

FOUNDATION STRUCTURAL NOTES:

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

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

(3) 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

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

FOR FOUNDATION WALL HEIGHT AND BACKFILL REQUIREMENTS, REFER TO NORTH CAROLINA RESIDENTIAL CODE TABLE R404.I.I (I 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 "B" 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

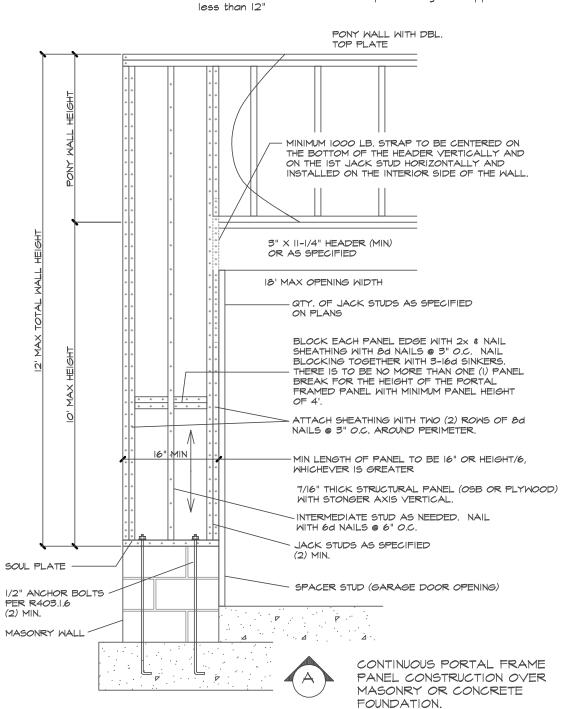
FOUNDATION VENTING

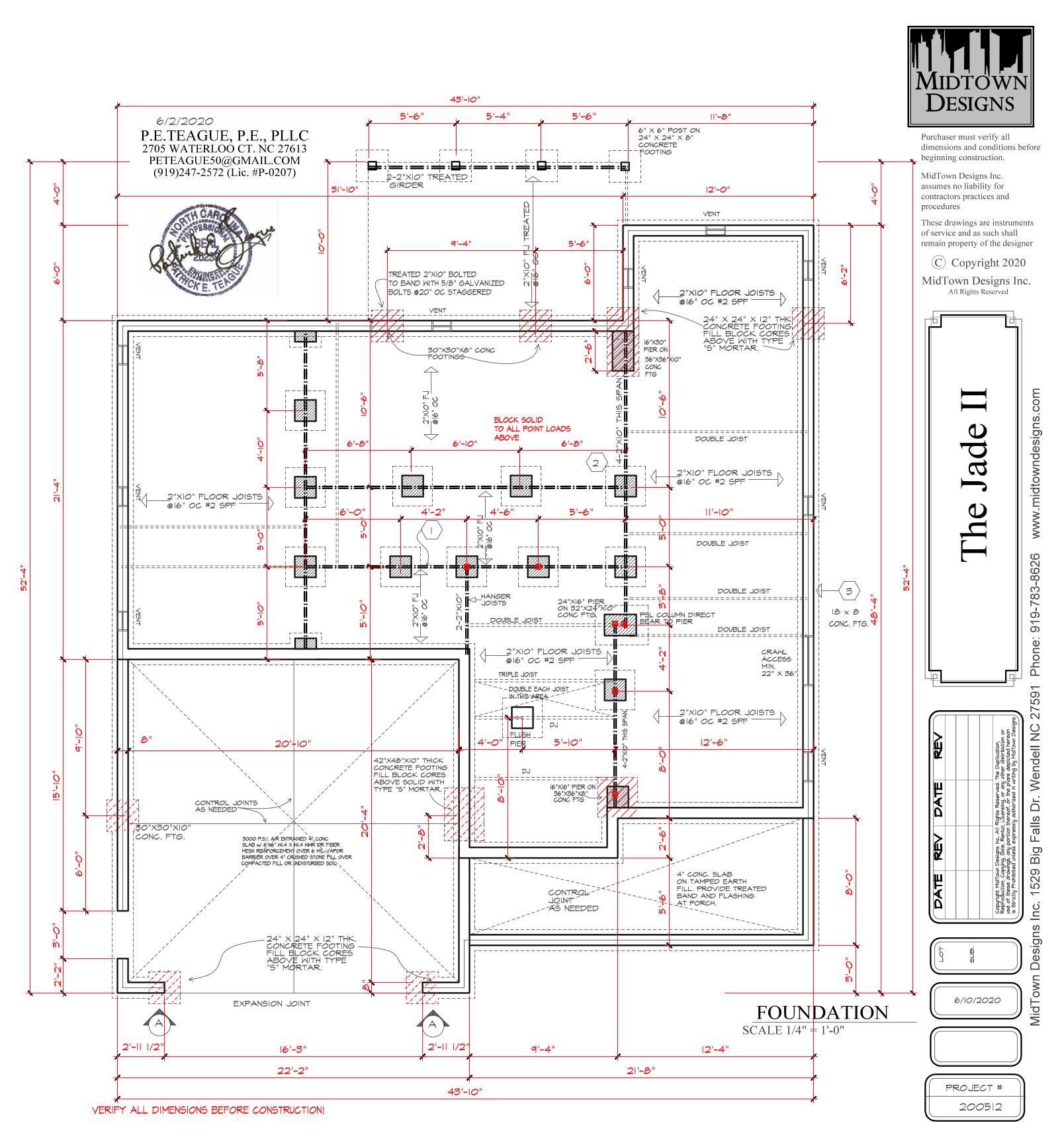
