ATTIC VENTILATION:

THE NET FREE VENTILATING AREA SHALL BE NOT LESS THAN 1 TO 150 OF THE AREA OF THE SPACE VENTILATED EXCEPT THAT THE AREA MAY BE 1 TO 300 PROVIDED AT LEAST 50 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 ABOVE EAVE OR CORNICE VENTS WITH THE BALANCE OF THE REQUIRED VENTILATION TO BE PROVIDED BY EAVE OR CORNICE VENTS.

GROSS ATTIC AREA TO BE VENTILATED 2372 SQ.FT.

2372/300 = 7.91 SQ.FT. NET FREE AREA

50% OF VENTING MUST BE 3FT. ABOVE EAVE OR SOFFIT VENTS.

FRONT ELEVATION

SCALE 1/4" = 1'0"

REAR ELEVATION

SCALE 1/4" = 1'0"

MIDTOWN DESIGNS

THIS PLAN DESIGNED UNDER NORTH CAROLINA RESIDENTIAL CODE 2018 EDITION (2018 IRC)

NC (2018 NCRC) ; WIND : 115 - 120 mph

EMIGH RESIDENCE

MidTown Designs Inc. 1529 Big Falls Dr. Wendell NC 27591 Phone: 919-783-8626 www.midtowndesigns.com

DATE
5/23/2022

PROJECT #
220313

LEFT SIDEVELEVATION

SCALE 1/4" = 1'0"

RIGHT SIDEVELEVATION

SCALE 1/4" = 1'0"

MIDTOWN DESIGNS

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MidTown Designs Inc. assumes no liability for contractors practices and procedures

These drawings are instruments of service and as such shall remain property of the designer

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NC (2018 NCRC) , MPH - 115 - 120 mph

EMIGH RESIDENCE

MidTown Designs Inc. 1529 Big Falls Dr. Wendell NC 27591 Phone: 919-783-8626 www.midtowndesigns.com

DATE 5/23/2022

PROJECT # 220313

STRUCTURAL NOTES:

1. Framing lumber shall be SYP or #2 SPF (modulus of of elasticity 1,100,000 psi, fb 950). All beams & treated lumber to be #2 SYP, E=1,600,000, fb=1100 min. Studs min.#2 or stud grade.
2. Use hangers for all beam to beam connections Structural fastening as per R602.3(1). Adequate connections is the sole responsibility of the general contractor and his subs.
3. Structural members fastening to conform to Table R602.3(1) and (2).
4. Roof Framing Notes:
   a. Dbl Hips may be spliced with a min, 6'-0" overlap at center. No valley splices
   b. Use 2x10 or fir down rafters for vaulted areas
   c. Attach each vaulted rafters with hurricane connectors: Simpson H-2.5, H-5 or approved equal or 6" SDWC's.
5. All construction shall conform to the latest requirements of the NC State Residential Building Code - 2018 Edition, plus all local codes & regulations or 2015 IBC.
6. Structural Engineer is not responsible for and will not control of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the construction work.
7. Structural Engineer is not responsible for the contractor's failure to carry out the proposed construction work in accordance with the contract document.
8. Use Method #3 for Structural Sheathing;
   "Accepted Engineer's Practice"

FRAMING NOTES:

1. Design Loads (R301.5)

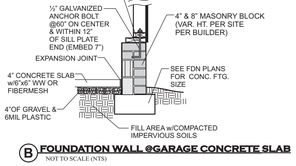
	Live Loads (PSF)	Dead (PSF)
Rooms not for Sleeping	40	10
Sleeping Rooms	30	10
Attic w/Permanent Stairs	40	10
Attic w/o Permanent Stairs	20	10
Attic w/o Storage	10	10
Stairs	40	--
Exterior Balconies	60	10
Decks	40	10
Guardrails & Handrails	200	--
Passenger Vehicle Garages	50	10
Fire Escapes	40	10
Snow	20	--

Wind Load: (Refer to Table R301.2.4)
Verify Zone before Construction
Wake County 115 mph

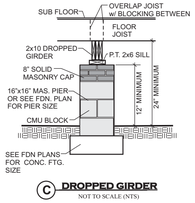
2. Wall Bracing: Braced wall panels shall be constructed according to section R602.103. The wall structural paneling shall comply with Table R602.103. The length of braced panels shall be determined by section R602.10.4. Lateral bracing shall be satisfied per method 3 by continuously sheathing walls with structural sheathing per Table 601.3. Note that any specific braced wall detail shall be installed as specified.
3. All framing lumber shall be SPF#2 (Fb=875 psi) unless otherwise noted (UNO). All treated lumber shall be SYP#2 (Fb=975 psi). Plate material may be SPF#3 or SYP#3 (Fc (perp.) = 425 psi min.)
4. All exterior headers to be (2)2x10 spf. u.n.o w/ dbl. Jacks for all openings >5'-0".
5. All interior bearing headers to be (2)2x10 u.n.o. w/ dbl. jacks for all openings >4'-6", use (2)2x8 w/ dbl. Jacks for all openings >3'-0" u.n.o.
6. All interior non-bearing headers to be min. (2)2x4 flat u.n.o.
7. Fireblock to conform with R602.8

FOUNDATION NOTES:

