THE NORTH CAROLINA OFFICE OF RESILIENCY AND RECOVERY (NCORR)

WINSLOW II

BUILDING DATA
1,320 TOTAL HEATED SF
242 SF FRONT PORCH
40 SF REAR PORCH
17 SF EXTERIOR STORAGE (REAR PORCH)

APPLICABLE CODES
2018 NORTH CAROLINA STATE BUILDING CODE: RESIDENTIAL
2018 NORTH CAROLINA STATE BUILDING CODE: ENERGY CONSERVATION CODE
2010 AMERICANS WITH DISABILITY ACT STANDARDS FOR ACCESSIBLE DESIGN
INTERNATIONAL CODE COUNCIL A117.1 -2009 ACCESSIBLE AND USEABLE BUILDINGS AND FACILITIES (WHERE APPLICABLE BY AUTHORITIES HAVEING JURISDICTION)

OWNER

State of North Carolia Department of Public Safety
NC Office of Recovery and Resiliency
200 Park Offices Drive
Durham, NC, 27713

Contact: Ivan Duncan
E-Mail: ivan.duncan@ncdps.gov
Phone: (833) 275-7262

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WINSLOW II

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REGISTERED ARCHITECTURAL COMPANY
NORTH CAROLINA
RALEIGH

NORTH CAROLINA
PROFESSIONAL
SEAL
14254
ARCHITECT
BRADLEY J. McCLUNG
8/26/20

NO	REVISIONS	DATE

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CHECKED BY: BJM
FIRST ISSUE DATE: 08/26/20

PROJECT NO.
20-0108.020

COVER SHEET

CS000

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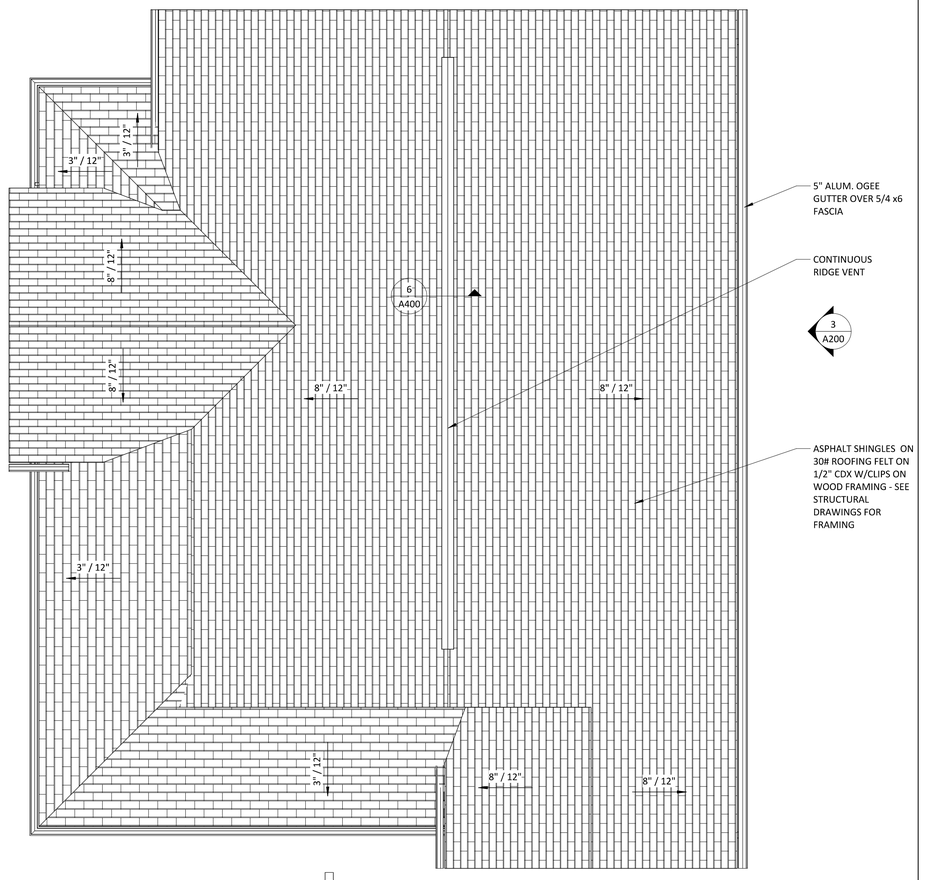
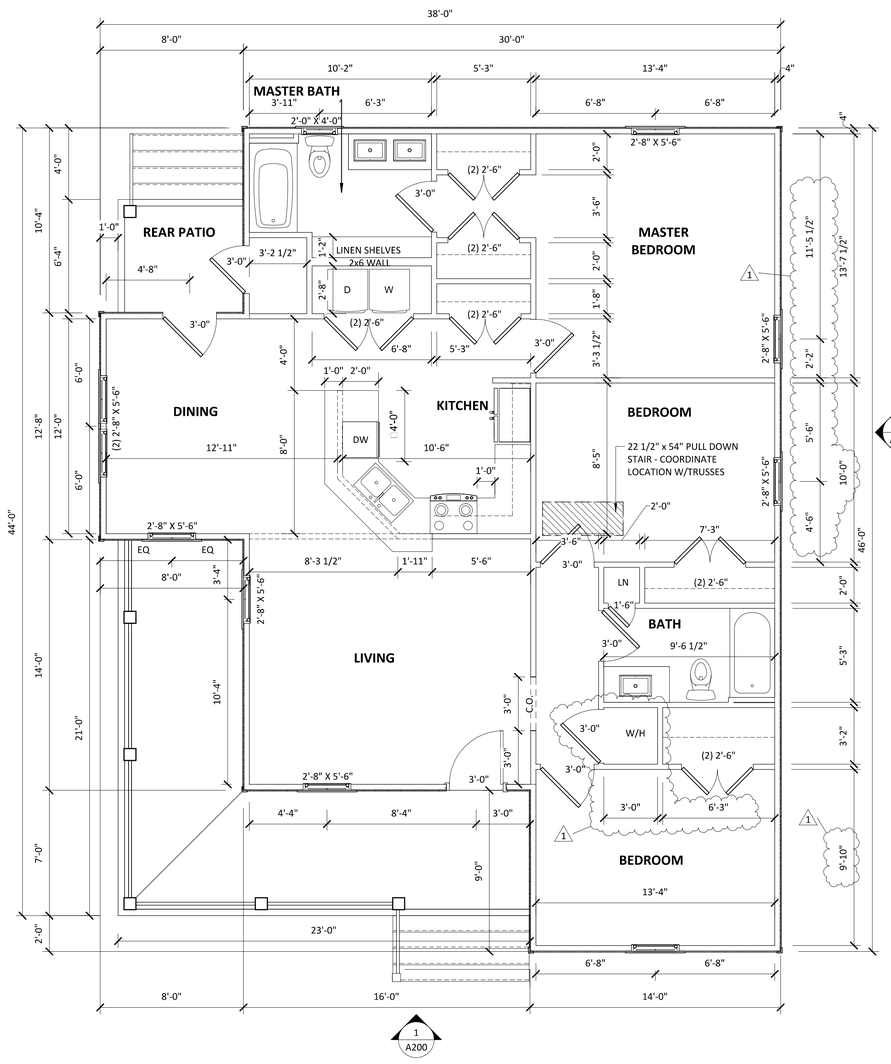


2 ROOF PLAN

1/4" = 1'-0"



1 FIRST FLOOR PLAN

1/4" = 1'-0"

FLOOR PLAN NOTES

1. ALL INTERIOR WALLS ARE DRAWN @ 3 1/2" WIDE AND EXTERIOR WALLS ARE DRAWN WITH 1/2" SHEATHING @ 4" WIDE.
2. ALL DIMENSIONS ARE DRAWN TO FACE OF STUD ON INTERIOR WALLS AND TO EXTERIOR SHEATHING ON INTERIOR WALLS.
3. ALL DOORS SHALL BE 7'-0" HIGH U.N.O.
4. ALL WINDOWS TO HAVE SCREENS.
5. PROVIDE PLASTIC COATED WIRE SHELVING W/ CLOTHES ROD IN COAT CLOSET & BEDROOM CLOSETS, ONE (1) SHELF IN LAUNDRY CLOSET & FOUR (4) SHELVES IN PANTRY.
6. UNLESS REQUIRED BY HOMEOWNER, ALL FIXTURES, BATHROOMS, AND KITCHENS DO NOT NEED TO BE ADA COMPLIANT. IN THE EVENT ADA ACCESSIBILTY IS REQUIRED, REFER TO ADA COMPLIANCE NOTES AND DIAGRAMS.
7. 1/2" GYPSUM WALLBOARD SHALL BE INSTALLED ON BOTTOM CHORD OF TRUSSES. GYPSUM BOARD SHALL BE LEVEL 4 OR 5 FINISH WITH 1 PRIMER COAT AND 2 FINISH COATS OF "CEILING WHITE" FLAT LATEX PAINT.
8. ALL INTERIOR WALLS SHALL BE FINISHED WITH 1/2" GYPSUM BOARD WITH A LEVEL 4 OR FINISH WITH 1 PRIMER COAT AND 2 FINISH COATS OF EGGSHELL LATEX PAINT. PAINT COLOR SHALL DETERMINED BY HOMEOWNER.
9. PROVIDE "GREEN" WALL BOARD FOR BATHROOM AND WALLS BEHIND COUNTER IN KITCHEN.
10. IF WALL TILE IS USED, PROVIDE CEMENTITIOUS BACKER BOARD FOR TILE APPLICATIONS.
11. G.C. SHALL PROVIDE BLOCKING FOR CABINETRY AND COUNTERTOP SUPPORT. COORDINATE ATTACHMENT LOCATIONS WITH CABINETRY SUPPLIER.

ADA COMPLIANCE NOTES

1. PROVIDE CONTINUOUS BLOCKING FOR GRAB BARS IN THE BATHROOM. REFER TO ADA.GOVE, 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN FOR EXACT LOCATIONS. BLOCKING SHALL BE CONT. 2x6 WOOD STUDS FROM 32"-38" A.F.F.
2. IN UNITS WHERE ACCESSIBILTY IS REQUIRED, PROVIDE ADA COMPLIANT ROLL IN SHOWER, ADA COMPLIANT VANITY, AND GRAB BARS.
3. KITCHEN DESIGN SHALL BE DESIGNED IN ACCORDANCE WITH 2010 ADA OR SHALL BE DESIGNED TO BE EASILY CONVERTED.
4. IF A HANDICAP RAMP IS ACCESSIBLE, THE GEOMETRY SHALL BE BASED ON SITE CONDITIONS AND RAMP SHALL BE ADA COMPLIANT
5. REFER TO A500 FOR ADA DIAGRAMS, MOUNTING HEIGHTS, ETC.

ATTIC VENTILATION CALCULATIONS

THE TOTAL NET FREE AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED. THE NET FREE CROSS-VENTILATION AREA SHALL BE PERMITTED TO BE REDUCED TO 1/300 PROVIDED AT LEAST 40 PERCENT AND NOT MORE THAN 50 PERCENT OF THE REQUIRED VENTING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE ATTIC OR RAFTER SPACE. UPPER VENTILATORS SHALL BE LOCATED NOT MORE THAN 3 FEET BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE, MEASURED VERTICALLY, WITH THE BALANCE OF THE VENTILATION PROVIDED BY EAVE OR CORNICE VENTS. WHERE THE LOCATION OF WALL OR ROOF FRAMING MEMBERS CONFLICTS WITH THE INSTALLATION OF UPPER VENILATORS, INSTALLATION MORE THAN 3 FEET BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE SHALL BE PERMITTED.

1,795	SQUARE FEET TOTAL ATTIC / 150 =
11.97	SQUARE FEET NET FREE AREA VENTILATION REQUIRED
5.985	SQUARE FEET EAVE VENTILATION
5.985	SQUARE FEET RIDGE OR ROOF EXHAUST VENTILATION

IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ENSURE RIDGE VENT AND EAVE VENT PRODUCTS PROVIDE SUFFICIENT VENTILATION

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RALEIGH, NORTH CAROLINA
7/14/2023

NO	REVISIONS	DATE
1	Revision 1 - WH Tank	6/23/23

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FLOOR PLAN, ROOF PLAN, AND NOTES

A100

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EXTERIOR FINISH NOTES

ALL SIDING SHALL BE FIBER CEMENT. ACCEPTABLE SIDING OPTIONS ARE AS FOLLOWS:
- -BOARD AND BATTEN - BATTENS @ 24" SPACING
- -SHAKES
- -HORIZONTAL LAP SIDING WITH THINNER REVEAL
- -HORIZONTAL LAP SIDING PAINTED DIFFERENT COLOR THAN MAIN BODY SIDING.

ASPHALT SHINGLES SHALL HAVE A 25 YEAR WARRANTY; COLOR AND STYLE TO BE SELECTED FROMS MANUFACTURER'S CATALOG OF 3-TAB PRODUCT LINE.

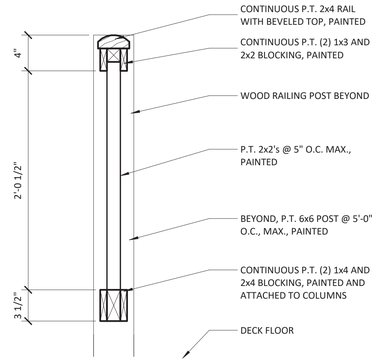
ACCENT ROOFING SHALL BE EXPOSED FASTENER, 26 GA., SELECTED FROM MANUFACTURER'S FULL RANGE.