SECTION R408 UNDER FLOOR SPACE

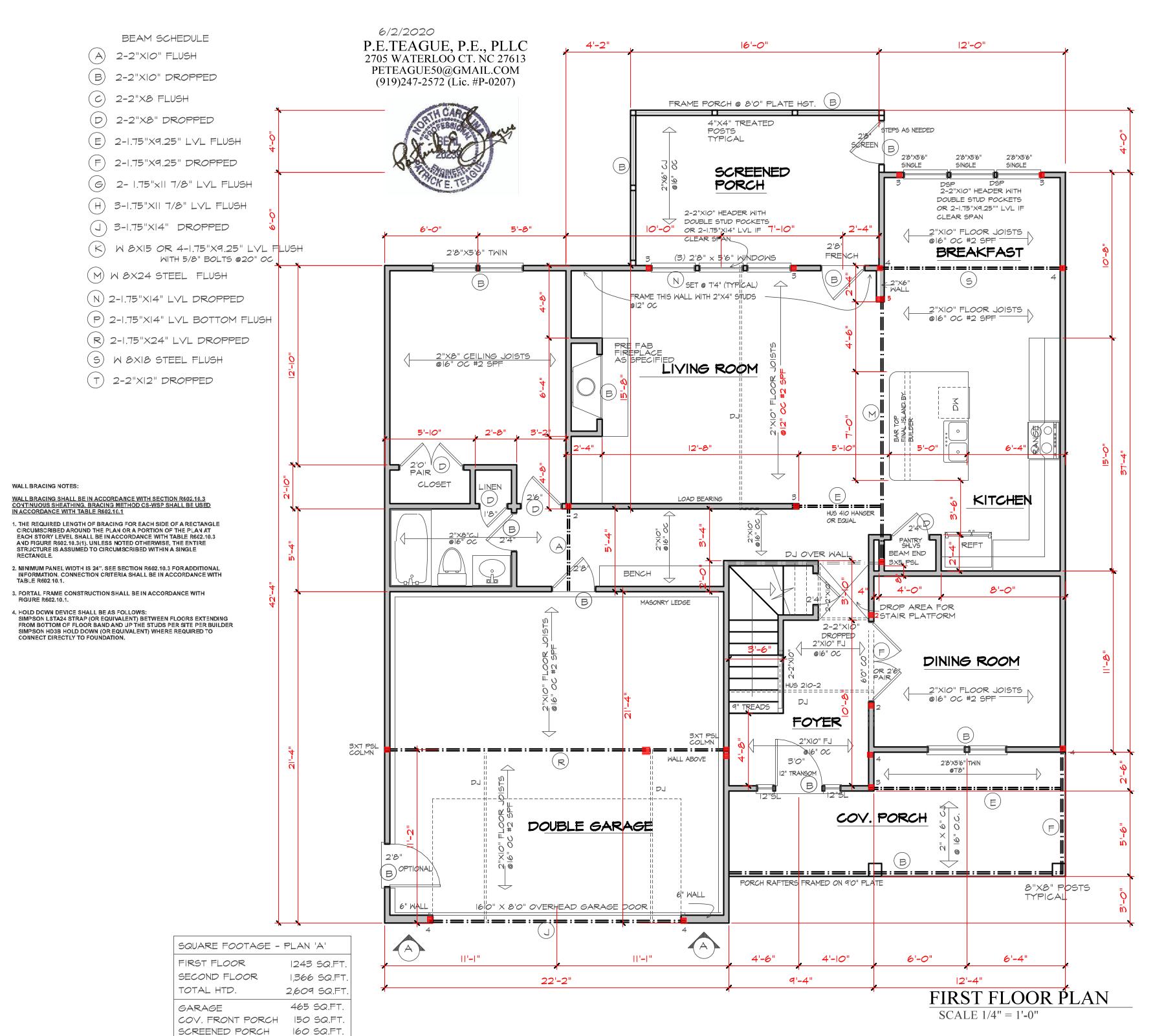
R408. I Ventilation. The under-floor space between the bottom of the floor joists and the earth under any building (except space occupied by a basement or cellar) shall be provided with ventilation openings through foundation walls or exterior walls. The minimum net area of ventilation openings shall not be less than I square foot for each I50 square feet (0.67 m squared for each I00 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: 767 SQ.FT. 767/1500 = .511 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









