

# NORTH CAROLINA 50' SERIES PLAN 149.2115

LOT 45 MASON POINTE -ELEVATION C

ARCH. SYMBOLS

**ABBREVIATIONS** 

# SHEET INDEX

# 

**SOUARE FOOTAGE** 

DECK OPTIONS

1.1 PARTIAL PLANS & ELEVATIONS 'WB/C/D' W OPT. 12'X12' DECK AT CRAWL SPACE
PARTIAL PLANS & ELEVATIONS 'WB/C/D' W OPT. 12'X12' DECK AT CRAWL SPACE
PATIO OPTIONS

8.AI PARTIAL FLOOR PLAN, ROOF & ELEVATIONS W OPT. 10'X10' COVERED PATIO 'A'
8.A2 PARTIAL FLOOR PLANS, ROOF & ELEVATIONS W OPT. 10'X10' COVERED PATIO 'A'
8.A3 PARTIAL FLOOR PLANS, ROOF & ELEVATIONS W OPT. 10'X10' SCHEEDE-IN COVERED DECK 'A'
8.A4 PARTIAL FLOOR PLANS, ROOF & ELEVATIONS W OPT. 10'X20' SCREENED-IN COVERED DECK 'A'
8.A5 PARTIAL FLOOR PLANS, ROOF & ELEVATIONS W OPT. 10'X20' SCREENED-IN COVERED PATIO 'A'
8.A6 PARTIAL FLOOR PLANS, ROOF & ELEVATIONS W OPT. 10'X0' SCREENED-IN COVERED PATIO 'A'
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8.D2 PARTIAL FLOOR PLANS, ROOF & ELEVATIONS W OPT. 10'X10' SCREENED-IN COVERED PATIO C'
8.D3 PARTIAL FLOOR PLANS, ROOF & ELEVATION

**CODE INFORMATION** 

ISSUE DATE: 08/09/18 PROJECT No.: 1350999:57 DIVISION MGR.: REVISIONS: 05/07/19 COMPLIANCE REVISIONS NCI9031NCP/ 05/16/19 / FAE LOG NUMBER NCI804INCE NC19015NCF NCIGOITNOF 149.2115 NC1903INCF HEET: TS SPEC. LEVEL 1 RALEIGH-DURHAM

**NORTH CAROLINA** 

50' SERIES

KB HOME NORTH CAROLINA DIVISION

4506 S. MIAMI BLVD.

SUITE 180

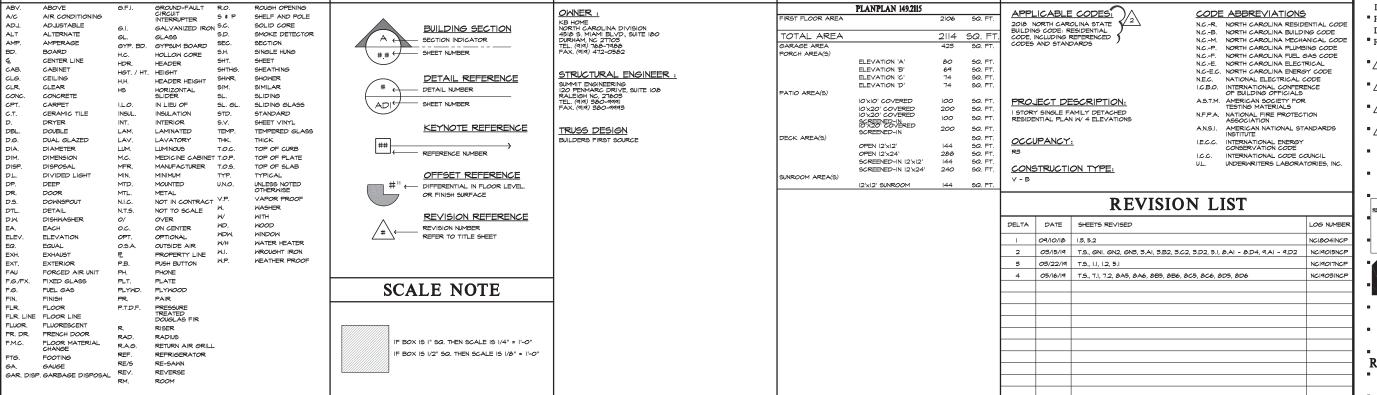
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2018 NORTH CAROLINA STATE

> BUILDING CODES



UTILITY PLANS

**CONSULTANTS** 

# GENERAL REQUIREMENTS

- I. THE WORD 'CONTRACTOR' AS USED HEREIN SHALL MEAN THE GENERAL CONTRACTOR, SUBCONTRACTORS AND ALL PERSONS DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM.
- CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH THE FOLLOWING APPLICABLE CODE REQUIREMENTS:
  - ALL LAWS, STATUTES, THE MOST RECENT BUILDING CODES, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ALL PUBLIC AUTHORITIES HAVING JURISDICTION OVER OWNER, CONTRACTOR, ANY SUBCONTRACTOR, THE PROJECT, THE PROJECT, THE PROJECT, THE PROJECT SITE, THE MORK, OR THE PROSECUTION OF THE MORK.
- B. THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT AND ALL OTHER APPLICABLE CODE REQUIREMENTS RELATING TO SAFETY.
- C. THE FAIR HOUSING AMENDMENTS ACT, THE AMERICANS WITH DISABILITIES ACT, AND ALL OTHER APPLICABLE CODE REQUIREMENTS RELATING THERETO.
- CONTRACTOR SHALL CAREFULLY STUDY AND REVIEW THE CONSTRUCTION DOCUMENTS AND INFORMATION FURNISHED BY OWNER, AND SHALL PROMPTLY REPORT IN WRITING TO OWNERS REPRESENTATIVE ANY ERRORS, INCONSISTENCIES, OR OMISSIONS IN THE CONSTRUCTION DOCU-MENTS OR INCONSISTENCIES WITH APPLICABLE CODE REQUIREMENTS OBSERVED BY THE CONTRACTOR.
- I. IF CONTRACTOR PERFORMS WORK WHICH HE KNOWS OR SHOULD KNOW IS CONTRARY TO APPLICABLE CODE REQUIREMENTS, WITHOUT THE AGREEMENT OF OWNER, CONTRACTOR SHALL BE RESPONDIBLE FOR SUCH WORK AND SHALL BEAR THE RESULTANT LOSSES, INCLUDING, WITHOUT LIMITATION, THE COSTS OF CORRECTING DEFECTIVE WORK.
- CONTRACTOR SHALL PROVIDE CERTIFICATES OF INSURANCE ACCEPTABLE TO OWNER PRIOR TO COMMENCEMENT OF WORK.
- 6. CONTRACTOR SHALL TAKE FIELD MEASUREMENTS, VERIFY FIELD CONDITIONS, AND CAREFULLY COMPARE WITH THE CONSTRUCTION DOCUMENTS SUCH FIELD MEASUREMITS, CONDITIONS, AND OTHER INFORMATION KNOWN TO CONTRACTOR BEFORE COMMENCING THE WORK ERRORS, INCONSISTENCIES, OR OMISSIONS DISCOVERED AT ANY TIME SHALL BE PROMPLY REPORTED IN WRITING TO THE OWNEY.
- CONTRACTOR SHALL PROMPTLY NOTIFY OWNER'S REPRESENTATIVE IF CONTRACTOR BECOMES AWARE DURING THE PERFORMANCE OF THE WORK THAT THE CONSTRUCTION DOCUMENTS ARE NOT IN COM-PLIANCE WITH APPLICABLE CODE REQUIREMENTS.
- BY SUBMITTAL OF BID, CONTRACTOR WARRANTS TO OWNER THAT ALL MATERIALS AND EQUIPMENT TO BE FURNISHED ARE NEW UNLESS NOTED OTHERWISE AND ALL MORK WILL BE OF GOOD QUALITY AND FREE FROM FAULTS AND DEFECTS.
- I. SUB-CONTRACTORS SHALL INSURE THAT ALL WORK IS DONE IN A PROFESSIONAL WORKMANLIKE MANNER BY SKILLED MECHANICS AND SHALL REPLACE ANY MATERIALS OR TIEMS DAMAGED BY SUB-CONTRACTORS PERFORMANCE. SUB-CONTRACTORS AND SUPPLIERS AND EXPELIERS CANTRACTORS PERFORMANCE. SUB-CONTRACTORS AND SUPPLIERS AND EXPELIERS AND EXPELIENCE OF EACH OTHER'S WORK AND TO SUCCESSFULLY COMPLETE THE EXECUTION OF THE WORK, ALL SUB-CONTRACTOR WORKMANSHIP SHALL BE OF GUALITY TO PASS INSPECTIONS BY LOCAL AUTHORITIES, LENDING INSTITUTIONS, ARCHITECT OR BUILDER, ANY ONE OR ALL OF THE ABOVE MENTIONED INSPECTORS MAY INSPECT MORKMANSHIP AT ANY TIME, AND CORRECTIONS INSPECTORS MAY INSPECT MORKMANSHIP AT ANY TIME, AND CORRECTIONS NEEDED TO ENHANCE THE GUALITY OF BUILDING WILL BE DONE IMMEDIATELY. EACH SUBCONTRACTOR, MILESS SPECIFICALLY EXEMPTED BY THE TERMS OF HIS/HERS SUB-CONTRACT ARECEMENT, SHALL BE RESPONSIBLE FOR CLEANING UP AND REMOVING FROM THE JOB SITE ALL TRASH AND DEBRIS ONT LETTE BY OTHER SUB-CONTRACTORS. BUILDER WILL DETERMINE HOW SOON AFTER SUBCONTRACTOR COMPLETES EACH PHASE OF HIS WORK THAT TRASH AND DEBRIS BILL BE REMOVED FROM THAS SITE.
- IO. APPROVAL BY THE BUILDING INSPECTOR DOES NOT MEAN APPROVAL OR ALLOWABLE FAILURE TO COMPLY WITH THE PLANS AND SPECIFICATIONS. ANY DESIGN WHICH FAILS TO BE CLEAR OR IS AMBIGUOUS MUST BE REFERRED TO THE ARCHITECT OR ENGINEER FOR INTERPRETATION OR CLAPICATION.
- II. ALL EQUIPMENT AND MATERIALS FURNISHED AND INSTALLED UNDER THESE PLANS SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE OF THE WORK BY OWNER UNLESS STIPULATED OTHERWISE.
- 12. ALL TRADE NAMES AND BRAND NAMES CONTAINED HEREIN ESTABLISH QUALITY STANDARDS. SUBSTITUTIONS ARE PERMITTED, NITH PRIOR APPROVAL BY THE ONNER'S REPRESENTATIVE. THE CONTRACTOR SHALL SUBMIT FOR THE ARCHITECT'S AND BUILDER'S APPROVAL ALL MATERIALS OR EQUIPMENT HINCH IS CONSIDERED'OR EQUAL" TO THAT SPECIFIED.
- 19. CONSTRUCTION DOCUMENTS IDENTIFIED AS "BID SET" ON ANY OR ALL SHEETS MAY BE SUBJECT TO REVIEW. THIS REVIEW MAY RESULT IN CHANGES WHICH MAY BE MADE TO THE PLANS PRIOR TO THE 195UANCE OF THE FINAL CONSTRUCTION SET WHICH WILL CONTAIN NO "BID SET" DESIGNATIONS. CONSTRUCTION DOCUMENTS IDENTIFIED AS "BID SET" ARE NOT TO BE CONSTRUCT ON BEING THE COMPLETED OR FINAL DRAWINGS AND THEY SHOULD NOT IN ANY WAY BE USED AS SUCH.
- ALL STANDARD NOTES CONTAINED HEREIN ARE TYPICAL UNLESS NOTED OTHERWISE.
- 15. TYPICAL DETAILS AND SPECIFICATIONS ARE MINIMUM REQUIREMENTS
  TO BE USED WHEN CONDITIONS ARE NOT SHOWN OTHERWISE.
- 16. SPECIFIC NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.
- SEE ARCHITECTURAL, STRUCTURAL, ELECTRICAL, AND MECHANICA DRAWINGS FOR PITS, TRENCHES, ROOF OPENINGS, DEPRESSIONS, ETC. NOT SHOWN ON THE OTHER DRAWINGS.
- THE CONSTRUCTION DOCUMENTS AND ALL COPIES THEREOF FURNISHED TO CONTRACTOR ARE THE PROPERTY OF THE ARCHITECT AND ARE NOT TO BE USED ON OTHER WORK.

# SITE WORK

- CONTRACTOR SHALL INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES SUCH AS CESSPOOLS, GISTERNS, FOUNDATIONS, ETC., AND BURIED ARTIFACTS SUCH AS INDIAN OR DINOSAUR BONES. IF ANY SUCH ITEMS ARE FOUND THE ARCHITECT, CIVIL ENGINEER, AND SOILS ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
- CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO FULLY PROTECT ADJACENT PROPERTIES.
- REFER TO THE SOILS REPORT AS PREPARED BY THE GEOTECHNICAL ENGINEER
- 4. REFER TO CIVIL ENGINEER'S CURRENT GRADING AND PLOT PLANS

# SITE WORK (continued)

- REFER TO THE LANDSCAPE ARCHITECT'S CURRENT GRADING PLAN AND CONSTRUCTION DOCUMENTS.
- 6. ALL FOOTINGS SHALL REST ON FIRM NATURAL SOIL OR APPROVED
- EXCAVATIONS FOR FOOTINGS SHALL BE MADE TO THE WIDTH, LENGTH, AND DEPTH REQUIRED AND FINISHED WITH LEVEL BOTTOMS.
- 8. EXCAVATIONS SHALL BE KEPT FREE OF STANDING WATER.
- WHERE EXCAVATIONS ARE MADE TO A DEPTH GREATER THAN INDICATED, SUCH ADDITIONAL DEPTH SHALL BE FILLED WITH CONCRETE AS SPECIFIED FOR FOOTINGS.
- IO. FILL MATERIALS SHALL BE FREE FROM DEBRIS, VEGETABLE MATTER AND OTHER FOREIGN SUBSTANCES.
- II. ALL FINISH GRADES TO DRAIN AWAY FROM THE BUILDING FOOTINGS
- 12. THERE SHALL BE NO ON-SITE WATER RETENTION.
- 13. THERE SHALL BE NO DRAINAGE TO ADJACENT PROPERTY.
- 14. FOR ONSITE CONTSPUCTION, PLANS TO COMPLY WITH NECESSARY INSPECTIONS APPROVED BY THE BUILDING OFFICIAL
- 15. THE REQUIREMENTS IN THESE NOTES ARE THE MINIMUM THAT SHALL BE MET. REQUIREMENTS OF THE STRUCTURAL DRAWNINGS THAT EXCEED THE REQUIREMENTS OF SHOWN HERE SHALL BE MET.

# CONCRETE

- REFER TO STRUCTURAL ENGINEERING CALCULATIONS AND SOILS REPORT FOR THE PERFORMANCE REQUIREMENTS FOR CONCRETE FOUNDATIONS.
- CONCRETE SHALL BE PROPORTIONED TO PROVIDE AN AVERAGE COMPRESSIVE STRENGTH AS PRESCRIBED IN THE N.C.-R, AS WELL AS SATISFY THE DURABILITY CRITERIA OF THE N.C.-R
- MIXING OF CONCRETE SHALL BE PERFORMED IN ACCORDANCE WITH ACI 318, SECTION 5.8.
- THE DEPOSITING OF CONCRETE SHALL COMPLY WITH THE PROVISIONS ACI 316, SECTION 5.10.
- THE CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318, SECTION 5.II.
- ALL FORM WORK SHALL BE DESIGNED, CONSTRUCTED, UTILIZED, AND REMOVED.
- CONDUIT, PIPES AND SLEEVES OF ANY MATERIAL NOT HARMFUL TO CONCRETE AND WITHIN THE LIMITATIONS OF ACI 316, SECTION 6.3, ARE PERMITTED TO BE EMBEDDED IN CONCRETE WITH APPROVAL OF THE REGISTERED DESIGN PROPESSIONAL.
- CONSTRUCTION JOINTS INCLUDING THEIR LOCATION SHALL COMPLY WITH THE PROVISIONS OF ACI 318, SECTION 6.4.
- ALL STEEL REINFORCING OF CONCRETE SHALL BE DONE IN ACCORDANCE WITH THE N.C.-R
- (O. TOP OF CONCRETE SLABS TO BE A MINIMUM 4" W MASONRY VENEER 6" ELSEWHERE (6" HJJD.) ABOVE FINISH GRADE.
- FOUNDATION WIDTHS, DEPTHS, AND REINFORCING, AS SHOWN ON PLANS, ARE SUPERCEDED BY ANY LOCAL CODES OR ORDINANCES WHICH REQUIRE INCREASES OF THE SAME.
- 12. ALL REINFORCEMENT, CONDUIT, OUTLET BOXES, ANCHORS, HANGERS, SLEEVES, BOLTS OR OTHER EMBEDDED MATERIALS AND ITEMS MUST BE SECURED AND APPROPRIALLY FASTENED IN THEIR PROPER LOCATIONS PRIOR TO THE PLACEMENT OF CONCRETE. SUB-CONTRACTOR SHALL VERIEY INSTALLATION OF HOLD-DOMS, ANCHOR BOLTS, PA STRAPS, AND OTHER ANCHORAGE MATERIAL AND ITEMS PRIOR TO PLACEMENT OF CONCRETE.
- 13. POST-TENSION SLABS, IF APPLICABLE:
  - A. POINT AND LINE LOADS FROM STRUCTURE ABOVE TO BE PROVIDED TO POST-TENSION ENGINEER PRIOR TO POST-
- B. ANCHOR BOLTS AND OTHER HARDWARE TO BE SHOWN ON POST-TENSION PLANS TO AVOID MIS-LOCATION OF HARDWARE AND POSSIBLE FIELD FIXES WHICH MAY CUT TENDONS.

# MASONRY

- ALL MASONRY DESIGN SHALL FOLLOW THE REQUIREMENTS OF THE CURRENT ADOPTED CODES.
- ANCHORED MASONRY VENEER SHALL COMPLY WITH THE PROVISIONS OF N.C.-R, AND SECTIONS 6.1 AND 6.2 OF ACI 530/ASCE 5/THS 402.
- STONE VENEER UNITS NOT EXCEEDING 5 INCHES IN THICKNESS SHALL BE ANCHORED DIRECTLY TO MASONRY, CONCRETE OR TO STUD CONSTRUCTION BY ONE OF THE APPROVED METHODS LISTED IN THE N.C.-R
- MORTAR FOR USE IN MASONRY CONSTRUCTION SHALL COMPLY WITH ASTM C 270. THE TYPE OF MORTAR SHALL BE IN ACCORDANCE WITH THE N.C. FR AND SHALL MEET THE PROPORTION SPECIFICATIONS OR THE PROPERTY SPECIFICATIONS OF ASTM C 270
- GROUT SHALL CONSIST OF CEMENTITIOUS MATERIAL AND ASSRESATE IN ACCORDANCE WITH ASTM C 476 AND THE PROPORTION SPECIFICATIONS PER THE N.C.-R
- ASGREGATES FOR MORTAR AND GROUT SHALL BE NATURAL SAND AND ROCK CONFORMING TO A.S.T.M. C-144-04 (MASONRY MORTAR) AND C-404-07 (GROUT).
- T. CEMENT SHALL BE PORTLAND CEMENT CONFORMING TO A.S.T.M. C 150.
- 8. ALL BRICK SHALL CONFORM TO A.S.T.M. C 216, GRADE MW
- UNLESS SPECIFICALLY SHOWN OTHERWISE ALL BRICK SHALL BE LAID IN A RUNNING BOND PATTERN.
- IO. ANCHORS, TIES AND WIRE FABRIC SHALL CONFORM TO N.C.-R
- ANCHOR TIES AND WIRE FABRIC FOR USE IN MASONRY WALL CONSTRUCTION SHALL CONFORM TO THE N.C.-R

# METALS

- . REFER TO STRUCTURAL NOTES AND SPECIFICATIONS FOR STRUCTURAL STEEL, METAL AND REINFORCING STEEL SPECIFICATIONS.
- 2. ALL STRUCTURAL STEEL SHALL CONFORM TO AISC/CRED
- 3. ANCHOR RODS SHALL BE SET ACCURATELY TO THE PATTERN AND DIMENSIONS CALLED FOR ON THE PLANS. THE PROTRUSION OF THE THREADED ENDS THROUGH THE CONNECTED MATERIAL SHALL BE SUFFICIENT TO FULLY ENGAGE THE THREADS OF THE NUTS, BUT SHALL NOT BE GREATER THAN THE LENGTH OF THE THREADS ON THE BOLTS
- 4. FASTENERS FOR PRESERVATIVE-TREATED AND FIRE-RETARDANT-TREATED MOOD SHALL BE OF HOT-DIPPED ZING COATED GALVANIZED STEEL, STAINLESS STEEL, SILCON BRONZE OR COPPER, VERIFY ACCEPTABLE FASTENERS PER CHEMICALS USED IN PRESSURE PRESERVITIVELY TREATED MOOD N. N.C.-R. FASTENINGS FOR MOOD FOUNDATIONS SHALL BE AS REQUIRED IN AFAPA TECHNICAL REPORT NO. 7.

# WOOD & FRAMING

#### LUMBER

- . THE DESIGN AND CONSTRUCTION OF CONVENTIONAL LIGHT-FRAME WOOD CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE N.C.-R.
- CONSTRUCTION, PROJECTIONS, OPENINGS AND PENETRATIONS OF EXTERIOR WALLS OF DIRELLINGS AND ACCESSORY BUILDINGS SHALL COMPLY WITH TABLE R802.1.
- 3. ALL LUMBER SHALL MEET THE STANDARDS OF QUALITY AS STATED IN THE N.C.-R
- 4. LIMBER AND PLYMOOD REQUIRED TO BE PRESSURE PRESERVATIVELY TREATED IN ACCORDANCE WITH THE N.C.-IR AND SHALL BEAR THE QUALITY MARK OF AN APPROVED INSPECTION AGENCY THAT MAINTAINS CONTINUING SUPERVISION, TESTING AND INSPECTION OVER THE QUALITY OF THE PRODUCT AND THAT HAS BEEN APPROVED BY AN ACCREDITATION BODY THAT COMPLIES WITH THE REQUIREMENTS OF THE AMERICAN LUMBER STANDARD COMMITTEE TREATED MOOD PROGRAM.
- 5. ALL LUMBER SIZES NOTED AND SPECIFIED ON PLANS ARE NOMINAL SIZES UNLESS SPECIFICALLY INDICATED AS NET SIZE.

#### GLUE LAMINATED LUMBER

- REFER TO THE STRUCTURAL ENGINEER'S CURRENT NOTES, CALCULATIONS, AND SPECIFICATIONS.
- E. GLUED LAMINATED TIMBERS SHALL BE MANUFACTURED AND IDENTIFIED AS REQUIRED IN AITC AIRO. I AND ASTM D 3737.