ALL FIBER CEMENT SIDING, TRIM, PRESSURE TREATED WOOD (EXCEPT STAIR TREADS AND RISERS) SHALL BE PAINTED. EXTERIOR PAINT SHALL BE 1 COAT PRIMER AND TWO COATS OF EXTERIOR ACRYLIC LATEX PAINT.

GUARDRAIL AND HANDRAIL NOTES

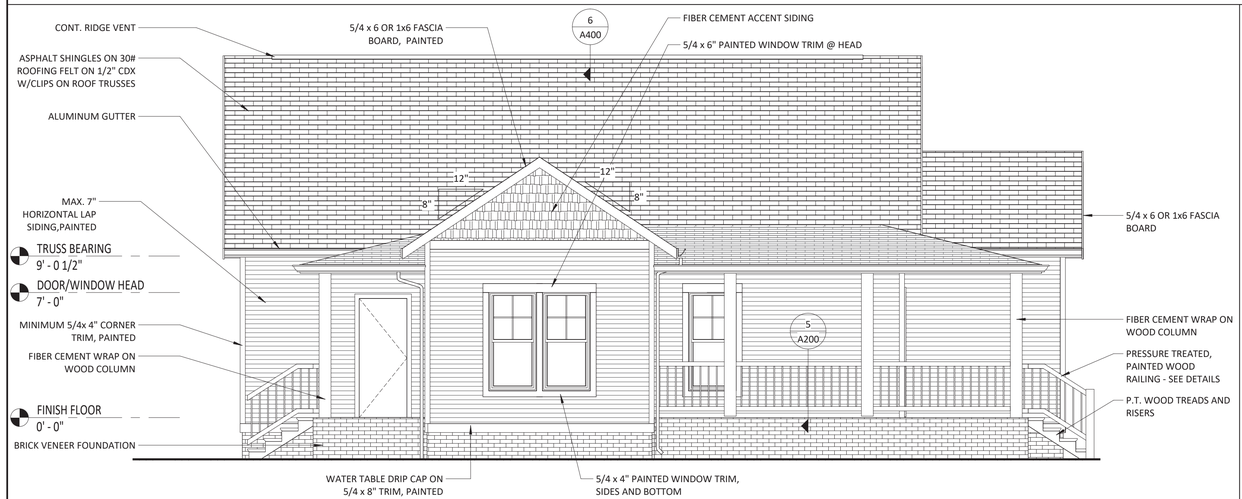
INSTALL HANDRAILS AND GUARDS PER 2018 NC RESIDENTIAL BUILDING CODE SECTIONS R311.7.2 THROUGH R312. PORCHES, BALCONIES, RAMPS OR RAISED FLOOR SURFACES LOCATED MORE THAN 30" ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDS NOT LESS THAN 36" IN HEIGHT. OPEN SIDES OF STAIRS WITH A TOTAL RISE OF MORE THAN 30" ABOVE THE FLOOR OR GRADE BELOW SHALL HAVE GUARDS NOT LESS THAN 30" IN HEIGHT MEASURED VERTICALLY FROM THE NOSING OF THE TREADS. REQUIRED GUARDS ON OPEN SIDES OF STAIRWAYS, RAISED FLOOR AREAS, BALCONIES, AND PORCHES SHALL HAVE INTERMEDIATE RAILS OR ORNAMENTAL CLOSURES WHICH DO NOT ALLOW PASSAGE OF AN OBJECT 4" OR MORE IN DIAMETER. HORIZONTAL SPACING BETWEEN THE VERTICAL MEMBERS IN REQUIRED GUARDRAILS SHALL BE A MAXIMUM OF 4" AT THE NEAREST POINT BETWEEN MEMBERS.

INSTALL HANDRAILS PER 2018 NC RESIDENTIAL BUILDING CODE SECTION R311.5.6 AT ALL PORCH STAIRS WITH MORE THAN 4 RISERS. HANDRAIL HEIGHT, MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING THE TREAD NOSING, OR FINISH SURFACE OF RAMP SLOPE, SHALL NOT BE LESS THAN 34" AND NOT MORE THAN 38"



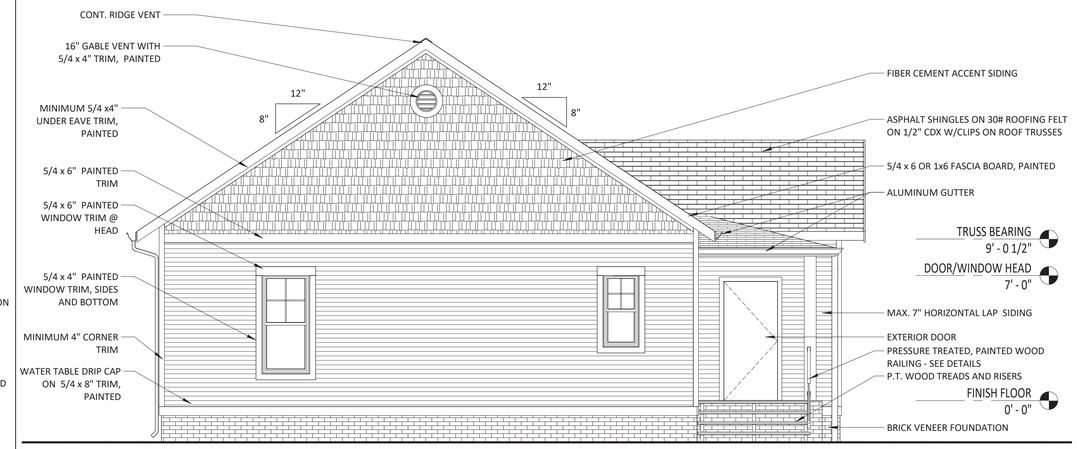
5 RAILING DETAIL

1 1/2" = 1'-0"



4 LEFT ELEVATION

1/4" = 1'-0"

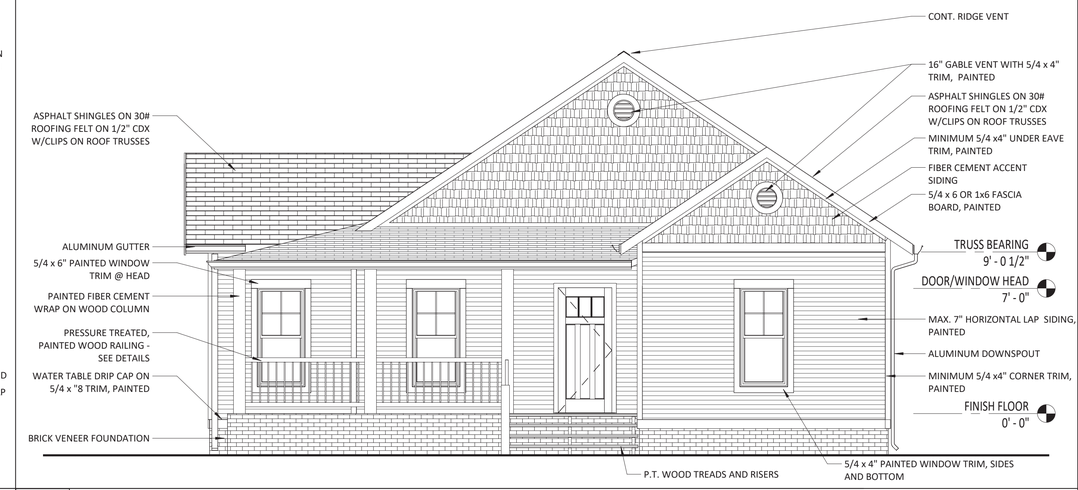


2 REAR ELEVATION

1/4" = 1'-0"

3 RIGHT ELEVATION

1/4" = 1'-0"



1 FRONT ELEVATION

1/4" = 1'-0"

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BRADLEY J. McCLUNG
08/26/20

NO	REVISIONS	DATE

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CHECKED BY: BJM
FIRST ISSUE DATE: 08/26/20

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EXTERIOR ELEVATIONS

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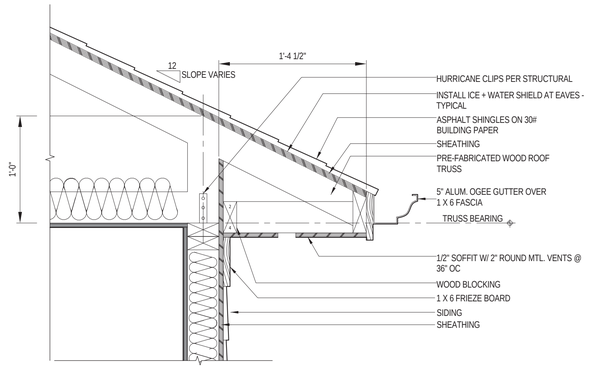
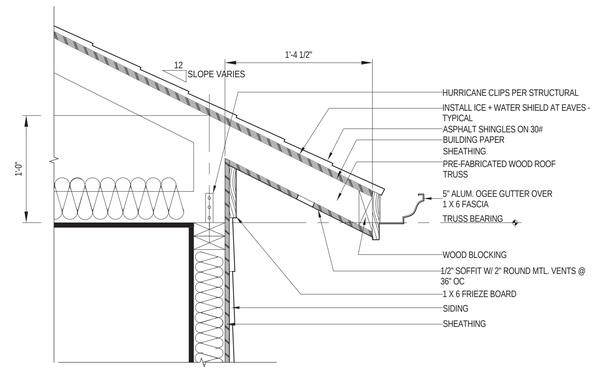


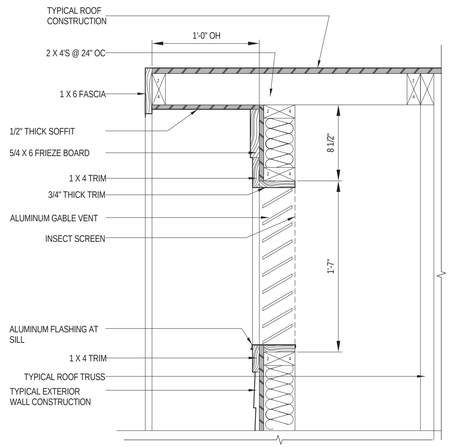
4 ALTERNATE SOFFIT DETAIL

1 1/2" = 1'-0"



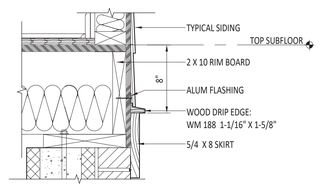
3 TYPICAL CORNICE DETAIL

1 1/2" = 1'-0"



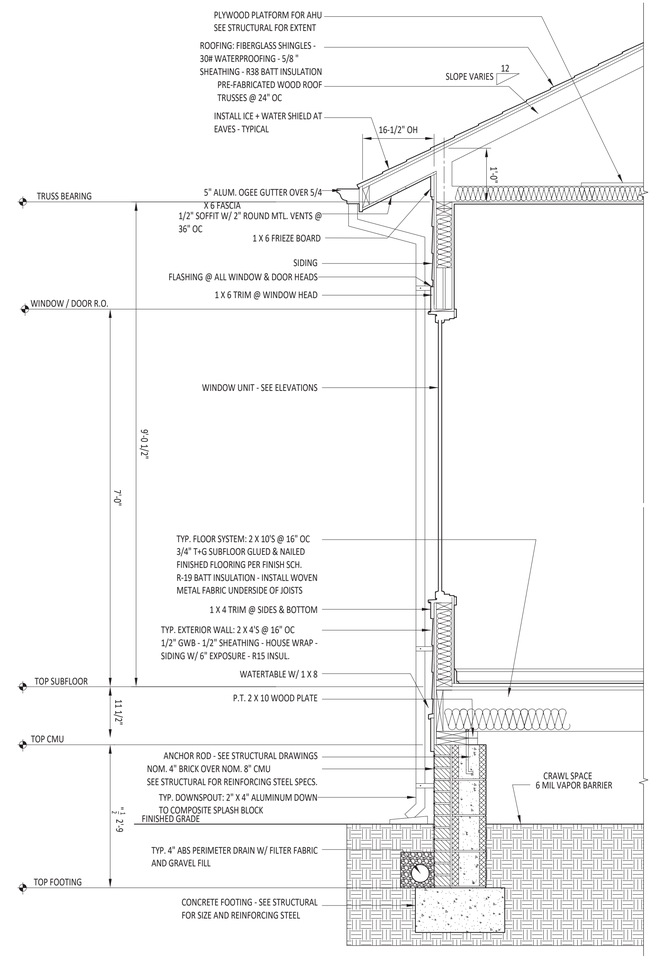
2 TYPICAL RAKE DETAIL

1 1/2" = 1'-0"



5 WATER TABLE DETAIL

1 1/2" = 1'-0"



1 WALL SECTION

3/4" = 1'-0"

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ARCHITECT
BRADLEY J. McCLUNG
08/26/20