Purchaser must verify all dimensions and conditions before beginning construction.

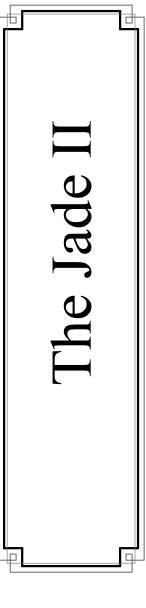
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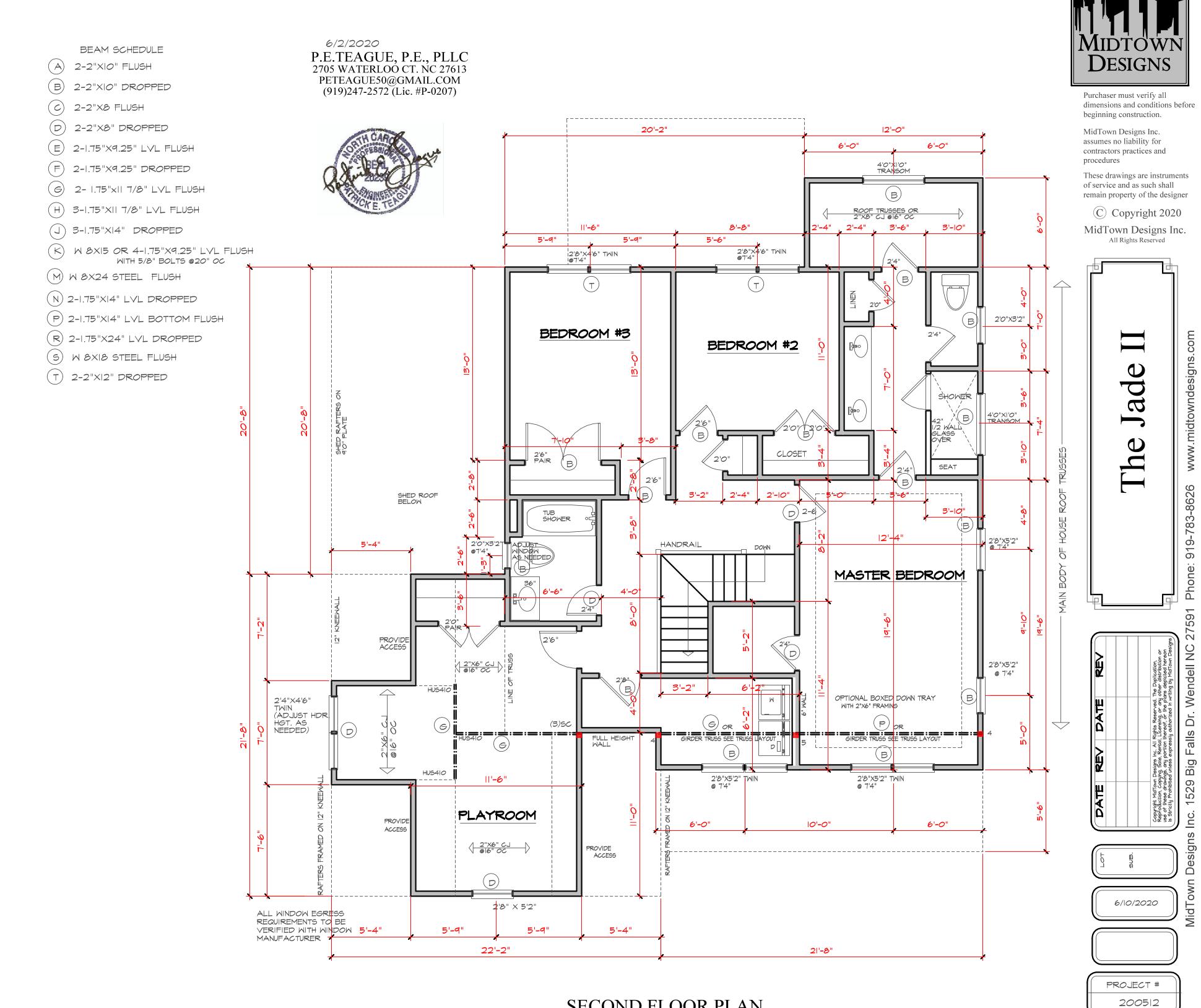
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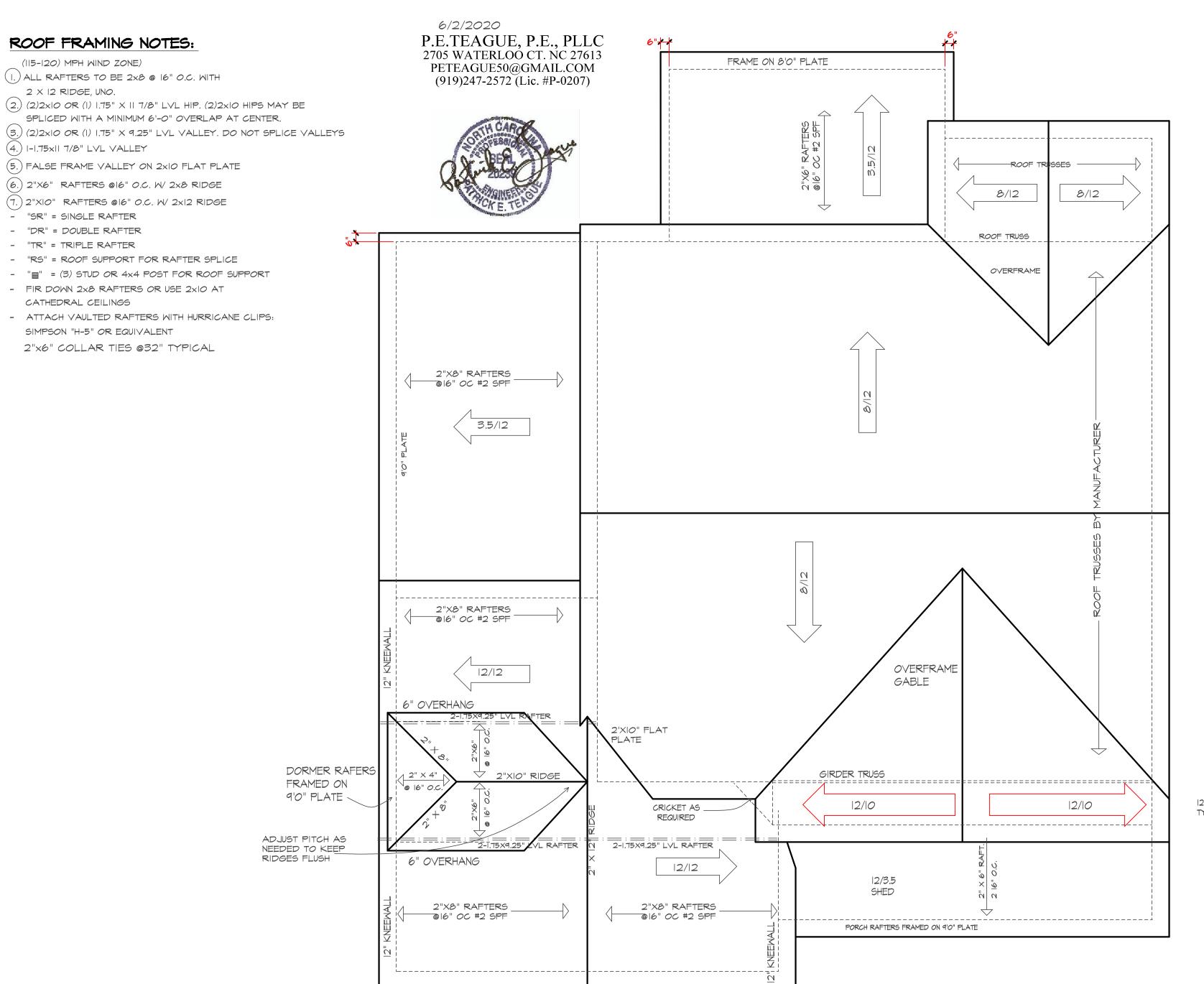
sub.

