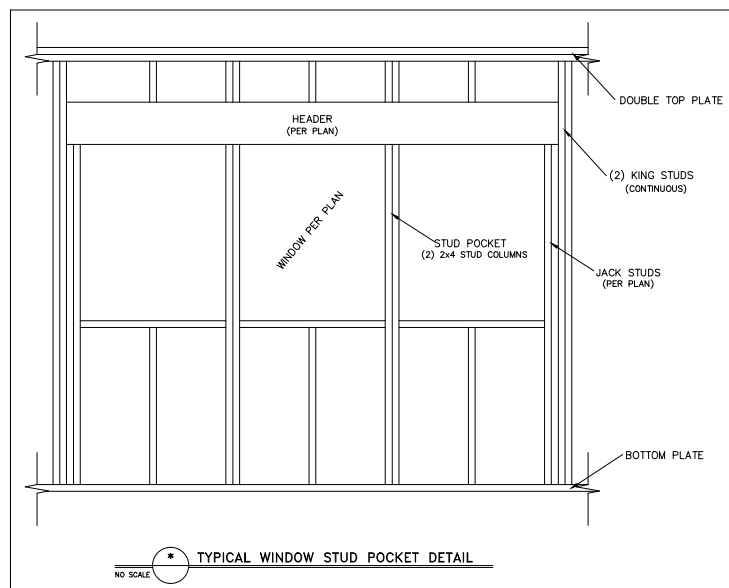
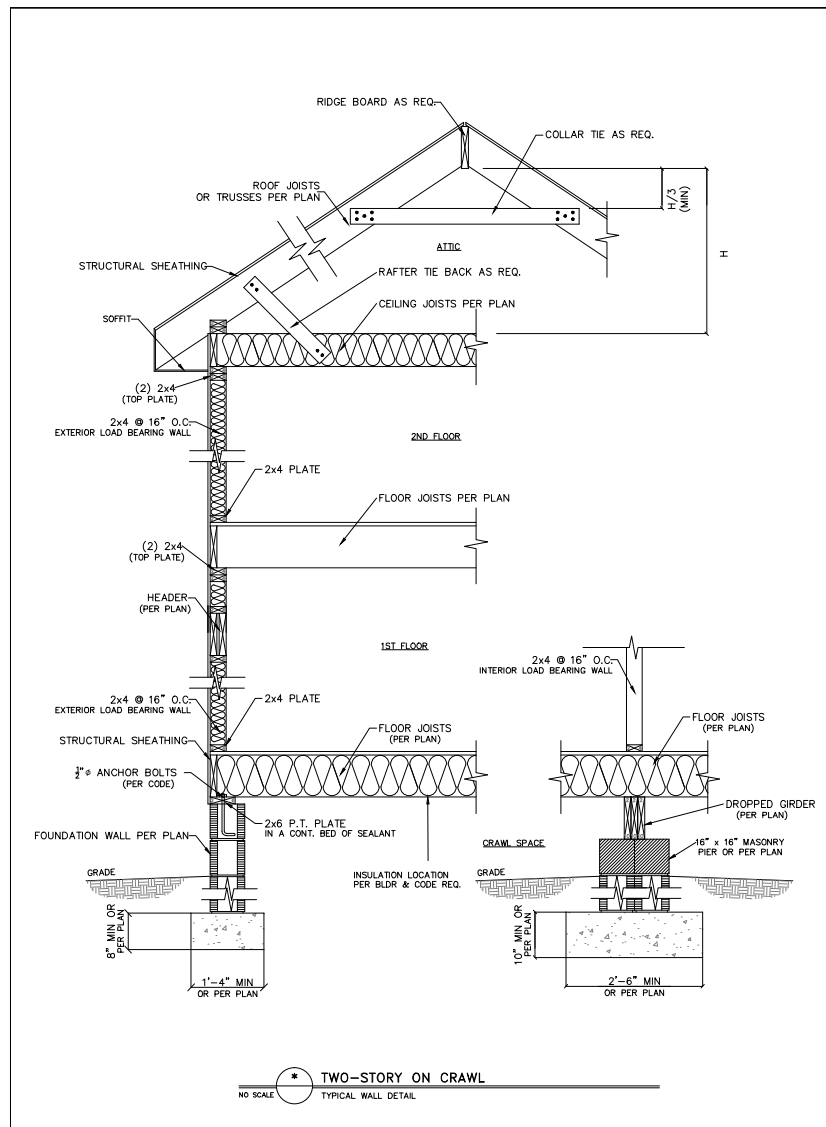
Plan: THE NICKLAUSII GARAGE LEFT