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WALL SECTION AND DETAILS

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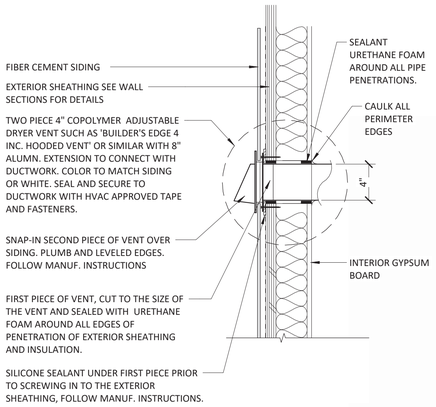
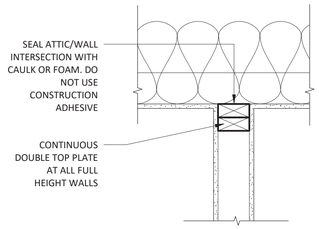


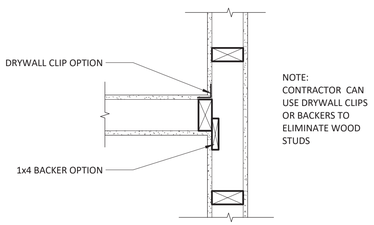
13 EXT. DRYER WALL VENT DETAIL

1 1/2" = 1'-0"



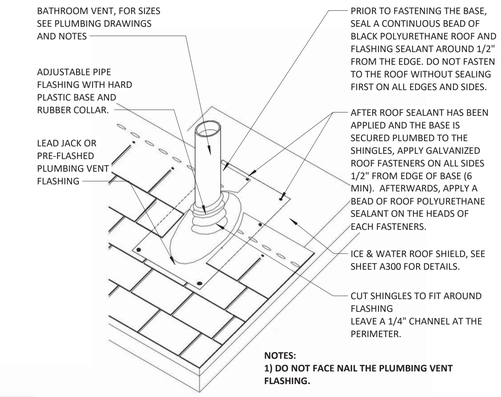
12 INTERIOR WALL AT ATTIC

1 1/2" = 1'-0"



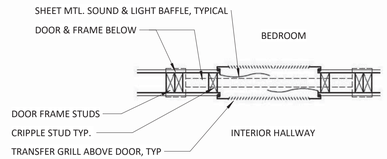
11 INTERIOR INTERSECTING WALL DETAIL

1 1/2" = 1'-0"



10 ROOF VENT DETAIL

1/2" = 1'-0"

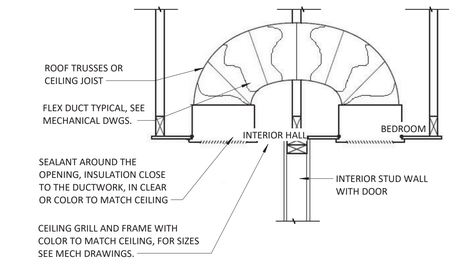


9 BEDROOM PRESSURE BALANCE - TRANS. GRILL

NOT TO SCALE - REFER TO NOTES

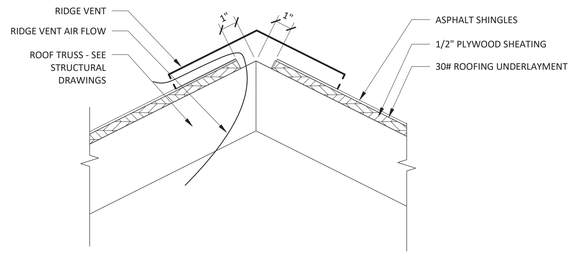
8 TYP EXHAUST FAN DETAIL

NOT TO SCALE - REFER TO NOTES



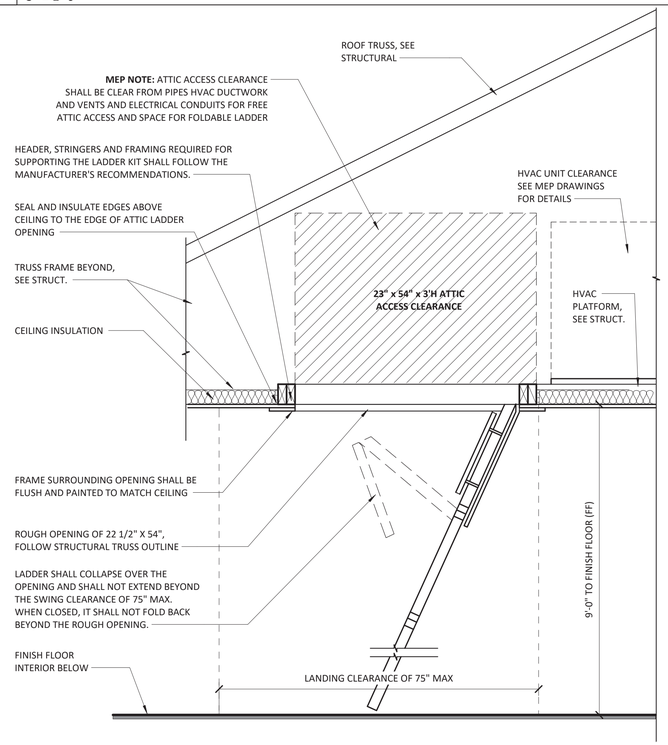
7 BEDROOM PRESSURE BALANCE - JUMPER DUCT

NOT TO SCALE - REFER TO NOTES



6 RIDGE VENT DETAIL

3" = 1'-0"



NOTES:

1. ATTIC ACCESS LADDER SHALL COMPACT BE PER THE DIMENSIONS SHOWN IN THE CHART, LADDER WHEN FOLDED AND NOT IN USE SHALL NOT EXCEED NOR PASS BEYOND THE OPENING.

2. ACCESS LADDER SHALL BE DESIGN BY THE MANUFACTURER OF A CAPACITY OF 250LBS.

3. GENERAL CONTRACTOR IS TO INSTALL AND PURCHASE A PRE-MADE LADDER KIT THAT HAS BEEN DESIGN AND CREATED BY A CERTIFIED MANUFACTURER SUCH AS WERNER OR LOUISVILLE LADDER. ATTIC ACCESS LADDER SHALL NOT BE CUSTOM MADE OR MILLWORK IN THE FIELD BY THE CONTRACTOR.

4. HEADER, STRINGER AND BRACE SHALL BE INSTALLED TO THE TRUSSES AND ROOF JOISTS PER THE MANUFACTURER'S RECOMMENDATION. WOOD NOMINAL FRAME SIZES SHOULD EITHER MATCH JOIST/BRACE OF THE TRUSSES OR PER MANUFACTURER'S RECOMMENDATION.

5. GENERAL CONTRACTOR SHALL NOT CHOOSE A LADDER OF LENGTH LONGER THAN 10'-FT. LADDER SHALL NOT HAVE A CLEARANCE LONGER THAN 75" FOR SWING SPACE.

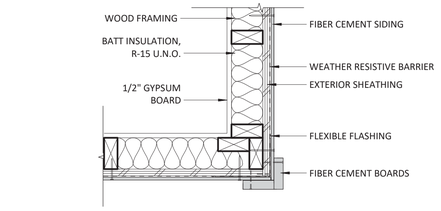
6. ATTIC ACCESS ROUGH OPENINGS SHALL BE SEALED AND INSULATED TO THE EDGE OF THE LADDER OPENING WITH A CLEAN FINISH, NO DENTS, OPENINGS OR CRACKS.

7. ATTIC LADDER DOOR AND FRAME SHALL BE PAINTED TO MATCH CEILING COLOR.

8. ATTIC LADDER DOOR AND FRAME SHALL BE FINISHED, CLEANED AND FLUSH/PLUMBED TO THE CEILING.

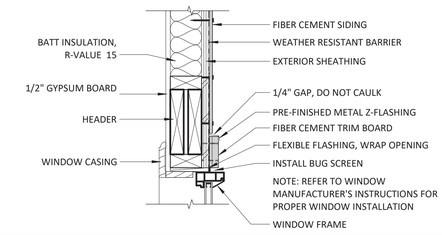
5 ATTIC ACCESS DETAIL & SPECS

3/4" = 1'-0"



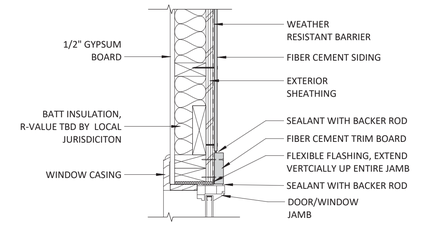
4 TYPICAL OUTSIDE CORNER

1 1/2" = 1'-0"



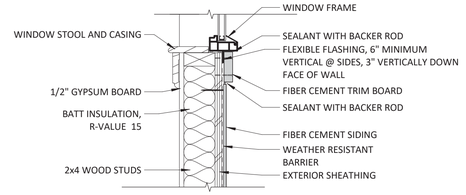
3 EXTERIOR DOOR/WINDOW HEAD

1 1/2" = 1'-0"



2 EXTERIOR DOOR/WINDOW JAMB

1 1/2" = 1'-0"



1 EXTERIOR WINDOW SILL DETAIL

1 1/2" = 1'-0"

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NO	REVISIONS	DATE

DRAWN BY: BJM
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DETAILS

A400

ADA NOTES:

1. INSIDE CLEAR DIMENSIONS SHOWN ARE AS REQUIRED TO MEET HANDICAPPED CLEARANCE CRITERIA. COORDINATE STUD/SUBSTRATE DIMENSIONS WITH WALL TYPES SHOWN ON FLOOR PLAN.

2. PROVIDE FRT WOOD BLOCKING IN WALL BEHIND ALL WALL MOUNTED TOILET ACCESSORIES & EQUIPMENT. VERIFY MOUNTING HEIGHTS OF ALL OWNER MOUNTED EQUIPMENT WITH OWNER REPRESENTATIVE.

3. GRAB BARS TO BE BOBRICK BY LENGTH INDICATED ON DRAWINGS AND TO MEET 609 OF ANSI 2010

4. THE RESTROOM LAYOUT IS BASED ON AND COMPLIES WITH THE "AMERICAN WITH DISABILITIES ACT" LATEST REGULATIONS.
   PLEASE NOTE THE FOLLOWING SECTIONS:

   4.16.5 FLUSH CONTROLS. FLUSH CONTROLS SHALL BE HAND OPERATED OR AUTOMATIC AND SHALL COMPLY WITH 4.27.4. CONTROLS FOR FLUSH VALVES SHALL BE MOUNTED ON THE WIDE SIDE OF TOILET AREAS NO MORE THAN 44" (1120mm) ABOVE THE FLOORS.

   4.19.4 EXPOSED PIPES AND SURFACES. HOT WATER AND DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES.

   4.19.5 FAUCETS. FAUCETS SHALL COMPLY WITH 4.27.4. LEVER-OPERATED PUSH-TYPE, AND ELECTRONICALLY CONTROLLED MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGNS. SELF-CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.

WATER CLOSETS : HEIGHT OF WATER CLOSET SHALL BE 17 INCHES TO 19 INCHES MEASURED TO THE TOP OF THE TOILET SEAT PER ACCESSIBILITY 609 TO BE LOCATED 16 INCHES MIN. AND 18 INCHES MAX. FROM SIDE WALL.

MIRRORS: SHALL BE MOUNTED WITH BOTTOM EDGE OF THE REFLECTING SURFACE NO HIGHER THAN 40 INCHES A.F.F. AND STANDING CENTER TO THE VANITY LAVATORY AT A HEIGHT OF 36" WITH STAINLESS STEEL FRAMING

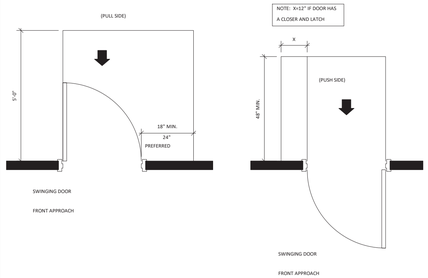
4.26.2 GRAB BARS. OUTSIDE DIAMETER - MIN 1 1/4", MAX 1 1/2", SPACE BETWEEN WALL AND GRAB BAR - 1 1/2" A. GRAB BAR TO BE MOUNTED HORIZONTALLY AT A HEIGHT OF 33 INCHES A.F.F. MIN. AND 36 INCHES A.F.F. MAX. B. A HANDRAIL OR GRAB BAR AND ANY WALL OR OTHER SURFACE ADJACENT TO IT SHALL BE FREE OF ANY SHARP OR ABRASIVE ELEMENTS & EDGES. C. GRAB BARS STRUCTURAL STRENGTH PER ACCESSIBILITY CODE NC 609 AND ANSI 604. 15. PROVIDE BACKER PLATES IN BETWEEN PARTITIONS FOR H.C. GRAB BARS AND COMPLY WITH FBC ACCESSIBILITY 609.***

4.27.4 OPERATION. CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 LBF (222 N).

DOORS WHEN HOUSE HOLD NEEDS TO BE ADA COMPLIANT: DOOR HARDWARE REQUIRED FOR ACCESSIBLE DOOR PASSAGE SHALL BE MOUNTED 34 INCHES MIN. AND 48 INCHES MAX ABOVE FINISHED FLOOR.

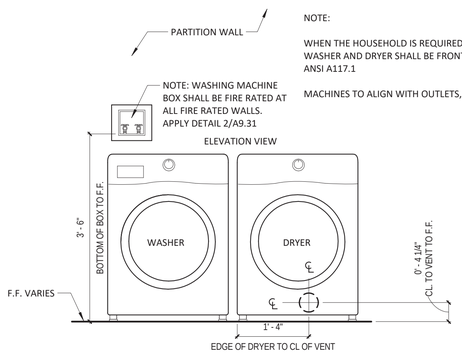
ALL DOORS SHALL BE OPERATED BY A SINGLE EFFORT. EXTERIOR SWING DOORS PUSHED OR PULLED OPEN WITH A FORCE NOT EXCEEDING 8.5 LBF.
SLIDING OF FOLDING DOORS SHALL BE OPERABLE BY A FORCE NOT EXCEEDING 5 LBF.INTERIOR IN-SWING DOORS SHALL BE OPERABLE BY A FORCE NOT EXCEEDING 5 LBF.