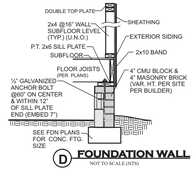
1. Deck posts min. 4'-0" above grade are to be knee or diagonally braced per Appendix M. fastening to house will be by nailer with 5/8" galvanized bolts @ 20" o.c. and 12d hot dipped galv. @ 42" o.c.
2. Corners shall be braced with one of the approved methods as outlined in R602.10.3.
3. Structural members fastening to conform to Table R602.3(1) and (2).
4. Girders and piers shall bear on center 1/3 of pier and footing, respectively.
5. 2018 NC State Residential Building Code apply to the construction of footings.
6. Typical lug footing to be 18"x 8"deep, (UNO)
7. Pressure treated wood shall be installed for exterior use.
8. Hanger Schedule (Simpson hangers) for beam to beam connections (UNO)
   a. (2)2x10's: LUS210-2
   b. (3)2x10's: LUS210-3
   c. (2)9-14 LVL's: HUS410
9. Concrete shall have min. 28 day strength of 3000 psi. and max. Slump of 5 inches unless noted otherwise (UNO).Air entrained per Table 4022. All concrete shall be proportioned, mixed, handled, sampled, tested, and placed in accordance with ACI current standards. All samples for pumping shall be taken from the exit pump.
10. Allowable soil bearing pressure assumed to be 2000 psf. The contractor must contact Geotechnical Engineer & the Structural Engineer if unsatisfactory subsurface conditions are encountered. The surface area adjacent to the foundation wall shall be provided adequate drainage, and shall be graded so as to drain surface water away from foundation walls



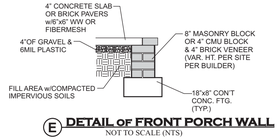
B FOUNDATION WALL @GARAGE CONCRETE SLAB
NOT TO SCALE (NTS)



C DROPPED GIRDER
NOT TO SCALE (NTS)



D FOUNDATION WALL
NOT TO SCALE (NTS)



E DETAIL OF FRONT PORCH WALL
NOT TO SCALE (NTS)

Engineered by:
Patrick E. Teague, PE
Date: 8/18/25
North Carolina License # 20239

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WWW.TEAGUEENGINEERING.COM

THIS PLAN DESIGNED UNDER NORTH CAROLINA RESIDENTIAL CODE 2018 EDITION

HOUSE DESIGNED FOR 115 MPH , EXPOSURE B

ANCHOR BOLTS SHALL BE MINIMUM ½" DIAMETER & SHALL EXTEND A MINIMUM OF 7" INTO MASONRY OR CONCRETE. ANCHOR BOLTS TO BE NO MORE THAN 6'-0" ON CENTER & WITHIN 12" OF ALL PLATE SPLICES.

FOUNDATION VENTING

SECTION R408 UNDER FLOOR SPACE

R408.1 Ventilation. The under-floor space between the bottom of the floor joists and the earth under any building (except space occupied by a basement or cellar) shall be provided with ventilation openings through foundation walls or exterior walls. The minimum net area of ventilation openings shall not be less than 1 square foot for each 150 square feet (0.67 m squared for each 100 m squared) of under-floor space area. One such ventilating opening shall be within 3 feet (914 mm) of each corner of said building.

CRAWL AREA TO BE VENTED: 1602 SQ.FT.
1602/1500 = 1.068 NET FREE VENTING AREA REQUIRED

R408.2 Ground Vapor Retarder
A minimum 6 mil. polyethlyne vapor retarder shall be installed to cover all earth in the crawl space with joints lapped not less than 12"
OR
SEALED CRAWL SPACE BY OTHERS

FOUNDATION STRUCTURAL NOTES:

(1) (3) 2 x 10 SPF #2 GIRDER DROPPED, TYPICAL UNO.

(2) CONCRETE BLOCK PIER SIZE SHALL BE:

SIZE	HALLOW MASONRY	SOLID MASONRY
8 x 16	UP TO 32" HIGH	UP TO 5'-0" HIGH
12 x 16	UP TO 48" HIGH	UP TO 9'-0" HIGH
16 x 16	UP TO 64" HIGH	UP TO 12'-0" HIGH
24 x 24	UP TO 96" HIGH	

WITH 30" x 30" x 10" CONCRETE FOOTING, UNO.

(5) WALL FOOTING AS FOLLOWS:

DEPTH: 8" - UP TO 2-1/2 STORY
10" - 3 STORY

WIDTH: SIDING (OR EQUAL)
- 16" - UP TO 2-1/2 STORY
- 18" - 3 STORY

BRICK VENEER
- 16" - 1 STORY
- 20" - 2 STORY
- 24" - 3 STORY

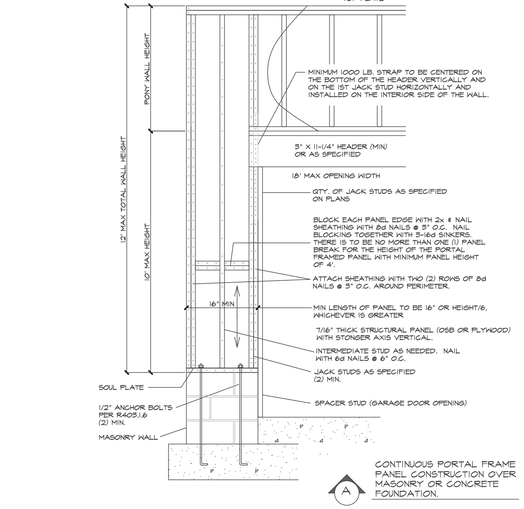
FOR FOUNDATION WALL HEIGHT AND BACKFILL REQUIREMENTS, REFER TO NORTH CAROLINA RESIDENTIAL CODE TABLE R404.1.1 (1 THRU 4)
NOTE: ASSUMED SOIL BEARING CAPACITY = 2000 PSF. CONTRACTOR MUST VERIFY SITE CONDITIONS AND CONTACT SOILS ENGINEER IF MARGINAL OR UNSTABLE SOILS ARE ENCOUNTERED.

ATTACH SILL PLATE WITH 1/2"dia. ANCHOR BOLTS AT 6'-0" CENTERS (7" EMBEDMENT) AND 12" FROM EACH PLATE END. (SECTION R 403.1.6)

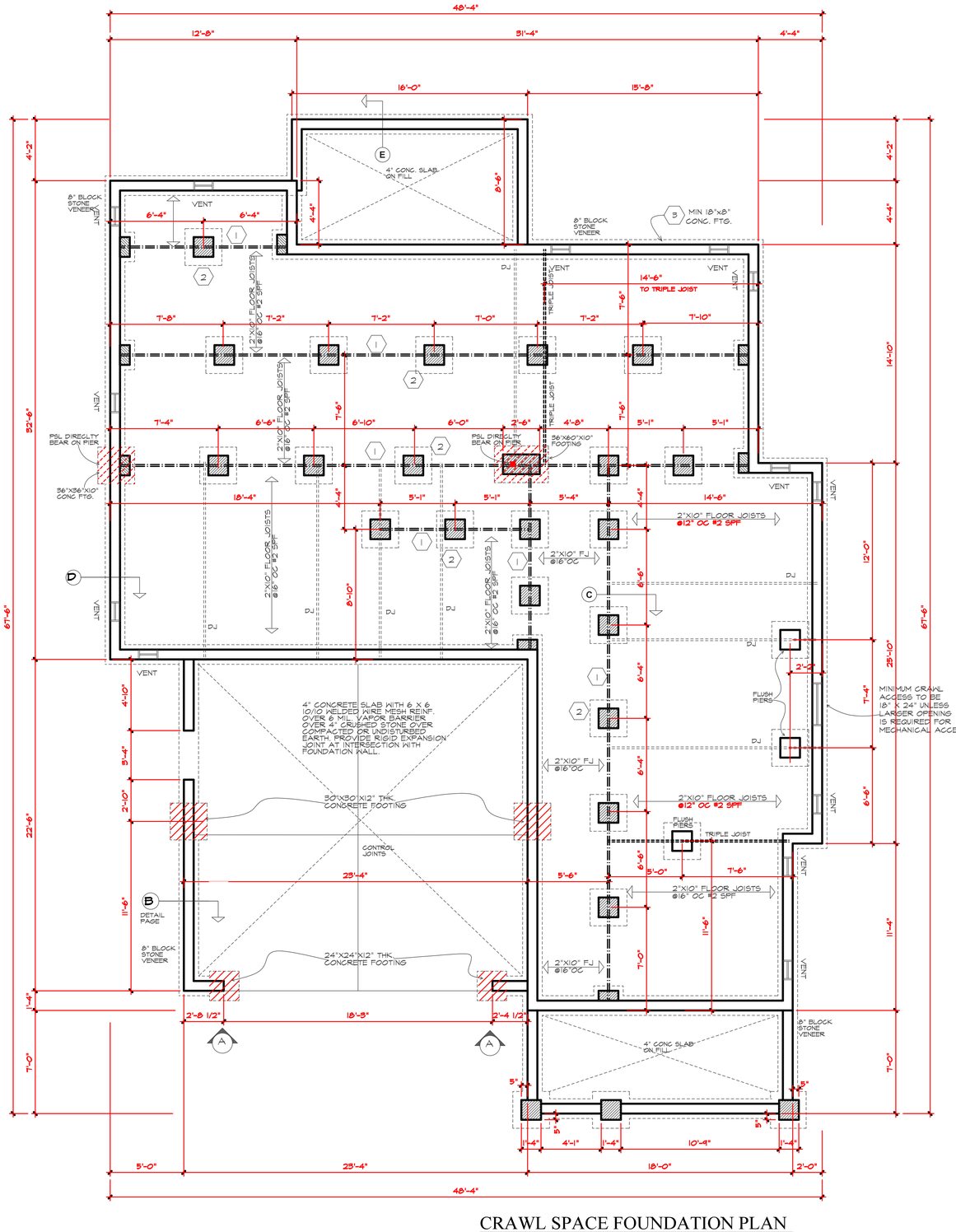
4 "■" DESIGNATES A SIGNIFICANT POINT LOAD TO HAVE SOLID BLOCKING TO PIER. SOLID BLOCK ALL BEAM BEARING POINTS NOTED TO HAVE THREE OR MORE STUDS TO FND, TYPICAL.