Project #: 1901-010039  
Date: 1/18/19  
Drawn/Design By: ACS  
DWG. Checked By: PAT  
Scale: NOT TO SCALE

No.	Date:	Remarks

Sheet Number  
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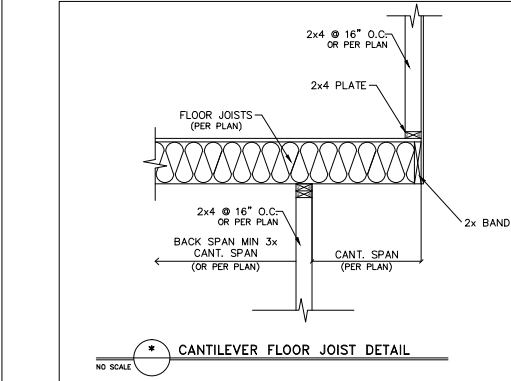
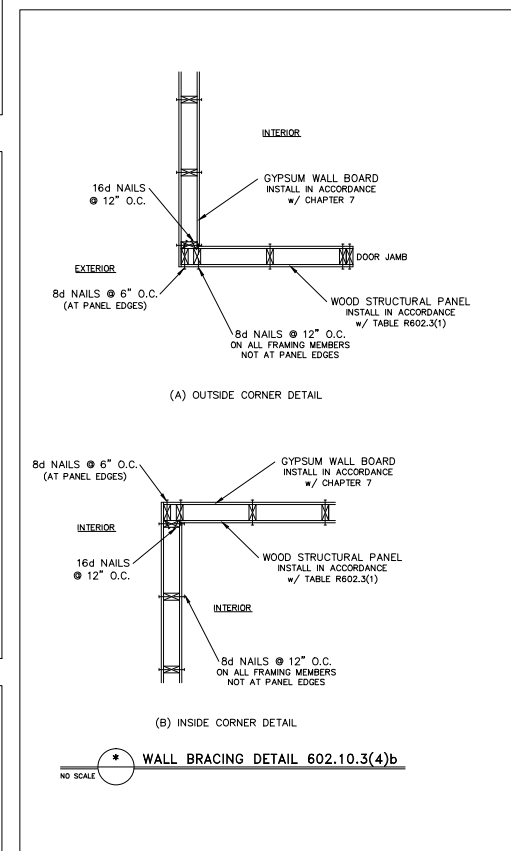
ALLOWABLE SPANS FOR LINTELS SUPPORTING MASONRY VENEER

SIZE OF ANGLE <sup>(1,3)</sup>	NO STORY ABOVE <sup>(4)</sup>	1 STORY ABOVE <sup>(4)</sup>	2 STORIES ABOVE <sup>(4)</sup>	# OF 1/2" (OR EQUIV.) REINFORCING BARS IN REINFORCED LINTEL <sup>(2,4,5)</sup>
L 3 x 3 x 1/4	6'-0"	4'-6"	3'-0"	1
L 4 x 3 x 1/4	8'-0"	6'-0"	4'-6"	1
L 5 x 3 1/2 x 3/8	10'-0"	8'-0"	6'-0"	2
L 6 x 3 1/2 x 3/8	14'-0"	9'-6"	7'-0"	2
2L 5 x 3 1/2 x 3/8	20'-0"	12'-0"	9'-6"	4