***ADA STANDARDS MEET WITH THE AMERICANS DISABILITY ACT GUIDELINES AND PER ANSI A117.1 REQUIREMENTS



DOOR ADA STANDARD DIMENSIONS

3/8" = 1'-0"



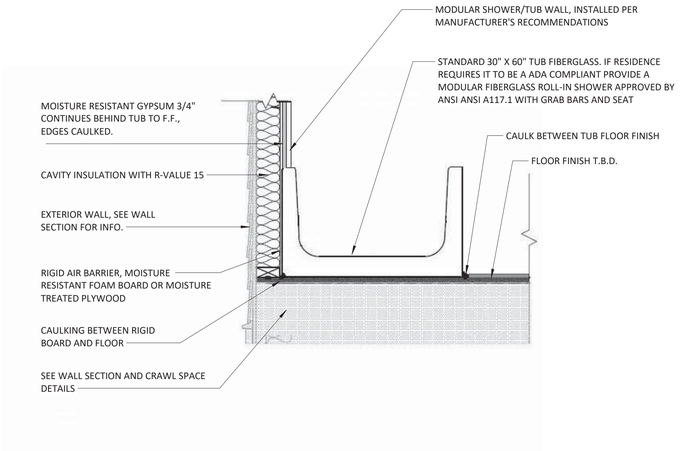
NOTE:

WHEN THE HOUSEHOLD IS REQUIRED TO BE ADA COMPLIANT
WASHER AND DRYER SHALL BE FRONT LOADING ONLY AS APPROVED BY ANSI A117.1

MACHINES TO ALIGN WITH OUTLETS, VENTS AND BOXES

WASHER DRYER DETAIL

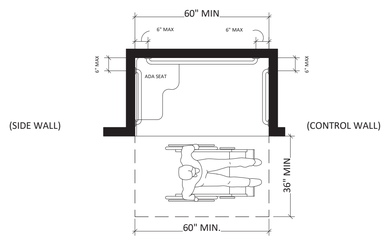
3/4" = 1'-0"



TUB WALL DETAIL

1" = 1'-0"

ADA MODULAR SHOWER WALLS
(BACK WALL)

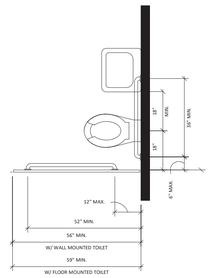


ROLL IN SHOWER

SIZE & CLEARANCE

SHOWER - ADA STANDARD DIMENSIONS

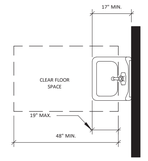
3/8" = 1'-0"



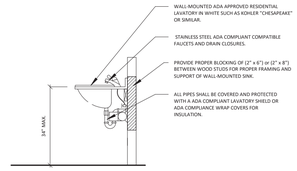
STANDARD WHEELCHAIR GRABBARS AT TOILETS

TOILET ADA STANDARD DIMENSIONS

3/8" = 1'-0"



CLEAR FLOOR SPACE AT LAVATORY



LAVATORY ADA STANDARD DIMENSIONS

3/8" = 1'-0"

According to A.D.A. & the Fair Housing Act Design Manual the following mounting heights apply:

• Receptacles inside units	**1'-3" A.F.F.**	*(to the CL of the lowest receptacle minimum)*
• Receptacles in kitchen above counter	**3'-10" A.F.F.**	*(to the CL of the highest receptacle maximum)*
• Telephone outlets standard	**1'-3" A.F.F.**	*(min. to the CL of outlet)*
• Telephone outlets in kitchen above counter	**3'-10" A.F.F.**	*(max. to the CL of outlet*
• Telephone outlets in kitchen not over counter	**4'-0" A.F.F.**	*(max. to the CL of outlet)*
• A/C thermostats	**4'-0" A.F.F.**	*(max. to the CL of outlet)*
• Switches standards	**4'-0" A.F.F.**	*(max. to the CL of outlet)*
• Switches in kitchen above counter	**3'-10" A.F.F.**	*(max. to the CL of outlet*
• Switches & receptacles in baths above countertops	**3'-6" A.F.F.**	
• TV outlets standard	**1'-3" A.F.F.**	*(min. to the CL of outlet)*
• Strip lights in bathrooms	**6'-6" A.F.F.**	
• Bracket lights outside	**6'-8" A.F.F.**	*(min. to the bottom of fixture)*
• Bracket lights in public areas	**6'-8" A.F.F.**	*(min. to the bottom of fixture for objects protruding more than 4")*
• Fire alarm pull stations	**4'-0" A.F.F.**	*(max. to the CL of outlet)*

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THE NORTH CAROLINA OFFICE OF RESILIENCY AND RECOVERY (NCORR)

WINSLOW II

SUMMIT DESIGN AND ENGINEERING SERVICES, PLLC
CERT. NO. 52006
NORTH CAROLINA REGISTERED ARCHITECTURAL COMPANY
RALEIGH

NORTH CAROLINA PROFESSIONAL SEAL 14254 ARCHITECT
BRADLEY J. McCLUNG
08/26/20

NO	REVISIONS	DATE

DRAWN BY: BJM
CHECKED BY: BJM
FIRST ISSUE DATE: 08/26/20

PROJECT NO.
20-0108.020

BATHROOM DETAILS & MISC NOTES

A500

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DESIGN CRITERIA

1. BUILDING CODE:
   NORTH CAROLINA STATE BUILDING CODE: RESIDENTIAL CODE, 2018 EDITION
2. SNOW LOAD:
   - IMPORTANCE FACTOR (I_s): 1.0
   - GROUND SNOW LOAD (P_g): 20 PSF
   - TERRAIN CATEGORY: C
   - EXPOSURE FACTOR (C_e): 1.0
   - THERMAL FACTOR (C_t): 1.0
3. WIND LOAD:
   - OCCUPANCY CATEGORY: II
   - BASIC WIND SPEED: UP TO 150 MPH
   - EXPOSURE CATEGORY: C
   - COMPONENTS & CLADDING: CALCULATED PER ASCE 7-10
4. SEISMIC LOAD:
   - IMPORTANCE FACTOR (I_E): 1.0
   - SITE CLASS: D
   - SEISMIC DESIGN CATEGORY: B
5. LIVE LOADS:
   - ROOF (MINIMUM): 20 PSF
   - FLOOR: 40 PSF
   - BALCONY / DECK: 60 PSF

GENERAL NOTES:

1. STRUCTURAL MEMBERS, INCLUDING BEAMS, COLUMNS, JOISTS, TRUSSES, WALLS, SLABS AND BRACING ELEMENTS, ARE DESIGNED FOR THE FINAL DESIGN LOADS GIVEN ON THIS SHEET. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SHORING AND BRACING, AS REQUIRED. SHORING IS TO BE DESIGNED TO PRECLUDE OVERSTRESSING OF ANY STRUCTURAL ELEMENT (AS REQUIRED AT ANY STAGE OF CONSTRUCTION) UNTIL COMPLETION OF THIS PROJECT.
2. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ON-SITE SAFETY. AT A MINIMUM, THE CONTRACTOR IS TO RESEARCH AND IMPLEMENT ALL SAFETY REGULATIONS IN FORCE IN THE JURISDICTION OF THIS PROJECT. PRIOR TO THE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL BRING TO THE ATTENTION OF THE STRUCTURAL ENGINEER ANY STRUCTURAL DETAIL THAT WOULD PRODUCE AN UNSAFE CONDITION.

FOUNDATIONS

1. ALL FOUNDATION WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE, CHAPTER 4.
2. THE BUILDING STRUCTURE IS DESIGNED FOR SUPPORT OF SPREAD AND STRIP FOOTINGS WITH AN ASSUMED ALLOWABLE NET SOIL BEARING PRESSURE OF 2000 PSF ON UNDISTURBED SOILS OR FILL COMPACTED TO 98% MAXIMUM DRY DENSITY.
3. ALL EXTERIOR FOUNDATIONS SHALL EXTEND BELOW THE FROST DEPTH SPECIFIC TO THE PROJECT SITE.
4. CRAWL SPACE VENTS SHALL BE 8"X16" MINIMUM AND SHALL BE LOCATED WITHIN 3 FEET OF EACH BUILDING CORNER. CRAWL SPACE DOOR MAY SERVE AS A VENT.
5. INSTALL A 6-MIL POLY VAPOR BARRIER CRAWL SPACE LINER.

CONCRETE

1. ALL CONCRETE WORK SHALL COMPLY WITH THE SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI-301 AND THE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI-318.
2. ALL REINFORCING STEEL IS TO BE TIED TO PREVENT DISPLACEMENT DURING CONCRETE PLACEMENT. TACK WELDING OF REINFORCING STEEL IS PROHIBITED.
3. ALL REINFORCING STEEL IS TO BE CONTINUOUS. AT SPLICE, REINFORCING STEEL SHALL BE LAPPED A MINIMUM OF 38 BAR DIAMETERS (#6 AND SMALLER) OR 48 BAR DIAMETERS (#7 AND LARGER).
4. ALL INTERESECTING STRIP FOOTINGS SHALL HAVE CORNER BARS.
5. TYPICAL REINFORCING CLEAR COVER SHALL CONFORM TO ACI-318.

CONCRETE BLOCK MASONRY

1. ALL MASONRY WORK SHALL COMPLY WITH THE SPECIFICATIONS FOR MASONRY STRUCTURES, ACI 530.1 AND THE BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES, ACI 530.
2. HOLLOW MASONRY UNITS SHALL CONFORM TO ASTM C90, LIGHTWEIGHT, WITH A MIMIMUM COMPRESSIVE STRENGTH f'_m = 1500 PSI ON THE NET BLOCK AREA.
3. MORTAR SHALL CONFORM TO ASTM C270 CEMENT TYPE M OR S. MINIMUM COMPRESSIVE STRENGTH TO BE 2000 PSI.
4. MASONRY GROUT SHALL CONFORM TO ASTM C476 WITH A MAXIMUM AGGREGATE SIZE OF 3/8". MINIMUM COMPRESSIVE STRENGTH SHALL BE 3000 PSI AT 28 DAYS.
5. REINFORCING STEEL (#3 AND LARGER) SHALL BE LAPPED A MINIMUM OF 72 BAR DIAMETERS.
6. ALL BLOCK CELLS SHALL BE FILLED SOLID WITH GROUT WHERE REINFORCING BARS OCCUR.

SAWN LUMBER AND SHEATHING

1. ALL LUMBER WORK SHALL COMPLY WITH THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, ANSI/AWC NDS.
2. ALL MEMBERS SHALL BEAR AN APPROVED GRADE STAMP.
3. ALL DIMENSIONAL LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH MASONRY SHALL BE PRESERVATIVE TREATED.
4. NAILS SHALL BE COMMON WIRE NAILS, UNLESS NOTED OTHERWISE.
5. MULTI-PLY BEAMS SHALL BE FASTENED TOGETHER WITH 8d NAILS @ 16" O.C., T&B, STAGGERED.
6. U.N.O., ALL SHEATHING SHALL BE FASTENED WITH 8d COMMON NAILS AT 6" AND 12" SPACING FOR EDGE AND FIELD, RESPECTIVELY. WALLS SHALL BE BLOCKED.
   - WALL SHEATHING: 1/2" APA RATED OSB
   - ROOF SHEATHING: 1/2" APA RATED OSB
   - SUBFLOOR: 3/4" APA RATED T&G PLYWOOD
7. WALL PANEL HORIZONTAL EDGES SHALL HAVE 8d COMMON NAILS @ 3" O.C.
8. ROOF SHEATHING NAILING AT FIELD SHALL BE REDUCED TO 6" SPACING FOR MINIMUM 48" DISTANCE FROM RIDGES, EAVES, AND GABLE ENDS.

STRUCTURAL COMPOSITE LUMBER

1. ALL STRUCTURAL COMPOSITE LUMBER WORK SHALL COMPLY WITH THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, ANSI/AWC NDS.
2. ALL MEMBERS SHALL BEAR AN APPROVED GRADE STAMP.
3. STRUCTURAL COMPOSITE LUMBER (SCL) DESIGN IS BASED ON THE FOLLOWING MINIMUM DESIGN PROPERITES:
   - LVL: F_b = 2,600 PSI, $F_{c\perp}$ = 750 PSI, F_v = 285 PSI, E = 1,900 KSI
   - GLULAM: 24F-V5 SP/SP
4. LVL MEMBERS SHALL BE PROTECTED FROM WEATHER ACCORDING TO THEIR MANUFACTURER'S RECOMMENDATIONS. GLULAM BEAMS ARE TO BE PRESERVATIVE TREATED IF THEY ARE EXPOSED TO WEATHER.