5 ABBREVIATIONS:

"SJ" = SINGLE JOIST
"DJ" = DOUBLE JOIST
"TJ" = TRIPLE JOIST



CONTINUOUS PORTAL FRAME PANEL CONSTRUCTION OVER MASONRY OR CONCRETE FOUNDATION.



CRAWL SPACE FOUNDATION PLAN

SCALE 1/4" = 1'-0"

MIDTOWN DESIGNS

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NC (2018 NCRC) - Wind - 115 - 120 mph

1845 Oakridge Duncan Road
Fuquay Varina, NC 27526

MidTown Designs Inc. 1529 Big Falls Dr. Wendell NC 27591 Phone: 919-783-8626 www.midtowndesigns.com

DATE: 5/23/2022

PROJECT # 220313

PO#26381RT

STRUCTURAL NOTES:

1. Framing lumber shall be SYP or #2 SPF (modulus of of elasticity 1,100,000 psi, fb 950). All beams & treated lumber to be #2 SYP, E=1,600,000, fb=1100 min. Studs min.#2 or stud grade.
2. Use hangers for all beam to beam connections Structural fastening as per R602.3(1). Adequate connections is the sole responsibility of the general contractor and his subs.
3. Structural members fastening to conform to Table R602.3(1) and (2).
4. Roof Framing Notes:
   a. Dbl Hips may be spliced with a min, 6'-0" overlap at center. No valley splices
   b. Use 2x10 or fir down rafters for vaulted areas
   c. Attach each vaulted rafters with hurricane connectors: Simpson H-2.5, H-5 or approved equal or 6" SDWC's.
5. All construction shall conform to the latest requirements of the NC State Residential Building Code - 2018 Edition, plus all local codes & regulations or 2015 IBC.
6. Structural Engineer is not responsible for and will not control of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the construction work.
7. Structural Engineer is not responsible for the contractor's failure to carry out the proposed construction work in accordance with the contract document.
8. Use Method #3 for Structural Sheathing; **"Accepted Engineer's Practice"**

FRAMING NOTES:

1. Design Loads (R301.5)

	Live Loads (PSF)	Dead (PSF)
Rooms not for Sleeping	40	10
Sleeping Rooms	30	10
Attic w/Permanent Stairs	40	10
Attic w/o Permanent Stairs	20	10
Attic w/o Storage	10	10
Stairs	40	–
Exterior Balconies	60	10
Decks	40	10
Guardrails & Handrails	200	–
Passenger Vehicle Garages	50	10
Fire Escapes	40	10
Snow	20	–

   Wind Load: (Refer to Table R301.2.4)
   Verify Zone before Construction
   Wake County 115 mph
2. Wall Bracing: Braced wall panels shall be constructed according to section R602.103. The wall structural paneling shall comply with Table R602.103. The length of braced panels shall be determined by section R602.10.4. Lateral bracing shall be satisfied per method 3 by continuously sheathing walls with structural sheathing per Table 601.3. Note that any specific braced wall detail shall be installed as specified.
3. All framing lumber shall be SPF#2 (Fb=875 psi) unless otherwise noted (UNO). All treated lumber shall be SYP#2 (Fb=975 psi). Plate material may be SPF#3 or SYP#3 (Fc (perp.) = 425 psi min.)
4. All exterior headers to be (2)2x10 spf. u.n.o w/ dbl. Jacks for all openings >5'-0".
5. All interior bearing headers to be (2)2x10 u.n.o. w/ dbl. jacks for all openings >4'-6", use (2)2x8 w/ dbl. Jacks for all openings >3'-0" u.n.o.
6. All interior non-bearing headers to be min. (2)2x4 flat u.n.o.
7. Fireblock to conform with R602.8

WALL BRACING NOTES:

WALL BRACING SHALL BE IN ACCORDANCE WITH SECTION R602.10.3 CONTINUOUS SHEATHING. BRACING METHOD CS-WSP SHALL BE USED IN ACCORDANCE WITH TABLE R602.10.1

1. THE REQUIRED LENGTH OF BRACING FOR EACH SIDE OF A RECTANGLE CIRCUMSCRIBED AROUND THE PLAN OR A PORTION OF THE PLAN AT EACH STORY LEVEL SHALL BE IN ACCORDANCE WITH TABLE R602.10.3 AND FIGURE R602.10.3(1). UNLESS NOTED OTHERWISE, THE ENTIRE STRUCTURE IS ASSUMED TO CIRCUMSCRIBED WITHIN A SINGLE RECTANGLE.

2. MINIMUM PANEL WIDTH IS 24". SEE SECTION R602.10.3 FOR ADDITIONAL INFORMATION. CONNECTION CRITERIA SHALL BE IN ACCORDANCE WITH TABLE R602.10.1.

3. PORTAL FRAME CONSTRUCTION SHALL BE IN ACCORDANCE WITH FIGURE R602.10.1.

4. HOLD DOWN DEVICE SHALL BE AS FOLLOWS: SIMPSON LSTA24 STRAP (OR EQUIVALENT) BETWEEN FLOORS EXTENDING FROM BOTTOM OF FLOOR BAND AND UP THE STUDS PER SITE PER BUILDER SIMPSON HD3B HOLD DOWN (OR EQUIVALENT) WHERE REQUIRED TO CONNECT DIRECTLY TO FOUNDATION.