- LONG LEG OF THE ANGLE SHALL BE PLACED IN A VERTICAL POSITION.
- DEPTH OF REINFORCED LINTELS SHALL NOT BE LESS THAN 8" AND ALL CELLS OF HOLLOW MASONRY LINTELS SHALL BE GROUTED. REINFORCING BARS SHALL EXTEND NOT LESS THAN 8" INTO THE SUPPORT.
- STEEL MEMBERS INDICATED ARE ADEQUATE TYPICAL EXAMPLES; OTHER STEEL MEMBERS MEETING STRUCTURAL DESIGN REQUIREMENTS SHALL BE PERMITTED TO BE USED.
- EITHER STEEL ANGLE OR REINFORCED LINTEL SHALL SPAN OPENING.
- SPANS OVER 4'-0" SHALL BE SHORED UP UNTIL CURED.

HARDWARE CROSS-REFERENCE CHART

SIMPSON STRONG-TIE PRODUCT NUMBER	USP STRUCTURAL CONNECTORS PRODUCT NUMBER
A35	MPA1
ABC	PAE
CBSQ	CBSQ
CCQ	KCCQ
CMSTC16	CMSTC16
CS	RS
H1	RT15
H2.5A	RT7A
H10	RT16
HDQ8-SDS3	UPHD8
HDU2-SDS2.5	PHD2
HDU5-SDS2.5	PHD5
HETA	HTA
HGAM10KTA	HGAM
HHQ14-SDS2.5	UPHD14
HTS	HTW
HTT	HTT
HUS	HUS
LTA1	LPTA
LTHJA26	HJC26
LTP4	MP4F
LUS	JUS
MAS	FA3
MSTAM	MSTAM
PC	PCM
PHD-SDS3	PHD
SSP	RSPT6
STC	TR1
STHD	STAD



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**TYNDALL**  
ENGINEERING & DESIGN, P.A.

1901-010039  
1/18/19  
Drawn/Design By: ACS  
DWG. Checked By: PAT  
Scale: NOT TO SCALE

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Plan: THE NICKLAUSII GARAGE LEFT

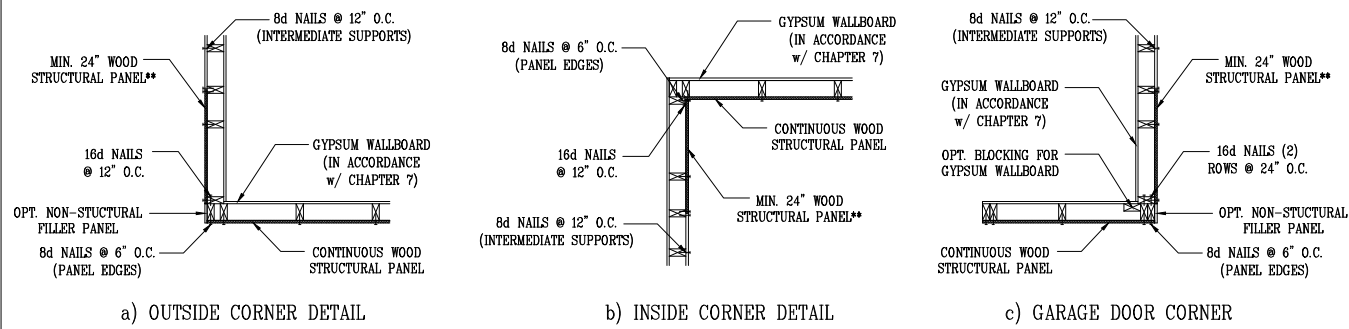
NORTH CAROLINA PROFESSIONAL SEAL  
024899  
130115  
PRENTICE A TYNDALL JR  
ENGINEER

Project #: 1901-010039  
Date: 1/18/19  
Drawn/Design By: ACS  
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**B1: TYPICAL EXTERIOR CORNER FRAMING FOR CONTINUOUS SHEATHING**  
NO SCALE