PRE-ENGINEERED WOOD TRUSSES

1. ALL PRE-ENGINEERED WOOD TRUSS WORK SHALL COMPLY WITH THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, ANSI/AWC NDS.
2. ALL MEMBERS SHALL BEAR AN APPROVED GRADE STAMP.
3. TRUSS MANUFACTURER SHALL PROVIDE DRAWINGS AND CERTIFIED STRUCTURAL CALCULATIONS PREPARED AND SEALED BY A QUALIFIED ENGINEER, REGISTERED IN NORTH CAROLINA. MNFR DRAWINGS SHALL INCLUDE AN ERECTION PLAN WITH DETAILS SHOWING ALL REQUIRED TRUSS PLATES, BLOCKING, BRIDGING, CONNECTION MATERIALS AND OTHER ITEMS AS REQUIRED TO PROVIDE A COMPLETE INSTALLATION.
4. CALCULATIONS SHALL CLEARLY INDICATE ALL DESIGN LOADS SHOWN ON THESE DRAWINGS AND OTHER LOADS AS REQUIRED. TRUSSES SHALL BE DESIGNED FOR "IN PLACE" LOADS AND MUST BE DESIGNED TO WITHSTAND ALL FABRICATING, TRANSPORTING, AND ERECTION STRESSES.
5. THE TRUSS PLATE MANUFACTURER SHALL BE A MEMBER OF THE TRUSS PLATE INSTITUTE. THE TRUSS FABRICATOR SHALL PARTICIPATE IN AN APPROVED THIRD PARTY QUALITY ASSURANCE PROGRAM THAT MEETS TRUSS PLATE INSTITUTE REQUIREMENTS.
6. DESIGN TRUSS TO WITHSTAND LOADS SHOWN ON DRAWING WITHOUT DEFLECTIONS GREATER THAN L/360 FOR FLOOR TRUSSES AND L/240 FOR ROOF TRUSSES.
7. TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING SERVICE LOADS:
   - TOP CHORD LIVE: 20 PSF
   - TOP CHORD COLLATERAL: 15 PSF
   - BOT CHORD COLLATERAL: 10 PSF
   - TRUSS SELF WEIGHT: BY TRUSS MNFR
   - WIND LOADS: CALCULATED BY TRUSS MNFR PER ASCE 7-10

MATERIALS

1. STEEL
   - BOLTS (WOOD FRAMING): ASTM A307
   - BOLTS (ANCHOR): ASTM F1554 GRADE 36
   - METAL DECKING: ASTM A653 GRADE 80 (GALV 60)
2. REINFORCING STEEL
   - GENERAL REINFORCING: ASTM A615, f_y = 60 KSI
   - WELDED WIRE FABRIC: ASTM A185, IN FLAT SHEETS
3. CONCRETE
   - FOOTINGS: f'_c = 3000 PSI, NORMAL-WEIGHT
   - SLAB-ON-GRADE: f'_c = 3000 PSI, NORMAL-WEIGHT
   - ELEVATED SLABS: f'_c = 3000 PSI, LIGHTWEIGHT (110 PCF MAX)
4. DIMENSIONAL LUMBER
   - JOISTS, RAFTERS, & GIRDERS: SPF NO.2 OR BETTER
   - WALL STUDS: SPF NO.2 OR BETTER

HEADER SCHEDULE

MAX OPENING	SIZE	JACK STUDS	KING STUDS
4' - 0"	(2) 2X8	2X4	(2) 2x4
6' - 8"	(2) 2X10	(2) 2X4	(3) 2x4

FACE MOUNTED HANGER SCHEDULE

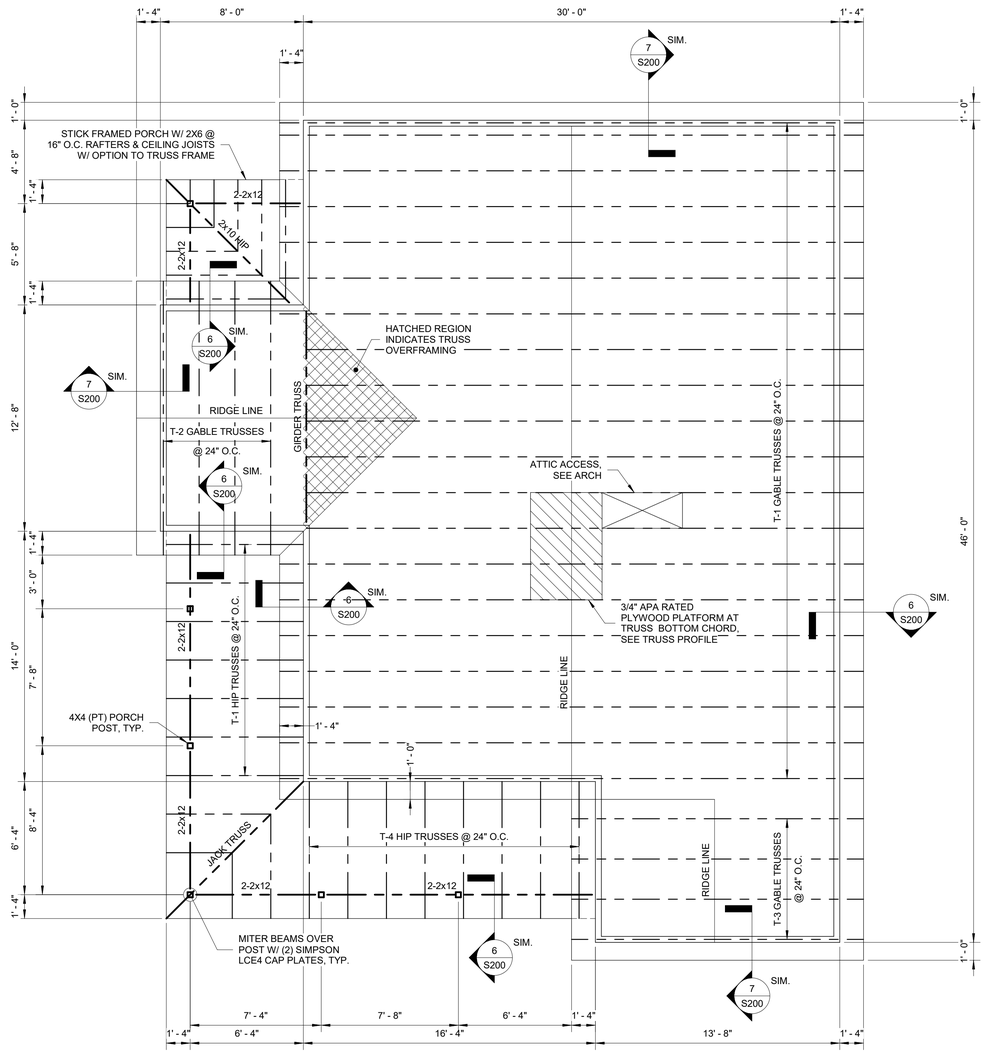
SIZE	SIMPSON PART NO.	SIZE	SIMPSON PART NO.
2x6	LUS26	2x10	LUS210
(2) 2x6	LUS26-2	(2) 2x10	HUS210-2
(3) 2x6	LUS26-3	(3) 2x10	HUS210-3
2x8	LUS28	2x12	LUS210
(2) 2x8	LUS28-2	(2) 2x12	HUS212-2
(3) 2x8	LUS28-3	(3) 2x12	HUS212-3

CRAWL SPACE VENT CALCS: CRAWL SPACE W/ VAPOR BARRIER REQUIRES 1 SF VENT AREA PER 1500 SF CRAWL SPACE AREA

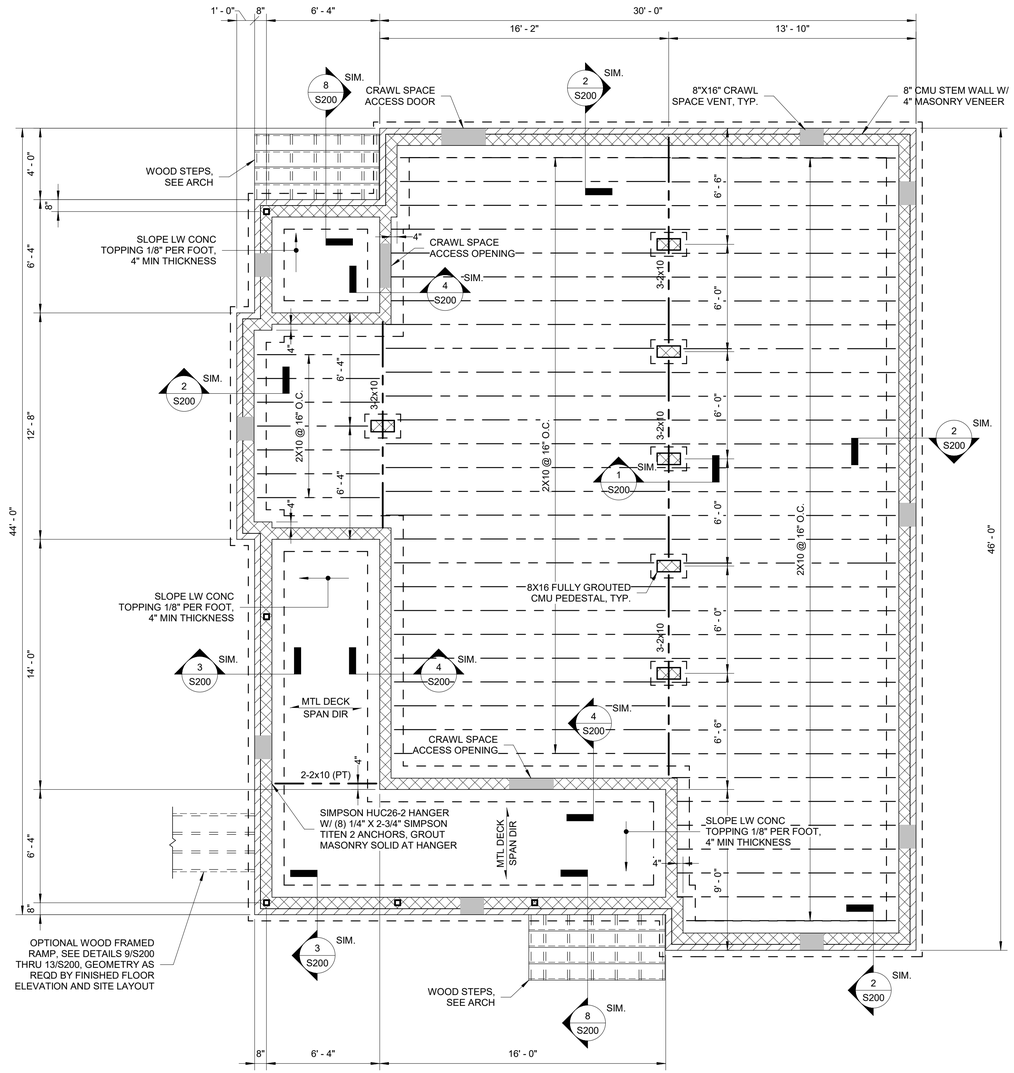
1450 SF CRAWL SPACE /1500 SF = 0.97 SF VENT AREA
0.97 SF X 144 IN^2/SF = 140 IN^2

8"X16" VENTS W/ 50% FREE AIR SPACE = 64 IN^2 FREE AIR PER VENT

140 IN^2 /64 IN^2 = 3 VENTS REQUIRED -> 8 VENTS PROVIDED



2 ROOF FRAMING PLAN
1/4" = 1'-0"



1 FOUNDATION & FLOOR FRAMING PLAN
1/4" = 1'-0"

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THE NORTH CAROLINA OFFICE OF RESILIENCY AND RECOVERY (NCORR)

WINSLOW II

NORTH CAROLINA PROFESSIONAL SEAL 29668 ENGINEER CHRISTIAN BERG
08/26/2020

NO	REVISIONS	DATE

DRAWN BY: UO
CHECKED BY: JWB
FIRST ISSUE DATE: 08/26/2020

PROJECT NO.
20-0170.400

GENERAL NOTES & PLANS

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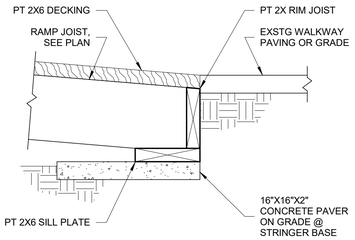
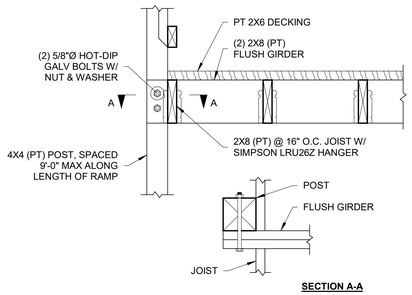
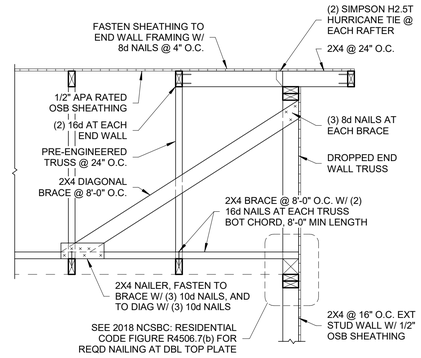


13 OPTIONAL RAMP LANDING SECTION
NTS

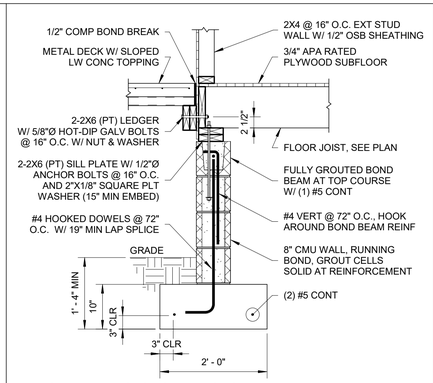
NOTES:
1. GUARDRAILS ARE REQUIRED FOR ALL LOCATIONS WHERE THE TOP OF DECKING IS 30" OR MORE ABOVE GRADE. SEE TYPICAL DETAILS.
2. RAMP SLOPE SHALL NOT EXCEED 1 UNIT VERTICAL PER 12 UNITS HORIZONTAL.
3. PROVIDE 36" MINIMUM EGRESS WIDTH.