BEAM SCHEDULE

- (A) 2-2"X10" FLUSH
- (B) 2-2"X10" DROPPED
- (C) 2-2"X8 FLUSH
- (D) 2-2"X8" DROPPED
- (E) 2-1.75"X9.25" LVL FLUSH
- (F) 2-1.75"X9.25" DROPPED
- (G) 2- 1.75"x11 7/8" LVL DROPPED
- (H) 2-1.75"X11 7/8" LVL BOTTOM FLUSH
- (H2) 3-1.75"X11 7/8" LVL BOTTOM FLUSH
- (J) 2-2"X12" DROPPED
- (K) 4-1.75" X 18" LVL TOP FLUSH W/3 TIMBERLOCK SCREWS @16" OC
- (M) W 18X40 STEEL BOTTOM FLUSH
- (N) 3-1.75"X16" LVL DROPPED
- (P) 2-1.75"X14" FLUSH

NORTH CAROLINA PROFESSIONAL SEAL 20239 ENGINEER PATRICK E. TEAGUE

Engineered by:
Patrick E. Teague, PE
Date: 8/18/25
North Carolina License # 20239

P. E. TEAGUE, P.E., PLLC
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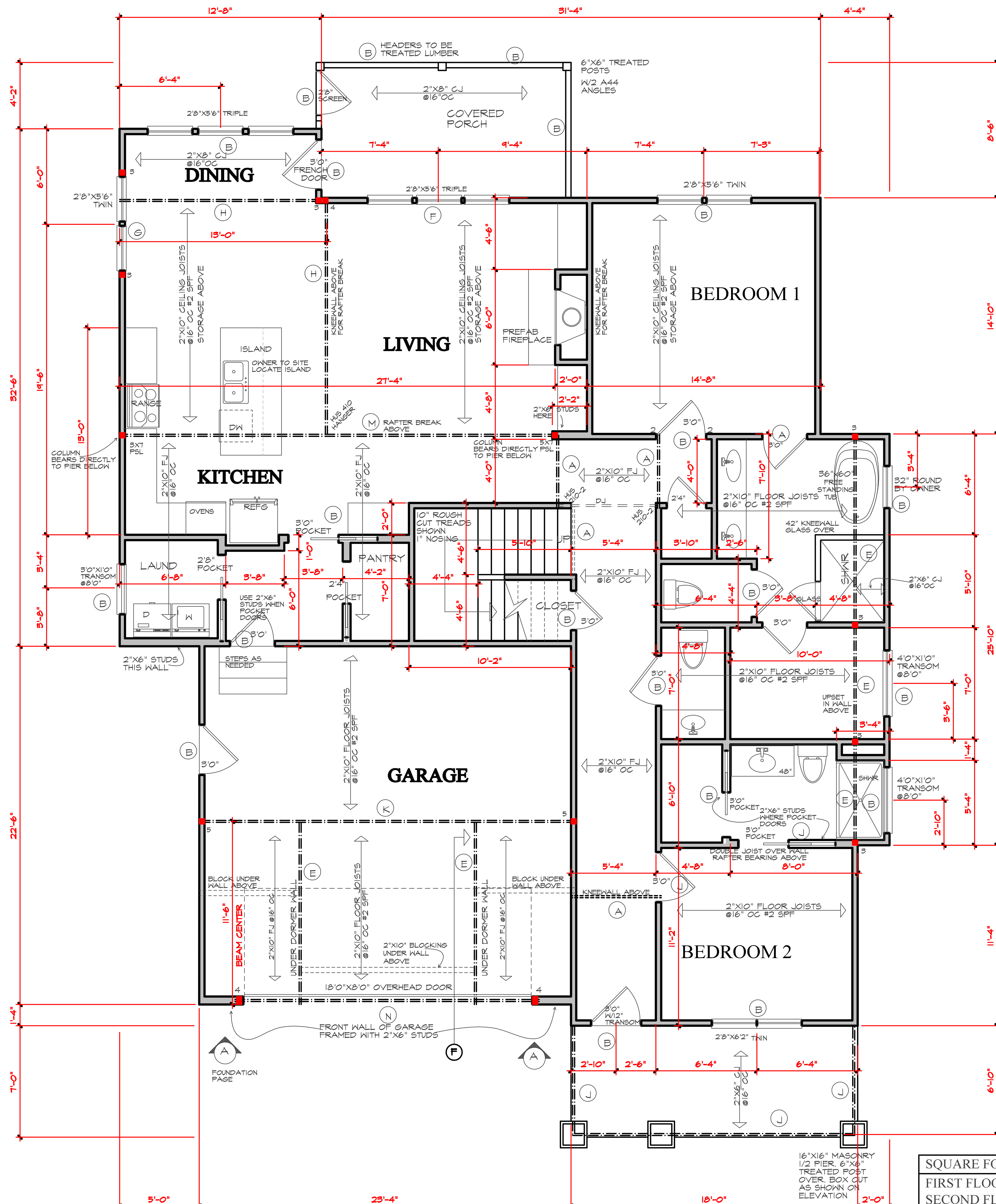
PE T PE PLLC



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

SQUARE FOOTAGE	
FIRST FLOOR	1806 SQ.FT.
SECOND FLOOR	1081 SQ.FT.
TOTAL	2887 SQ.FT.
GARAGE	525 SQ.FT.
PORCHES	262 SQ.FT.