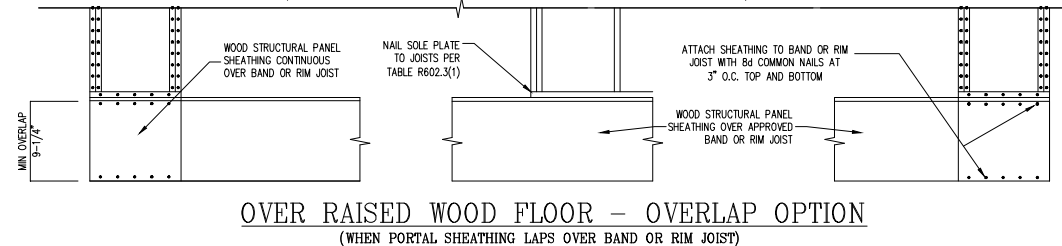
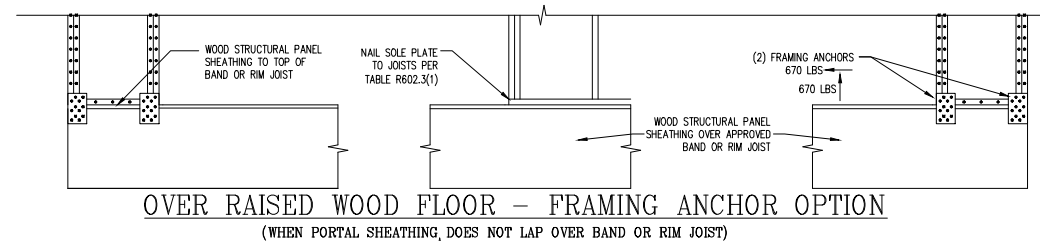
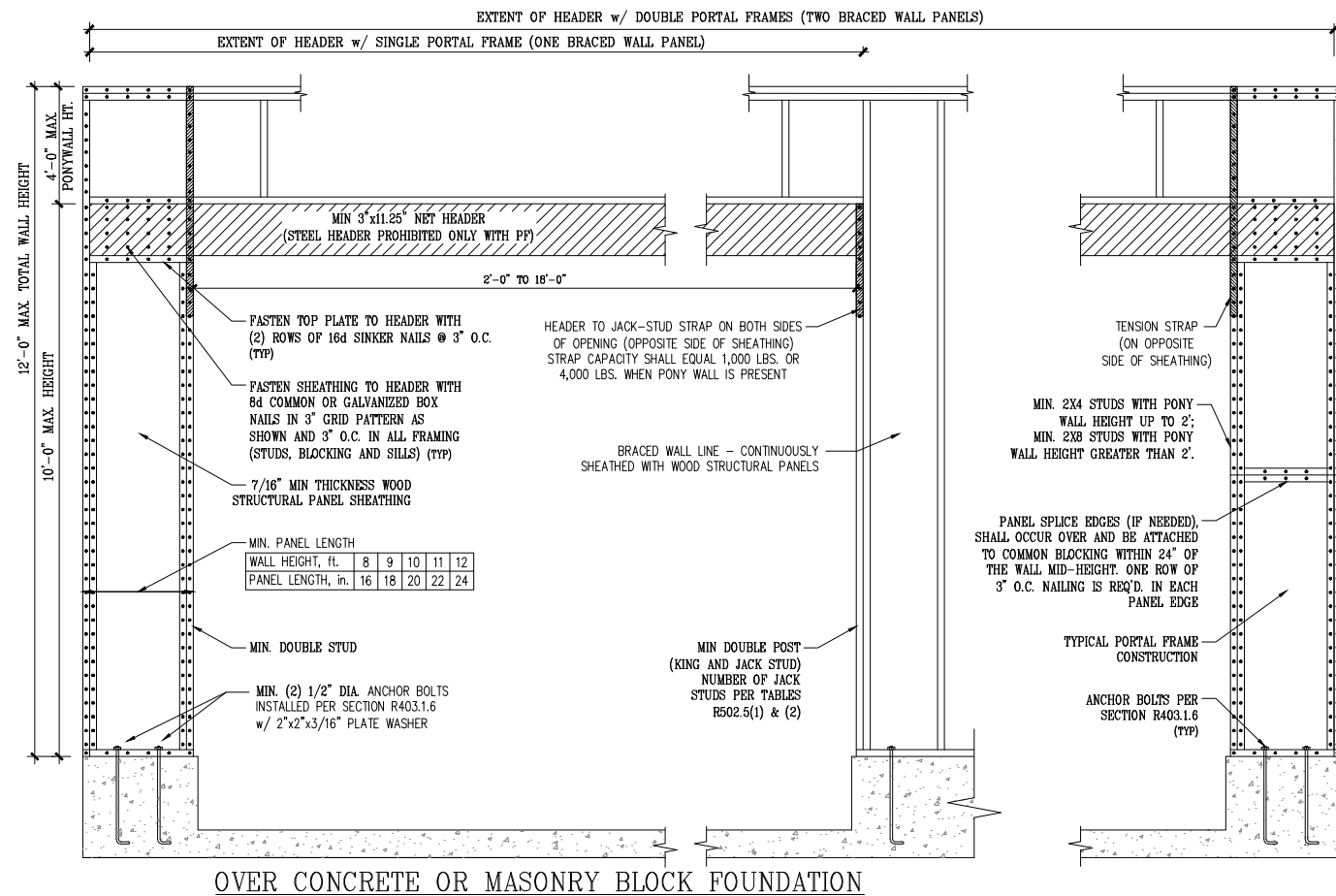
**STRUCTURAL SHEATHING NOTES**