6/10/2020

PROJECT # 200512



SECOND FLOOR PLAN SCAIE 1///" — 1' O"





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12" OVERHANG TYPICAL Copyright MidTown Designs Inc. All Rights Reserved. T Reproduction, Copyrigh Septiment Reproduction, Copyrigh Septiment Reproduction, Copyrigh Septiment Reproduction, Copyright Septiment Reproduction, Copyright Septiment Reproduction of the plants of the

6/10/2020

PROJECT # 200512

STRUCTURAL NOTES

I) ALL CONSTRUCTION SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE NORTH CAROLINA STATE RESIDENTIAL CODE - 2018 EDITION (2015 IRC), PLUS ALL LOCAL CODES AND REGULATIONS.

ALL MEMBERS SHALL BE FRAMED, ANCHORED, TIED AND BRACED IN ACCORDANCE WITH GOOD CONSTRUCTION PRACTICE AND THE BUILDING CODE.

2) DESIGN LOADS SEE TABLE R301.5

WIND SPEED: (REFER TO TABLE R301.2.4) VERIFY ZONE BEFORE CONSTRUCTION

3) WALL BRACING: WALLS SHALL BE BRACED ALONG BRACED WALL LINES ACCORDING TO SECTION R602.10. THE AMOUNT, LOCATION, AND CONSTRUCTION OF BRACING SHALL COMPLY WITH R602.10. NOTE THAT THE BRACING SHOWN ON HE PLANS IS BASED ON THE PRESCRIPTIVE BRACING REQUIREMENTS OF THE CODE AND SHALL BE VERIFIED AND/ORAPPROVED BY THE CODE OFFICIAL.

4) CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3000 PSI AND A MAXIMUM SLUMP OF 5 INCHES UNLESS NOTED OTHERWISE (UNO). AIT ENTRAINED PER TABLE 402.2. ALL CONCRETE SHALL BE PROPORTIONED, MIXED, HANDLED, SAMPLED, TESTED AND PLACED IN ACCORDANCE WITH ACI STANDARDS. ALL SAMPLES FOR PUMPING SHALL BE TAKEN FROM THE EXIT

5) ALLOWABLE SOIL BEARING PRESSURE ASSUMED TO BE 2000 PSF. THE CONTRACTOR MUST CONTACT A GEOTECHNICAL ENGINEER AND THE STRUCTURAL ENGINEER IF UNSATISFACTORY SUBSURFACE CONDITIONS ARE ENCOUNTERED. THE SURFACE AREA ADJACENT TO THE FOUNDATION WALL SHALL BE PROVIDED WITH ADEQUATE DRAINAGE, AND SHALL BE GRADED SO AS TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS

6) ALL FRAMING LUMBER SHALL BE SPF #2(FB = 875 PSI) UNLESS NOTED OTHERWISE (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).

7) ALL WOODEN BEAMS AND HEADERS SHALL HAVE THE FOLLOWING END SUPPORTS: (1) 2X4 STUD COLUMN FOR 6'-0" MAX. BEAM SPAN (UNO), (2)2X4 STUDS FOR BEAM SPAN GREATER THAN 6'-0" (UNO).

8) L.V.L SHALL BE LAMINATED VENEER LUMBER: FB=2600 PSI, FV=285 PSI E=1,900,000 PSI. P.S.L SHALL BE PARALLEL STRAND LUMBER: FB=2900 PS FV=290 PSI, E=2,000,000 PSI, L.S.L SHALL BE LAMINATED STRAND LUMBER FB=2250 PSI, FV=400 PSI, E=1,550,000 PSI. INSTALL ALL CONNECTIONS PER MANUFACTURER'S INSTRUCTIONS.