#### PROTECTION AGAINST DECAY & TERMITE

- IN AREAG SUBJECT TO DECAY DAMAGE AS ESTABLISHED BY THE N.C.-R
  12 THE FOLLOWING LOCATIONS SHALL REQUIRE THE USE OF NATURALLY
  DURABLE MODD OF MOOD THAT IS PRESERVATIVE TREATRED
  IN ACCORDANCE WITH AMPA UI FOR THE SPECIES, PRODUCT, PRESERVATIVE
  AND END USE, PRESERVATIVES SHALL BE LISTED IN SECTION 4 OF AMPA UI
  - . WOOD JOISTS OR THE BOTTOM OF WOOD FLOOR WHEN CLOSER THAN IS INCHES, OR WOOD GIRDERS WHEN CLOSER THAN I2 INCHES TO THE EXPOSED GROUND IN CRAWL SPACES OR UNEXCAVATED AREAS LOCATED WITHIN THE PERIPHERY OF THE BUILDING FOUNDATION.
- ALL EXTERIOR SILLS &PLATES THAT REST ON CONCRETE OR MASONRY EXTERIOR FOUNDATION WALLS.
- SILLS AND SLEEPERS ON A CONCRETE OR MASONRY, UNLESS THE SLAB THAT IS IN DIRECT CONTACT WITH THE GROUND IS SEPARATED FROM THE GROUND BY AN APPROVED IMPERVIOUS MOISTURE BARBIED
- THE ENDS OF WOOD GIRDERS ENTERING EXTERIOR MASONRY OR CONCRETE MALLS HAVING CLEARANCES OF LESS THAN 0.5 INCH ON TOPS, SIDES AND ENDS.
- 5. WOOD SIDING AND SHEATHING ON THE EXTERIOR OF A BUILDING HAVING A CLEARANCE OF LESS THAN 6 INCHES FROM THE GROUND.
- . WOOD STRUCTURAL MEMBERS SUPPORTING MOISTURE-PERMEABLE FLOORS OR ROOPS THAT ARE EXPOSED TO THE MEATHER , SUCH AS CONCRETE OR MASONRY SLABS, UNLESS SEPARATED FROM SUCH FLOORS OR ROOPS BY ANIMPERVIOUS MOISTURE BARRIER.
- WOOD FURRING STRIPS OR OTHER WOOD FRAMING MEMBERS ATTACHED DIRECTLY TO THE INTERIOR OF EXTERIOR MASONRY WALLS OR CONCRETE WALLS DELOW GRADE EXCEPT WHERE AN APPROVED VAPOR RETARDER IS APPLIED BETWEEN THE WALL AND THE FURRING STRIPS OR FRAMING MEMBERS.
- ALL PORTIONS OF A PORCH, SCREEN PORCH OR DECK FROM THE BOTTOM OF THE HEADER DOINN, INCLUDING POSTS, GUARDRALLS, PICKETS, STEPS AND FLOOR STRUCTURE. COVERINGS THAT HOULD PREVENT MOISTURE OR WATER ACCUMILATION ON THE SURFACE OR AT JOINTS BETWEEN MEMBERS ARE ALLOWED.
- IN AREAS SUBJECT TO DAMAGE FROM TERMITES METHODS OF PROTECTION SHALL BE ONE OF THE METHODS LISTED IN THE N.C.-R
- UNDER-FLOOR AREAS SHALL BE VENTILATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE N.C.-R

# WOOD & FRAMING (continued)

#### SHEATHING

- I. WOOD STRUCTURAL PANELS SHALL CONFORM TO THE REQUIREMENTS
  AS SET FORTH IN THE N.C.-R.
- ROOF SHEATHING PANELS SHALL BE LAID WITH FACE GRAIN OR STRENGTH AXIS PERPENDICULAR TO SUPPORTS AND WITH PANEL CONTINUOUS OVER TWO OR MORE SPANS.
- 3. ROOF SHEATHING SHALL BE IN ACCORDANCE WITH THE N.C.-R
- FLOOR SHEATHING PANELS SHALL BE LAID WITH FACE GRAIN OR STRENGTH AXIS PERPENDICULAR TO SUPPORTS AND WITH PANEL CONTINUOUS OVER TWO OR MORE SPANS.
- STRUCTURAL FLOOR SHEATHING SHALL COMPLY WITH THE PROVISIONS OF THE N.C.-R
- REFER TO THE STRUCTURAL ENGINEER'S CURRENT SPECIFICATIONS, CALCULATIONS, AND PLANS FOR REQUIRED STRENGTH, GRADE, AND THICKNESS FOR PLYNOOD FLOOR SHEATHING PANELS AND FOR DIAPHRAGM NAILING AND ADHESIVE REQUIREMENTS.
- ALL VERTICAL JOINTS OF PANEL SHEATHING SHALL OCCUR OVER, AND BE FASTENED TO, COMMON STUDS. HORIZONTAL JOINTS IN BRACED WALL PANELS SHALL OCCUR OVER, AND BE FASTENED TO, COMMON BLOCKING OF A MINIMUM OF I I/Z INCH THICKNESS.
- b. WHERE APPLICABLE, REFER TO THE SHEAR WALL SCHEDULE FOR REQUIRED STRENGTH, GRADE, AND THICKNESS OF PLYMOOD SHEAR PANELS AND FOR REQUIRED SHEAR WALL NAILING SCHEDULE.
- IN ONE- AND TWO-FAMILY DWELLING CONSTRUCTION USING VINYL OR ALIMINAM AS A SOFFIT MATERIAL, THE SOFFIT MATERIAL SHALL BE SECURELY ATTACHED TO FRAMING MEMBERS AND USE AN UNDERLAYMENT MATERIAL OF EITHER FIRE RETARDANT TREATED WOOD, 25/32 INCH WOOD SHEATHING OR 5/6 INCH GYPSUM BOARD, VENTING REQUIREMENTS APPLY TO BOTH SOFFIT AND UNDERLAYMENT AND SHALL BE PER SECTION REGO OF THE NORTH CARGUINA RESIDENTIAL CODE: WHERE THE PROPERTY LINE IS IO FEET OR MORE FROM THE BUILDING FACE THE PROPERTY LINE IS IO FEET OR MORE FROM THE BUILDING FACE THE PROPERTY WAS ASTACLED OF SECTION DO NOT APPLY

#### FLOOR FRAMING

- . ALL FLOOR JOISTS SHALL BE DESIGNED I-JOIST WOOD FLOOR TRUSSES, REFER TO MANUFACTURER FOR ALL LAYOUTS AND CALCULATIONS.
- REFER TO THE STRUCTURAL ENGINEER'S CURRENT PLANS & CALCULATIONS FOR SIZE, SPACING, AND ANCHORAGE OF ALL FLOOR JOISTS, SIZE, LOCATION, AND ANCHORAGE OF ALL FLOOR BEAMS AND HEADERS; AND ALL RELATED FRAMING ISSUES.

#### OOF FRAMING

- ROOF FRAMING SHALL BE BY PRE-MANUFACTURED ROOF TRUSSES SPACED AT 24 INCHES ON CENTER UNLESS NOTED OTHERWISE.
- WOOD TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE N.C.-R
- THE MANUFACTURER SHALL SUPPLY TO THE ARCHITECT AND BUILDER CALCULATIONS AND SHOP DRAMINGS FOR APPROVAL OF DESIGN LOADS, CONFIGURATION (2 OR 3 POINT BEARING), VOLUME CEILING OPTIONS, AND SHEAR TRANSFER, PRIOR TO FADRICATION.
- THE BRACING OF WOOD TRUSSES SHALL COMPLY TO THEIR APPROPRIATE ENGINEERED DESIGN. PER THE N.C.-R
- 5. TRUSS MEMBERS SHALL NOT BE CUT, NOTCHED, DRILLED, SPLICED OR OTHERWISE ALTERED IN ANY WAY WITHOUT THE APPROVAL OF A REGISTERED DESIGN PROFESSIONAL. ALTERATIONS RESULTING IN THE ADDITION OF LOAD EGG. HVAC EQUIPMENT, WATER HEATTING THAT EXCEEDS THE DESIGN LOAD FOR THE TRUSSES SHALL NOT BE PERMITTED WITHOUT WRITTEN VERIFICATION THAT THE TRUSS IS CAPABLE OF SUPPORTING SUCH ADDITIONAL LOADING.
- ALL CALCULATIONS AND SHOP DRAWINGS SHALL BE SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHEREIN THE PROJECT IS TO BE BUILT.
- 7. MANUFACTURER IS TO SECURE BUILDING DEPARTMENT APPROVAL OF CALCULATIONS AND SHOP DRAWINGS PRIOR TO FABRICATION.

# WALL FRAMING

- . THE SIZE, HEIGHT, AND SPACING OF STUDS SHALL BE IN ACCORDANCE WITH THE N.C.-R.
- 2. STUDS SHALL BE PLACED WITH THEIR WIDE DIMENSION PERPENDICULAR
- NOT LESS THAN THREE STUDS SHALL BE INSTALLED AT EACH CORNER OF AN EXTERIOR WALL.
- 4. WOOD STUD WALLS SHALL BE CAPPED WITH A DOUBLE TOP PLATE INSTALLED TO PROVIDE OVERLAPPING AT CORNERS AND INTERSECTIO. WITH BEARING PARTITIONS, END JOINTS IN TOP PLATES SHALL BE OFFSET AT LEAST 24 INCHES, JOINTS NEED NOT OCCUR OVER STUDS, PLATES SHALL BE NOT LESS THAN 2-INCHES NOMINAL THICKNESS AND HAVE A MIDTH AT LEAST EQUAL TO THE WIDTH OF THE STUDS, SEE EXCEPTIONS.
- WHERE JOISTS, TRUSSES OR RAFTERS ARE SPACED MORE THAN 16 INCHES ON CENTER AND THE BEARING STUDS BELOW ARE SPACED 24 INCHES ON CENTER, SUCH MEMBERS SHALL BEAR WITHIN 5 INCHES OF THE STUDS BENEATH, SEE EXCEPTIONS.
- STUDS SHALL HAVE FULL BEARING ON NOMINAL 2 BY OR LARGER PLATE OR SILL HAVING A WIDTH AT LEAST EQUAL TO THE WIDTH OF THE STUDS.
- 1. INTERIOR NONDEARING WALLS SHALL BE PERMITTED TO BE CONSTRUCTED WITH 2-INCH-BY-S-INCH STUDS SPACED 24 INCHES ON CENTER OR, WHEN NOT A PART OF A BRACED WALL LINE, 2-INCH-BY-4-INCH FLAT STUDS SPACED IG INCHES ON CENTER, INTERIOR NONDEARING WALLS SHALL BE CAPPED WITH AT LEAST A SINGLE TOP PLATE, INTERIOR NONDEARING WALLS SHALL BE FIREDLOCKED IN ACCORDANCE WITH THE NO.-R

# MOOD & FRAMING

# (continued)

- DRILLING AND NOTHCING OF STUDS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
  - NOTHCING, ANY STUD IN AN EXTERIOR MALL OR BEARING PARTITION MAY BE CUT OR NOTCHED TO A DEPTH NOT EXCEEDING 25 PERCENT OF ITS NIDTH, STUDG IN NONBEARING PARTITIONS MAY BE NOTCHED TO A DEPTH NOT TO EXCEED 40 PERCENT OF A SHALE STUD IDIOTH, NOTCHING OF BEARING STUDG SHALL BE ON ONE EDGE ONLY AND NOT TO EXCEED ONE-FOURTH THE HEIGHT OF THE STUD, NOTCHING SHALL NOT OCCUR. IN THE BOTTOM OR TOP 6 INCHES OF BEARING STUDS.
  - 2. DRILLING, ANY STUD MAY BE BORED OR DRILLED, PROVIDED THAT THE DIAMETER OF THE RESULTING HOLE IS NO MORE THAN 60 PERCENT OF THE STUD WIDTH, THE EDGE OF THE HOLE IS NO MORE THAN 5/9" INCH TO THE EDGE OF THE STUD, AND THE HOLE SHALL NOT BE CLOSER THAN 6 INCHES PROM AN ADJACENT HOLE OR NOTCH. HOLES NOT EXCEEDING 3/4 INCH DIAMETER CAN BE AS CLOSE AS I I/2 INCHES ON CENTER SPACING, STUDS LOCATED IN EXTERIOR WALLS OR BEARING PARTITIONS DRILLED OVER 40 PERCENT AND UP TO 60 PERCENT SHALL ALSO BE DOUBLED WITH NO MORE THAN TWO SUCCESSIVE DOUBLED STUDS BORED.
  - 3. CUITING AND NOTCHING OF STUDS SHALL BE PERMITTED TO BE INCREASED TO 65 PERCENT OF THE MIDTH OF THE STUD IN EXTERIOR AND INTERIOR HALLS AND BEARING PARTITIONS, PROVIDED THAT ONE OF THE FOLLOWING CONDITIONS ARE MET:

    (a) THE MALL SECTION IS REINFORCED MITH 1/2-INCH EXTERIOR GRADE PLYWOOD OR EQUIVALENT REINFORCEMENT ON THE NOTCHED SIDE OF THE MALL. PLYNOOD, IF USED, SHALL REACH FROM THE FLOOR TO CELLING AND AT LEAST ONE STUD PRITHER ON EACH SIDE OF THE SECTION THAT HAS BEEN NOTCHED OR CUT.

    (b) THE EXTERIOR WALLS OF A KITCHEN MAY BE REINFORCED BY PLACING 1/2-INCH PLYNOOD OR EQUIVALENT REINFORCEMENT ON THE NOTCHED SIDE OF THE MALL. PLYNOOD IN 15SED, SHALL REACH FROM THE FLOOR TO COUNTER-TOP HEIGHT AND AT LEAST ONE STUD FURTHER ON EACH SIDE OF THE MALL THAS BEEN NOTCHED OR CUT.
- 9. WHEN PIPINS OR DUCTWORK IS PLACED IN OR PARTIALY IN AN EXTERIOR OR INTERIOR LOAD-BEARING MALL, NECESSITATION CUTTING, PIRLING OR NOTCHING OF THE TOP PLATE B MORE THAN 50 PERCENT OF ITS MIDTH A GALVANIZED METAL TIE OF NOT LESS THAN 6.054 INCH THICK AND I 1/2" INCHES MIDE SHALL BE FASTENED ACROSS AND TO THE PLATE AT EACH SIDE OF THE OPENING WITH NOT LESS THAN EIGHT IOD NAILS HAVING A MINIMUM CHAPTH OF I 1/2 INCHES (95 MM) AT EACH SIDE OR EQUIVALENT. THE METAL TIE MOST EXTEND A MINIMUM OF 6 INCHES PAST THE OPENING.
- IO. HEADERS SHALL MEET THE REQUIREMENTS OF THE N.C.-R
- II. PROVIDE LATERAL BRACING PER THE N.C.-R
- FOUNDATION CRIPPLE WALLS SHALL MEET THE REQUIREMENTS OF THE N.C.-R. CODE
- 14. WOOD STUD WALLS SHALL BE BRACED AS REQUIRED BY THE N.C.-R
- IS. UNLESS COVERED BY INTERIOR OR EXTERIOR MALL COVERINGS OR SHEATHINS MEETING THE MINIMAM REQUIREMENTS OF THIS CODE, ALL STUD PARTITIONS OR MALLS WITH STUDS HAVING A HEIGHT-TO-LEAST THICKNESS RATIO EXCEEDING 50 SHALL HAVE BRIDGING NOT LESS THAN 2 INCHES IN THICKNESS AND OF THE SAME MIDTH AS THE STUDS FITTED SNUCLY AND NAILED THERETO TO PROVIDE ADEQUATE LATERAL SUPPORT.

#### FIRE BLOCKS AND DRAFT STOPS

- FIRE BLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND A ROOF SPACE, FIREBLOCKING SHALL BE PROVIDED IN MOOD-FRAME CONSTRUCTION IN THE LOCATIONS SPECIFIED IN THE N.C.-R
- 2. FIRE BLOCKING SHALL CONSIST OF 2 INCHES NOMINAL LUMBER, OR TWO THICKNESSES OF I-INCH NOMINAL LUMBER WITH BROKEN LAP JOINTS, OR ONE THICKNESS OF 23/932-INCH WOOD STRUCTURAL PANELS WITH JOINTS BACKED BY 23/92-INCH WOOD STRUCTURAL PANELS OR ONE THICKNESS OF 5/4-INCH PARTICLEBOARD WITH JOINTS BACKED BY 34-INCH PARTICLEBOARD WITH JOINTS BACKED BY 34-INCH PARTICLEBOARD, I/2-INCH GROWENT-BASED
- BATTS OR BLANKETS OF MINERAL WOOL OR GLASS FIBER OR OTHER APPROVED MATERIALS INSTALLED IN SUCH A MANNER AS TO BE SECURELY RETAINED IN PLACE SHALL BE PERMITTED AS AN ACCEPTABLE FIRE BLOCK.
- 4. BATTS OR BLANKETS OF MINERAL OR GLASS FIBER OR OTHER APPROVED NON-RIGID MATERIALS SHALL BE PERMITTED FOR COMPLIANCE WITH THE 10 FOOT HORIZONTAL FIREBLOCKING IN WALLS CONSTRUCTED USING PARALLEL ROMS OF STUDS OR STAGGERED STUDS. LOOSE FILL INSULATION MATERIAL SHALL NOT BE USED AS A FIREBLOCK WILLESS SPECIFICALLY TESTED IN THE FORM AND MANNER INTENDED FOR USE TO DEMONSTRATE IT'S ABILITY TO REMAIN IN PLACE AND TO RETARD THE SPREAD OF FIRE AND HOT GASSES.
- 5. WHEN THERE IS USABLE SPACE BOTH ABOVE AND BELOW THE CONCEALED SPACE OF A FLOOR/CEILING ASSEMBLY, DRAFTSTOPP SHALL BE INSTALLED SO THAT THE AREA OF THE CONCEALED SPACE DOES NOT EXCEED JOOD SQUARE FEET. DRAFTSTOPPING SHALL DIVIDE THE CONCEALED SPACE INTO APPROXIMATELY EQUAL AREAS. MERIET THE ASSEMBLY IS ENCLOSED BY A FLOOR IMPERANCE ABOVE AND A CEILING MEMBRANE BELOW, DRAFTSTOPPING SHALL BE PROVIDED IN FLOOR/CEILING ASSEMBLIES UNDER THE FOLLOWING CIRCUMSTANCES.
  - I. CEILING IS SUSPENDED UNDER THE FLOOR FRAMING.
- FLOOR FRAMING IS CONSTRUCTED OF TRUSS-TYPE OPEN-WEB OR PERFORATED MEMBERS.

# ANDRAII AND GIARDRAII

- GUARDRAIL OF 36" HIGH MIN. SHALL BE PROVIDED WHERE FINISHED GRADE OR FLOOR BELOW RAISED AREA EXCEEDS 30".
- HANDRAIL AT STAIRS SHALL BE PROVIDED WHEN 4 OR MORE STAIR RISERS ARE REQUIRED.



# NORTH CAROLINA 50' SERIES

KB HOME NORTH CAROLINA DIVISION

SUITE 180

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2018 NORTH
CAROLINA STATE
BUILDING

**CODES** 

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08/09/18

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PROJECT No.: 1350999:57
 DIVISION MGR.: D.S.
 REVISIONS: 05/07/19

ISSUE DATE:

DIVISION REVISIONS NCISO4INCP - 09/10/18 - CTD

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PLAN: 149.2115 SHEET: GN1

SPEC. LEVEL 1
RALEIGH-DURHAM
50' SERIES

# THERMAL & MOISTURE PROTECTION

- PROVIDE ALL FLASHING , COUNTER-FLASHING, BITUTHENE, MEMBRANE ING. SHEET METAL, CAULKING, SEALANTS, ELASTOMERIC WALKING SURFACES, AND RAIN GUTTERS AND/OR DIVERTERS WHERE
- "CORROSION RESISTANCE" SHALL MEAN THE ABILITY OF A MATERIAL TO WITHSTAND DETERIORATION OF IT'S SURFACE OR IT'S PROPERTIES WHEN EXPOSED TO IT'S ENVIRONMENT
- BALCONIES, LANDINGS, EXTERIOR STAIRWAYS, OCCUPIED ROOFS AND SIMILAR SURFACES EXPOSED TO THE NEATHER AND SEALED UNDER-NEATH SHALL BE WATERPROOFED AND SLOPED A MINIMUM OF 1/4 UNIT VERTICAL IN 12 UNITS HORIZONTAL (2% SLOPE) FOR DRAINAGE.
- PROVIDE A MINIMUM 2 INCH DROP FROM FINISHED INTERIOR FLOOR ELEVATION TO THE HIGHEST FLOOR ELEVATION OF ANY ADJOINING DECK OR BALCONY.
- ELASTOMERIC OR MEMBRANE DECK COATINGS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AT DECKS AND BALCONIES COLOR, FINISH, AND DETAILING SHALL BE APPROVED BY OWNER/ BUILDER AND ARCHITECT
- UNLESS DESIGNED TO DRAIN OVER DECK EDGES, DRAINS AND OVER-FLOWS OF ADEQUATE SIZE SHALL BE INSTALLED AT THE LOW POINTS HE DECK OR BALCON
- FOUNDATION WALLS WHERE THE OUTSIDE GRADE IS HIGHER THAN THE INSIDE GRADE SHALL BE WATER-PROOFED AND DAMPPROOFED IN ACCORDANCE WITH THE N.C.-R
- PARAPET WALLS SHALL BE PROPERLY COPED WITH NONCOMBUSTIBLE, WEATHERPROOF MATERIALS OF A WIDTH NO LESS THAN THE THICKNESS OF THE PARAPET WALL. PARAPET COPING SHALL EXTEND 2" MINIMM DOWN THE FACES OF THE PARAPET.