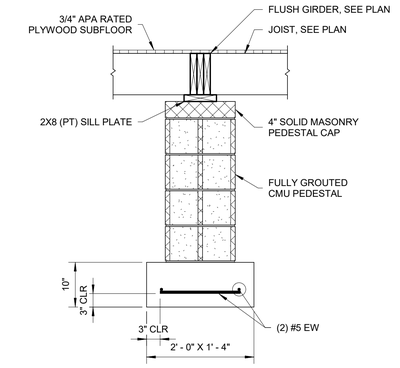
10 OPTIONAL RAMP INTERMEDIATE SUPPORT SECTION
NTS



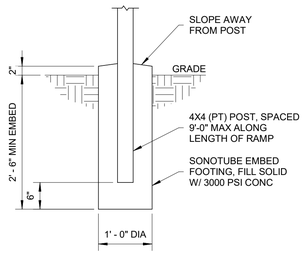
7 GABLE END WALL SECTION
NTS



4 STEM WALL SECTION AT PORCH
NTS

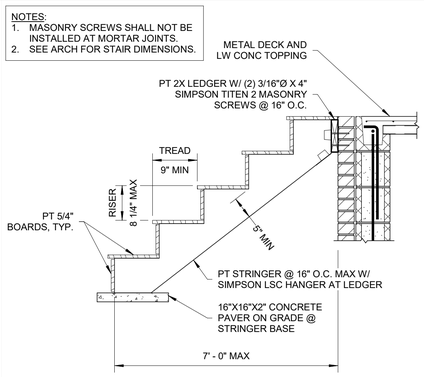


1 TYPICAL PEDESTAL SECTION
NTS



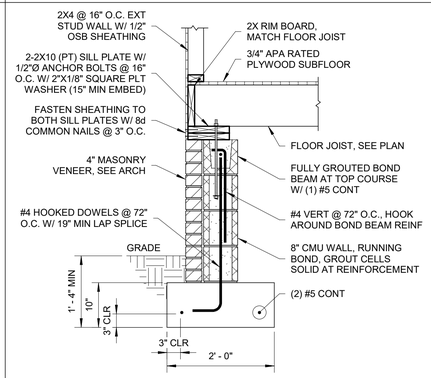
11 OPTIONAL RAMP EMBED POST SECTION
NTS

NOTES:
1. MASONRY SCREWS SHALL NOT BE INSTALLED AT MORTAR JOINTS.
2. SEE ARCH FOR STAIR DIMENSIONS.

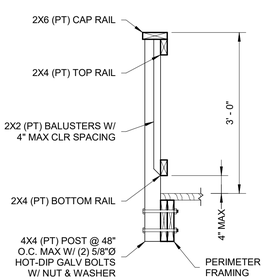


8 TYPICAL WOOD STAIR SECTION
NTS

SPACE INTENTIONALLY LEFT BLANK

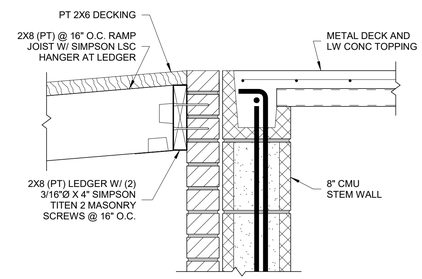


2 TYPICAL STEM WALL SECTION
NTS



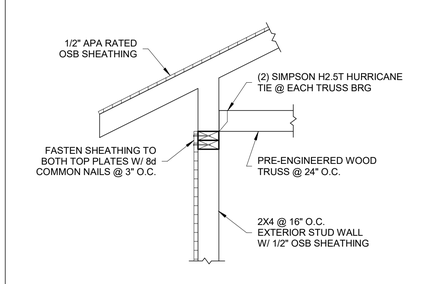
12 OPTIONAL RAMP HANDRAIL SECTION
NTS

NOTE: MASONRY SCREWS SHALL NOT BE INSTALLED AT MORTAR JOINTS.



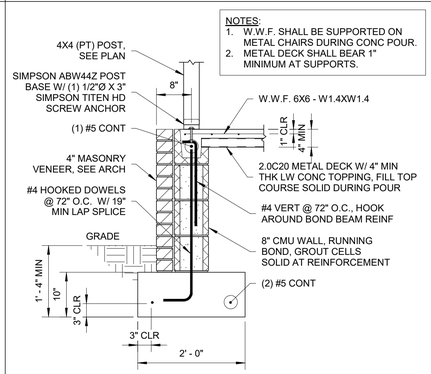
9 OPTIONAL RAMP LEDGER SECTION
NTS

NOTE: AS REQUIRED AT BEARING, BRIDGING OR BLOCKING BETWEEN TRUSSES BY MNFR.



6 TYPICAL TRUSS BEARING SECTION
NTS

NOTES:
1. W.W.F. SHALL BE SUPPORTED ON METAL CHAIRS DURING CONC POUR.
2. METAL DECK SHALL BEAR 1" MINIMUM AT SUPPORTS.



3 TYPICAL PORCH STEM WALL SECTION
NTS

SUMMIT
DESIGN AND ENGINEERING SERVICES
State License #: P-0339
1110 Navaho Drive, Suite 600 Raleigh, NC 27609
(919) 322-4113 fax (919) 322-0116
www.SummitDE.net

THE NORTH CAROLINA OFFICE OF RESILIENCY AND RECOVERY (NCORR)

WINSLOW II

NORTH CAROLINA PROFESSIONAL SEAL 20668 ENGINEER CHRISTIAN BERG
08/26/2020

NO	REVISIONS	DATE

DRAWN BY: UO
CHECKED BY: JWB
FIRST ISSUE DATE: 08/26/2020
PROJECT NO.
20-0170.400

DETAILS

S200

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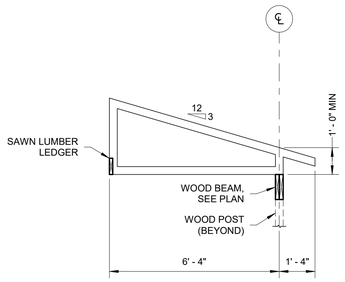
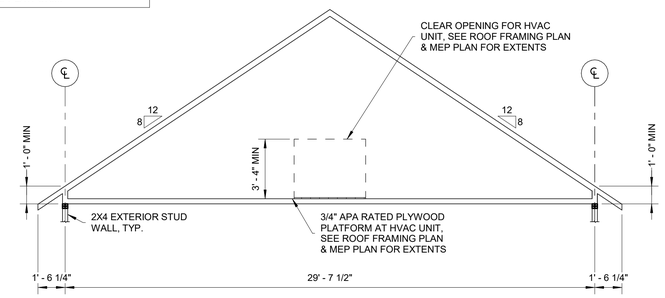


3 HIP TRUSS PROFILE, T-4
3/8" = 1'-0"

NOTE: TRUSS BOTTOM CHORD SHALL BE DESIGNED FOR AN ADDITIONAL 50 PSF MECH LIVE LOAD AT HVAC PLATFORM.



4 GABLE TRUSS PROFILE, T-1
1/4" = 1'-0"

2 GABLE TRUSS PROFILE T-2
3/8" = 1'-0"

1 GABLE TRUSS PROFILE, T-3
3/8" = 1'-0"

SUMMIT
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THE NORTH CAROLINA OFFICE OF RESILIENCY AND RECOVERY (NCORR)

WINSLOW II

NORTH CAROLINA PROFESSIONAL SEAL 039339 ENGINEER C. CHRISTIAN BERG
08/26/2020

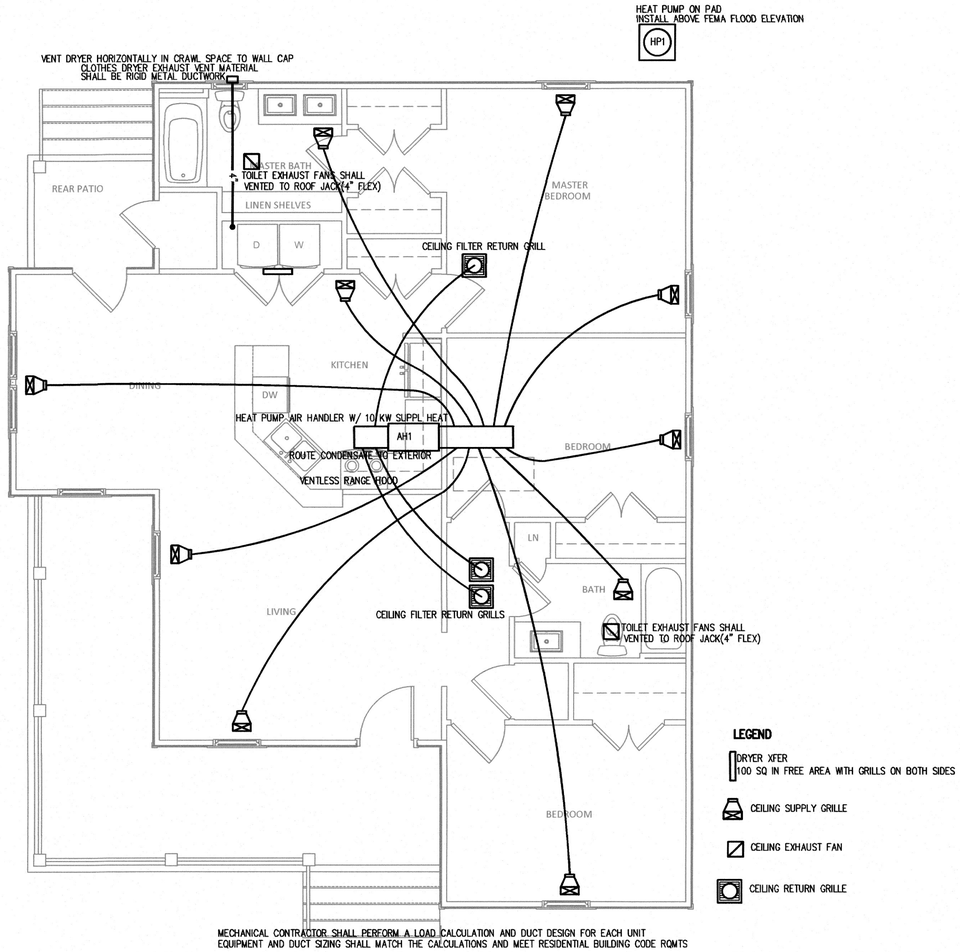
NO	REVISIONS	DATE

DRAWN BY: UO
CHECKED BY: JWB
FIRST ISSUE DATE: 08/26/2020

PROJECT NO.
20-0170.400

TRUSS PROFILES

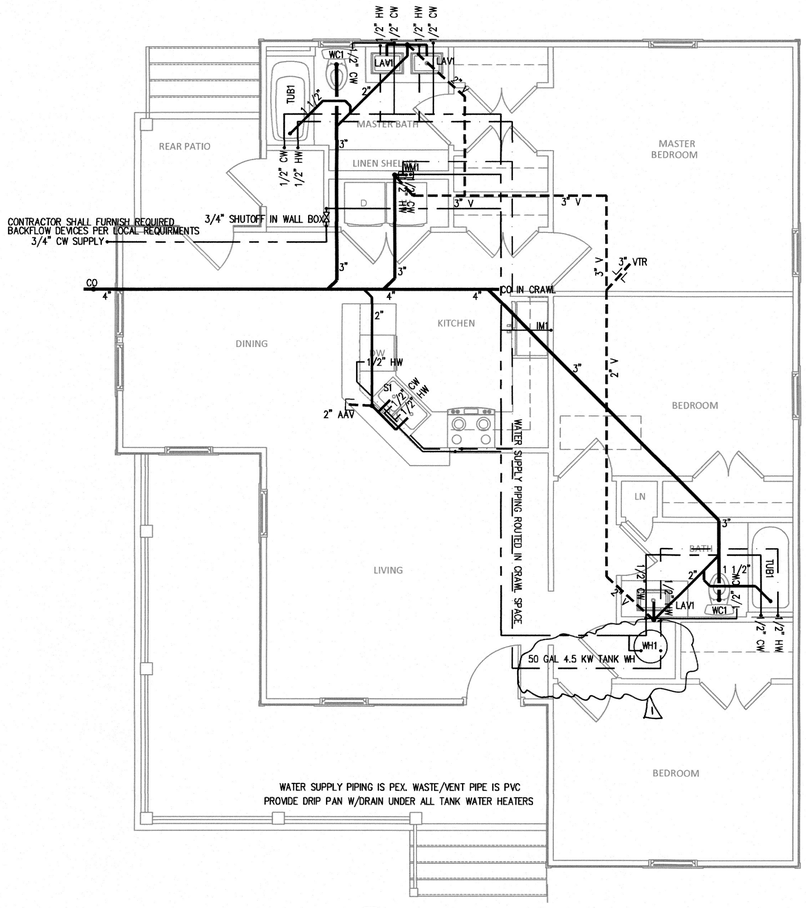
S201



MECHANICAL CONTRACTOR SHALL PERFORM A LOAD CALCULATION AND DUCT DESIGN FOR EACH UNIT
EQUIPMENT AND DUCT SIZING SHALL MATCH THE CALCULATIONS AND MEET RESIDENTIAL BUILDING CODE RQMTS

1 HVAC PLAN
PM-100 SCALE 1/4"=1'-0"

THIS PLAN REPRESENTS A DWELLING THAT IS INTENDED TO BE CONSTRUCTED ON MULTIPLE SITES. BY DEFINITION SITE VARIATIONS WILL REQUIRE ADAPTATION BY THE HOME BUILDER. GAS HEAT MAY BE IMPLEMENTED IN SOME CIRCUMSTANCES.