- DESIGNED FOR SEISMIC ZONE A-C AND WIND SPEEDS OF 120 MPH OR LESS.
- WALLS SHALL BE BRACED IN ACCORDANCE WITH SECTION R602.10 OF THE 2018 NRC.
- BRACING REQUIREMENTS SHALL BE PER TABLE R602.10.3. REFER TO SECTION R602.10.4 FOR LOAD PATH DETAILS INCLUDING CONNECTIONS & SUPPORT OF BRACED WALL PANELS.
  - REFERENCE FIGURE R602.10.4.3 OF THE 2018 NRC.
- INTERIOR BRACED WALL PANELS (BWP) INDICATED SHALL BE SHEATHED IN ACCORDANCE WITH THE GB METHOD OR WSP METHOD AS PRESCRIBED IN SECTION R602.10.1 (UNO)
  - 1/2" GYPSUM BOARD (GB) MINIMUM LENGTH OF 8'-0" (ISOLATED PANELS) OR 4'-0" (CONTINUOUS SHEATHING). SECURE W/ 5d COOLER NAILS (OR EQUIV. PER TABLE R702.3.5) SPACED @ 7" O.C. AT PANEL EDGES, INCLUDING TOP AND BOTTOM PLATES & 7" O.C. AT INTERMEDIATE SUPPORTS.
  - 3/8" WOOD STRUCTURAL PANEL (WSP) SECURE W/ 6d COMMON NAILS SPACED AT 6" O.C. AT PANEL EDGES AND 12" O.C. AT INTERMEDIATE SUPPORTS.
- EXTERIOR BRACED WALL PANELS (BWP) SHALL BE CONSTRUCTED IN ACCORDANCE WITH CS-WSP METHOD AS PRESCRIBED IN SECTION R602.10.3 (UNO)
- ALL SHEATHABLE SURFACES OF EXTERIOR WALLS (INCLUDING AREAS ABOVE AND BELOW OPENINGS AND GABLE END WALLS) SHALL BE CONTINUOUSLY SHEATHED WITH WOOD STRUCTURAL PANEL (WSP) SHEATHING WITH A MINIMUM THICKNESS OF 3/8". SHEATHING SHALL BE SECURED WITH MINIMUM 6d COMMON NAILS SPACED AT 6" O.C. AT PANEL EDGES AND SPACED AT 12" O.C. AT INTERMEDIATE SUPPORTS.
- MINIMUM BRACED WALL PANEL LENGTHS WITH CS-WSP METHOD SHALL BE AS FOLLOWS:
  - 24" ADJACENT TO OPENINGS NOT MORE THAN 67% OF WALL HEIGHT
  - 30" ADJACENT TO OPENINGS GREATER THAN 67% AND LESS THAN 85% OF WALL HEIGHT.
  - 48" FOR OPENINGS GREATER THAN 85% OF WALL HEIGHT
- SHEATH INTERIOR & EXTERIOR
- FOR CS-WSP METHOD, A MINIMUM 24" BRACED WALL PANEL CORNER RETURN SHALL BE PROVIDED AT BOTH ENDS OF A BRACED WALL LINE IN ACCORDANCE WITH FIGURE R602.10.3(4). IN LIEU OF A CORNER RETURN, EITHER A MIN. 48" BRACED WALL PANEL SHALL BE PROVIDED AT THE CORNER OR A HOLD-DOWN DEVICE WITH A MINIMUM UPLIFT DESIGN VALUE OF 800# SHALL BE FASTENED TO THE EDGE OF THE BRACED WALL PANEL CLOSEST TO THE CORNER AND TO THE FOUNDATION OR FRAMING BELOW.
  - MINIMUM 800# HOLD-DOWN DEVICE