- APPROVED CORROSION-RESISTANT FLASHING SHALL BE APPLIED SHINGLE-FASHION IN A MANNER TO PREVENT ENTRY OF MATER INTO THE WALL 12. CAVITY OR PENETRATION OF MATER TO THE BUILDING STRUCURAL FRAMING COMPONENTS, SELF-ADHERED MEMBRANES USED AS FLASHING SHALL COMPLY WITH AAMA TI, FLIDID-APPLIED MEMBRANES USED AS FLASHING IN EXTERIOR MALLS SHALL COMPLY WITH AAMA TI, THE FLASHING SHALL EXTEND TO TO THE SURFACE OF THE EXTERIOR MALL FINISH ALUMINAM FLASHING SHALL NOT BE USED IN CONTACT NITH CEMENTITIOUS MATERIAL, EXCEPT AT COUNTER FLASHINGS SHALL BE INSTALLED AT ALL OF THE LOCATIONS STATED IN N.C.-R.
- ALL BEAMS, OUTLOOKERS, CORBELS, ETC. PROJECTED THROUGH EXTERIOR WALLS OR PENETRATING EXTERIOR FINISHES SHALL BE PLASHED WITH A MINIMUM 0.019-INCH (NO. 26 SHEET METAL GAGE) CORROSION-RESISTANT METAL AND CAULKED.
- ALL SHEET METAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS AND STANDARDS OF THE SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION (S.M.A.C.N.A.), THE ARCHITECTURAL SHEET METAL MANUAL, AND SEALANT, WATERPROOFING AND RESTORATION INSTITUTE'S (S.W.R.I.) GUIDE "SEALANT'S: THE PROFESSIONAL'S GUIDE".
- SHEET METAL SHALL BE STEEL SHEET, HOT-DIPPED, TIGHT COATED AND GALVANIZED, CONFORMING TO A.S.T.M. A525 AND SHALL BE A NUMBER 24 SHEET METAL GAGE INLESS OTHERNISE NOTED IN THESE NOTES, PLANS, OR MANUFACTURER'S SPECIFICATIONS.
- FABRICATE SHEET METAL WITH FLAT LOCK SEAMS AND SOLDER WITH TYPE AND FLUX RECOMMENDED BY MANUFACTURER. SEAL ALLMINUM SEAMS WITH EPOXY METAL SEAM CEMENT. WHERE REQUIRED FOR STRENGTH, RIVET SEAMS AND JOINTS.
- SHOP FABRICATE TO THE GREATEST EXTENT POSSIBLE IN ACCORDANCE WITH APPLICABLE STANDARDS TO PROVIDE A PERMANENTLY WATER-PROOF, WEATHER RESISTANT INSTALLATION.
- ASPHALT SHINGLES SHALL HAVE SELF-SEAL STRIPS OR BE INTERLOCKING, AND COMPLY WITH ASTM D 225 OR D 3462.
- BASE AND CAP FLASHING SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS, BASE FLASHING SHALL BE OF EITHER CORROSION-RESISTANT METAL OF MINIMAY NOMINAL O.014-INCH THICKNESS OR MINERAL SURFACE ROLL ROOFING MEIGHING A MINIMAY OF TI POUNDS PER IOO SQUARE FEET, CAP FLASHING SHALL BE CORROSION-RESISTANT METAL OF MINIMAY MOMINAL O.019-INCH THICKNESS
- VALLEY LINNES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS BEFORE APPLYING SHINGLES. VALLEY LINNES OF THE FOLLOWING TYPES SHALL BE PERMITTED AS STATED PER THE N.C.-R.
- 12. A CRICKET OR SADDLE SHALL BE INSTALLED ON THE RIDGE SIDE OF ANY CHINNEY OR FENETRATION MORE THAN 30 INCHES WIDE AS MEASURED PERPENDICULAR TO THE SLOPE, CRICKET OR SADDLE COVERINGS SHALL BE SHEET METAL OR OF THE SAME MATERIAL AS THE ROOF COVERING. PROVIDE FLASHING AT THE INTERSECTION OF CRICKET
- FLASHING AGAINST A VERTICAL SIDEWALL SHALL BE BY THE STEP-FLASHING METHOD PER NC-R.
- AT THE JUNCTURE OF ROOF VERTICAL SURFACES, FLASHING AND COUNTERFLASHING SHALL BE PROVIDED IN ACCORDANCE WITH THE NC.-R AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WHERE OF METAL, SHALL NOT BE LESS THAN O.019 INCH (NO. 26 GALVANIZED
- I6. VALLEY ELASHING FOR CONCRETE THE ROOFS SHALL BE AS REQUIRED

# ROOFING MATERIALS

- ROOF COVERINGS SHALL BE APPLIED IN ACCORDANCE WITH THE N.C.-R AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALLATION OF ROOF COVERINGS SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF THE N.C.-R
- ROOFS AND ROOF COVERINGS SHALL BE OF MATERIALS THAT ARE COMPATIBLE WITH EACH OTHER AND WITH THE BUILDING OR STRUCTURE TO WHICH THE MATERIALS ARE APPLIED.
- ROOF COVERING MATERIALS SHALL CONFORM TO THE APPLICABLE STANDARDS LISTED IN THE N.G.-R. IN THE ABSENCE OF APPLICABLE STANDARDS OR WHERE MATERIALS ARE OF QUESTIONABLE SUITABILITY, TESTING BY AN APPROVED TESTING AGENCY SHALL BE REQUIRED BY THE BUILDING OFFICIAL TO DETERMINE THE CHARACTER, GUALITY, AND LIMITATIONS OF APPLICATION OF THE MATERIALS.

# THERMAL & MOISTURE PROTECTION (continued)

- ROOF COVERING MATERIALS SHALL BE DELIVERED IN PACKAGES BEARING LABELS WHEN REQUIRED, BULK SHIPMENTS OF MATERIALS SHALL BE ACCOMPANIED BY THE SAME INFORMATION ISSUED IN THE FORM OF A CERTIFICATE OR ON A BILL OF LADING BY THE MANUFACTURER
- COMPOSITION ROOFING SHINGLES SHALL BE OF ASPHALT OR APPROVED RELATED MATERIALS AND MEET THE REQUIREMENTS OF THE N.C.-R
- ASPHALT SHINGLES SHALL COMPLY WITH ASTM D 225 OR ASTM D 3462.
- FASTENERS FOR ASPHALT SHINGLES SHALL BE GALVANIZED STEEL, STAINLESS STEEL, ALIMINUM, OR COPPER ROOFING NAILS, MINIMM 12 GAGE SHANK MITH A MINIMM 3/8 INCH DIAMETER HEAD, ASTM F 1661, OF A LENGTH TO PENETRATE THROUGH THE ROOFING MATERIALS AND A MINIMM OF 3/4 INCH INTO THE ROOF SHEATHING. IMMERE THE ROOF SHEATHING IS LESS THAN 3/4 INCH THICK, THE FASTENERS SHALL COMPLY WITH ASTM E 1670.
- ASPHALT SHINGLES SHALL HAVE THE MINIMUM NUMBER OF FASTENERS REQUIRED BY THE MANUFACTURER. FOR NORMAL APPLICATION, ASPHALT SHINGLES SHALL BE SECURED TO THE ROOF WITH NOT LESS THAN FOUR FASTENERS PER STRIP SHINGLE OR TWO FASTENERS PER
- UNDERLAYMENT FOR ASPHALT SHINGLES SHALL BE APPLIED IN ACCORDANCE WITH THE N.C.-R
- THE INSTALLATION OF CLAY AND CONCRETE TILE SHALL COMPLY WITH THE PROVISIONS OF N.C.-R CLAY ROOF TILE SHALL COMLY WITH
- CONCRETE AND CLAY TILE SHALL BE INSTALLED ONLY OVER SOLID SHEATHING OR SPACED STRUCTURAL SHEATHING BOARDS
- CLAY AND CONCRETE ROOF TILE SHALL BE INSTALLED ON ROOF SLOPES OF 2 1/2 UNITS VERTICAL. IN 12 UNITS HORIZONTAL (2-1/2-1/2) OR GREATER. FOR ROOF SLOPES FROM 2 1/2 UNITS VERTICAL. IN 12 UNITS HORIZONTAL. (2-1/2-1/2) TO FOUR UNITS VERTICAL. IN 12 UNITS HORIZONTAL. (4-1/2), DOUBLE UNDERLAYMENT APPLICATION IS REQUIRED IN ACCORDANCE WITH THE N.C.-R.
- CONCRETE ROOF TILE SHALL COMPLY WITH ASTM C 1492.
- NAILS SHALL BE CORROSION-RESISTANT AND NOT LESS THAN II GAGE, 5/16-INCH HEAD, AND OF SUFFICIENT LENSTH TO PENETRATE THE DECK A MINIMM OF 3/4-INCH OR THROUGH THE THICKNESS OF THE DECK, MHICHEVER IS LESS. ATTACHING WIRE FOR CLAY OR CONCRETE TILE SHALL NOT BE SMALLER THAN 0.0083-INCH. PERIMETER FASTENING AREAS INCLUDE THREE TILE COURSES BUT NOT LESS THAN 36 INCHES FROM EITHER SIDE OF HIPS OR RIDGES AND EDGES OF EAVES AND GABLE RAKES
- IT. CLAY AND CONCRETE ROOF TILES SHALL BE FASTENED IN ACCORDANCE WITH THE N.C.-R
- TILE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, BASED ON CLIMATIC CONDITIONS, ROOF SLOPE, INDERLAYMENT SYSTEM, AND TYPE OF TILE BEING INSTALLED FOR THE NO.-
- THE INSTALLTION OF BUILT-UP ROOFS SHALL COMPLY WITH THE N.C.-R
- 20. BUILT-UP ROOFS SHALL HAVE A DESIGN SLOPE OF A MINIMUM OF ONE-FOUTH UNIT VERTICAL IN I2 UNITS HORIZONTAL (2-PERCENT SLOPE) FOR DRAINAGE, EXCEPT FOR COAL-TAR BUILT-UP ROOFS THAT SHALL HAVE A DESIGN SLOPE OF A MINIMUM ONE-EIGHTH UNIT VERTICAL IN
- 21. BUILT-UP ROOF COVERING MATERIALS SHALL COMPLY WITH THE

# EXTERIOR WALL COVERINGS

- SEE FINISHES IN THESE GENERAL NOTES FOR EXTERIOR PLASTER.
- MATERIALS USED FOR THE CONSTRUCTION OF EXTERIOR WALLS SHALL COMPLY WITH THE PROVISIONS OF THE N.C.-R
- EXTERIOR WALLS SHALL PROVIDE THE BUILDING WITH A WEATHER-RESISTANT EXTERIOR WALL ENVELOPE. THE EXTERIOR WALL ENVELOPE SHALL INCLUDE FLASHING. THE EXTERIOR WALL ENVELOPE SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT PREVENTS THE ACCUMULATION OF NATER WITHIN THE PAUL ASSEMBLY BY PROVIDING A WATER-RESISTANT BARRIER BEHIND THE EXTERIOR VENEER AS REQUIRED AND A MEAN OF DRAINING WATER THAT ENTERS THE ASSEMBLY TO THE EXTERIOR. PROTECTION ASAINST CONDENSATION IN THE EXTERIOR WALL ASSEMBLY SHALL BE PROVIDED. ASSEMBLY SHALL BE PROVIDED
- ONE LAYER OF NO. 15 ASPHALT FELT, FREE FROM HOLES AND BREAKS. ONE LAYER OF NO. 15 ASPHALT FELT, FREE FROM HOLES AND BREAKS, COMPLYING WITH ASTM D 226 FOR TYPE I FELT OR OTHER APPROVED MATER-RESISTIVE BARRIER SHALL BE APPLIED OVER STUDS OR SHEATHING OF ALL EXTERIOR WALLS, SUCH FELT OR MATERIAL SHALL BE APPLIED HORIZONTALLY, WITH THE UPPER LAYER LAPPED OVER THE LOWER LAPPER NOT LESS THAN 2 INCHES, WHERE JOINTS OCCUR, FELT SHALL BE LAPPED NOT LESS THAN 6 INCHES, THE FELT OR OTHER APPROVED MATERIAL SHALL BE CONTINUOUS TO THE TOP OF WALLS AND TERMINATED AT PENETRATIONS AND BUILDING APPENDAGES IN A MANNER TO MEET THE REQUIREMENTS OF THE EXTERIOR WALL ENVELOPE.
- VINTL SIDING CONFORMING TO THE REQUIREMENTS OF THE N.C.-R. AND COMPLYING WITH ASTM D 3679 SHALL BE PERMITTED ON EXTERIOR HALLS OF BUILDINGS OF TYPE V CONSTRUCTION LOCATED IN AREAS WHERE THE UTINATE WIND SPEED SPECIFIED DOES NOT EXCEED 100 MILES FER HOUR AND THE BUILDING HEIGHT IS LESS THAN 40 FEET IN EXPOSURE C. WHERE CONSTRUCTION IS LOCATED IN AREAS WHERE THE ULTIMATE HIND SPEED EXCEEDS 130 MILES FER HOUR OR BUILDING HEIGHTS ARE IN EXCESS OF 40 FT., DATA INDICATING COMPLIANCE MUST BE SUBMITTED. VINTL SIDING SHALL BE SECURED TO BUILDING TO PROVIDE WEATHER PROTECTION FOR THE EXTERIOR WALLS OF THE BUILDING. SHALL BE SECURED TO BUILDING TO PROTHE EXTERIOR WALLS OF THE BUILDING.
- VINYL SIDING SHALL BE APPLIED OVER SHEATHING OR MATERIALS LISTED IN THE N.C.-R VINYL SIDING SHALL BE APPLIED TO CONFORM NITH THE MEATHER-RESISTIVE BARRIER REQUIREMENTS VINYL SIDING AND ACCESSORIES SHALL BE INSTALLED IN ACCORDANCE WITH APPROVED
- VINYL SIDING FASTENERS AND ACCESSORIES SHALL MEET THE REQUIREMENTS OF THE N.C.-B
- KTERIOR WALLS OF WOOD CONSTRUCTION SHALL BE DESIGNED AND ONSTRUCTED IN ACCORDANCE WITH THE N.C.-R

# THERMAL & MOISTURE PROTECTION (continued)

- HARDBOARD SIDING SHALL CONFORM TO THE REQUIREMENTS OF AHA A135 6 AND, WHERE USED STRUCTURALLY, SHALL BE SO IDENTIFIED BY THE LABEL OF AN APPROVED AGENCY.
- WOOD VENEERS ON EXTERIOR WALLS OF BUILDINGS OF TYPES I, II, III, AND IV CONSTRUCTION SHALL DE NOT LESS THAN I-INCH NOMINAL THICKNESS, 0.430-INCH EXTERIOR HARDBOARD SIDING OR 0.375-INCH EXTERIOR-TYPE WOOD STRUCTURAL PANELS OR PARTICLE-BOARD AND SHALL CONFORM TO THE REQUIREMENTS OF THE N.C.-R
- II.

  LAP SIDING SHALL BE LAPPED A MINIMUM OF II/4 INCHES (32 MM) AND LAP SIDING NOT HAVING TONGUE-AND-GROOVE END JOINTS SHALL HAVE THE BIDS SEALED WITH CAULKING, INSTALLED WITH AN H-SECTION JOINT COVER, LOCATED OVER A STRIP OF FLASHING OR SHALL BE DESIGNED TO COMPLY WITH NC-R. LAP SIDING COURSES MAY BE INSTALLED WITH THE FASTENER HEADS EXPOSED OR CONCEALED, ACCORDING TO NC-R OR APPROVED MAY BAY FACTURERS INSTALLATION INSTRUCTIONS.

- INSULATING MATERIALS, INCLUDING FACINGS, SUCH AS VAPOR RETARDERS OR VAPER-PERMEABLE MEMBRANES, INSTALLED WITHIN FLOOR-CEILING ASSEMBLIES, ROOF-CEILING ASSEMBLIES, WALL-ASSEMBLIES, CRAWL SPACES AND ATTICS SHALL HAVE A FLAME-SPREAD INDEX NOT TO EXCEED 25 WITH AN ACCOMPANYING SMCKE-DEVELOPED INDEX NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR U. 123.
- DUCT INSULATION MATERIALS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS OF THE N.C.-R
- INSULATION AND COVERING ON PIPE AND TUBING SHALL HAVE A FLAME-SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 450, SEE EXCEPTIONS.
- ALL EXPOSED INSULATION MATERIALS INSTALLED ON ATTIC FLOORS SHALL HAVE A CRITICAL RADIANT FLUX OF NOT LESS THAN 0.12 WATT PER SQUARE I CENTIMETRY PER NC.-R TESTS FOR CRITIAL RADIANT FLUX SHALL BE MADE IN ACCORDANCE WITH ASTM E 970
- THE USE OF ABOVE DECK THERMAL INSULATION SHALL BE PERMITTED PROVIDED SUCH INSULATION IS COVERED WITH AN APPROVED ROOF COVERING AND PASSES FM 4450 OR UL 1256 PER N.C.-R.
- CELLULOSE LOOSE-FILL INSULATION SHALL COMPLY WITH CPSC 16 CFR, PARTS 1209 AND 1404. EACH PACKAGE OF SUCH INSULATING MATERIAL SHALL BE CLEARLY LABELED IN ACCORDANCE WITH CPSC 16 CFR, PARTS 1209 AND 1404.
- INSULATION IN FLOOR-CEILING ASSEMBLIES, ROOF-CEILING ASSEMBLIES, MALLS, CRANL SPACES OR ATTICS SHALL BE EITHER OF THE BLOWN-IN CELLULOSE TYPE OR FIBERGLASS BATTS OR BLANKET TYPE PER BUILDER'S SPECIFICATIONS.
- THE ENERGY EFFICIENCY REQUIREMENTS INCLUDING LEGG. BUT NOT THE ENROY ETFLERCY REQUIREMENTS INCLUDING LEGG. BUT NOT LIMITED TO INSULATION RY VALUES, PERCENTAGE OF GLAZING TO VALUES, ETC. SHALL BE DETERMINED BY THE ADOPTED STATE AND LOCAL ENRRBY CODE EQUIREMENTS, REPER TO MECHACAL PLANS
- THE BUILDING THERMAL ENVELOPE SHALL BE DURABLY SEALED WITH AN AIR BARRIER SYSTEM TO LIMIT INFILTRATION. THE SEALING METHODS BETWEEN DISSIMILAR MATERIALS SHALL ALLOW FOR DIFFERENTIAL EXPANSION AND CONTRACTION. FOR ALL HOMES, WHERE PRESENT, THE FOLLOWING SHALL BE CAULKED, GASKETED, MEATHERSTRIPPED OR OTHERWISE SEALED WITH AN AIR BARRIER MATERIAL OR SOLID MATERIAL CONSISTENT WITH APPENDIX E-23 AND E-24 OF THE NO-EN. I. BLOCKING AND SEALING FLOOR/CEILING SYSTEMS AND UNDER KNEE WALLS OPEN TO UNCONDITIONED OR EXTERIOR SPACE.

  2. CAPPING AND SEALING SHAFTS OR CHASES, INCLUDING FLUE
- FRAMED CAVITY WALLS. THE EXTERIOR THERMAL ENVELOPE WALL INSULATION SHALL BE INSTALLED IN SUBSTANTIAL CONTACT AND CONTINUOUS ALIGNMENT WITH THE BUILDING ENVELOPE AIR BARRIER. INSULATION SHALL BE SUBSTANTIALLY FREE FROM INSTALLATION SHALL BE ENCLOSED ON ALL SIDES WITH A RIGID MATERIAL OR AN AIR BARRIEM MATERIAL. WALL INSULATION SHALL BE ENCLOSED AT THE FOLLOWING LOCATIONS WHEN INSTALLED ON EXTERIOR WALLS FIRE TO BE TO BE THE STALL SHALL SHALL WALL SUBSTANTIAL ON EXTERNING THE SHALL SHALL SHE SHE SHALL SHE SHALL SHE SHALL SHE SHALL SHE SHE SHALL SHE SHE

MITTS. CAPPING AND SEALING SOFFIT OR DROPPED CEILING AREAS.

SHOWERS 5. STAIRS
4. FIREPLACE UNITS
ENCLOSIVE OF WALL CAVITY INSULATION ALSO APPLIES TO WALLS THAT ADJOIN ATTIC SPACES BY PLACING A RIGID MATERIAL OR AIR BARRIER MATERIAL ON THE ATTIC SIDE.

SEE ELOOR PLANS AND ELEVATIONS FOR SIZES AND TYPES OF DOORS AND WINDOWS AND FOR ANY DIVIDED LITE PATTERNS.
COLORS SHALL BE APPROVED BY THE BUILDER AND ARCHITECT

DOORS & WINDOWS

- OPENINGS FROM A PRIVATE GARAGE DIRECTLY INTO A ROOM USED OPENINGS FROM A PRIVATE GARAGE DIRECTLY INTO A KOOM USED FOR SLEEPING PURPOSES SHALL NOT DIE PERMITTED. OTHER OPENINGS BETWEEN THE GARAGE AND RESIDENCE SHALL EQUIPPED WITH SOLID WOOD DOORS NOT LESS THAN 1 3/6 INCHES IN THICKNESS, SOLID OR HONEYCOMB CORE STELL DOORS NOT LESS THAN 15/6 INCHES IN THICKNESS, SOLID OR HONEYCOMB CORE STELL DOORS NOT LESS THAN 15/6 INCHESTING, OR ZO-MINITE FIRE-RATED DOORS.
- NO DOUBLE FRENCH DOORS SHALL BE USED UNLESS THERE IS A SUFFICIENT OVERHANG OR COVERED PATIO COVERING THESE DOORS. NO DOUBLE  $\underline{\text{WOOD}}$  FRENCH DOORS SHALL BE USED IN ANY CASE.
- ALL AUTOMATIC GARAGE DOOR OPENERS REQUIRE THE INCLUSION OF A PHOTOELECTRIC SENSOR, EDGE SENSOR OR SOME OTHER SIMILAR DEVICE FOR REMOTE OPERATION AND AS A SAFETY PRE-CAUTION TO PREVENT THE DOOR FROM CLOSING WHEN SOMETHING IS BLOCKING THE PATH OF THE DOOR. SEE MANUFACTURER'S INSTALL TURK INSTITUTION, INSTITUTION, INSTITUTION, INSTITUTION, INSTITUTION.
- ALL MANUFACTURED WINDOWS AND SLIDING GLASS DOORS SHALL MEET THE AIR INFILTRATION STANDARDS OF THE CURRENT AMERICAN NATIONAL STANDARDS INSTITUTE AS.T.M. E285-TS MITH A PRESSURE DIFFERENTIAL OF 151 POUNDS PER SQUARE FOOT AND SHALL BE
- BASEMENTS, HABITABLE ATTICS AND EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPENABLE EMERGENCY ESCAPE AND RESCUE OPENING
- WHERE EMERGENCY ESCAPE AND RESCUE OPENINGS ARE PROVIDED THEY SHALL HAVE A SILL HEIGHT OF NOT MORE THAN 44 INCHES ABOVE THE FLOOR.
- EMERGENCY ESCAPE AND RESCUE OPENINGS WITH A FINISHED SILL HEIGHT BELOW THE ADJACENT GROUND ELEVATION SHALL BE PROVIDED WITH A WINDOW WELL.

# DOORS & WINDOWS (continued)

- IO. ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF NOT LESS THAN 5 SQUARE FEET IN THE CASE OF A GROUND FLOOR LEVEL WINDOW AND NOT LESS THAN 5.7 SQUARE FEET
- ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM
- ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING WIDTH OF 2O INCHES.
- EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM THE INSIDE OF THE ROOM MITHOUT THE USE OF KEYS, TOOLS OF SPECIAL KNOWLEDGE.
- THE MINIMM HORIZONTAL AREA OF THE WINDOW WELL SHALL BE 9 SQUARE FEET, MITH A MINIMUM HORIZONTAL PROJECTION AND WIDTH OF 36 INCHES, THE AREA OF THE WINDOW WELL SHALL ALLOW DETRECHEVE SECAPE AND RESCUE OPENING TO BE FILLY OPENED PER THE N.C.-R. THE LADDER OR STEPS REQUIRED SHALL BE PERMITTED TO ENCROACH A MAXIMUM OF 6" INTO THE REQUIRED DIMENSIONS OF THE MINDOW MELL.
- WINDOW WELLS WITH A VERTICAL DEPTH GREATER THAN 44 INCHES SHALL BE EQUIPPED WITH A PERMANENTLY AFFIXED LADDER OF STEPS USABLE WITH THE WINDOW IN THE FULLY OPEN POSITION.
- BARS, GRILLES, COVERS, SCREENS OR SIMILAR DEVICES ARE PERI DATE, OFFILLES, COVERS, SCREENS OF SIMILAR DEVICES ARE PERMITTED IT.