9) ALL ROOF TRUSS AND I-JOIST LAYOUTS SHALL BE PREPARED IN ACCORDANCE WITH THE SEALED STRUCTURAL DRAWINGS. TRUSSES AND I-JOISTS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S

IO) ALL STRUCTURAL STEEL SHALL BE ASTM A-36. STEEL BEAMS SHALL BE SUPPORTED AT EACH END WITH A MINIMUM BEARING LENGTH OF 3 1/2" INCHES AND FULL FLANGE WIDTH. PROVIDE SOLID BEARING FROM BEAM SUPPORT TO FOUNDATION. BEAMS SHALL BE ATTACHED TO EACH SUPPORT WITH TWO LAG SCREWS (1/2" DIAMETER X 4" LONG). LATERAL SUPORT IS CONSIDERED ADEQUATE PROVIDED THE JOIST ARE TOE NAILED TO THE SOLE PLATE, AND SOLE PLATE IS NAILED OR BOLTED TO THE BEAM FLANGE @ 48" O.C. ALL STEEL TUBING SHALL BE ASTM A500.

II) REBAR SHALL BE DEFORMED STEEL. ASTM615, GRADE 60.

12) FLITCH BEAMS SHALL BE BOLTED TOGETHER USING (2) ROWS OF 1/2" DIAMETER BOLTS (ASTM ASOT) WITH WASHERS PLACED UNDER THE THREADED END OF BOLT. BOLTS SHALL BE SPACED AT 24" O.C. (MAX). AND STAGGERED AT THE TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH 2 BOLTS LOCATED AT 6" FROM EACH END.

13) BRICK LINTELS SHALL BE 3 1/2"X3 1/2"X1/4" STEEL ANGLE FOR UP TO 6'-0" SPAN AND 6"X4"X5/16" STEEL ANGLE WITH 6" LEG VERTICAL FOR SPANS UP TO

14) THE POSITIVE AND NEGATIVE DESIGN PRESSURE FOR DOORS AND WINDOWS SEE R301.2(6)

DWELLING / GARAGE SEPARATION

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

exposed sides of all stairways

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

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 I 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 into the garage.

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

MAX I ATTIC ACCESS OVERHANG 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 MI305.1.3 for access requirements where mechanical equipment is located

STAIR NOTES: I. STAIRS RISERS MUST BE UNIFORM AND NOT EXCEED 8 1/4"

2. TREADS SHALL NOT BE LESS THAN IO" DEEP A I" PROJECTION OVER RISER IS

3. A MINIMUM OF 6'8" HEADROOM MUST BE MAINTAINED AT ALL PLACES ON STAIR.

4. THE WIDTH OF THE STAIR SHALL BE A MINIMUM OF 3'0". HANDRAIL MAY PROJECT FROM EACH SIDE OF STAIR A DISTANCE OF 3 1/2" INTO THE REQUIRED WIDTH.

5. WINDERS MUST BE A MINIMUM OF 9" IN WIDTH AT 12" FROM THE NARROWEST SIDE. TREAD SHALL BE NO NARROWER THAN 4" AT ANY POINT AND AVERAGE NO LESS THAN 9 INCHES.

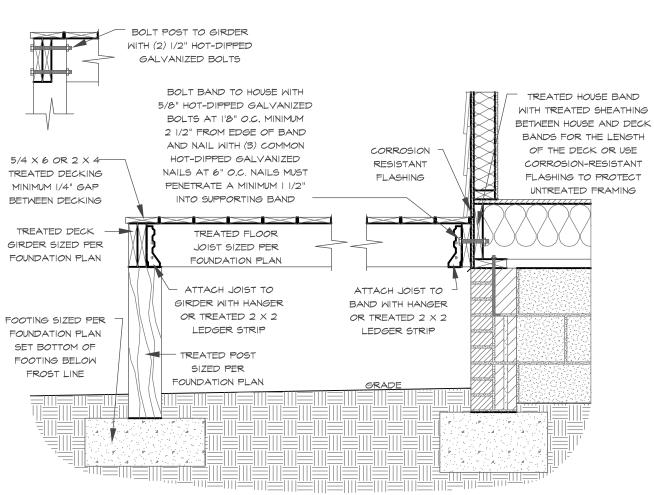
6. HANDRAILS SHALL BE NO LESS THAN 34" AND NO MORE THAN 38" ABOVE TREAD NOSING.