MIDTOWN DESIGNS

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NC (2018 NCRC) : Wind : 115 - 120 mph

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MidTown Designs Inc. 1529 Big Falls Dr. Wendell NC 27591 Phone: 919-783-8626 www.midtowndesigns.com

DATE 5/23/2022

PROJECT # 220313

PO#26381RT

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4. Roof Framing Notes:
   a. Dbl Hips may be spliced with a min, 6'-0" overlap at center. No valley splices
   b. Use 2x10 or fir down rafters for vaulted areas
   c. Attach each vaulted rafters with hurricane connectors: Simpson H-2.5, H-5 or approved equal or 6" SDWC's.
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FRAMING NOTES:

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Rooms not for Sleeping	40	10
Sleeping Rooms	30	10
Attic w/Permanent Stairs	40	10
Attic w/o Permanent Stairs	20	10
Attic w/o Storage	10	10
Stairs	40	–
Exterior Balconies	60	10
Decks	40	10
Guardrails & Handrails	200	–
Passenger Vehicle Garages	50	10
Fire Escapes	40	10
Snow	20	–

Wind Load: (Refer to Table R301.2.4)
Verify Zone before Construction
Wake County 115 mph

2. Wall Bracing: Braced wall panels shall be constructed according to section R602.103. The wall structural paneling shall comply with Table R602.103. The length of braced panels shall be determined by section R602.10.4. Lateral bracing shall be satisfied per method 3 by continuously sheathing walls with structural sheathing per Table 601.3. Note that any specific braced wall detail shall be installed as specified.
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4. All exterior headers to be (2)2x10 spf. u.n.o w/ dbl. Jacks for all openings >5'-0".
5. All interior bearing headers to be (2)2x10 u.n.o. w/ dbl. jacks for all openings >4'-6", use (2)2x8 w/ dbl. Jacks for all openings >3'-0" u.n.o.
6. All interior non-bearing headers to be min. (2)2x4 flat u.n.o.
7. Fireblock to conform with R602.8

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049239 PATRICK E. TEAGUE

Engineered by:
Patrick E. Teague, PE
Date: 8/18/25
North Carolina License # 20239

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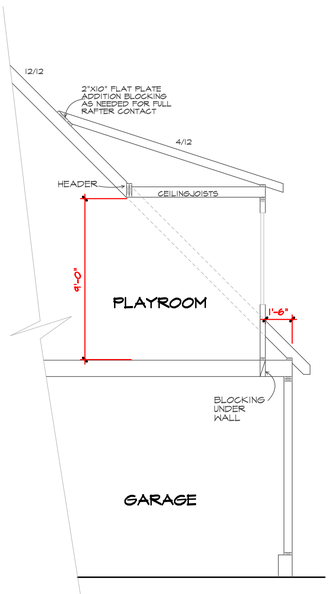

SECTION (F)

BEAM SCHEDULE

- (A) 2-2"X10" FLUSH
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- (D) 2-2"X8" DROPPED
- (E) 2-1.75"X9.25" LVL FLUSH
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- (K) 4-1.75" X 18" LVL TOP FLUSH W/3 TIMBERLOCK SCREWS @16" OC
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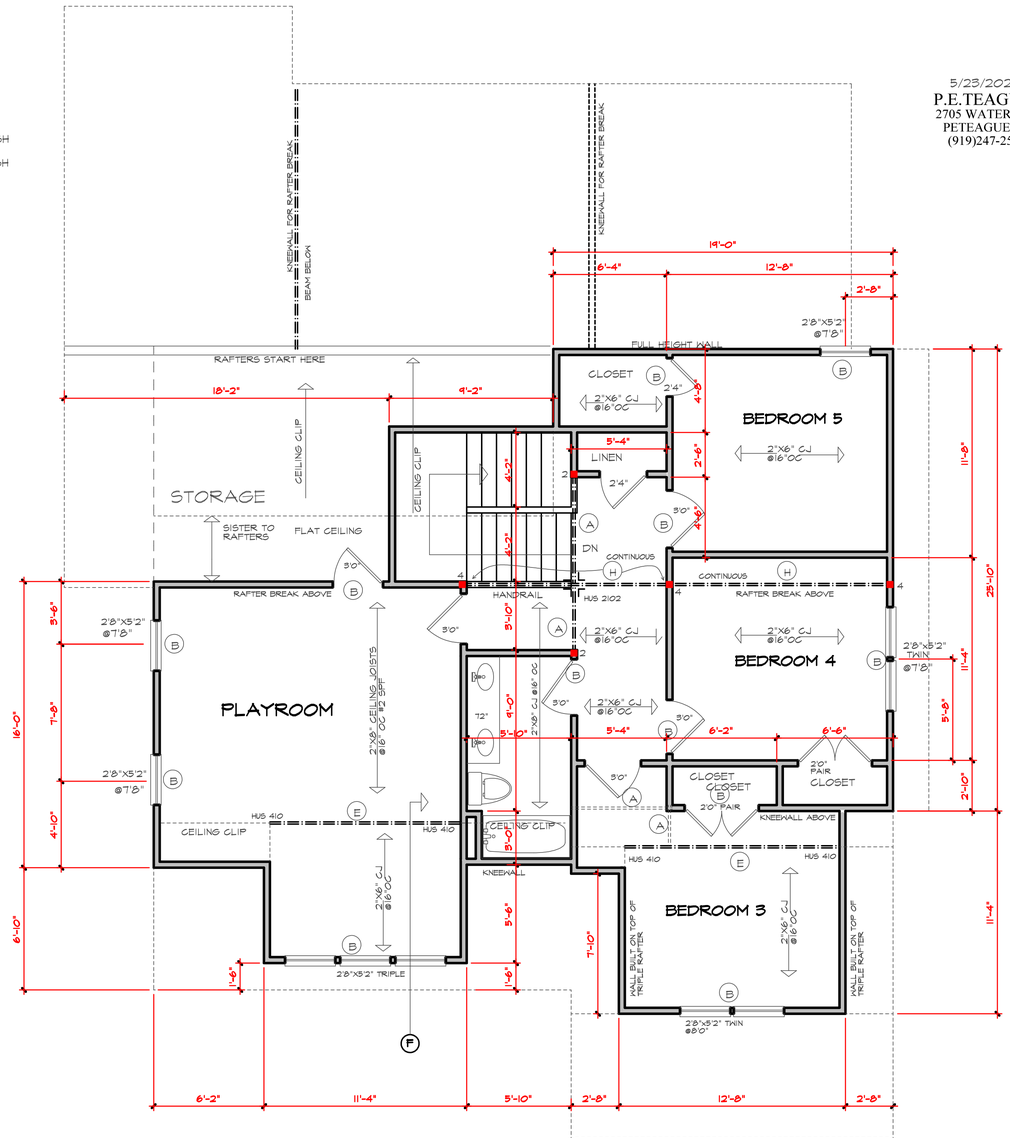