  BE PLACED OVER ENFRECHING ESCAPE AND RESCUE OPENINGS, BULKHEAD

  ENCLOSURES, OR WINDOW WELLS THAT SERVE SUCH OPENINGS, PROVIDED

  THE MINIMA NET CLEAR OPENING SIZE COMPLIES WITH THE NO.-R AND

  SUCH DEVICES SHALL BE RELEASABLE OR REMOVABLE FROM THE INSIDE

  MITHOUT THE USE OF A KEY, TOOL, SPECIAL KNOWLEDGE OR FORCE

  OREATER THAN THAT WHICH IS REQUIRED FOR NORMAL OPERATION OF THE

  ESCAPE AND RESCUE OPENING.
  - ALL INTERIOR EGRESS DOORS AND A MINIMUM OF ONE EXTERIOR EGRESS DOOR SHALL BE READILY OPENABLE FROM THE SIDE FROM WHICH EGRES IS TO BE MADE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR

#### GLAZING & SAFETY GLAZING

- HABITABLE ROOMS SHALL HAVE AN AGGREGATE GLAZING AREA OF NOT LESS THAN 8 PERCENT OF THE FLOOR AREA OF SUCH ROOMS, NATURAL VENTILATION SHALL BE THROUGH MINDOWS, SKYLIGHTS, DOORS, LOUVERS OR OTHER APPROVED OPENINGS TO THE OUTDOOR RIR. SUCH OPENINGS HALL BE PROVIDED WITH READY ACCESS OR SHALL OTHERWISE BE READILY CONTROLLABLE BY THE BUILDING OCCUPANTS, THE OPENABLE AREA TO THE OUTDOORS SHALL BE NOT LESS THAN 4 PERCENT OF THE FLOOR AREA BEING VENTILATED.
- BATHROOMS WATER OF OSET COMPARTMENTS AND OTHER SIMILAR AN INTERCOTOR, WATER CLOSET COMPARTMENTS AND OTHER SIMILAR ROOMS SHALL BE PROVIDED WITH AGGREGATE GLAZING AREAS I WINDOWS OF NOT LESS THAN 3 SQUARE FEET, ONE-HALF OF WHICH MUST BE OPENABLE.
- EXCEPT AS INDICATED, EACH PANE OF GLAZING INSTALLED IN HAZARDOUS OCATIONS SHALL BE PROVIDED WITH MANUFACTURER'S DESIGNATION SPECIFYING WHO APPLIED THE DESIGNATION, DESIGNATING THE TYPE OF GLASS AND THE SAFETY GLAZING STANDARD WITH WHICH IT COMPLIES, WHICH IS VISIBLE IN THE FINAL INSTALLATION. THE DESIGNATION SHALL BE ACID ETCHED, SANDBLASTED, CERANIC-FIRED, LAGRER ETCHED, EMBOSSED, OR BE OF A TYPE WHICH ONCE APPLIED CANNOT BE REMOVED WITHOUT
- INDIVIDUAL GLAZED AREAS, INCLUDING GLASS MIRRORS IN HAZARDOUS LOCATIONS SHALL PASS THE TEST REQUIREMENTS OF CPSC 16 CFR, PART 1201. GLAZING SHALL COMPLY WITH CPSC 16.
- THE FOLLOWING SHALL BE CONSIDERED SPECIFIC HAZARDOUS LOCATIONS FOR THE PURPOSES OF GLAZING:
- GLAZING IN ALL FIXED AND OPERABLE PANELS OF SWINGING SLIDING AND BIFOLD DOORS
- GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL IN THE SAME PLANE AS A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN 24-INCHES OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES ABOVE THE FLOOR OR WALKING
- GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL OF THE FOLLOWING CONDITIONS:
- 3.1 EXPOSED AREA OF AN INDIVIDUAL PANE LARGER THAN 9 SQUARE
- 3.2 BOTTOM EDGE LESS THAN IS INCHES ABOVE THE FLOOR 3.3 TOP EDGE MORE THAN 36 INCHES ABOVE THE FLOOR
- 5.4 ONE OR MORE WALKING SURFACES WITHIN 36 INCHES, MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, OF THE GLAZING.
- GLAZING IN GUARDS AND RAILINGS, INCLUDING STRUCTURAL BALUSTER PANELS AND NONSTRUCTURAL IN-FILL PANELS, REGARDLESS OF AREA OR HEIGHT ABOYE A WALKING SURFACE.
- GLAZING IN DOORS AND ENGLOSURES FOR HOT TUBS, WHIRLPOOLS, SUACING IN DOORS AND ENCOURSES FOR AUTILIES, MINICIPOLES SANAS, STRAM ROOMS, BATHTUBS AND SHOVERS, GLAZING ENCLOSING THESE COMPARTMENTS WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE.
- CLAZING IN WALLS AND FENCES ENCLOSING INDOOR AND OUTDOOR SWIMMING POOLS, HOT TUBS AND SPAS WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE A WALKING SURFACE AND WITHIN 60 INCHES HORIZONTALLY OF THE WATER'S EDGE. THIS SHALL APPLY TO SINGLE GLAZING AND ALL PANES IN MULTIPLE GLAZING. GLAZING IN WALLS AND FENCES ENCLOSING INDOOR AND OUTDOOR
- GLAZING ADJACENT TO STAIRWAYS, LANDINGS AND RAMPS WITHIN 36 INCHES HORIZONTALLY OF A WALKING SURFACE WHEN THE EXPOSED SURFACE IN THE GRAZING IS LESS THAN 36 INCHES ABOVE THE PLANE THE ADJACENT WALKING SURFACE.
- GLAZING ADJACENT TO THE LANDING AT THE BOTTOM OF STAIRWAYS WHERE THE GLAZING IS LESS THAN 36 INCHES ABOVE THE LANDING AND WITHIN A 60-INCH HORIZONTAL ARC LESS THAN 180 DEGREES FROM THE BOTTOM TREAD NOSING.
- HINGED SHOWER DOORS SHALL OPEN OUTWARD.
- GLAZING SHALL BE IN ACCORDANCE WITH ENERGY COMPLIANCE CALCULATIONS BASED ON A LOCALLY ADOPTED ENERGY CODE, THE MODEL ENERGY CODE OR THE INTERNATIONAL ENERGY
- IN DWELLING UNITS, WHERE THE OPENING OF AN OPERABLE MINDOW IS LOCATED MORE THAN 72 INCHES (1824 MM) ABOVE THE FINISHED GRADE OR SURFACE BELOON, THE LONEST PART OF THE CLEAR OPENING OF THE MINDOW SHALL BE A MINIMUM OF 24 INCHES (610 MM) ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH THE WINDOW IS LOCATED. OPERABLE SECTIONS OF WINDOWS SHALL NOT PERMIT OPENINGS THAT ALLOW PASSAGE OF A 4 INCH (102 MM) DIAMETER SPHERE WHERE SUCH OPENINGS ARE LOCATED OPENINGS

# FINISHES

- GYPSUM WALLBOARD SHALL BE INSTALLED IN CONFORMANCE WITH THE CURRENT EDITION OF THE NORTH CAROLINA RESIDENTIAL CODE AND ALL STATE AND LOCAL BUILDING CODES. THE MOST STRINGENT
- MATERIALS, ALL SYPSUM BOARD MATERIALS AND ACCESSORIES SHALL CONFORM TO A 51M C 22, C 47B, C 51A, C 1002, C 1047, C 11T1, C 11T6, C 127B, C 1346, OR C 165B AND SHALL BE INSTALLED IN ACCOMPANCE HITH THE PROVISIONS OF THE NC.-R. ADHESIVES FOR THE INSTALLATION OF SYPSUM BOARD SHALL CONFORM TO ASTM C 55T.
- GYPSUM BOARD MATERIALS SHALL CONFORM TO THE APPROPRIATE STANDARDS LISTED IN THE N.C.-R WHERE REQUIRED FOR FIRE PROTECTION, CONFORM TO THE N.C.-R
- INTERIOR GYPSUM BOARD SHALL NOT BE INSTALLED WHERE IT IS DIRECTLY EXPOSED TO THE WEATHER OR TO WATER.
- ALL EDGES AND ENDS OF GYPSUM BOARD SHALL OCCUR ON THE ALL EDGES AND ENDS OF STORM BOARD STALL OCCUR ON THE FRAMING MEMBERS, EXCEPT THOSE EDGES AND ENDS THAT ARE PERPENDICULIAR TO THE FRAMING MEMBERS, EDGES AND ENDS OF GYPSIM BOARD SHALL BE IN MODERATE CONTACT EXCEPT IN CON-CEALED SPACES WHERE FIRE-RESISTACE-RATED CONSTRUCTION, SHEAR RESISTANCE, OR DIAPHRAGM ACTION IS NOT REQUIRED. CEALED SPACES WHERE FIRE-RESISTACE-RATED CONSTRUCTION
- FASTENERS AT THE TOP AND BOTTOM PLATES OF VERTICAL ASSEMBLIES FAJIENERY AT THE TOP AND BOTTOM PLATES OF VERTICAL ASSEMBLIES, OR THE EDGES AND ENDS OF HORIZONTAL ASSEMBLIES PERPENDICULAR TO SUPPORTS, AND AT THE WALL LINE MAY BE OMITTED EXCEPT ON SHEAR-RESISTING ELEMENTS OR FIRE- RESISTIVE ASSEMBLIES. FASTENERS SHALL BE APPLIED IN SUCH A MANNER AS NOT TO FRACTURE THE FACE PAPER WITH THE FASTENER HEAD.
- GYPSUM BOARD USED AS THE BASE OR BACKER FOR ADHESIVE APPLICATION OF CERAMIC TILE OR OTHER REQUIRED NON-ABSORBENT FINISH MATERIAL SHALL CONFORM TO ASTM C 1946, C 1179 OR (2/12). USE OF MATER-RESISTANT GYPSUM BACKING BOARD SHALL BE PERMITTED ON CEILINGS WHERE FRAMING SPACING DOES NOT EXCEED (2) INCHES ON CENTER FOR 1/2-INCH-THICK OR IS INCHES FOR 5/8-INCH-WATER-RESISTANT GYPSUM BOARD SHALL NOT BE INSTALLED OVER A VAPOR RETARDER IN A SHOWER OR TUB COMPARTMENT. CUT OR EXPO EDGES, INCLUDING THOSE AT WALL INTERSECTIONS, SHALL BE SEALED AS RECOMMENDED BY THE MANUFACTURER
- WATER RESISTANT GYPSUM BACKING BOARD SHALL NOT BE USED WHERE THERE WILL BE DIRECT EXPOSURE TO WATER, OR IN AREAS SUBJECT TO
- WHEN APPLYING A WATER-BASED TEXTURE MATERIAL, THE MINIMUM GYPSUM BOARD THICKNESS SHALL BE INCREASED FROM 3/8 INCH TO 1/2 INCH FOR I6-INCH ON CENTER FRAMING, AND FROM I/2 INCH TO 5/8 INCH FOR 24-INCH ON CENTER FRAMING OR I/2 INCH SAS-RESISTANT GYPSUM CEILING BOARD SHALL BE USED.

#### EXTERIOR LATH

- ALL LATH AND LATH ATTACHMENTS SHALL BE OF CORROSION-
- BACKING OR A LATH SHALL PROVIDE SUFFICIENT RIGIDITY TO PERMIT PLASTER APPLICATION.
- WHERE LATH ON VERTICAL SURFACES EXTENDS BETWEEN RAFTERS OR OTHER SIMILAR PROJECTING MEMBERS, SOLID BACKING SHALL BE INSTALLED TO PROVIDE SUPPORT FOR LATH AND ATTACHMENTS.
- GYPSUM LATH OR GYPSUM BOARD SHALL NOT BE USED, EXCEPT THAT ON HORIZONTAL SUPPORTS OF CEILINGS OR ROOF SOFFITS IT MAY BE USED AS BACKING FOR METAL LATH OR WIRE FABRIC LATH AND CEMENT PLASTER.
- UNLESS SPECIFIED OTHERWISE, ALL WALL COVERINGS SHALL BE SECURELY FASTENED PER THE N.C.-R. OR WITH OTHER APPROVED ALLWINIM, STAINLESS STEEL, ZINC-COATED OR OTHER APPROVED CORROSION-RESISTIVE FASTENERS, WHERE THE BASIC WIND SPEED IS 110 MILES PER HOUR OR HIGHER, THE ATTACHMENT OF WALL COVERINGS SHALL BE DESIGNED TO RESIST THE COMPONENT AND CLADDING LOADS SPECIFIED AND ADJUSTED FOR HEIGHT AND EXPOSURE
- A MINIMUM O.O.I9-INCH (NO. 26 GALVANIZED SHEET GAGE). CORROSION-RESISTANT WEEP SCREED OR PLASTIC WEEP SCREED, WITH A CORROGION-RESISTANT WEEP SCREED OR PLASTIC WEEP SCREED, WITH A MINIMUM VERTICAL ATTACHMENT FLANGE OF 31/2 INCHES SHALL BE PROVIDED AT OR BELOW THE FOUNDATION PLATE LINE ON EXTERIOR STUD WALLS IN ACCORDANCE WITH ASTM C 426. THE WEEP SCREED SHALL BE PLACED A MINIMUM OF 4 INCHES ABOVE THE EARTH OR 2 INCHES ABOVE PAYED AREAS AND SHALL BE OF A TYPE THAT MILL ALLOW TRAPPED WATER TO DRAIN TO THE EXTERIOR OF THE BUILDING. THE WEATHER-RESISTANT BARRIER SHALL LAP THE ATTACHMENT FLANGE. THE EXTERIOR LATH SHALL COVER AND TERMINATE ON THE ATTACHMENT FLANGE OF THE WEEP SCREED.

PLASTERING WITH FORTLAND CEMENT PLASTER SHALL BE NOT LESS THAN THREE COATS WHEN APPLIED OVER METAL LATH OR WIRE LATH AND SHALL BE NOT LESS THAN TWO COATS WHEN APPLIED OVER MASONRY, CONCRETE RESSURE-PRESERVATIVE TREATED MOOD OR DECAY-RESISTANT WOOD OR SYPSUM BACKING, IF THE PLASTER SURFACE IS COMPLETELY COVERED BY VENEER OR OTHER FACING MATERIAL OR IS COMPLETELY CONCEALED, PLASTER APPLICATION NEED BE ONLY TWO COATS, PROVIDED THE TOTAL THICKNESS IS AS SET FORTH PER THE N.C.-R

ON WOOD-FRAME CONSTRUCTION WITH AN ON-GRADE FLOOR SLAB SYSTEM, EXTERIOR PLASTER SHALL BE APPLIED TO COVER, BUT NOT EXTEND BELOW, LATH, PAPER AND SCREED.

THE PROPORTION OF AGGREGATE TO CEMENTITIOUS MATERIALS SHALL BE AS SET FORTH PER THE N.C.-R

- ONLY APPROVED PLASTICITY AGENTS AND APPROVE AMOUNTS THEREOF MAY BE ADDED TO PORTLAND CEMENT. WHEN PLASTIC CEMENT IS USED, NO ADDITIONAL LINE OR PLASTICIZERS SHALL BE ADDED. HYDRAYED LIME OR THE EQUIVALENT AMOUNT OF LIME PUTTY USED AS A PLASTICIZER WE DE ADDED TO CEMENT PLASTER. OR CEMENT AND LIME PLASTER IN AN AMOUNT NOT TO EXCEED
- GYPSUM PLASTER SHALL NOT BE USED ON EXTERIOR SURFACES.
- PLASTER COATS SHALL BE PROTECTED FROM FREEZING FOR A PERIOD OF NOT LESS THAN 24 HOURS AFTER SET HAS OCCURRED. PLASTER SHALL BE APPLIED WHEN THE AMBIENT TEMPERATURE IS HIGHER THAN 40 DEGREES F (4 DEGREES O), UNLESS PROVISIONS ARE MADE TO KEEP CEMENT PLASTER WORK ABOVE 40 DEGREES F (4 DEGREES C.) PRIOR TO & DURING APPLICATION AND 46 HOUR: THEREATER
- COLOR AND FINISH TO BE SELECTED AND APPROVED BY OWNER/ BUILDER AND ARCHITECT.
- A I-COAT EXTERIOR PLASTER SYSTEM SUCH AS "MAGNA WALL" I.C.C. NO. ER-4716, "EXPO FIBREMALL" I.C.C. NO. ER-4368, OR APPROVED EQUAL MAY BE USED IN LIEU OF A 3-COAT EXTERIOR PLASTER SYSTEM.



# NORTH CAROLINA 50' SERIES

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KB HOME NORTH CAROLINA DIVISION 4506 S. MIAMI BLVD.

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# 2018 NORTH **CAROLINA STATE** BUILDING CODES

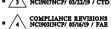
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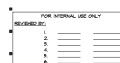
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DIVISION MGR.:	D.S
REVISIONS:	05/07/19
DIVISION REV	ISIONS 9/10/18 · CTD

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PLAN 149.2115 GN<sub>2</sub>

SPEC. LEVEL 1 RALEIGH-DURHAM **SERIES** 

# MECHANICAL & PLUMBING

#### H.V.A.C.

- I. ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN CONFORMANCE WITH THE NORTH CARROLINA RESIDENTIAL AND MECHANICAL COPE. INSTALLATIONS OF MECHANICAL APPLIANCES, EQUIPMENT AND SYSTEMS NOT ADDRESSED BY THIS CODE SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF THE NORTH CAROLINA RESIDENTIAL AND FUEL GAS CODE.
- CONTRACTOR SHALL DESIGN ENTIRE H.V.A.C. SYSTEM AND SUBMIT DRAWINGS FOR OWNER/BUILDER'S APPROVAL PRIOR TO ORDERING MATERIALS OR EQUIPMENT.
- . WHERE AIR CONDITIONING IS AN OPTIONAL FEATURE, HEATING SYSTEMS MUST BE DESIGNED AND DUCT WORK SIZED TO ACCOMMODATE FUTURE AIR CONDITIONING NEEDS.
- 4. WHERE THE PRIMARY HEATING SYSTEM IS A FORCED-AIR FURNACE, AT LEAST ONE THERMOSTAT PER DWELLING INIT SHALL BE CAPABLE OF CONTROLLING THE HEATING AND COOLING SYSTEM ON A DAILY SCHEDULE TO MAINTAIN DIFFERENT TEMPERATURE SET POINTS AT DIFFERENT TIMES OF THE DAY. THIS THERMOSTAT SHALL INCLUDE THE CAPABILITY TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55 DEG. F (13 C) OR UP TO 65 DEG. F (29 C).
- 5. ALL DUCTWORK SHALL CONFORM TO THE REQUIREMENTS OF THE N.C.-R
- 6. COMBUSTION AIR SHALL BE PROVIDED FOR FORCED AIR UNITS IN
- CONTRACTOR TO PROVIDE BOOT IN DUCTWORK WHEN OPTIONAL "HONEYWELL" OR "CARRIER" ELECTRONIC AIR CLEANER IS PROVIDED.
- 8. 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 SHEET STEEL OR OTHER APPROVED MATERIAL AND SHALL HAVE NO OPENINGS INTO THE GARAGE BERD N. 2
- EXTERIOR-GRADE INSTALLATIONS. EQUIPMENT AND APPLIANCES INSTALLED ABOVE GRADE LEVEL SHALL BE SUPPORTED ON A SOLID BASE OR APPROVED MATERIAL A MINIMM OF 2 INCHES THICK.
- IO. UNDER-FLOOR INSTALLATION. SUSPENDED EQUIPMENT SHALL BE A MINIMUM OF 6 INCHES ABOVE THE ADJOINING GRADE.
- II. CRANL SPACE SUPPORTS. IN A CRANL SPACE, A MINIMUM OF 2-INCH THICK SOLID BASE, 2-INCH (5I MM) HICK FORMED CONCRETE, OR STACKED MASONEY UNITS HELD IN PLACE BY MORTAR OR OTHER APPROVED METHOD. THE WATER HEATER SHALL BE SUPPORTED NOT LESS THAN 2 INCHES ABOVE GRADE.
- DRAINAGE. BELOW-GRADE INSTALLATIONS SHALL BE PROVIDED WITH A NATURAL DRAIN OR AN AUTOMATIC LIFT OR SUMP PUMP. FOR PIT REQUIREMENTS REPER TO N.C.-

#### VENTIN

- IN LIEU OF REQUIRED EXTERIOR OFENINGS FOR NATURAL VENTILATION IN BATHROOMS CONTAINING A BATHRUB, SHOWER OR COMBINATION THEREOF, A MECHANICAL VENTILATION SYSTEM MAY BE PROVIDED. THE MINIMM VENTILATION RATES SHALL BE SO CPM FOR INTERNITTENT VENTILATION OR 20 CPM FOR CONTILUOUS VENTILATION. VENTILATION AIR FROM THE SPACE SHALL BE EXHAUSTED DIRECTLY TO THE OUTSIDE FER N.C.—R
- EXHAUST DUCTS SHALL TERMINATE OUTSIDE THE BUILDING AND SHALL BE EQUIPPED WITH BACKDRAFT DAMPERS.
- 3. RANGE HOODS SHALL DISCHARGE TO THE OUTDOORS THROUGH A DUCT.
  THE DUCT SERVING THE HOOD SHALL HAVE A SMOOTH INTERIOR SIRFACE
  SHALL BE AIR TIGHT, SHALL BE EQJIPPED NITH A BACK-DRAFT DAMPER
  AND SHALL BE INDEPENDENT OF ALL OTHER SHALDS TSYSTEMS, DUCTS
  SERVING RANGE HOODS SHALL NOT TERMINATE IN AN ATTIC AOR CRANL
  SPACE OR AREAS INSIDE THE BUILDING, DUCTS SERVING RANGE HOODS
  SHALL BE CONSTRUCTED OF GALVANIZED STEEL, STAINLESS STEEL OR
  COPPER
- 4. MHERE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND WHERE MECHANICAL OR NATURAL VENTILATION IS OTHERWISE PROVIDED, LISTED AND LABELED DUCTLESS RANGE HOODS SHALL NOT BE REQUIRED TO DISCHARGE TO THE OUTDOORS PER N.C.-M
- DUCTS FOR DOMESTIC KITCHEN COOKING APPLIANCES EQUIPPED HITH DOWN DRAFT EXHAUST SYSTEMS SHALL BE PERMITTED TO BE CONSTRUCTED OF SCHEDULE 40 PVC PIPE PROVIDED THAT THE INSTALLATION COMPLIES HITH ALL OF THE FOLLOWING PER N.C.-M:
- THE DUCT SHALL BE INSTALLED UNDER A CONCRETE SLAB POURED ON GRADE.
- B. THE UNDERFLOOR TRENCH IN WHICH THE DUCT IS INSTALLED SHALL BE COMPLETELY BACKFILLED WITH SAND OR GRAVEL.
- C. THE PVC DUCT SHALL EXTEND NOT GREATER THAN I INCH ABOVE THE INDOOR CONCRETE FLOOR SURFACE.
- D. THE PVC DUCT SHALL EXTEND NOT GREATER THAN I INCH ABOVE GRADE OUTSIDE THE BUILDING.
- E. THE PVC DUCTS SHALL BE SOLVENT CEMENTED.
- 6. EXHAUST HOOD SYSTEMS CAPABLE OF EXHAUSTING IN EXCESS OF 400 CFM SHALL BE PROVIDED WITH MAKEUP AIR AT A RATE APPROXIMATELY EQUAL TO THE EXHAUST AIR RATE THAT IS IN EXCESS OF 400 CHIC FEET PER MINUTE. SUCH MAKEUP AIR SYSTEMS SHALL BE EQUIPPED WITH A MEANS OF CLOSURE AND SHALL BE AUTOMATICALLY CONTROLLED TO START AND OPERATE SIMULTANEOUSLY WITH THE EXHAUST SYSTEM. DAMPERS SHALL BE ACCESSIBLE FOR INSPECTION, SERVICE, REPAIR AND REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION
- DOMESTIC WATER HEATERS, UNLESS SPECIFIED OTHERWISE BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, SHALL BE VENTED TO THE OUTSIDE AIR BY A TYPE B' VENT AND COMPLY WITH THE REQUIREMENTS OF THE N.C.-M

# PLUMBING

- A POTABLE WATER SUPPLY SYSTEM SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN SUCH A MANNER SO AS TO PREVENT CONTAININATION FROM NONPOTABLE LIQUIDS, SOLIDS OR GASES BEING INTRODUCED INTO THE POTABLE WATER SUPPLY THROUGH CROSS-CONNECTIONS OR ANY OTHER PIPING CONNECTIONS TO THE SYSTEM. BACKFLOW PRE- VENTER APPLICATIONS SHALL CONFORM TO
- THE SUPPLY LINES OR FITTINGS FOR EVERY PLIMBING FIXTURE SHALL BE INSTALLED SO AS TO PREVENT BACKFLOW, PLIMBING FIXTURE FITTINGS SHALL PROVIDE BACKFLOW PROTECTION IN ACCORDANCE WITH ASME A1(2)(B).