7. WINDERS AND SPIRAL STAIRS SHALL HAVE THE HANDRAIL LOCATED ON THE OUTSIDE RADIUS.

8. ALL REQUIRED HANDRAILS SHALL BE CONTINUOUS THE FULL LENGTH OF THE STAIRS.

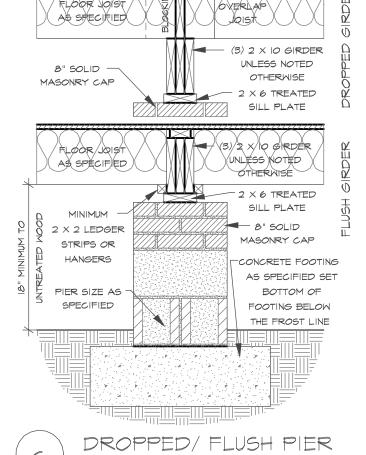
STAIR DETAIL

NO SCALE



DECK ATTACHMENT DETAIL TO FRAMED WALL

SCALE 3/4" TO 1'-0"



INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT

I. Concealed areas not located over the main structure including

2. Pull down stair treads, stringers, handrails, and hardware may

porches, areas behind knee walls, dormers, bay windows, etc.

are not required to have access

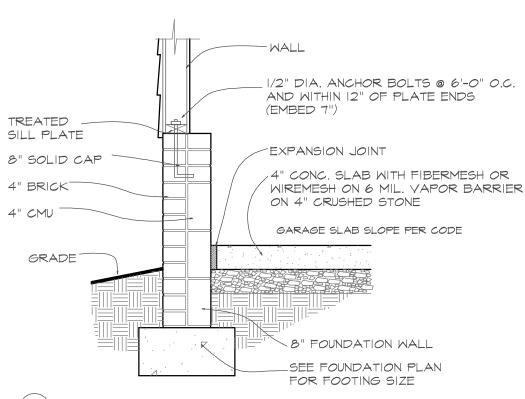
protrude into the net clear opening

CLIMATE ZONE	FENESTRATION U-FACTOR	SKYLIGHT ^b <i>U</i> -FACTOR	GLAZED FENESTRATION SHGC ^{b, k}	CEILING R-VALUE ^m	WOOD FRAME WALL R-VALUE	MASS WALL R-VALUE	FLOOR R-VALUE	BASEMENT SA WALL R-VALUE	SLAB ^d R-VALUE & DEPTH	CRAWL SPACE° WALL R-VALUE
3	0.35	0.55	0.30	38 or 30ci ¹	15 or 13+2.5 ^h	<u>5/13</u> or 5/10ci	19	5/13 ^f	0	5/13
4	0.35	0.55	0.30	38 or 30ci ¹	<u>15</u> or 13+ <u>2.5</u> ^h	<u>5/13</u> or 5/10ci	19	10/ <u>15</u>	10	10/ <u>15</u>
5	0.35	0.55	NR	38 or 30ci ¹	19 ⁿ or 13+5 ^h or 15+3 ^h	13/17 <u>or</u> 13/12.5ci	30 ^g	10/15	10	<u>10</u> /19