SECOND FLOOR PLAN
SCALE 1/4" = 1'-0"

5/23/2022
P.E.TEAGUE, P.E., PLLC
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DATE 5/23/2022

PROJECT # 220313
PO#26381RT

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Attic w/Permanent Stairs	40	10
Attic w/o Permanent Stairs	20	10
Attic w/o Storage	10	10
Stairs	40	--
Exterior Balconies	60	10
Decks	40	10
Guardrails & Handrails	200	--
Passenger Vehicle Garages	50	10
Fire Escapes	40	10
Snow	20	--

Wind Load: (Refer to Table R301.2.4)
Verify Zone before Construction
Wake County 115 mph

2. Wall Bracing: Braced wall panels shall be constructed according to section R602.103. The wall structural paneling shall comply with Table R602.103. The length of braced panels shall be determined by section R602.10.4. Lateral bracing shall be satisfied per method 3 by continuously sheathing walls with structural sheathing per Table 601.3. Note that any specific braced wall detail shall be installed as specified.
3. All framing lumber shall be SPF#2 (Fb=875 psi) unless otherwise noted (UNO). All treated lumber shall be SYP#2 (Fb=975 psi). Plate material may be SPF#3 or SYP#3 (Fc (perp.) = 425 psi min.)
4. All exterior headers to be (2)2x10 spf. u.n.o w/ dbl. Jacks for all openings >5'-0".
5. All interior bearing headers to be (2)2x10 u.n.o. w/ dbl. jacks for all openings >4'-6", use (2)2x8 w/ dbl. Jacks for all openings >3'-0" u.n.o.
6. All interior non-bearing headers to be min. (2)2x4 flat u.n.o.
7. Fireblock to conform with R602.8

ROOF FRAMING NOTES:
1. Use Simpsons H2.5 Hurricane connectors or equivalent or 6" SDWC's on each rafter installed.
2. All point loads to be columned/blocked (though joists) down to foundation.

ATTIC VENTILATION:
3412 SQ. FT. OF CEILING/150 = 22.7 SQ FT REQUIRED
SAY 23 SF

NOTE:
BUILDER TO CALCULATE QUANTITIES OF TYPES OF VENTS TO MAKE UP MIN. REQUIREMENT. ATTIC VENTILATION MAY BE REDUCED 50% WHEN VENTILATORS ARE USED AT LEAST 3'-0" ABOVE THE CORNICE VENTS. REFER TO SECTION R-806 IN THE N.C. BUILDING CODE VOL. VII.