# MECHANICAL & PLUMBING (continued)

#### PLUMBING (continued

- 9. ALL DEVICES, APPLRTENANCES, APPLIANCES AND APPARATUS INTENDED TO SERVE SOME SPECIAL FUNCTION, SUCH AS STERILIZATION, DISTIL-LATION, PROCESSING, COOLING, OR STORAGE OF ICE OR FOODS, AND THAT CONNECT TO THE WATER SUPPLY SYSTEM, SHALL BE PROVIDED WITH PROTECTION AGAINST BACKFLOW AND CONTAMINATION OF THE WATER SUPPLY SYSTEM, WATER PUMPS, FILITERS, SOFTENERS, TANKS AND ALL OTHER APPLIANCES AND DEVICES THAT HANDLE OR TREAT POTABLE WATER SHALL BE PROTECTED AGAINST CONTAMINATION.
- 4. WATER SERVICE PIPING SHALL BE PROTECTED IN ACCORDANCE WITH N.C.-P SECTIONS AND EXCEPTIONS)
- FIXTURE FITTINGS, FAUCETS AND DIVERTERS SHALL BE CONNECTED TO THE WATER DISTRIBUTION SYSTEM SO THAT HOT WATER CORRESPONDS TO THE LEFT SIDE OF THE FITTINGS.
- DIVERTERS FOR SINK FAUCETS WITH A SECONDARY OUTLET CONSISTING OF A FLEXIBLE HOSE AND SPRAY ASSEMBLY SHALL CONFORM TO ASTM AII2.II A ADDITION TO THE REQUIREMENTS IN N.C.-P
- . THE INSTALLATION OF A MATER SERVICE OR MATER DISTRIBUTION PIPE SHALL BE PROHIBITED IN SOIL AND OROUND MATER THAT IS CONTAMINATED. GROUND WATER CONDITIONS SHALL BE REQUIRED TO ACERTAIN THE ACCEPTABLITY OF THE MATER SERVICE OR WATER DISTRIBUTION PIPINS MATERIAL FOR THE SPECIFIC INSTALLATION. MHERE DETRIMENTAL CONDITIONS EXIST, APPROVED ALTERNATIVE MATERIALS OR ROUTING SHALL BE REQUIRED.
- WATER DISTRIBUTION PIPE SHALL CONFORM TO NSF 61 AND SHALL CONFORM TO ONE OF THE STANDARDS LISTED IN NC.-PLUMBING. ALL WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF IOO PSI AT 180 DEGREES F.
- 9. PIPE PASSING THROUGH CONCRETE OR CINDER WALLS AND FLOORS OR OTHER CORROSIVE MATERIAL SHALL BE PROTECTED AGAINST EXTERNAL CORROSION BY A PROTECTIVE SHEATHING OR WRAPPING OR OTHER MEANS THAT WILL WITHSTAND ANY REACTION FROM THE LIME AND ACID OF CONCRETE, CINDER OR OTHER CORROSIVE MATERIAL SHEATHING OR WRAPPING SHALL ALLOW FOR EXPANSION AND CONTRACTION OF PIPING TO PREVENT ANY RUBBING ACTION, MINIMUM WALL THICKNESS OF MATERIAL, SHALL BE 0.025-INCH.
- IO. PIPES PASSING UNDER OR THROUGH WALLS SHALL BE PROTECTED FROM PHYSICAL DAMAGE PER NC-R.
- II. PIPING SHALL BE INSTALLED SO AS TO PREVENT DETRIMENTAL STRAINS AND STRESSES IN THE PIPE. PROVISIONS SHALL BE MADE TO PROTECT PIPING FROM DAMAGE RESULTING FROM EXPANSION, CONTRACTION AND STRUCTURAL STRESSES OR STRAINS WITHIN SUILDING COMPONENTS.
- 12. WATER PIPES INSTALLED IN A MALL EXPOSED TO THE EXTERIOR SHALL BE LOCATED ON THE HEATED SIDE OF THE MALL INSULATION. IN OTHER CASES, MATER, SOIL AND MASTE PIPES SHALL NOT BE INSTALLED OUTSIDE OF A BUILDING, IN INCONDITIONED ATTICES, INCONDITIONED UTILITY ROOMS OR IN ANY OTHER PLACE SUBJECTED TO FREEZING TEMPERATURES UNLESS ADEQUATE PROVISION IS MADE TO PROTECT SICH PIPES FROM FREEZING BY A MINIMUM OF 8-55 INSULATION DETERMINED AT T5 DEG. F IN ACCORDANCE WITH ASTM CITT OR HEAT OR BOTH.

  EXTERIOR MATER SUPPLY SYSTEM PIPING SHALL BE INSTALLED NOT LESS THAN 6 INCHES BELOW THE FROST LINE AND NOT LESS THAN 12 INCHES BELOW GRADE.
- 13. BUILDING SEWER PIPE SHALL CONFORM TO ONE OF THE STANDARDS
- BUILDING SEMER PIPE FITTINGS SHALL BE APPROVED FOR INSTALLATION WITH THE PIPING MATERIAL INSTALLED AND SHALL CONFORM TO THE RESPECTIVE PIPE STANDARDS OR ONE OF THE STANDARDS LISTED IN N.C.-P.
- IS. WHERE WASTE LINE DROPS OCCUR IN A LOCATION WHERE THE SOUND OF A FLUSHED TOILET MAY BE UNDESIRABLE, SUCH AS IN WALLS OR PARTITIONS ADJACENT TO EATING ROOMS, USE CAST IRON PIPING OR SIMILAR APPROVED HARD OR DENSE PIPING TO MITIGATE SOUND.
- 16. CLEANOUTS ON BUILDING SEWERS SHALL BE LOCATED AS SET FORTH IN
- 17. THE MAXIMUM WATER CONSUMPTION FLOW RATES AND QUANTITIES FOR ALL PLUMBING FIXTURES SHALL BE IN ACCORDANCE WITH N.C.-R.
- IB. INDIVIDUAL SHOWER AND TUB/SHOWER COMBINATION VALVES SHALL BE EQUIPPED WITH CONTROL VALVES OF THE PRESSURE-BALANCE, THERMOSTATIC-MIXING OR COMBINATION PRESSURE-BALANCE/ THERMOSTATIC-MIXING VALVE TYPES WITH A HIGH LIMIT STOP IN ACCORDANCE WITH ASSE IOIB/ ASME AII2.IOIB/CSA BIZS.II6. AND SHALL BE INSTALLED AND ADJUSTED PER MANUFACTURES INSTRUCTIONS.
- 19. GAS AND ELECTRIC WATER HEATERS HAVING AN IGNITION SOURCE SHALL BE ELEVATED SUCH THAT THE SOURCE OF IGNITION IS NOT LESS THAN IS INCHES ABOVE THE SARAGE FLOOR. REFER TO N.C.-R FOR EXCEPTION.
- 20. MATER HEATERS, (JISING SOLID, LIQUID OR GAS FILEL) WITH THE EXCEPTION OF THOSE HAVING DIRECT VENT SYSTEMS, SHALL NOT BE INSTALLED IN BATHROOMS AND BEDROOMS OR IN A CLOSET WITH ACCESS ONLY THROUGH A DEDROOM OR BATHROOM, HOWEVER, NATER HEATERS OF THE AUTOMATIC STORAGE TYPE MAY BE INSTALLED AS REPLACEMENT IN A BATHROOM, HOWEVER, DATE OF THE AUTOMATIC STORAGE TYPE MAY BE INSTALLED AS REPLACEMENT IN A BATHROOM, HAVE APPROVED BY THE PLIMBING OFFICIAL, PROVIDED THEY ARE VENTED AND SPPILIED WITH ADEQUATE COMPUSTION AIR.
- 21. IN SEISMIC DESIGN CATEGORIES DO, DI AND D2 AND TOWNHOUSES IN SEISMI DESIGN CATEGORY C, WATER HEATERS SHALL BE ANCHORED OR STRAPPEL IN THE UPPER ONE-THIRD AND IN THE LONER ONE-THIRD OF THE APPLIANCE TO RESIST A HORIZONTAL FORCE EQUAL TO ONE-THIRD OF THE OPERATING WEIGHT OF THE WATER HEATER, ACTING IN ANY HORIZONTAL DIRECTION, OR IN ACCORDANCE WITH THE APPLIANCE MANUFACTURER'S RECOMMENDATIONS
- 22. APPLIANCES LOCATED IN A GARAGE OR CARPORT SHALL BE PRO-TECTED FROM IMPACT BY A MOVING VEHICLE.
- 23. MHERE MATER HEATERS OR HOT MATER STORAGE TANKS ARE INSTALLED IN.
  REMOTE LOCATIONS SICH AS SUSPENDED CEILING, ATTICS, ABOVE OCCUPIED
  SPACES, OR INVENTILATED CRANL SPACES, A LOCATION WHERE WATER
  LEAKAGE FROM THE TANK WILL CAUSE DAMAGE TO PRIMARY STRUCTURAL
  MEMBERS, THE TANK OR WATER HEATER SHALL BE INSTALLED IN A
  GALVANIZED STEEL PAN HAVING A MINNUM THICKNESS OF 24 GASE, OR
  OTHER PANS APPROVED FOR SUCH USE.
- 24. WHERE CLOTHES WASHING MACHINES ARE LOCATED ON WOOD FRAMED FLOORS WHERE LEAKAGE MOULD CAUSE DAMAGE, A GALYANIZED STEEL PAN HAVING A MINIMUM HICKNESS OF 24 GAGE, OR OTHER PANS APPROVED FOR SUCH USE SHALL BE PROVIDED.

# MECHANICAL & PLUMBING (continued)

#### PLUMBING (continued

- 25. APPLIANCES AND EQUIPMENT USED FOR HEATING MATTER OR STORING HOT MATTER SHALL BE PROTECTED BY A SEPARATE PRESQUER-RELIEF VALVE AND A SEPARATE TEMPERATURE- RELIEF VALVE OR A COMBINATION PRESSURE-AND-TEMPERATURE RELIEF VALVE. RELIEF VALVES SHALL HAVE A MINIMUM RATTED CAPACITY FOR THE EQUIPMENT SERVED AND SHALL CONFORM TO ANSI 21.22. THE RELIEF VALVE SHALL NOT BE USED AS A MEANS OF CONTROLLING THERMAL EXPANSION.
- 26. THE WATER SUPPLY TO A DISHWASHER SHALL BE PROTECTED AGAINST BACKFLOW BY AN AIR GAP COMPLYING HITH ASME AIL.3 OR AIL.12 THAT IS INSTALLED INTEGRALLY WITHIN THE MACHINE OR A BACKFLOW PREVENTED IN ACCORDANCE HITH THE NEW.
- 21. SINK AND DISHWASHER, THE COMBINED DISCHARGE FROM A DISHWASHER AND A ONE- OR THO-COMPARTMENT SINK, NITH OR WITHOUT A FOOD-WASTE DISPOSER, SHALL BE SERVED BY A TRAP OF NOT LESS THAN II/2 INCESS (36 MM) IN OUTSIDE DIANETER, THE DISHWASHER DISCHARGE FIFE OR TUBING SHALL RISE TO THE UNDERSIDE OF THE COUNTER AND SHALL BE SECURELY FASTENED TO THE WIDERSIDE OF THE SINK RIM OR COUNTER DEFORE CONNECTING TO THE HEAD OF THE FOOD-WASTE DISPOSER OR TO A WYE FITTING IN THE SINK TALLPIECE.

#### FIREPLAC

- FACTORY-BUILT FIREPLACES SHALL BE LISTED AND LABELED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE CONDITIONS OF THE LISTING. FACTORY-BUILT FIREPLACES SHALL BE TESTED IN ACCORDANCE WITH U. 27.
- 2. FIREPLACES ARE TO BE PROVIDED WITH AN EXTERIOR AIR SUPPLY

# ELECTRICAL

- ALL MATERIALS AND APPLIANCES, INSTALLATION AND CONSTRUCTION METHODS SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE OR CURPENT SAF BEQUIPEMENT.
- ALL ELECTRICAL SYSTEMS, CIRCUITS, FIXTURES AND EQUIPMENT SHALL BE GROUNDED IN A MANUER COMPLYING WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
- ALL WIRING SHALL BE SO INSTALLED THAT, WHEN COMPLETED, THE SYSTEM WILL BE FREE FROM SHORT CIRCUITS AND FROM GROUNDS OTHER THAN AS REQUIRED OR PERMITTED IN N.E.C. ARTICLE 250.
- ELECTRIC EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORK-MANLIKE MANNER.
- ALL 125-VOLT, SINGLE-PHASE, I5- AND 20-AMPERE RECEPTACLES INSTALLED IN THE LOCATIONS SPECIFIED BELOW SHALL HAVE GROUND- PAULT (ROUTH-INTERWIPTER PROTECTION FOR PERSONNEL. THE GROUND-FAULT CIRCUIT-INTERWIPTER SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION.
  - A. BATHROOMS.
  - B. GARAGES AND ALSO ACCESSORY BUILDINGS THAT HAVE A FLOOR LOCATED AT OR BELOW GRADE LEVEL NOT INTENDED AS HABITABLE ROOMS AND LIMITED TO STORAGE AREAS, WORK AREAS, AND AREAS OF SIMILAR USE.
  - c. OUTDOORS
  - CRAWL SPACES. WHERE THE CRAWL SPACE IS AT OR BELOW GRADE LEVEL.
  - E. UNFINISHED PORTIONS OR AREAS OF THE BASEMENT NOT INTENDED AS HABITABLE ROOMS.
- KITCHENS, WHERE THE RECEPTACLES ARE INSTALLED TO SERVE THE COUNTERTOP SURFACES.
- G. SINKS, WHERE RECEPTACLES ARE INSTALLED WITHIN 6 FT FROM THE TOP INSIDE EDGE OF THE BOWL OF THE SINK.
- H. BOAT HOUSES.
- . BATHTUBS OR SHOWER STALLS WHERE RECEPTACLES ARE INSTALLED MITHIN 6' OF THE OUTSIDE EDGE OF THE BATHTUB OR SHOWER STALL.
- J. LAUNDRY AREAS
- DISHMASHER GFCI PROTECTION IS NOT REQUIRED FOR OUTLETS THAT SUPPLY DISHMASHERS INSTALLED IN DWELLING UNIT LOCATIONS.
- CRANL SPACE LIGHTING OUTLETS. GFCI PROTECTION SHALL BE PROVIDED FOR LIGHTING OUTLETS NOT EXCEEDING 120 VOLTS INSTALLED IN CRANL SPACES.
- APPLIANCE RECEPTACLE OUTLETS INSTALLED IN A DWELLING UNIT FOR SPECIFIC APPLIANCES, SUCH AS LAUNDRY EQUIPMENT, SHALL BE INSTALLED WITHIN 6 FEET OF THE INTENDED LOCATION OF THE APPLIANCE.
- IN EVERY KITCHEN, FAMILY ROOM, DINING ROOM, LIVING ROOM, PARLOR, LIBRARY, DEN, SUNROOM, BEDROOM, RECREATION ROOM, OR SIMILAR ROOM OR AREA OF DIABLING WITS, RECEPTACLE OUTLETS SHALL BE INSTALLED SO THAT NO POINT A COME THE FLOOR LINE IN ANY WALL SPACE IS MORE THAN 6 FEET, MEASURED HORIZONTALLY, FROM AN OUTLET IN THAT SPACE, INCLIDING SPACE MEASURED AROUND CORNERS) AND INDEROKEN ALONG THE FLOOR LINE BY DOORNAMYS AND SIMILAR OPPINIOS, FIREPLACES, AND FIXED CABINETS, AND THE WALL SPACE OCCUPIED BY FIXED PANELS IN EXTERIOR WALLS, BIT EXCLIDING SPACES, AND SIMILAR EXCLIDING SILDING PANELS IN EXTERIOR WALLS, BIT EXCLIDING SILDING PANELS IN EXTERIOR WALLS, THE WALL SPACE AFFORDED BY FIXED ROOM DIVIDERS, SICH AS FREESTANDING BAR-TYPE COUNTERS OR RAILINGS, SHALL BE INCLUDED IN THE 6 FOOT MEASUREMENT.
- IN THE KITCHEN, PANTRY, BREAKFAST ROOM, DINING ROOM, OR SIMILAR AREA OF A DWELLING UNIT, THE TWO OR WORE 20-AMPERE SMALL-APPLIANCE BRANCH CIRCUITS REQUIRED SHALL SERVE ALL MALL AND FLOOR RECEPTACLE OUTLETS, ALL COUNTERTOP OUTLETS, AND RECEPTACLE OUTLETS FOR REPRISERATION EQUIPMENT. THE TWO OR MORE SMALL-APPLIANCE BRANCH CIRCUITS SHALL HAVE NO OTHER OUTLETS.
- D. IN KITCHENS, PANTRIES, BREAKFAST ROOMS, DINING ROOMS AND SIMILAR AREAS OF DWELLING WITS, RECEPTACLE OUTLETS FOR COUNTER SPACES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING.
- (I) A RECEPTACLE OUTLET SHALL BE INSTALLED AT EACH MALL COUNTER SPACE 12 INCHES OR WIDER. RECEPTACLE OUTLET SHALL BE INSTALLED SO THAT NO POINT ALONS THE WALL IS MORE THAN 24 INCHES MEASURED HORIZONTALLY FROM A RECEPTACLE OUTLET IN THAT SPACE.

# ELECTRICAL (continued)

- (2) AT LEAST ONE RECEPTACLE OUTLET SHALL BE INSTALLED AT EACH ISLAND COUNTER SPACE NITH A LONG DIMENSION OF 24 INCHES OR GREATER AND A SHORT DIMENSION OF 12 INCHES OR GREATER.
- (3) AT LEAST ONE RECEPTACLE OUTLET SHALL BE INSTALLED AT EACH PRINISULAR COUNTER SPACE WITH A LONG DIMENSION OF 24 INCHES OR GREATER AND A SHORT DIMENSION OF 12 INCHES OR GREATER. A PENINSULAR COUNTERTOP IS MEASURED FROM CONNECTING PERPENDICULAR WALL.
- (4) CONTERTOP SPACES SEPARATED BY RANGE TOPS, REFRIGER-ATORS, OR SINKS SHALL BE CONSIDERED AS SEPARATE COUNTERTOP SPACES IN APPLYING THE REQUIREMENTS OF (I), (2), AND (3) ABOVE. IF A RANGE, CONTERT-MOUNTED COOKING UNIT, OR SINK IS INSTALLED IN AN ISLAND OR PENINGULAR COUNTERTOP AND THE DEPTH OF THE COUNTER BEHIND THE ITEM IS LESS THAT IS INCHES. IT WILL BE CONSIDERED TO DIVIDE THE COUNTERTOP SPACE INTO TWO SEPARATE COUNTERTOP SPACES. EACH COUNTERTOP SPACES SHALL COMPLY WITH APPLICABLE REQUIREMENTS.
- (5) RECEPTACLE OUTLETS SHALL BE LOCATED NOT MORE THAN 20 INCHES ABOVE THE COUNTEKTOP. RECEPTACLE OUTLETS RENDERED NOT READILY ACCESSIBLE BY APPLIANCES FASTENED IN PLACE, APPLIANCE GARAGES, SINKS, OR RANGETOPS AS COVERED IN 4) ABOVE, OR APPLIANCES OCCUPYING DEDICATED SPACE SHALL NOT BE CONSIDERED AS THESE REQUIRED OUTLETS.
- II. AT LEAST ONE WALL RECEPTACLE OUTLET SHALL BE INSTALLED IN BATHROOMS WITHIN 3 FEET OF THE OUTSIDE EDGE OF EACH BASIN. THE RECEPTACLE OUTLET SHALL BE LOCATED IN WALL OR PARTITION THAT IS ADJACENT TO THE BASIN OR BASIN COUNTERTOP, OR INSTALLED ON THE SIDE OR FACE OF THE BASIN CABINET NOT MORE THAN 12° BEIOW THE COUNTERTOR.
- IN DWELLING UNITS, AT LEAST ONE RECEPTACLE OUTLET SHALL BE INSTALLED IN AREAS DESIGNATED FOR THE INSTALLATION OF LAUNDRY EQUIPMENT.
- 19. IN EACH ATTACHED GARAGE AND IN EACH DETACHED GARAGE WITH ELECTRIC POWER, THE BRANCH CIRCUIT SUPPLYING THIS RECEPTACLE(S) SHALL NOT SUPPLY OVILETS CUTSIDE OF THE GARAGE. AT LEAST ONE RECEPTACLE CUTLET SHALL BE INSTALLED IN EACH VEHICLE BAY.
- I4. CABLE- OR RACEMAY-TYPE WIRING METHODS INSTALLED IN A GROOVE, TO BE COVERED BY WALLBOARD, SIDING, PANELING, CARPETING, OR SIMILAR FINISH, SHALL BE PROTECTED BY (I/O INCH THICK STEEL PLATE, SLEEVE, OR EQUIVALENT OR BY NOT LESS THAN I-I/4 INCH FREE SPACE FOR THE FULL LENGTH OF THE GROOVE IN WHICH THE CABLE OR RACEMA IS INSTALLED.
- 5. RECEPTACLES IN DAMP OR WET LOCATIONS.
- A. A RECEPTACLE INSTALLED OUTDOORS IN A LOCATION PROTECTED FROM MEATHER OR IN OTHER DAMP LOCATIONS SHALL HAVE AN ENCLOSURE FOR THE RECEPTACLE THAT IS MEATHERPROOF MENT THE RECEPTACLE IS COVERED. (ATTACHMENT PLUG CAP NOT INSERTED AND RECEPTACLE COVERS (LOSED.)
- B. ALL IS- AND 20- AMPERE, I25- AND 250-VOLT RECEPTACLES INSTALLED IN A WET LOCATION SHALL HAVE AN ENCLOSURE THAT IS WEATHER PROOF INJECTURE OR NOT THE ATTACHMENT PLUS CAP IS INSERTED. AN OUTLET BOX HOOD INSTALLED FOR THIS PURPOSE SHALL BE LISTED AND SHALL BE IDENTIFIED AS "EXTRA DUTY". ALL IS- AND 20- AMPERE, I25- AND 250-VOLT NONLOCKING RECEPTACLES SHALL BE LISTED WEATHER RESISTANT TYPE.
- 16. LIGHTING EQUIPMENT. NOT LESS THAN 75 PERCENT OF THE PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL CONTAIN ONLY HIGH-EFFICACY
- 17. LIGHT FIXTURES WITHIN CLOTHES CLOSETS SHALL BE INSTALLED IN
- 5. ALL 120-VOLT, SINGLE PHASE, IS- AND 20-AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SURROOMS, RECREATION ROOMS, CLOSETS, HALLMAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY AN ARC-FAULT CIRCUIT INTERRUPTERS), COMBINATION-TYPE, INSTALLED TO REOVIDE PROTECTION OF THE BRANCH CIRCUIT, THE ARC-FAULT CIRCUIT INTERRUPTERS SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION.
- BUILDINGS SHALL BE PROVIDED WITH APPROVED ADDRESS IDENTIFICATION. THE ADDRESS IDENTIFICATION SHALL BE LEGIBLE AND PLACED IN A POSITION THAT IS VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY.
- IO. TAMPER-RESISTANT RECEPTACLES IN DMELLING UNITS IN ALL AREAS, ALL NON-LOCKING TYPE (25-VOLT IS-AND 20-AMPERE RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES. EXCEPTIONS LISTED BELOW:
  - I. RECEPTACLES LOCATED MORE THAN 51 ABOVE THE FLOOR.
  - 2. RECEPTACLES THAT ARE PART OF A LUMINAIRE OR APPLIANCE.