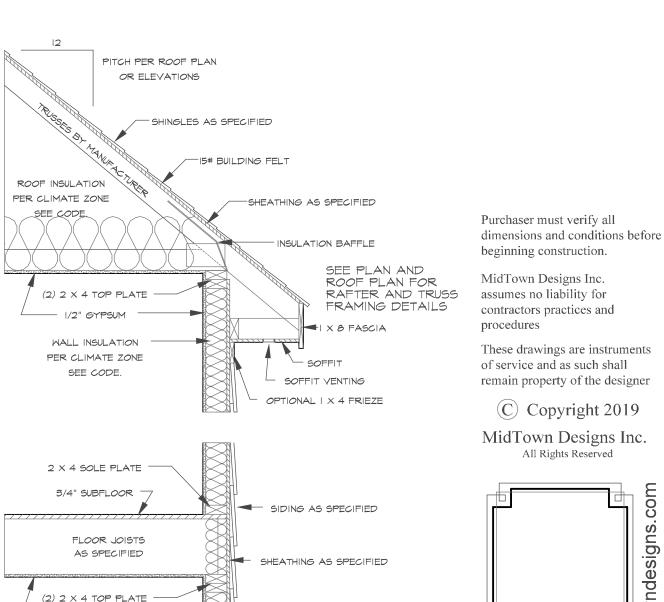
TABLE R402.1.4

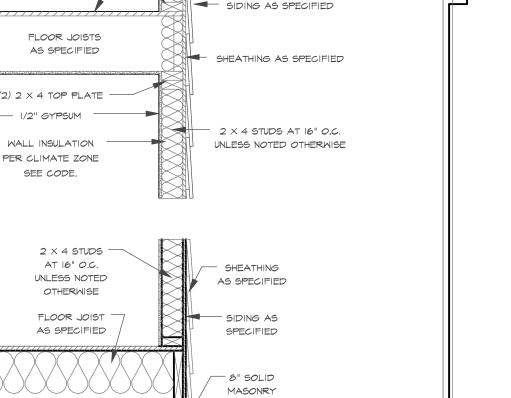
	EQUIVALENT U-FACTORS ^a											
CLIMATE ZONE	FENESTRATION U-FACTOR ^d	SKYLIGHT <i>U-</i> FACTOR	CEILING U-FACTOR	FRAME WALL U-FACTOR	MASS WALL U-FACTOR ^b	FLOOR <i>U</i> -FACTOR	BASEMENT WALL <i>U</i> -FACTOR	CRAWL SPACE WALL U-FACTOR				
3	0.35	0.55	0.030	0.077	<u>0.141</u>	0.047	0.091°	0.136				
4	0.35	0.55	0.030	<u>0.077</u>	<u>0.141</u>	0.047	0.059	0.065				
5	0.35	0.55	0.030	0.061	0.082	0.033	0.059	0.065				

- a. Nonfenestration *U*-factors shall be obtained from measurement, calculation or an approved source.
- b. When more than half the insulation is on the interior, the mass wall *U*-factors shall be a maximum of <u>0.07</u> in Climate Zone 3, <u>0.07</u> in Climate Zone 4 and <u>0.054</u> in Climate Zone 5.
- c. Basement wall *U*-factor of 0.360 in warm-humid locations as defined by Figure R301.1 and Table R301.1.
- d. A maximum of two glazed fenestration product assemblies having a U-factor no greater than 0.55 and a SHGC no greater than 0.70 shall be permitted to be substituted for minimum code compliant fenestration product assemblies without penalty. When applying this note and using the REScheck "UA Trade-off" compliance method to allow continued use of the software, the applicable fenestration products shall be modeled as meeting the *U*-factor of 0.35 and the SHGC of 0.30, as applicable, but the fenestration products actual U-factor and actual SHGC shall be noted in the comments section of the software for documentation of application of this note to the applicable products. Compliance for these substitute products shall be verified compared to the allowed substituted maximum U-value requirement and maximum SHGC requirement, as applicable.



SECTION AT GARAGE SLAB





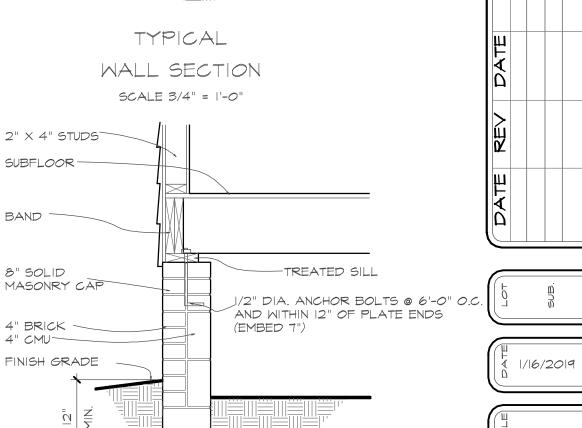
CAP

4" CONCRETE

BLOCK

4" BRICK

VENEER



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SECTION AT CRAWL

SEE FOUNDATION

PLAN FOR FOOTING SIZE

2 X 6 TREATED

SILL PLATE

1/2" DIAMETER ANCHOR

WITHIN 12" OF PLATE ENDS

EMBEDDED 7" MINIMUM TWO

CONTINUOUS CONCRETE

FOOTING AS SPECIFIED

SET BOTTOM OF FOOTING

BELOW THE FROST LINE

BOLTS AT 6'0" O.C. AND

BOLTS PER SILL