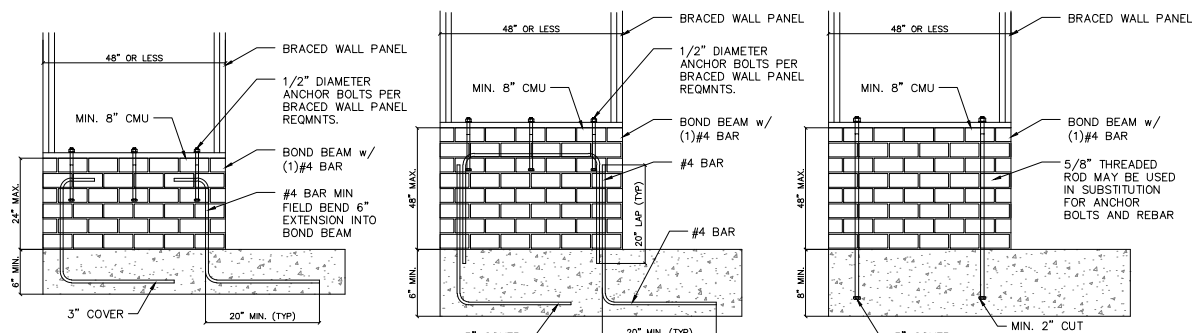
REQUIRED BRACED WALL PANEL CONNECTIONS				
METHOD	MATERIAL	MIN. THICKNESS	REQUIRED CONNECTION	
			@ PANEL EDGES	@ INTERMEDIATE SUPPORTS
CS-WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS @ 6" O.C.	6d COMMON NAILS @ 12" O.C.
GB	GYPSUM BOARD	1/2"	5d COOLER NAIL** @ 7" O.C.	5d COOLER NAIL** @ 7" O.C.
WSP	WOOD STRUCTURAL PANEL	3/8"	6d COMMON NAILS @ 6" O.C.	6d COMMON NAILS @ 12" O.C.

\*\*OR EQUIVALENT PER TABLE R702.3.5

**B3: BRACE WALL PANEL CONNECTIONS**  
NO SCALE



**B2: METHOD CS-PF: CONTINUOUSLY SHEATHED PORTAL FRAME**  
FIGURE R602.10.1



**B4: MASONRY STEM WALL SUPPORTING BRACED WALL PANELS**

FIGURE R602.10.4.3 OF THE 2018 NRC  
NOTE: GROUT BOND BEAMS AND ALL CELLS WHICH CONTAIN REBAR, THREADED RODS AND ANCHOR BOLTS

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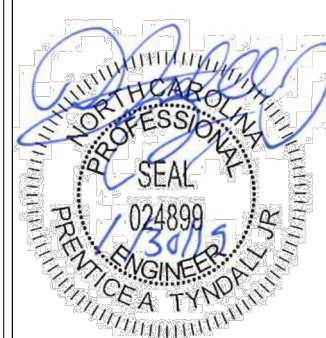
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