    5. A SINGLE RECEPTACLE OR A DUPLEX RECEPTACLE FOR TWO APPLIANCES LOCATED WITHIN DEDICATED SPACE FOR EACH APPLIANCE THAT, IN NORMAL USE, IS NOT EASILY MOVED FROM ONE PLACE TO ANOTHER, AND THAT IS CORD-AND-PLUS CONNECTED.
  - 4. NON-GROUNDING RECEPTACLES USED FOR REPLACEMENTS.
- 21. DIMMER-CONTROLLED RECEPTACLES, A RECEPTACLE SUPPLYING LIGHTING LOADS SHALL NOT BE CONNECTED TO A DIMMER UNLESS THE PLUGRECEPTACLE COMBINATION IS A NONSTANDARD CONFIGURATION TYPE THAT IS SPECIFICALLY LISTED AND IDENTIFIED FOR EACH SUCH UNIQUE COMBINATION.

# SMOKE DETECTOR

- SMOKE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED MANUFACTURER'S INSTRUCTIONS AND NC-R R314
- . ALL SMOKE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL 217 AND INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THIS CODE AND THE HOUSEHOLD FIRE NARNING EQUIPMENT PROVISIONS OF THEPA 12.

HOUSEHOLD FIRE ALARM SYSTEMS INSTALLED IN ACCORDANCE WITH NFPA TO THAT INCLUDE SMOKE ALARMS, OR A COMBINATION OF SMOKE DETECTOR AND AUDIEL NOTIFICATION DEVICE INSTALLED AS REQUIRED BY THE INC-R 6314.5 FOR SMOKE ALARMS, SHALL BE PERMITTED. THE HOUSEHOLD FIRE ALARM SYSTEM SHALL PROVIDE THE SAME LEVEL OF SMOKE DETECTION AND ALARM AS REQUIRED BY THE INC-R FOR SMOKE ALARMS IN THE EVENT THE FIRE ALARM PAIRL IS REMOVED OR THE SYSTEM IS NOT CONNECTED TO A CENTRAL STATION.

 REQUIRED SMOKE DETECTORS SHALL BE LOCATED IN ACCORDANCE WITH THE NG-R R314.3

# ELECTRICAL (continued)

#### CARBON MONOXIDE ALARMS

- CARBON MONOXIDE ALARMS IN DWELLING UNITS SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS, WHERE A FUEL-BURNING APPLIANCE IS LOCATED WITHIN A BEDROOM OR ITS ATTACHED BATHROOM, A CARBON MONOXIDE ALARM SHALL BE INSTALLED WITHIN THE BEDROOM.
- SINGLE STATION CARBON MONOXIDE ALARMS SHALL BE LISTED AS COMPLYING HITH UL 2034 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE NC-R R3I5 AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- COMBINATION CARBON MONOXIDE AND SMOKE ALARMS SHALL BE PERMITTED TO BE USED IN LIEU OF INDIVIDUAL CARBON MONOXIDE OR SMOKE ALARMS.

#### DRYER VENT

. THE DRYER DUCT IS REQUIRED TO IDENTIFY THE LENGTH IN ACCORDANCE WITH SECTION MISO2.4.5



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NORTH CAROLINA 50' SERIES

KB HOME NORTH CAROLINA DIVISION

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4506 S. MIAMI BLVD.

SUITE 180

DURHAM, NC 27703

TEL: (919) 768-7980

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2018 NORTH
CAROLINA STATE
BUILDING
CODES

ISSUE DATE: 08/09/18
PROJECT No.: 1350999:57

. . . . .

DIVISION MGR.: D.S.
• REVISIONS: 05/07/19

DIVISION REVISIONS
NCHECKINCP · 09/10/18 · CTD

2018 CODE UPDATE
NCHOOLSNCP/ 03/15/19 / CTD

DIVISION REVISIONS
NCI9017NCP/ 03/22/19 / CTD
COMPLIANCE REVISIONS
NCI9031NCP/ 05/16/19 / FAE

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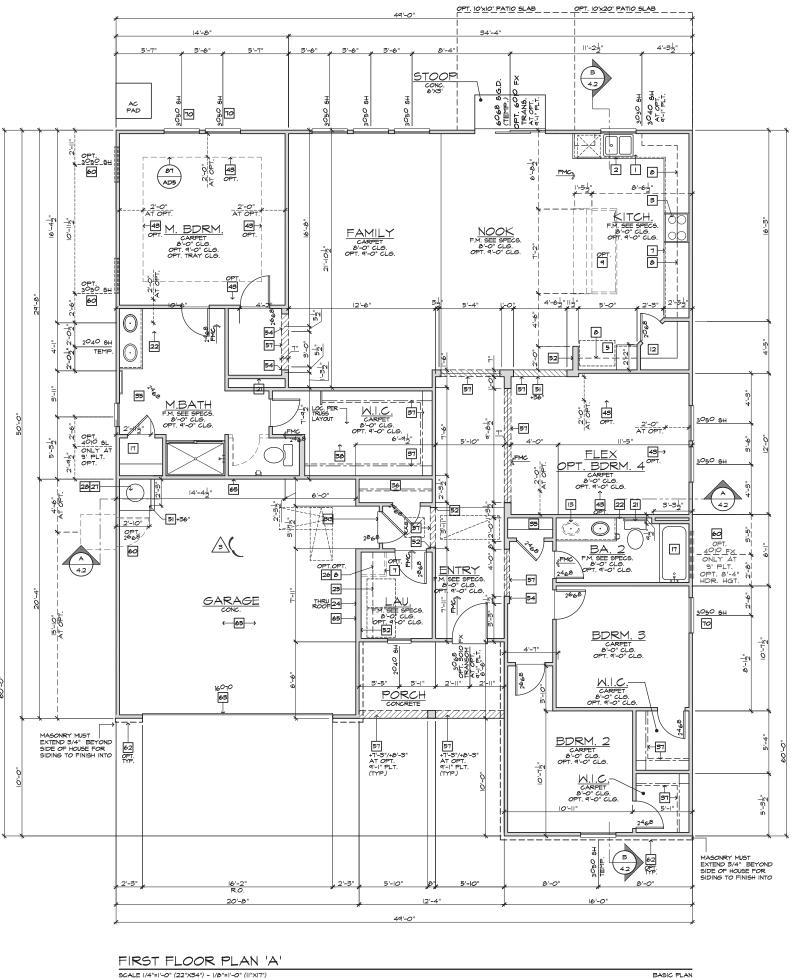
1.
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PLAN: 149.2115

SPEC. LEVEL 1

GN<sub>3</sub>

raleigh-durham 50' SERIES



# **2018 NORTH CAROLINA STATE** BUILDING CODES

08/09/18

05/07/19

DIVISION REVISIONS NCIS041NCP - 09/10/18 - CTD

2018 CODE UPDATE NCI9015NCP/ 03/15/19 / CTD

DIVISION REVISIONS NCI9017NCP/ 03/22/19 / CTD

COMPLIANCE REVISIONS NCI903INCP/ 05/16/19 / FAB

149.2115

1.1

80. 20 MIN. FIRE-RATED DOOR

FLOOR PLAN NOTES

SINK - GARBAGE DISPOSAL OPTIONAL - VERIFY DIMENSIONS WITH MANUFACTURERS' SPECS DISHMASHER - PROVIDE AIR GAP - VERIFY SPACING & DIMENSIONS PER MANUFACTURERS' SPECS

SLIDE-IN RANGE/OVEN COMBINATION W BUILT-IN NON-VENTED HOOD W/LIGHT & FAN. - VERIFY WITH MANUFACTURERS' SPECS

COMBINATION DOUBLE OVEN OR OVEN/ MICROWAVE OVEN OR OVEN VERIEY DIMENSIONS WITH MANUFACTURERS' SPECS

BASE CABINETS - REFER TO INTERIOR ELEVATIONS

UPPER CABINETS - REFER TO INTERIOR ELEVATIONS ISLAND CABINET - REFER TO INTERIOR ELEVATIONS

SINK CABINET(S) - REFER TO INTERIOR ELEVATIONS

5. OPT. SINK - REFER TO INTERIOR ELEVATIONS 6. KNEE SPACE - REFER TO INTERIOR ELEVATIONS

SINK CABINET W EXTENDED VANITY & KNEE SPACE BELOW -REFER TO INTERIOR ELEVATIONS

PRE-FAB. TUB/SHOWER COMBO W/ FIBERGLASS WAINSCOT TO 12" - VERIFY DIMENSIONS W/ MANUF'S SPECS

16. OVAL TUB - VERIFY DIMENSIONS WITH MANUFR'S SPECS.
19. PRE-FAB, SHOWER PAN W 30" MIN. CLR. INSIDE 1 MAINSCOT TO 12" - VERIFY DIMENSIONS W MANUF'S SPECS
20. SHATTERFROOF (TEMPERED) GLASS SHOWER ENCLOSURE.

22. TOILET PAPER HOLDER - PROVIDE 2x SOLID BLK'G IN WALL

24. WASHER & DRYTER. - PROVIDE NATER & MASTE FOR MASHER RECEISE MASHER CONTROL VALVES IN MALL - VENT DRIEFE TO CUTSIDE AIR. - PROVIDE SMITTY PAN' W DRAIN BELOW MASHER AT ZIVE FLOOR LAUNDRY LOCATION ACCOMMODATE APPLIANCES TO BE LOCATED WASHER AT LEET AND DRYTER AT RIGHT.

27. WATER HEATER LOCATION: - FOR GAS - LOCATE ON IS" HIGH PLATFORM - FOR INTERIOR LOCATION - PROVIDE PAN & DRAIN, (REFER TO DETAILS)

29. MAIN LINE SHUT-OFF VALVE AND TEMP. & PRESSURE RELIEF VALVE

32. LISTED FACTORY-BUILT GAS FIRED DEC. APPLIANCE (REF. 80/AD4) - INSTALL PER MFR. SPECS

33. HEARTH TO BE INSTALLED PER FACTORY-BUILT FIREPLACE

36. COAT CLOSET W/ SHELF & POLE (REFER TO DETAIL SHEETS)

58. 22"x30" MIN. ATTIC ACCESS (REFER TO DETAIL SHEETS) W 25"x54" PULL DOWN LADDER R.O. ATTIC ACCESS TO BE PROTECTED

43. LINE OF OPTIONAL TRAY CEILING (REFER TO DETAIL SHEETS)

47. STAIR TREADS & RISERS: - MIN. IO" TREAD & MAX. 7 3/4" RISER - (REFER TO DETAIL SHEETS) 48. MIN. 36" HIGH GUARDRAIL (REFER TO DETAIL SHEETS)

49. 34" TO 38" HIGH HANDRAIL (REFER TO DETAIL SHEETS)

55. INTERIOR SHELF-SEE PLAN FOR HT. (REFER TO DETAIL SHEET

57. FLAT SOFFIT - REFER TO PLATE NOTES / ELEV. FOR HGT.

58. ARCHED SOFFIT - REFER TO PLATE NOTES / ELEV. FOR HGT.

PRE-MANUFACTURED DECORATIVE COLUMN (SIZE, SEE ELEV.) FYPON OR EQ. SURROUNDING STRUCTURAL POST.

64. MIN. 1/2" SYP. BD. ON CEILINGS & WALLS @ USEABLE SPACE UNDER STAIR.

65. GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA BY NOT LESS THAT I/2" GYP. BD. @ GARAGE SIDE WALLS & 5/8" UNDER LIVING AREA U.N.O.

SIZE MALLS & 5/8" UNDER LIVING AREA UN.O.

6. S" DIAM, CONCRETE FILLED PIPE BOLLARD 36" HIGH WITH MIN. 12" BMEDDMENT INTO CONCRETE.

(NOT REQUIRED AT ELECTRIC WATTER HEATTERS OR FOR APPLIANCES LOCATED OUT OF THE VEHICLE'S NORMAL TRAVEL PATH).

67. 5/8" TYPE-X GYP. IN GARAGE BETWEEN CEILING & FLOOR AB

PROVIDE ADDITIONAL RISER(S) AT OPTIONAL PLATE HT.

14. ADJUST OPENING AT OPTION TO FIT THE DOOR SIZE SHOWN 5. WINDOW LEDGE. HEIGHT & WIDTH OF OPENING TO EXTEND 6"
BEYOND WINDOWS) ON ALL SIDES U.N.O.

T1. CONCRETE SLAB, SLOPE I/4" PER FT. MIN. SEE PLAN FOR SIZE.

76. SITE-BUILT COLUMN - SEE ELEVATION FOR TYPE

79. SLOPING LOW WALL 38" ABOVE ADJACENT TREADS

37. WARDROBE W/ SHELF & POLE (REFER TO DETAIL SHEETS)

TOWEL BAR - PROVIDE 2x SOLID BLK'G IN WALL

26. OPT. LAUNDRY SINK - REFER TO INTERIOR ELEV'S

23. RECESSED, MIRRORED MEDICINE CABINET

28. WATER HEATER B' VENT TO OUTSIDE AIR

SO. F.A.U. LOCATION (REFER TO DETAIL SHEETS)

34. GAS APPLIANCE 'B' VENT FROM BELOW

44. LINE OF HIP AT OPTIONAL VOLUME CEILING

51. LOW WALL - REFER TO PLAN FOR HEIGHT

53. 2x6 BALLOON FRAMED WALL PER STRUCTURAL

62. BRICK / STONE VENEER - REFER TO ELEVATIONS VENEER TO COMPLY WITH THE N.C.-R.

63. SECTIONAL GARAGE DOOR PER SPECS

69. CONCRETE STOOP: 36"x36" STANDARD SLOPE I/4" PER FT. MIN.

45. LINE OF RIDGE AT OPTIONAL VOLUME CEILING

35. LINEN PER SPECS (15" DEEP OR U.N.O.)

SI. F.A.U. 'B' VENT TO OUTSIDE AIR

25. I2" SHELF PER SPECS

39. LINE OF WALL BELOW

41. LINE OF FLOOR ABOVE

42 LINE OF FLOOR BELOW

40. DUCT CHASE

46. CEILING BREAK

50 A/C PAD LOCATION

54. DBL. 2x4 WALL PER PLAN

68. P.T. POST W VINYL WRAP

13. PLUMBING DROP FROM ABOVE

TO. EGRESS WINDOW

18. LOUVERED DOOR

72. MDF TOP

52 2x6 STUD WALL

56 MEDIA NICHE

59. WINDOW SEAT 60 OPT DOOR/ WINDOW

IO. MIN. I2" BAR TOP/ BREAKFAST BAR II. DESK AREA - REFER TO INTERIOR ELEVATIONS
12. BUILT-IN PANTRY (15" DEEP OR U.N.O.)

30" COOKTOP W/ BUILT-IN VENTED HOOD W/ LIGHT & FAN VERIFY WITH MANUFRS' SPECS 39" CLEAR REFRIGERATOR SPACE W/ OPTIONAL CABINETS ABOVE - OPT. PLUMBING FOR ICEMAKER (RECESSED IN WALL

NOTE: NOT ALL KEY NOTES APPLY

INTERIOR KEY

**SQUARE FOOTAGE** 

PLANPLAN 149.2115

FLEVATION 'A

ELEVATION 'B' ELEVATION 'C' ELEVATION 'D'

IO'XIO' COVERED

IO'x20' COVERED

SOME NED VERED

OPEN 12'x24' SCREENED-IN 12'x12' SCREENED-IN 12'x24'

PLATE NOTES

8'-I" PLATE NOTES

9'-I" PLATE NOTES

GENERAL PLAN NOTES

ALL CEILING HEIGHTS PER SECTION AND ELEVATION PLATE HEIGHTS, UN.O.

ALL INTERIOR DOORS TO BE HOLLOW CORE I 3/8" THICK, U.N.O. (REFER TO PLAN FOR SIZE).

ALL ENTRY DOORS AND EXTERIOR FRENCH DOORS TO BE SOLID CORE | 3/4" THICK (REFER TO PLAN FOR SIZE).

ALL FLOOR MATERIAL CHANGES TO OCCUR AT CENTER OF DOOR JAMBS, U.N.O.

FIRST FLOOR WITH 5-1" PLATE HRIGHT:

14" DEEP T.J.I. FLOOR JOISTS WITH 3/4" T&G DECKING.

14 TREADS AT 10" EACH

15 RISERS AT 1-7/16" EACH

FIRST FLOOR WITH 9-1P PLATE HRIGHT:

15 TREADS AT 10" EACH 16 RISERS AT 7-3/4" EACH

ALL HOUSE TO GARAGE DOORS TO BE 20-MINUTE FIRE-RATED (REFER TO PLAN FOR SIZE).

STAIR DATA NOTES

ALL GARAGE SERVICE DOORS TO BE HOLLOW CORE EXTERIOR GRADE (REFER TO PLAN FOR SIZE).

MINDOW HEADER HEIGHT:
2nd FLOOR MINDOW HDR. HEIGHT:
ENTRY DOOR HEIGHT:
SLIDING GLASS DOOR HEIGHT:
INTERIOR SOFFIT HEIGHT:
INTERIOR DOOR HEIGHT:

MINDOW HEADER HEIGHT IS OR 200, 4010 MINDOW OVER TUB HER. HGT.: ENTRY DOOR HEIGHT. SLIDING GLASS DOOR HEIGHT: INTERIOR SOFFIT HEIGHT. TRAY CEILING. TRAY CEILING.

OPEN 12'x12'

2114 SQ. FT

100

200

144

7'-8" U.N.O. 8'-4" U.N.O. 6'-8" U.N.O. 6'-8" (TEMP.) 8'-0" U.N.O. 1?" DROP U.N.O. 6'-8" U.N.O.

6'-8" U.N.C 7'-0" U.N.C

SQ FT

50. F

SQ. FT

SQ FT

5Q. F1

50. FT 50. FT 50. FT

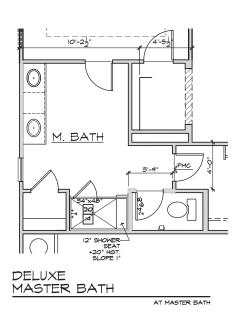
FIRST FLOOR AREA

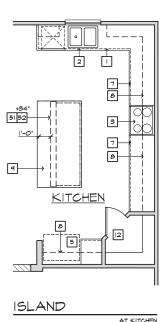
TOTAL AREA

GARAGE AREA PORCH AREA(S)

PATIO AREA(S)

DECK AREA(S)





FLOOR PLAN OPTIONS

SCALE: I/4"=I'-0" (22"x34") - I/8"=I'-0" (II"xI7") Not ALLALA VESCIFICATION Humo AGAD Supportion Humo AGAD Standard No Humo Electrop (Periodical Teaching Periodical Control of Teaching Periodical Control of

FLOOR PLAN NOTES NOTE: NOT ALL KEY NOTES APPLY

SINK - GARBAGE DISPOSAL OPTIONAL - VERIFY DIMENSIONS WITH MANUFACTURERS' SPECS

DISHWASHER - PROVIDE AIR GAP - VERIFY SPACING & DIMENSIONS PER MANUFACTURERS' SPECS

SILDE-IN RANGE/OVEN COMBINATION W BULT-IN NON-VENTED HOOD W/LIGHT & FAN. - VERIFY WITH MANUFACTURERS' SPECS SO". COOKTOP W BULT-IN VENTED HOOD W/LIGHT & FAN VERIFY WITH MANUFRS' SPECS

39" CLEAR REFRIGERATOR SPACE W/ OPTIONAL CABINETS ABOVE - OPT. PLUMBING FOR ICEMAKER (RECESSED IN WALL

COMBINATION DOUBLE OVEN OR OVEN/ MICROWAVE OVEN OR OVEN VERIEY DIMENSIONS WITH MANUFACTURERS' SPECS

BASE CABINETS - REFER TO INTERIOR ELEVATIONS

UPPER CABINETS - REFER TO INTERIOR ELEVATIONS

9. ISLAND CABINET - REFER TO INTERIOR ELEVATIONS IO. MIN. 12" BAR TOP/ BREAKFAST BAR

DESK AREA - REFER TO INTERIOR ELEVATIONS

12. BUILT-IN PANTRY (15" DEEP OR U.N.O.)

. SINK CABINET(S) - REFER TO INTERIOR ELEVATIONS SINK CABINET W/ EXTENDED VANITY & KNEE SPACE BELOW -REFER TO INTERIOR ELEVATIONS

15. OPT. SINK - REFER TO INTERIOR ELEVATIONS.

6. KNEE SPACE - REFER TO INTERIOR ELEVATIONS

PRE-FAB. TUB/SHOWER COMBO W/ FIBERGLASS WAINSCOT TO 12" - VERIFY DIMENSIONS W/ MANUF'S SPECS

16. OVAL TUB - VERIFY DIMENSIONS WITH MANUFR'S SPECS.
19. PRE-FAB, SHOMER PAN W 30' MIN, CLR, INSIDE 4 WAINSCOT TO 12" - VERIFY DIMENSIONS W MANUF'S SPECS
20. SHATTERPROOF (TEMPERED) GLASS SHOMER ENCLOSURE.

21. TOWEL BAR - PROVIDE 2x SOLID BLK'G IN WALL

22. TOILET PAPER HOLDER - PROVIDE 2x SOLID BLK'G IN WALL

23. RECESSED, MIRRORED MEDICINE CABINET

24. WASHER & DRYTER. - PROVIDE WATER & MASTE FOR MASHER FREESH MASHER CONTROL VALVES IN WALL - VENT DRYTER TO CUTSIDE AIR. - PROVIDE SMITTY PAN' W DRAIN BELOW MASHER AT ZND FLOOR LAUNDRY LOCATION ACCOMMODATE APPLIANCES TO BE LOCATED WASHER AT LEFT AND DRYTER AT RIGHT.