WATER SUPPLY PIPING IS PEX. WASTE/VENT PIPE IS PVC
PROVIDE DRIP PAN W/DRAIN UNDER ALL TANK WATER HEATERS

2 PLUMBING PLAN
PM-100 SCALE 1/4"=1'-0"

THIS PLAN REPRESENTS A DWELLING THAT IS INTENDED TO BE CONSTRUCTED ON MULTIPLE SITES. BY DEFINITION SITE VARIATIONS WILL REQUIRE ADAPTATION BY THE HOME BUILDER.

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NICK KISLEY P.E.
115 MACKENAN DRIVE
CARY, N.C. 27511 (919)460-9091

THE NORTH CAROLINA OFFICE OF RESILIENCY AND RECOVERY (NCORR)

WINSLOW II

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 9531 DONALD NICHOLAS KISLEY

NO	REVISIONS	DATE
1	TANK DIA	7-14-23

DRAWN BY: DNK
CHECKED BY: DNK
FIRST ISSUE DATE: 08/26/2020
PROJECT NO.
20-0108.020

PME FLOOR PLANS

PM-100

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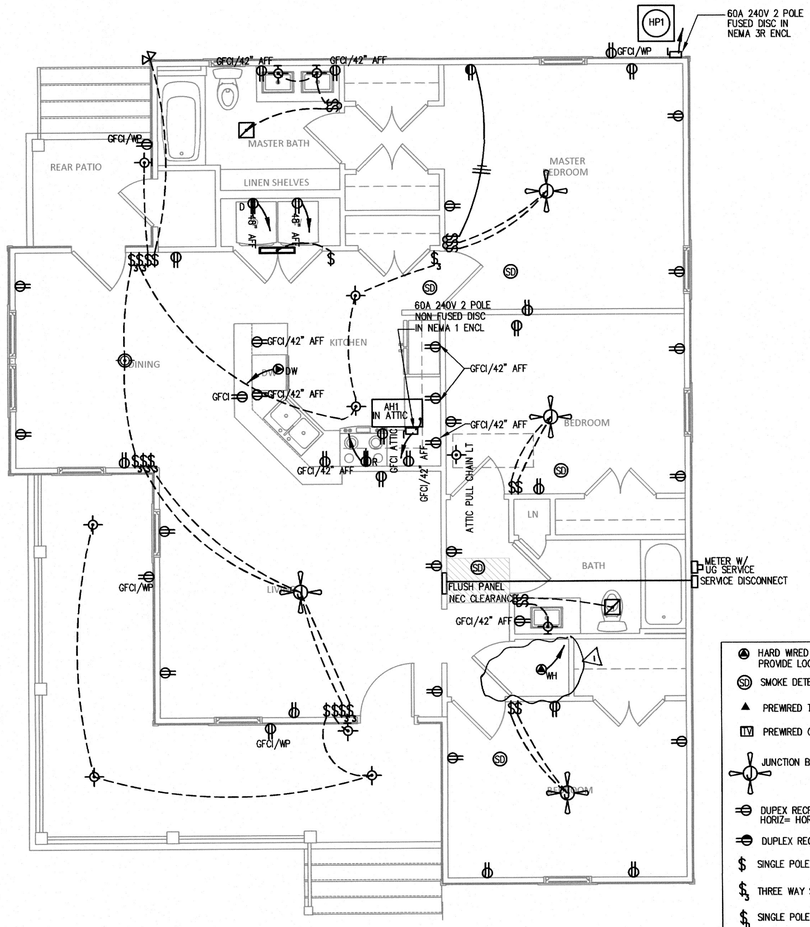

1 ELECTRICAL PLAN
E-100 SCALE 1/4"=1'-0"

THIS PLAN REPRESENTS A DWELLING THAT IS INTENDED TO BE CONSTRUCTED ON MULTIPLE SITES. BY DEFINITION SITE VARIATIONS WILL REQUIRE ADAPTATION BY THE HOME BUILDER.

LEGEND

- HARD WIRED APPLIANCE PROVIDE LOCAL DISCONNECT WHERE REQUIRED
- SD SMOKE DETECTOR– BUILDING EQUIPPED WITH FULL FIRE ALARM SYSTEM
- PREWIRED TELE/DATA JACK(CAT 5 CABLE)
- TV PREWIRED CABLE TV OUTLET– RJ6
- JUNCTION BOX SUITABLE FOR MOUNTING CEILING FAN
- DUPEX RECP HORIZ= HORIZONTAL IN BACKSPLASH
- DUPLEX RECP ONE SIDE SWITCHED

ALL RECEPTACLES SHALL BE INSTALLED AT 18" AFF UNLESS NOTED AS "CT" WHICH ARE TO BE INSTALLED TO SERVE COUNTERTOP SURFACES OR MARKED WITH HEIGHT.

- $ SINGLE POLE SWITCH
- $3 THREE WAY SWITCH
- $D SINGLE POLE SLIDE DIMMER

INSTALL ALL SWITCHES AT 48" UNLESS OTHERWISE NOTED.

- R RANGE RECEPTACLE
- D DRYER RECEPTACLE
- SIMPLEX RECP
- FUSE DISCONNECT SWITCH
- 2' LED CLOSET STRIP
- PENDENT FIXTURE
- FLOOD LIGHT
- WALL SCONCE
- OVERHEAD FIXTURE
- EXH FAN LIGHT COMBO VENT TO EXTERIOR

ALL FIXTURES FURNISHED WITH LAMPS
INSTALL AFI AND GFI BREAKERS WHERE REQUIRED BY CODE
WIRING METHODS ARE PER THE LATEST EDITION OF NFPA 72(NEC)
ALL CONDUCTORS 30A OR LESS ARE COPPER. FEEDER CONDUCTORS OVER 30A ARE ALUMINUM

SUMMIT DESIGN AND ENGINEERING SERVICES
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NICK KISLEY P.E.
115 MACKENAN DRIVE
CARY, N.C. 27511 (919)460-9091

THE NORTH CAROLINA OFFICE OF RESILIENCY AND RECOVERY (NCORR)

WINSLOW II

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 9531 DONALD NICHOLAS KISLEY 7-16-23

NO	REVISIONS	DATE
1	PME WH	7-16-23

DRAWN BY: DNK
CHECKED BY: DNK
FIRST ISSUE DATE: 08/26/2020
PROJECT NO.
20-0108.020

PME FLOOR PLANS

E-100

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Home Energy Rating Certificate

Projected Report
Based on Plans

Rating Date:
Registry ID:
Ekotrope ID: Ydx7rXwL

VANDEMUSSER DESIGN PLLC

HERS® Index Score:

62

Your home's HERS score is a relative performance score. The lower the number, the more energy efficient the home. To learn more, visit www.hersindex.com

Annual Savings

$1,085

*Relative to an average U.S. home

Home:

Wilmington, NC 28403

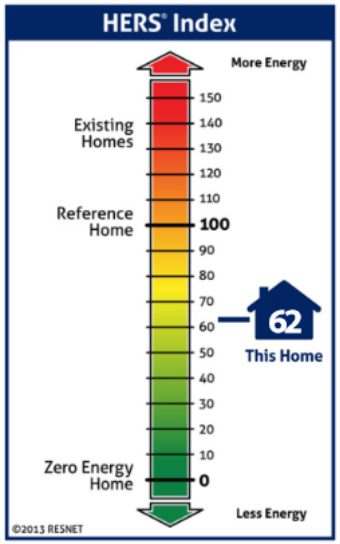
Builder:
NCORR

Your Home's Estimated Energy Use:

	Use [MBtu]	Annual Cost
Heating	9.2	$269
Cooling	4.7	$143
Hot Water	5.7	$169
Lights/Appliances	13.5	$401
Service Charges		$185
Generation (e.g. Solar)	0.0	$0
Total:	**33.1**	**$1,168**

This home meets or exceeds the criteria of the following:

2009 International Energy Conservation Code
2006 International Energy Conservation Code



Home Feature Summary:

Home Type:	Single family detached
Model:	Winslow II
Community:	N/A
Conditioned Floor Area:	1,340 ft²
Number of Bedrooms:	3
Primary Heating System:	Air Source Heat Pump • Electric • 8.2 HSPF
Primary Cooling System:	Air Source Heat Pump • Electric • 14 SEER
Primary Water Heating:	Residential Water Heater • Electric • 0.92 UEF
House Tightness:	5 ACH50
Ventilation:	None
Duct Leakage to Outside:	53.5 CFM @ 25Pa (3.99 / 100 ft²)
Above Grade Walls:	R-15
Ceiling:	Attic, R-38
Window Type:	U-Value: 0.35, SHGC: 0.3
Foundation Walls:	N/A
Framed Floor:	R-19

Rating Completed by:

Energy Rater: Matthew Vande
RESNET ID: 8716644

Rating Company: VandeMusser Design
26 Crabapple Lane
8283484723

Rating Provider: VandeMusser Design
26 Crabapple Lane
8283484723

Matthew Vande, Certified Energy Rater
Digitally signed: 8/25/23 at 3:34 PM

ekotrope

Energy savings calculated without modifications to the energy model. (As Modeled)

Ekotrope RATER - Version:4.1.1.3228
The Energy Rating Disclosure for this home is available from the Approved Rating Provider.
This report does not constitute any warranty or guarantee.

North Carolina 2018 - Simulated Performance Alternative (N1105)

Property
Wilmington, NC 28403
Model: Winslow II

20029-02 TASK 14 Winslow II 1340 SF
Winslow II BASE SPEC new WH

Organization
VandeMusser Design
Matthew Vande
8283484723

Builder
NCORR

Inspection Status
Results are projected

This report is based on a proposed design and does not confirm field enforcement of design elements.

Annual Energy Cost

Design	North Carolina 2018 Performance	As Designed
Heating	$287	$284
Cooling	$224	$212
Water Heating	$264	$264
Mechanical Ventilation	$0	$0
SubTotal - Used to determine compliance	**$775**	**$761**
Lights & Appliances w/out Ventilation	$397	$397
Onsite generation	$0	$0
Total	**$1,172**	**$1,158**

R405.3 Source Energy Exception: The proposed home uses 1.55 MBtu LESS source energy than the reference home.

Requirements

✓	R405.3	Performance-based compliance passes by 1.9%	The proposed house meets the North Carolina 2018 Performance reference energy bill requirement by $14.45 (1.55 MBtu).
✓	R402.4.2.2	Air Leakage Testing	Air sealing is 0.24 CFM50 / ft² Shell Area. It must not exceed 0.30 CFM50 / ft² Shell Area.
✓	R402.5	Area-weighted average fenestration SHGC	Area-weighted average fenestration SHGC is 0.271. The maximum allowed value is 0.5.
✓	R402.5	Area-weighted average fenestration U-Factor	
✓	R404.1	Lighting Equipment	At least 75.0% of fixtures shall be high-efficacy lamps, currently 100.0% are high-efficacy.
✓	Mandatory Checklist	Mandatory code requirements that are not checked by Ekotrope must be met.	2015 IECC Mandatory Checklist must be checked as complete.
✓	R403.3.1	Duct Insulation	Duct insulation meets the requirements specified in North Carolina 2018 Code Section 403.3.1.

Design exceeds requirements for North Carolina 2018 Performance compliance by 1.9%.

As a 3rd party extension of the code jurisdiction utilizing these reports, I certify that this energy code compliance document has been created in accordance with the requirements of Chapter 4 of the adopted International Energy Conservation Code based on NEW HANOVER County. If rating is Projected, I certify that the building design described herein is consistent with the building plans, specifications, and other calculations submitted with the permit application. If rating is Confirmed, I certify that the address referenced above has been inspected/tested and that the mandatory provisions of the IECC have been installed to meet or exceed the intent of the IECC or will be verified as such by another party.

Name: Matthew Vande
Signature: Matthew L Vande
Organization: VandeMusser Design
Digitally signed: 8/25/23 at 3:34 PM

North Carolina 2018 - R402.1.5 Total UA

Property
Wilmington, NC 28403
Model: Winslow II

20029-02 TASK 14 Winslow II 1340 SF
Winslow II BASE SPEC new WH

Organization
VandeMusser Design
Matthew Vande
8283484723

Builder
NCORR

Inspection Status
Results are projected

This report is based on a proposed design and does not confirm field enforcement of design elements.