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 20239 PATRICK E. TEAGUE

Engineered by:
Patrick E. Teague, PE
Date: 5/18/25
North Carolina License # 20239

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5/23/2022
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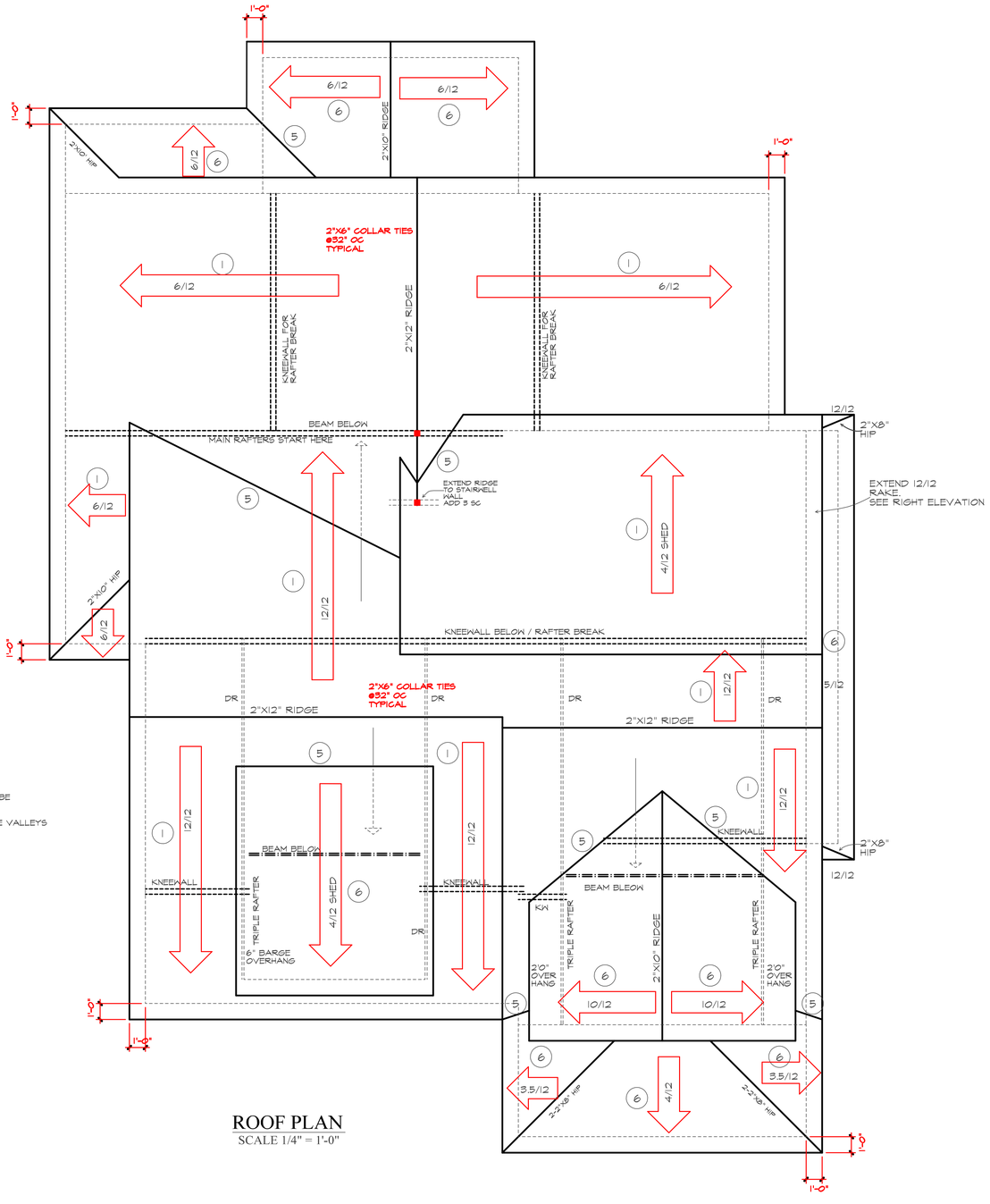
ROOF FRAMING NOTES:

(115-120) MPH WIND ZONE)
1. ALL RAFTERS TO BE 2x8 @ 16" O.C. WITH 2 X 12 RIDGE, UNO.
2. (2)2x10 OR (1) 1.75" X 11 7/8" LVL HIP. (2)2x10 HIPS MAY BE SPLICED WITH A MINIMUM 6'-0" OVERLAP AT CENTER.
3. (2)2x10 OR (1) 1.75" X 9.25" LVL VALLEY. DO NOT SPLICE VALLEYS
4. 1-1.75x11 7/8" LVL VALLEY
5. FALSE FRAME VALLEY ON 2x10 FLAT PLATE
6. 2"X6" RAFTERS @16" O.C. W/ 2x8 RIDGE
7. 2"X10" RAFTERS @16" O.C. W/ 2x12 RIDGE

- "SR" = SINGLE RAFTER
- "DR" = DOUBLE RAFTER
- "TR" = TRIPLE RAFTER
- "RS" = ROOF SUPPORT FOR RAFTER SPLICE
- "■" = (3) STUD OR 4x4 POST FOR ROOF SUPPORT
- FIR DOWN 2x8 RAFTERS OR USE 2X10 AT CATHEDRAL CEILINGS
- ATTACH VAULTED RAFTERS WITH HURRICANE CLIPS: SIMPSON "H-5" OR EQUIVALENT

2"X6" COLLAR TIES @32" TYPICAL



ROOF PLAN
SCALE 1/4" = 1'-0"

MIDTOWN DESIGNS

THIS PLAN DESIGNED UNDER NORTH CAROLINA RESIDENTIAL CODE 2018 EDITION (2018 IRC)

NC (2018 NCRC) - Wind - 115 - 120 mph

1845 Oakridge Duncan Road
Fuquay Varina, NC 27526

DATE 5/23/2022

PROJECT # 220313

PO#26381RT

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