25. I2" SHELF PER SPECS

26. OPT. LANDRY SINK - REFER TO INTERIOR ELEV'S

27. WATER HEATER LOCATION: - FOR GAS - LOCATE ON 18" HIGH PLATFORM - FOR INTERIOR LOCATION - PROVIDE PAN & DRAIN. (REFER TO DETAILS)

28. WATER HEATER B' VENT TO OUTSIDE AIR

29. MAIN LINE SHUT-OFF VALVE AND TEMP. & PRESSURE RELIEF VALVE

SO. F.A.U. LOCATION (REFER TO DETAIL SHEETS)

SI. F.A.U. 'B' VENT TO OUTSIDE AIR

32. LISTED FACTORY-BUILT GAS FIRED DEC. APPLIANCE (REF. 80/AD4) - INSTALL PER MFR. SPECS

33. HEARTH TO BE INSTALLED PER FACTORY-BUILT FIREPLACE

34. GAS APPLIANCE 'B' VENT FROM BELOW

35. LINEN PER SPECS (15" DEEP OR U.N.O.)
36. COAT CLOSET W/ SHELF & POLE (REFER TO DETAIL SHEETS)

37. WARDROBE W/ SHELF & POLE (REFER TO DETAIL SHEETS)

58. 22"x30" MIN. ATTIC ACCESS (REFER TO DETAIL SHEETS) W 25"x54" PULL DOWN LADDER R.O. ATTIC ACCESS TO BE PROTECTED

39. LINE OF WALL BELOW 40. DUCT CHASE

41. LINE OF FLOOR ABOVE

42. LINE OF FLOOR BELOW

43. LINE OF OPTIONAL TRAY CEILING (REFER TO DETAIL SHEETS)

44. LINE OF HIP AT OPTIONAL VOLUME CEILING

45. LINE OF RIDGE AT OPTIONAL VOLUME CEILING

46. CEILING BREAK

41. STAIR TREADS & RISERS: - MIN. IO" TREAD & MAX, 7 3/4" RISER - (REFER TO DETAIL SHEETS)

48. MIN. 36" HIGH GUARDRAIL (REFER TO DETAIL SHEETS)

49. 34" TO 38" HIGH HANDRAIL (REFER TO DETAIL SHEETS)

50. A/C PAD LOCATION 51. LOW WALL - REFER TO PLAN FOR HEIGHT

52 2x6 STUD WALL

53. 2x6 BALLOON FRAMED WALL PER STRUCTURAL

54. DBL. 2x4 WALL PER PLAN 55. INTERIOR SHELF-SEE PLAN FOR HT. (REFER TO DETAIL SHEET

56 MEDIA NICHE

57. FLAT SOFFIT - REFER TO PLATE NOTES / ELEV. FOR HGT. 58. ARCHED SOFFIT - REFER TO PLATE NOTES / ELEV. FOR HGT.

59. WINDOW SEAT 60. OPT. DOOR/ WINDOW

PRE-MANUFACTURED DECORATIVE COLUMN (SIZE, SEE ELEV.) FYPON OR EQ. SURROUNDING STRUCTURAL POST.

62. BRICK / STONE VENEER - REFER TO ELEVATIONS VENEER TO COMPLY WITH THE N.C.-R.

63. SECTIONAL GARAGE DOOR PER SPECS

64. MIN. I/2" GYP. BD. ON CEILINGS & WALLS @ USEABLE SPACE UNDER STAIR.

MIDER STAIR.

65. GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA BY NOT LESS THAT 1/2" O'TP. BD. 6 GARAGE SIDE WALLS 4 5/6" INDER LIVING AREA UNIO.

66. 3" DIAM, CONCRETE FILLED PIPE BOLLARD 36" HIGH WITH MIN. 12" EMBEDMENT INTO CONCRETE.
(NOT REQUIRED AT ELECTRIC MATER HEATERS OR FOR APPLIANCES LOCATED OUT OF THE VEHICLE'S NORMAL TRAVEL PATH).

61. 5/6" TYPE-X GYP. IN GARAGE BETWEEN CEILING & FLOOR ABVENCE TO THE MATER HEATERS OF THE MATERIAL PATH).

68. P.T. POST W VINYL WRAP

69. CONCRETE STOOP: 36"x36" STANDARD SLOPE I/4" PER FT. MIN.

TO. EGRESS WINDOW

PROVIDE ADDITIONAL RISER(S) AT OPTIONAL PLATE HT.

72. MDF TOP

14. ADJUST OPENING AT OPTION TO FIT THE DOOR SIZE SHOWN 16. AUDON LEDGE. HEIGHT & WIDTH OF OPENING TO EXTEND 6"
BEYOND WINDOWS) ON ALL SIDES U.N.O.
16. SITE-BUILT COLUMN - SEE ELEVATION FOR TYPE

TT. CONCRETE SLAB. SLOPE I/4" PER FT. MIN. SEE PLAN FOR SIZE.

78. LOUVERED DOOR

79. SLOPING LOW WALL 38" ABOVE ADJACENT TREADS 60. 20 MIN. FIRE-RATED DOOR

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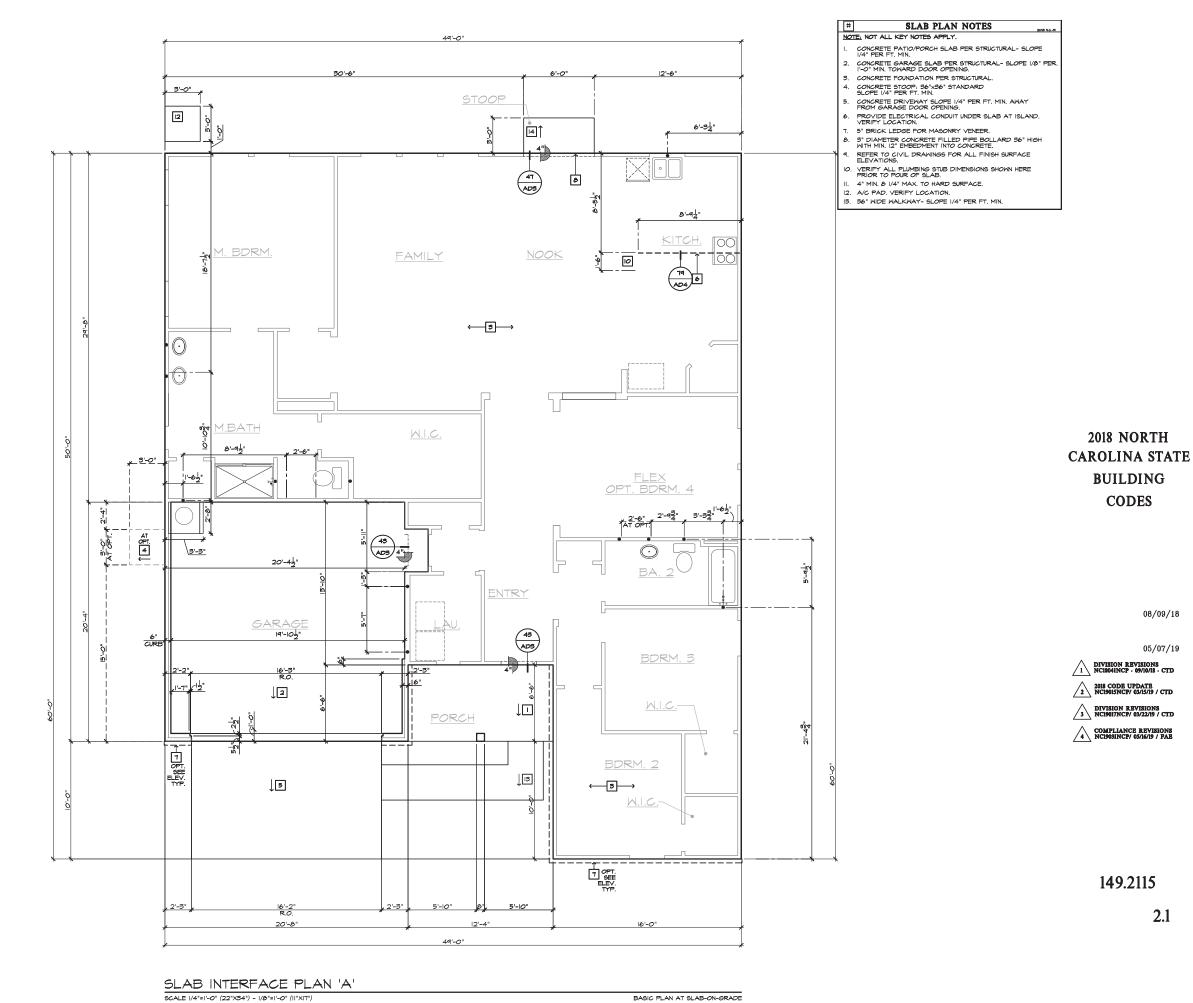
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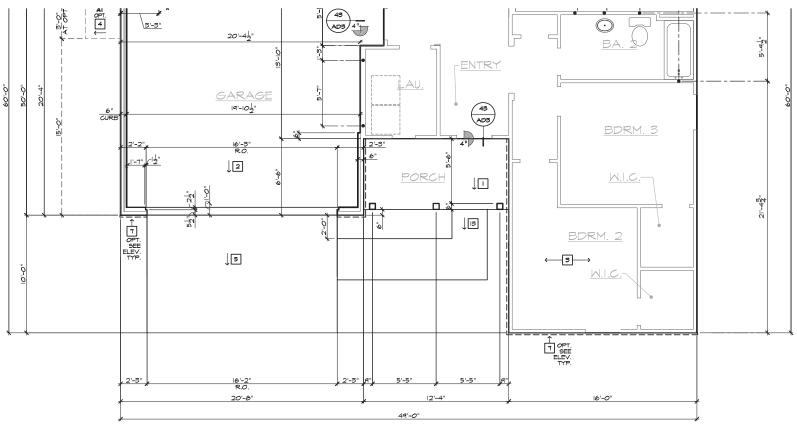
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1.3





PARTIAL SLAB INTERFACE PLAN 'C'

SCALE |/4"=1'-0" (22"X34") - |/8"=1'-0" (||"X|7")

BASIC PLAN AT SLAB-ON-GRADE

# # SLAB PLAN NOTES NOTE; NOT ALL KEY NOTES APPLY. I. CONCRETE PATIO/PORCH SLAB PER STRUCTURAL- SLOPE I/4" PER FT. MIN. 2. CONCRETE GARAGE SLAB PER STRUCTURAL- SLOPE I/6" PER FT. MIN. 3. CONCRETE GONDATION PER STRUCTURAL. 4. CONCRETE FOUNDATION PER STRUCTURAL. 4. CONCRETE FOUNDATION PER STRUCTURAL. 5. CONCRETE POWDAT SLOPE I/4" PER FT. MIN. AWAY FROM GARAGE DOOR OPENING. 6. PROVIDE ELECTRICAL CONDUIT UNDER SLAB AT ISLAND. VERIEY LOCATION. 7. 5" BRICK LEDGE FOR MASONRY VENEER. 8. 3" PLAMETER CONCRETE FILLED PIPE BOLLARD 56" HIGH WITH MIN. 12" EMBEDMENT INTO CONCRETE. 9. REFFER TO CIVIL DRAMINGS FOR ALL FINISH SURFACE ELEVATIONS. 10. VERIEY ALL PLUMBING STUD DIMENSIONS SHOWN HERE PRIOR TO POUR OF SLAB. 11. 4" MIN. 5 I/4" MAX. TO HARD SURFACE. 12. A/C PAD. VERIEY LOCATION. 13. 36" WIDE WALKWAY- SLOPE I/4" PER FT. MIN.

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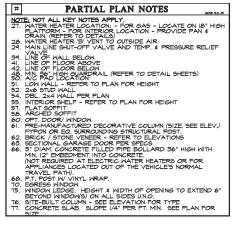
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PARTIAL PLAN NOTES

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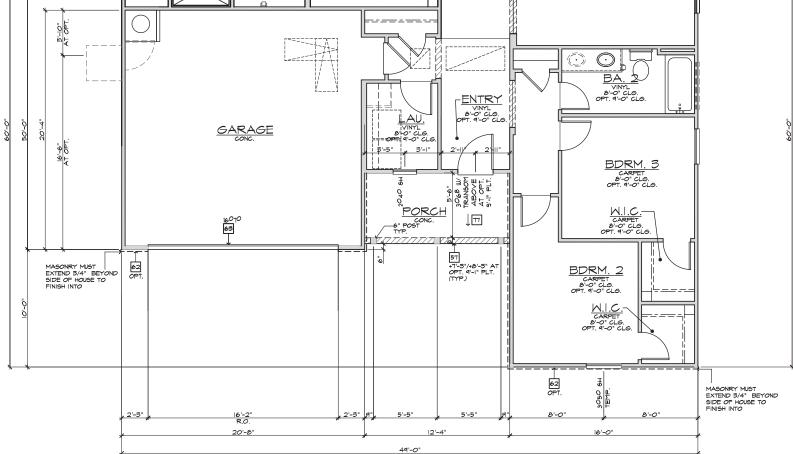
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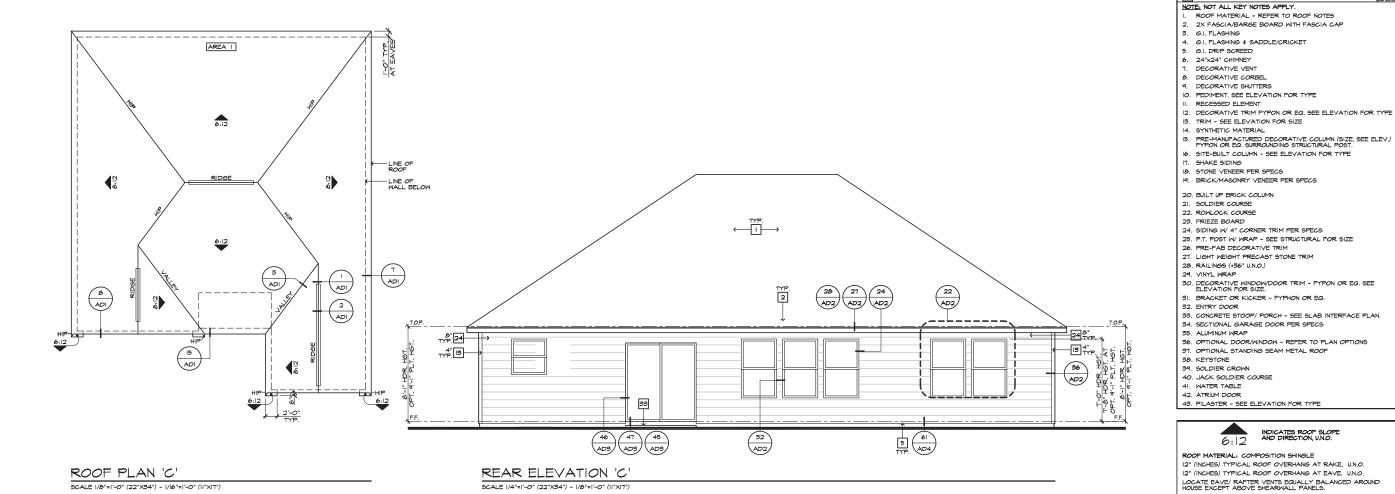
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VARIES R TO ELEVAT FOR HEIGHT -6" POST(S) DETAIL 'A'

SCALE: N.T.S.

# **2018 NORTH CAROLINA STATE BUILDING** CODES

ATTIC VENT CALCULATIONS

INDICATES ROOF SLOPE AND DIRECTION, U.N.O.

ATTIC VENT CALCULATIONS
PROVIDE I SQ. IN. OF VENTILATION PER 300 SQ. IN. OF ATTIC
SPACE. PROVIDE THAT AT LEAST 50% & NO MORE THAN 80% OF
THE REQ. VENTILATING AREA IS PROVIDED BY VENTILATORS
LOCATED IN THE UPPER PORTION OF THE ATTIC, (HIGH VENTING)
AT 3'-0' ABOVE EAVE VENT WITH THE BALANCE BEING PROVIDED
BY EAVE VENTS, (LOU VENTING) (2018 NC.-R 806.2)
\*\* CALCULATION BY (150, HIGH/LON VENTING NOT REQUIRED.

**ELEVATION NOTES** 

DECORATIVE SHUTTERS

APPROXIMATE RIDGE VENT LOCATIONS SHOWN.
ACTUAL LOCATIONS TO BE DETERMINED IN THE FIELD.

AREA I / MAIN

2620 SQ. FT. /300 = 8.73 SQ. FT X |44 = |257.6 SQ. |N. X 50% = 628.8 SQ. |N.

VENTILATION PROVIDED:

6:12

| HIGH | (36) LIN, FEET OF RIDGE VENT AT (18 SQ. IN/FOOT) = 648 SQ. IN. (--) 5-144 ROOF VENT(5) AT (144 SQ. IN. EA) = --- SQ. IN. SUB-TOTAL HIGH VENTILATION: 648 SQ. IN. | SUD-| | Color | Colo

NOTES:

ALL VENT OPENINGS SHALL BE COVERED WITH 1/4" CORROSION RESISTANT METAL MESH. FRAMER SHALL BE RESPONSIBLE FOR COORDINATING WITH TRUSS MANUFACTURER TO ACCOMMODATE ALL ATTIC VENTS.

ALL VENTS SHALL BE INSTALLED SO AS TO MAKE THEM WATER-PROOF & WALL MOUNTED LOUVERS SHALL BE SEALED & FLASHED W "MOISTOP" IN THE SAME MANNER PRESCRIBED FOR WINDOW INSTALLATION.

PROVIDE APPROVED INSULATION DAMS (BAFFLES) WHERE VENT BLOCKS ARE USED BETWEEN ROOF FRAMING MEMBERS TO PREVENT VENT HOLES FROM BEING BLOCKED BY INSULATION, LOCATE HIGH VENTING MINIMUM 3"-0" VERTICAL DISTANCE ABOVEAVES.

HIEN GABLE END TRUSS MEMBERS BLOCK GABLE END VENTS, PROVIDE ADEQUATE ADDITIONAL VENTILATION BY MEANS OF ROOF TILE VENTS.

08/09/18

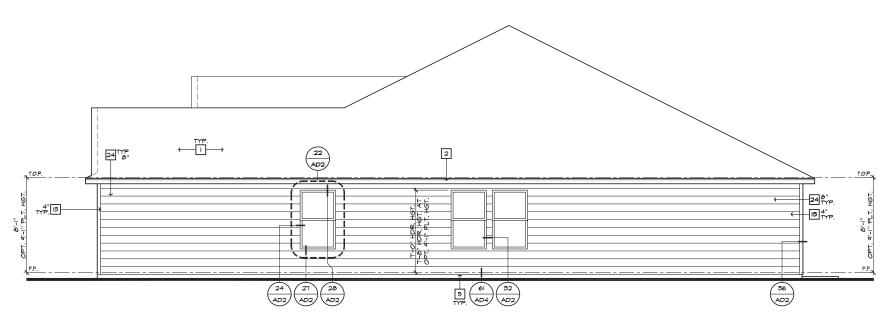
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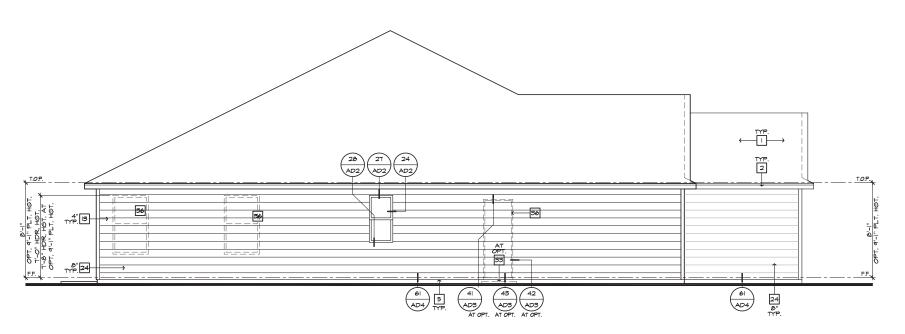
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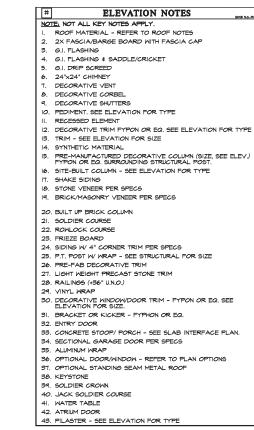
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RIGHT ELEVATION 'C' 5CALE |/4"=|'-0" (22"X34") - |/6"=|'-0" (||"X|T")



LEFT ELEVATION 'C'



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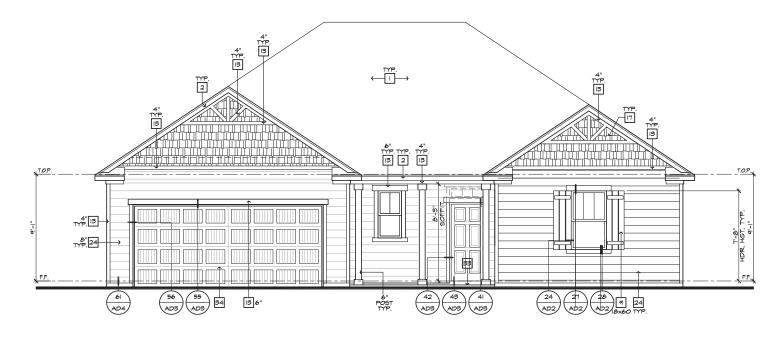
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FRONT ELEVATION 'C' AT OPTIONAL 9'-1" PLT. HGT.