Building UA

Elements	NC Reference	As Designed
Ceilings	40.2	48.2
Above-Grade Walls	102.5	96.9
Windows, Doors and Skylights	63.8	52.7
Slab Floor:	0.0	0.0
Framed Floors	63.0	67.4
Foundation Walls	0.0	0.0
Rim Joists	0.0	0.0
Overall UA (Design must be equal or lower):	**269.5**	**265.2**

Requirements

✓	R402.1.5	Total UA alternative compliance passes by 1.6%.	The proposed home meets the UA requirement by 1.6%
✓	402.3.2	Average SHGC: 0.27 Max SHGC: 0.30	Average SHGC of 0.27 is greater than the maximum of 0.30.
✓	R402.4.2.2	Air Leakage Testing	Air sealing is 0.24 CFM50 / ft² Shell Area. It must not exceed 0.30 CFM50 / ft² Shell Area.
✓	R402.5	Area-weighted average fenestration SHGC	Area-weighted average fenestration SHGC is 0.271. The maximum allowed value is 0.5.
✓	R402.5	Area-weighted average fenestration U-Factor	
✓	R404.1	Lighting Equipment	At least 75.0% of fixtures shall be high-efficacy lamps, currently 100.0% are high-efficacy.
✓	Mandatory Checklist	Mandatory code requirements that are not checked by Ekotrope must be met.	2015 IECC Mandatory Checklist must be checked as complete.
✓	R403.3.1	Duct Insulation	Duct insulation meets the requirements specified in North Carolina 2018 Code Section 403.3.1.
✓	403.3.3	Duct Testing	

Design exceeds requirements for North Carolina 2018 Prescriptive compliance by 1.6%.

Name: Matthew Vande
Organization: VandeMusser Design
Signature: 
Digitally signed: 8/25/23 at 3:34 PM

North Carolina 2018 ERI Compliance Report
Projected Energy Rating Index Report

Property

Builder:NCORR
Address:, Wilmington, NC 28403

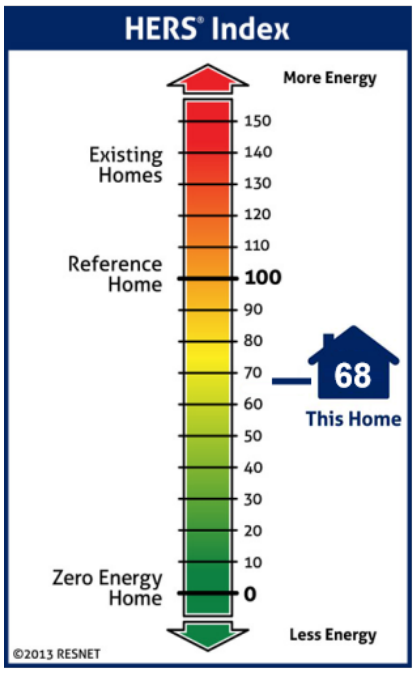
Organization

Company:VandeMusser Design
Phone:8283484723
Rater:Matthew Vande

Energy Rating Index Information

Projected Rating
Rating No:
Date Rated:
Rater ID (RTIN):8716644

DOES NOT PASS



Estimated Annual Energy Consumption*		
	Rated Home Calculated Energy Use (MBtu)	Rated Home Cost ($/yr)
Heating	9.2	$269
Cooling	4.7	$143
Water Heating	5.7	$169
Lights & Appliances	13.5	$401
Photovoltaics	0.0	$0
Service charge	-	$185
Total	**33.1**	**$1,168**

*Based on standard operating conditions

ERI with PV:68 **ERI without PV:68**

Annual Estimates	
Electric (kWh):9,703.4	CO2 Emissions (Tons):6.0
Natural Gas (Therms):0.0	Energy Savings ($)**:N/A

**Based on the North Carolina 2018 ERI Compliance Report Reference design home

Maximum Energy Rating Index:61	This Home's Energy Rating Index:68	FAIL

This home DOES NOT MEET the Energy Rating Index Score requirement of North Carolina 2018 ERI Compliance Report for Climate Zone 3. It DOES NOT MEET all of the requirements verified by Ekotrope. Mandatory requirements are summarized on the 2nd page of this report, some of which are not verified by Ekotrope.

Name: Matthew Vande
Signature:
Organization: VandeMusser Design
Digitally signed: 8/25/23 at 3:34 PM

Rating Provider Data and Seal

Company:VandeMusser Design
Address:26 Crabapple Lane
Phone #:8283484723
Fax #:8282538347

NATIONAL MORTGAGE INDUSTRY HERS ACCREDITATION REGISTRY No. 1998-107

To determine if a provider is properly accredited go to: **www.resnet.us/professional/programs/search_directory**

(Projected. Confirmation required.)

Climate Zone 3	Mandatory Requirements	
Provision Number	**Topic**	**Compliance Decision**
North Carolina 2012 Table 402.1.1 or 402.1.3	Building thermal envelope minimum insulation levels and maximum fenestration U-factor and SHGC	PASS
R401.3	Post a permanent certificate listing the level of efficiencies installed in the house	Certificate required for CO
R402.4.2.2	Envelope air leakage maximum leakage rate	PASS
R402.4.1 / Table R402.4.1.1	Comply with air sealing and insulation requirements in Table R402.4.1.1	Checklist required for CO
R402.4.4	Rooms containing fuel-burning appliances	PASS*
R402.5	Maximum fenestration U-factor and SHGC	(U-Factor) PASS
		(SHGC) PASS
R403.1.2	Heat pump controls	PASS*
R406.2	Ducts outside of conditioned space to be insulated to a minimum of R-6.	PASS*
R403.3.2	Duct sealing on all ducts	PASS*
R403.3.5	Building cavities not used as ducts.	PASS*
R403.5.1	Heated water circulation and temperature maintenance systems comply	PASS*
R403.6	Mechanical ventilation meeting the requirements of the IRC or IMC. Outdoor air and exhaust dampers installed	PASS*
R403.7	ACCA Manual J and S conducted for all heating and cooling systems.	ACCA forms required for permit
R403.8	Systems serving multiple dwelling units to meet the mechanical requirements of IECC commercial code	PASS*
R403.9	Snow melt and ice system controls installed where applicable	PASS*
R403.10	Pools and permanent spa energy consumption meet requirements for heaters, time clocks and covers	PASS*
R403.11	Portable spas meet the requirements of APSP-14.	PASS*
R404.1	High efficacy lights installed in 75% of permanently installed fixtures.	PASS

* This is a projected rating. These items must eventually be field-verified by the Rater, Field Inspector, Code Inspector, or Builder.

Energy Code Inspection Checklist

Property
Wilmington, NC 28403
Model: Winslow II

20029-02 TASK 14 Winslow II 1340 SF
Winslow II BASE SPEC new WH

Organization
VandeMusser Design
Matthew Vande
8283484723

Builder
NCORR

Inspection Status
Results are projected

General Building Information

Conditioned Area (sq ft)	1,340
Conditioned Volume (cubic ft)	12,060
Insulated Shell Area (sq ft)	4,193.8

The building energy model in Ekotrope reflects the building assemblies and energy features listed below. Sometimes energy features will change in the field from what has been modeled. The inspection process should identify any changes and ensure that the home continues to meet the applicable energy code.

Slab

None Present

Framed Floor

☐ Name: Over Crawl (1,340 s.f.)
R-0 continuous insulation, R-19 cavity insulation
Insulation Grade: I

Foundation Wall

None Present

Above Grade Wall

☐ Name: Wall (1,513.8 s.f.)
R-0 continuous insulation, R-15 cavity insulation
Insulation Grade: I

Rim Joist

None Present

Ceiling / Roof

☐ Name: flat ceiling batts (1,340 s.f.)
R-0 continuous insulation, R-38 cavity insulation
Insulation Grade: I

Opaque Door

Energy Code Inspection Checklist

Property
Wilmington, NC 28403
Model: Winslow II

20029-02 TASK 14 Winslow II 1340 SF
Winslow II BASE SPEC new WH

Organization
VandeMusser Design
Matthew Vande
8283484723

Builder
NCORR

Inspection Status
Results are projected

- [ ] Name: kitchen door (20 s.f.)
  R: 7.143

- [ ] Name: outdoor storage dr (16.675 s.f.)
  R: 7.143

Glazing

- [ ] Name: front 1/4 lite entry (20 s.f.), U: 0.180, SHGC: 0.09, Orientation: NORTH_EAST
- [ ] Name: front 2856 (14.685 s.f.), U: 0.350, SHGC: 0.3, Orientation: NORTH_EAST
- [ ] Name: front 2856 (14.685 s.f.), U: 0.350, SHGC: 0.3, Orientation: NORTH_EAST
- [ ] Name: front 2856 (14.685 s.f.), U: 0.350, SHGC: 0.3, Orientation: NORTH_EAST
- [ ] Name: right 2856 x2 (29.37 s.f.), U: 0.350, SHGC: 0.3, Orientation: NORTH_WEST
- [ ] Name: rear 2856 (14.685 s.f.), U: 0.350, SHGC: 0.3, Orientation: SOUTH_WEST
- [ ] Name: left 2856 (14.685 s.f.), U: 0.350, SHGC: 0.3, Orientation: SOUTH_EAST
- [ ] Name: left 2856 (14.685 s.f.), U: 0.350, SHGC: 0.3, Orientation: SOUTH_EAST
- [ ] Name: rear 2040 (8 s.f.), U: 0.350, SHGC: 0.3, Orientation: SOUTH_WEST

Skylight

None Present

Mechanical Ventilation

None Present

Mechanical Equipment

- [ ] heat pump • Electric • 100% Heating Load @ 8.2 HSPF, 100% Cooling Load @ 14 SEER

Energy Code Inspection Checklist

Property
Wilmington, NC 28403
Model: Winslow II

20029-02 TASK 14 Winslow II 1340 SF
Winslow II BASE SPEC new WH

Organization
VandeMusser Design
Matthew Vande
8283484723

Builder
NCORR

Inspection Status
Results are projected

☐ Water Heater • Electric • 100% Hot Water Load @ 0.92 UEF

Air Leakage Control

☐ Test Status: Blower-door tested
House is air-sealed as to achieve 1,005 CFM50 (5.00 ACH50) or less at final blower-door test.

Infiltration Requirements for IECC in Climate Zone 3

2009 IECC Infiltration limit for the design home is 7 ACH50.
2012 IECC Infiltration limit for the design home is 3 ACH50.
2015 IECC Infiltration limit for the design home is 3 ACH50.
2018 IECC Infiltration limit for the design home is 3 ACH50.
2021 IECC Infiltration limit for the design home is 5 ACH50.

Duct Leakage

Duct System 1

NOT entirely within conditioned space, testing required
Leakage to Outside specified as: 53.5 CFM @ 25Pa (3.99 / 100 ft²)
Total Leakage specified as: 107 CFM @ 25Pa (Post-Construction)

Duct Leakage Code Requirements for IECC

2009 IECC:

Postconstruction Leakage Test: Duct Leakage to Outdoors <= 8 CFM25 / 100 sq ft CFA.
Rough in Test with AHU: Total Duct Leakage <= 6 CFM25 / 100 sq ft CFA.
Rough in Test without AHU: Total Duct Leakage <= 4 CFM25 / 100 sq ft CFA.

2012 IECC Mandatory, 2015, 2018, & 2021 IECC Prescriptive Paths:

Postconstruction Leakage Test: Total Duct Leakage <= 4 CFM25 / 100 sq ft CFA.
Rough in Test with AHU: Total Duct Leakage <= 4 CFM25 / 100 sq ft CFA.
Rough in Test without AHU: Total Duct Leakage <= 3 CFM25 / 100 sq ft CFA.
* Note: IECC 2021 requires Total Duct Leakage <= 8 CFM25 / 100 sq ft CFA when all ducts and air handlers are within the building thermal envelope.

2015 and 2018 IECC Performance Paths (Cost Compliance):

Leakage testing is required UNLESS all ducts and air handlers are located entirely within the thermal envelope.
There is no pass/fail threshold for duct leakage on the performance path.

Energy Code Inspection Checklist

Property
Wilmington, NC 28403
Model: Winslow II

20029-02 TASK 14 Winslow II 1340 SF
Winslow II BASE SPEC new WH

Organization
VandeMusser Design
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Builder
NCORR

Inspection Status
Results are projected

Project Notes

9/26/20 MV:
model input per specs provided by Summit Engineering
Assumptions made:
1. advanced framing techniques
2. medium color exterior walls
3. 2x4 bottom chord roof trusses at 24" o/c
4. dark color shingles
5. windows rotated to worst orientation
6. heat pump to be located in vented crawl
7. 50-gallon 0.92UEF electric tank water heater located in conditioned space
8. duct leakage - assume 8% total leakage / 4% leakage to outside
9. assume 2 returns in house - 1 in bedroom / 1 in living room
10. all duct work in vented crawl space / ducts insulated to R8
11. no fresh air ventilation system installed
12. no ceiling fans
13. programmable adaptive recovery thermostat (for heat pumps)
14. low-flow water fixtures
15. 25 foot distance from water heater to farthest fixture / no pipe insulation
16. 100% LED lighting
17. Energy Star front-load washer / dryer
18. Energy Star refrigerator / dishwasher
19. 5.0 ACH50 blower door test
20. front door - 1/4 lite insulated (U-value .18 / SHGC .09)
21. side door - Thermatru (or equivalent) - no lite

IMPROVEMENTS
1. floor - R30 batts in lieu of R19
2. windows - U-value = 0.33 / SHGC = 0.21
3. HVAC - 15 SEER / 8.5 HSPF
4. windows - U-Factor .30, SHGC .28