SCALE I/4"=1'-0" (22"X34") - I/8"=1'-0" (II"XI7")

HINT ALLALANGEOURCENS Home AGAD Chapter Hanne AGAD Chander AND Chapter Hanne House Hanne H

**ELEVATION NOTES** NOTE: NOT ALL KEY NOTES APPLY. ROOF MATERIAL - REFER TO ROOF NOTES
 2X FASCIA/BARGE BOARD WITH FASCIA CAP 3. G.I. FLASHING 4. G.I. FLASHING & SADDLE/CRICKET 6.1. DRIP SCREED
 24"x24" CHIMNEY DECORATIVE VENT
DECORATIVE CORBEL 9. DECORATIVE SHUTTERS
10. PEDIMENT. SEE ELEVATION FOR TYPE II. RECESSED ELEMENT
12. DECORATIVE TRIM FYPON OR EQ. SEE ELEVATION FOR TYPE 13. TRIM - SEE ELEVATION FOR SIZE
14. SYNTHETIC MATERIAL PRE-MANUFACTURED DECORATIVE COLUMN (SIZE, SEE ELEV.)
FYPON OR EQ. SURROUNDING STRUCTURAL POST. 16. SITE-BUILT COLUMN - SEE ELEVATION FOR TYPE 17. SHAKE SIDING IB. STONE VENEER PER SPECS 19. BRICK/MASONRY VENEER PER SPECS 20. BUILT UP BRICK COLUMN 21. SOLDIER COURSE 22. ROWLOCK COURSE 23. FRIEZE BOARD 24. SIDING W 4" CORNER TRIM PER SPECS 25. P.T. POST W/ WRAP - SEE STRUCTURAL FOR SIZE 26. PRE-FAB DECORATIVE TRIM
27. LIGHT WEIGHT PRECAST STONE TRIM 28. RAILINGS (+36" U.N.O.) 29. VINYL WRAP 30. DECORATIVE WINDOWDOOR TRIM - FYPON OR EQ. SEE ELEVATION FOR SIZE. SI. BRACKET OR KICKER - FYPHON OR EQ. 32. ENTRY DOOR 33. CONCRETE STOOP/ PORCH - SEE SLAB INTERFACE PLAN. 34. SECTIONAL GARAGE DOOR PER SPECS 36. OPTIONAL DOOR/WINDOW - REFER TO PLAN OPTIONS 37. OPTIONAL STANDING SEAM METAL ROOF 38. KEYSTONE 39. SOLDIER CROWN 40. JACK SOLDIER COURSE

42. ATRIUM DOOR

43. PILASTER - SEE ELEVATION FOR TYPE

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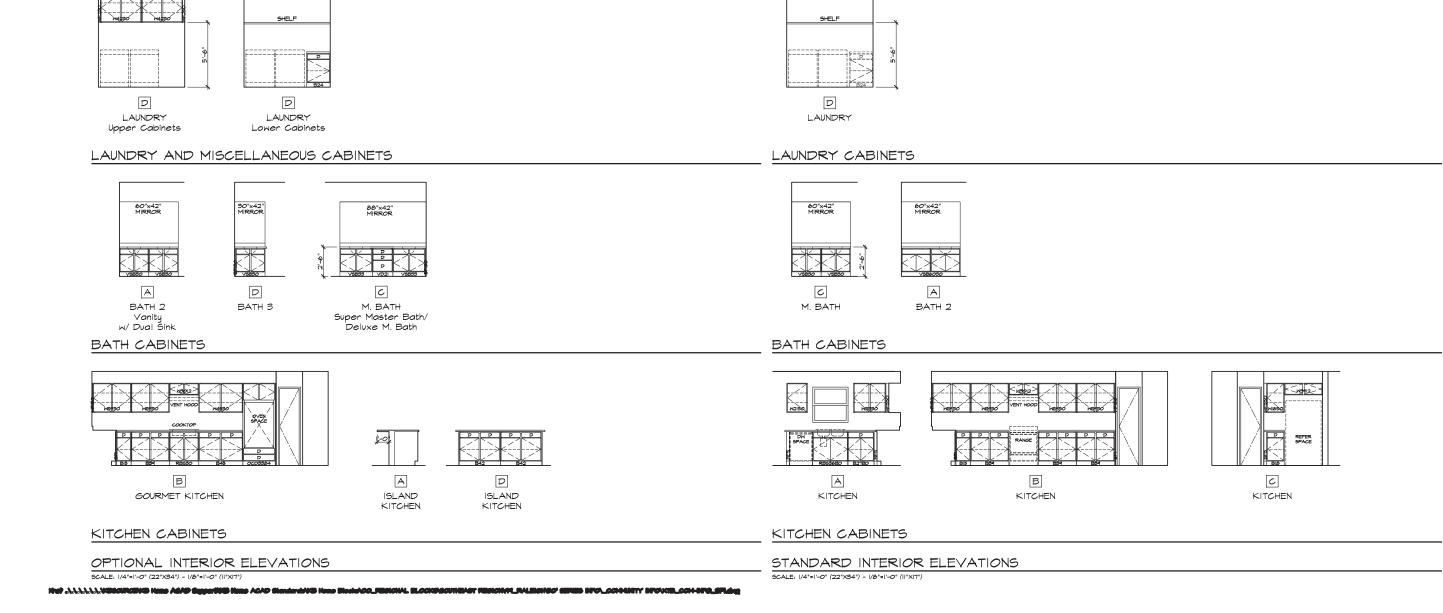
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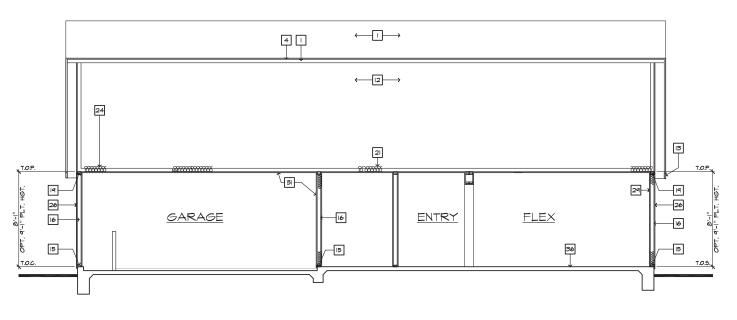
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4.1



SECTION "A"

SCALE |/4"=|'-0" (22"X34") - |/8"=|'-0" (||"X|7")

AT SLAB-ON-GRADE



SECTION "B"

 AT SLAB-ON-GRADE

# SECTION NOTES NOTE: NOT ALL KEY NOTES APPLY. ROOF MATERIAL - REFER TO ROOF NOTES ROOF PITCH - REFER TO ROOF NOTES PRE-MANUFACTURED WOOD ROOF TRUSS SYSTEM - SEE STRUCTURAL & TRUSS CALCS . 2x FASCIA/BARGE BOARD CONT. SOFFITED EAVE W VENTING G.I. FLASHING - ROOF TO WALL EXTERIOR FINISH PER ELEVATIONS . FLOOR FRAMING PER STRUCTURAL O. FLOOR SHEATHING PER STRUCTURAL . HEADER PER STRUCTURAL 2. FLUSH BEAM PER STRUCTURAL 13. DROPPED BEAM PER STRUCTURAL 14. FLAT/ ARCHED SOFFIT PER PLAN I5. 2x4 STUD WALL 17. 2x6 BALLOON FRAMED WALL PER STRUCTURAL18. DBL. 2x4 WALL PER PLAN 19. 2x CRIPPLES @ 16" O.C. 20. 2x PRESSURE TREATED SILL PLATE 2I. 2x SOLE PLATE 22. DBL. 2x TOP PLATE @ EXTERIOR & BEARING WALLS 23. IX OVER 2X TOP PLATE @ INTERIOR & NON-BEARING WALLS 24. INSULATION MATERIAL PER ENERGY CALCULATIONS 25. MIN. 36" HIGH GUARD - SEE PLAN FOR HEIGHT 26. LOW WALL - SEE PLAN FOR HEIGHT 27. STAIR TREADS AND RISERS PER PLAN: - MIN. IO\* TREAD & MAX. 7 3/4" RISER 28. INTERIOR FINISH: - MIN. 1/2" GYP. BD. @ WALLS & SAG RESISTANT OR 5/8" DRYWALL @ CEILING 29. MIN. I/2" GYP. BD. ON CEILING & WALLS @ USEABLE SPACE UNDER STAIRS. 51. MATERIAL TO UNDERSIDE OF ROOF SHEATHING 52. INTERIOR SHELF - MIN. I/2" GYP. BD. OVER 3/8" PLY WD. 33. CONCRETE PATIO/ PORCH SLAB PER STRUCTURAL - SLOPE I/4" PER FT. MIN. 34. CONCRETE GARAGE SLAB PER STRUCTURAL - SLOPE 2" MIN. 35. CONCRETE FOUNDATION PER STRUCTURAL

36. LINE OF OPTIONAL TRAY CEILING/ STEP CEILING 37. LINE OF OPTIONAL VOLUME CEILING

41. 5/8" TYPE-X DRYWALL @ GARAGE CEILING

40. 8" BLOCK WALL

38. PROFILE OF OPTIONAL COVERED PATIO 39. EXTERIOR SOFFIT MATERIAL - REFER TO ELEVATIONS.

CEILING

2. WHEN THERE IS USABLE SPACE ABOVE AND BELOW THE
CONCEALED SPACE OF A FLOOR-CEILING ASSEMBLY IN A
SINGLE-FAMILY DIRELLING DRAFT STOPS SHALL BE INSTALLE
SO THAT THE AREA OF THE CONCEALED SPACE DOES NOT
EXCEED 1,000 SQUARE FEET. DRAFTSTOPPING SHALL DIVIDE
THE CONCEALED SPACE INTO APPROXIMATELY EQUAL AREAS

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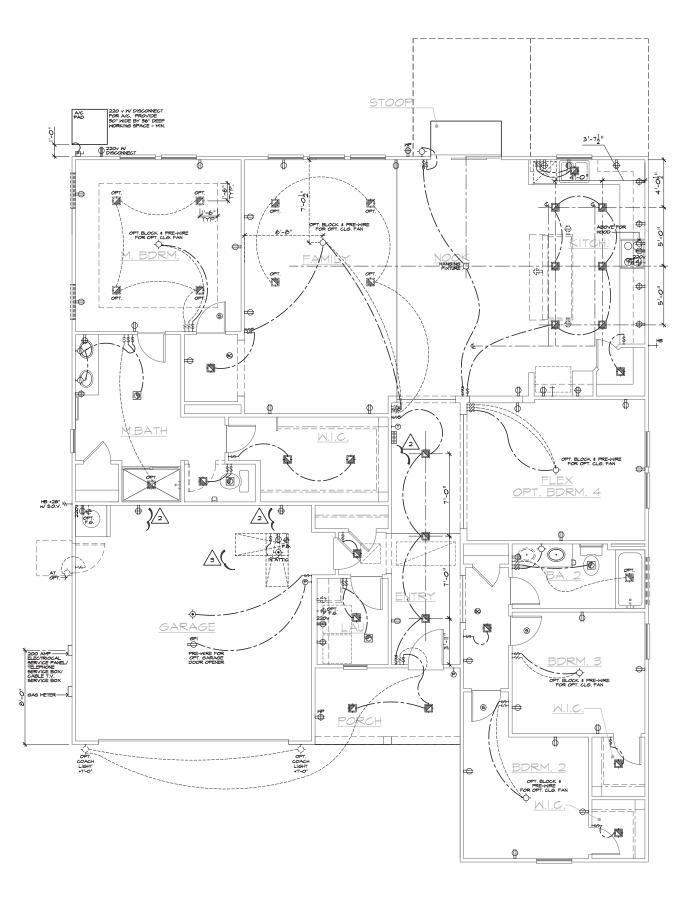
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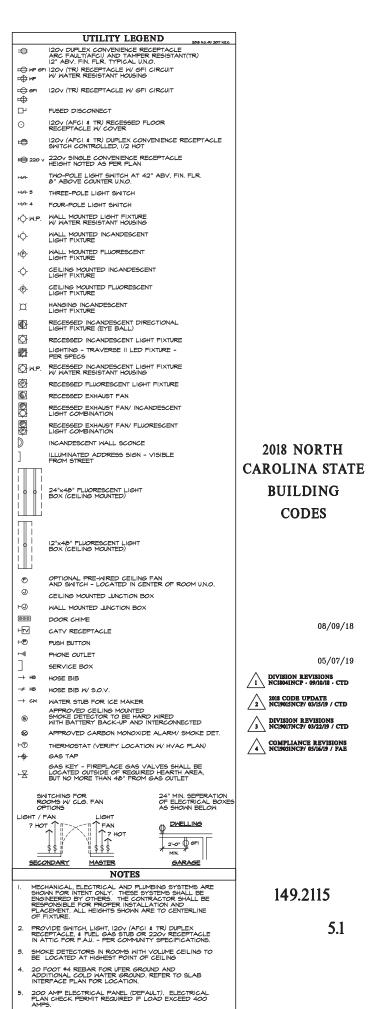
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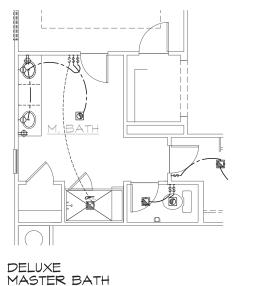
FIRST FLOOR UTLITY PLAN

SCALE |/4"=|'-0" (22"X34") - |/8"=|'-0" (||"X|7")

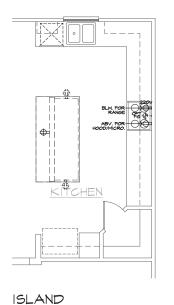
BASIC PLA







AT MASTER BATH



AT KITCHEN

# THREE-POLE LIGHT SWITCH FOUR-POLE LIGHT SWITCH WALL MOUNTED LIGHT FIXTURE W WATER RESISTANT HOUSING WALL MOUNTED INCANDESCENT LIGHT FIXTURE WALL MOUNTED FLUORESCENT LIGHT FIXTURE CEILING MOUNTED INCANDESCENT LIGHT FIXTURE CEILING MOUNTED FLUORESCENT LIGHT FIXTURE RECESSED INCANDESCENT DIRECTIONAL LIGHT FIXTURE (EYE BALL) RECESSED INCANDESCENT LIGHT FIXTURE LIGHTING - TRAVERSE II LED FIXTURE -PER SPECS M.P. RECESSED INCANDESCENT LIGHT FIXTURE WY WATER RESISTANT HOUSING RECESSED FLUORESCENT LIGHT FIXTURE RECESSED EXHAUST FAN RECESSED EXHAUST FAN/ INCANDESCENT LIGHT COMBINATION RECESSED EXHAUST FAN/ FLUORESCENT LIGHT COMBINATION INCANDESCENT WALL SCONCE ILLUMINATED ADDRESS SIGN - VISIBLE FROM STREET 24"x48" FLUORESCENT LIGHT BOX (CEILING MOUNTED) OPTIONAL PRE-WIRED CEILING FAN AND SWITCH - LOCATED IN CENTER OF ROOM U.N.O. CEILING MOUNTED JUNCTION BOX WALL MOUNTED JUNCTION BOX CATY RECEPTACLE PUSH BUTTON PHONE OUTLET SERVICE BOX HOSE BIB WATER STUB FOR ICE MAKER APPROVED CARBON MONOXIDE ALARM/ SMOKE DET. THERMOSTAT (VERIFY LOCATION W/ HVAC PLAN) GAS TAP GAS KEY - FIREPLACE GAS VALVES SHALL BE LOCATED OUTSIDE OF REQUIRED HEARTH AREA, BUT NO MORE THAN 48" FROM GAS OUTLET JIGHT / FAN PHOT ↑ ¶ DWELLING

UTILITY LEGEND 120V DUPLEX CONVENIENCE RECEPTACLE ARC FAULT(AFCI) AND TAMPER RESISTANT(TR) 12" ABV. FIN. FLR. TYPICAL U.N.O.

## ## 120v (TR) RECEPTACLE W/ ## GFI CIRCUIT FUSED DISCONNECT

120v (AFCI & TR) RECESSED FLOOR RECEPTACLE W/ COVER

TWO-POLE LIGHT SWITCH AT 42" ABV. FIN. FLR. 8" ABOVE COUNTER U.N.O.

 $\Rightarrow$ 

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**2018 NORTH** CAROLINA STATE BUILDING **CODES** 

08/09/18

05/07/19

DIVISION REVISIONS NCI804INCP - 09/10/18 - CTD

2018 CODE UPDATE NC19015NCP/ 03/15/19 / CTD

DIVISION REVISIONS
NCI9017NCP/ 03/22/19 / CTD

COMPLIANCE REVISIONS NCI903INCP/ 05/16/19 / FAE

149.2115

5.2

2'-0" ØFI \$ \$ \$ <u>GARAGE</u>

NOTES

MECHANICAL, ELECTRICAL AND PLIMBING SYSTEMS ARE SHOWN FOR INTENT ONLY. THESE SYSTEMS SHALL BE ENGINEERED BY OTHERS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND FLACEMENT, ALL HEIGHTS SHOWN ARE TO CENTERLINE OF FIXTURE.

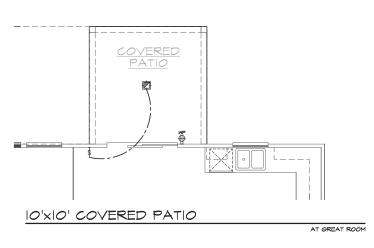
SMOKE DETECTORS IN ROOMS WITH VOLUME CEILING TO BE LOCATED AT HIGHEST POINT OF CEILING

20 FOOT #4 REBAR FOR UFER GROUND AND ADDITIONAL COLD WATER GROUND, REFER TO SLAB INTERFACE PLAN FOR LOCATION.

200 AMP ELECTRICAL PANEL (DEFAULT). ELECTRICAL PLAN CHECK PERMIT REQUIRED IF LOAD EXCEED 400

FIRST FLOOR UTILITY PLAN OPTIONS

nal blockbroundaet regional\_ralbighgo' gener nipol\_cohannty nipokitbloch-nip<mark>o\_sflig</mark>g



NOTE: REFER TO BASIC <u>UTILITY PLAN</u> FOR INFORMATION NOT SHOWN HERE

UTILITY LEGEND 120V DUPLEX CONVENIENCE RECEPTACLE ARC FAULT(AFCI) AND TAMPER RESISTANT(TR) 12" ABV. FIN. FLR. TYPICAL U.N.O. ## ## 120v (TR) RECEPTACLE W/ ## GFI CIRCUIT FUSED DISCONNECT 120v (AFCI & TR) RECESSED FLOOR RECEPTACLE W/ COVER 120v (AFCI & TR) DUPLEX CONVENIENCE RECEPTACLE SWITCH CONTROLLED, 1/2 HOT  $\Longrightarrow$  220  $\lor$  220  $\lor$  SINGLE CONVENIENCE RECEPTACLE HEIGHT NOTED AS PER PLAN TWO-POLE LIGHT SWITCH AT 42" ABV. FIN. FLR. 8" ABOVE COUNTER U.N.O. THREE-POLE LIGHT SWITCH FOUR-POLE LIGHT SWITCH HOW W.P. WALL MOUNTED LIGHT FIXTURE WY WATER RESISTANT HOUSING ф-WALL MOUNTED INCANDESCENT LIGHT FIXTURE WALL MOUNTED FLUORESCENT LIGHT FIXTURE ф CEILING MOUNTED INCANDESCENT LIGHT FIXTURE ф-CEILING MOUNTED FLUORESCENT LIGHT FIXTURE ¤ lacktriangleRECESSED INCANDESCENT DIRECTIONAL LIGHT FIXTURE (EYE BALL)  $\bigcirc$ RECESSED INCANDESCENT LIGHT FIXTURE LIGHTING - TRAVERSE II LED FIXTURE -PER SPECS M.P. RECESSED INCANDESCENT LIGHT FIXTURE W WATER RESISTANT HOUSING RECESSED FLUORESCENT LIGHT FIXTURE RECESSED EXHAUST FAN RECESSED EXHAUST FAN/ INCANDESCENT LIGHT COMBINATION RECESSED EXHAUST FAN/ FLUORESCENT LIGHT COMBINATION INCANDESCENT WALL SCONCE **2018 NORTH** ILLUMINATED ADDRESS SIGN - VISIBLE FROM STREET CAROLINA STATE BUILDING 24"x48" FLUORESCENT LIGHT BOX (CEILING MOUNTED) **CODES** 12"x48" FLUORESCENT LIGHT BOX (CEILING MOUNTED) OPTIONAL PRE-WIRED CEILING FAN AND SWITCH - LOCATED IN CENTER OF ROOM U.N.O. CEILING MOUNTED JUNCTION BOX WALL MOUNTED JUNCTION BOX  $\vdash$ CATY RECEPTACLE ⊢® PUSH BUTTON PHONE OUTLET SERVICE BOX → HB HOSE BIB # HB HOSE BIB W S.O.V. + CM WATER STUB FOR ICE MAKER APPROVED CEILING MOUNTED SMOKE DETECTOR TO BE HARD WIRED WITH BATTERY BACK-UP AND INTERCONNECTED APPROVED CARBON MONOXIDE ALARM/ SMOKE DET. COMPLIANCE REVISIONS NCI903INCP/ 05/16/19 / FAE HT THERMOSTAT (VERIFY LOCATION W/ HVAC PLAN) GAS TAP GAS KEY - FIREPLACE GAS VALVES SHALL BE LOCATED OUTSIDE OF REQUIRED HEARTH AREA, BUT NO MORE THAN 48" FROM GAS OUTLET ---IGHT / FAN DWELLING 2'-0" ØFI NOTES MECHANICAL, ELECTRICAL AND PLIMBING SYSTEMS ARE SHOWN FOR INTENT ONLY. THESE SYSTEMS SHALL BE ENGINEERED BY OTHERS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND FLACEMENT, ALL HEIGHTS SHOWN ARE TO CENTERLINE OF FIXTURE.

SMOKE DETECTORS IN ROOMS WITH VOLUME CEILING TO BE LOCATED AT HIGHEST POINT OF CEILING

20 FOOT #4 REBAR FOR UFER GROUND AND ADDITIONAL COLD WATER GROUND, REFER TO SLAB INTERFACE PLAN FOR LOCATION. 200 AMP ELECTRICAL PANEL (DEFAULT). ELECTRICAL PLAN CHECK PERMIT REQUIRED IF LOAD EXCEED 400 AMPS.

05/07/19

08/09/18

DIVISION REVISIONS
NCIS04INCP - 09/10/18 - CTD

2018 CODE UPDATE NCI9015NCP/ 03/15/19 / CTD

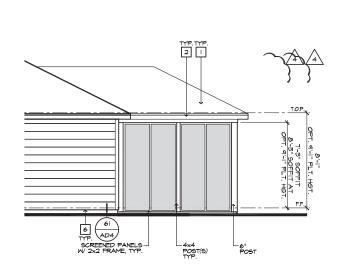
DIVISION REVISIONS
NCI9017NCP/ 03/22/19 / CTD

149.2115

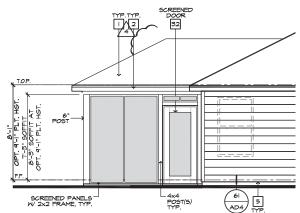
5.3

FIRST FLOOR UTILITY PLAN OPTIONS

ACAD Standard Home AGAD Supported Home AGAD Standard Home Block Decided Land Home Block Decided Land Home Block Decided Land Block Decided Home AGAD Standard Home Block Decided Land Block Decided Home AGAD Standard Home Block Decided Land Block Decided Home AGAD Standard Home Block Decided Land Block Decided Home AGAD Standard Home Block Decided Land Block Decided Home AGAD Standard Home Block Decided Land Block Decided Home AGAD Standard Home Block Decided Land Block Decided Home AGAD Standard Home Block Decided Land Block Decided Home AGAD Standard Home Block Decided Land Block Decided Home AGAD Standard Home Block Decided Land Block Decided Home Bl



TYP.TYP. 5 AD4 6"— POST TYP.



# PARTIAL RIGHT ELEVATION

SCALE |/4"=|'-0" (22"X34") - |/8"=|'-0" (||"X|7")

# PARTIAL REAR ELEVATION

SCALE |/4"=|'-0" (22"X34") - |/8"=|'-0" (||"X|7")

# PARTIAL LEFT ELEVATION

10'-0"

5'-0"

5'-0"

10'-0"

SCALE |/4"=|'-0" (22"X34") - |/8"=|'-0" (||"X|7")

# INDICATES ROOF SLOPE AND DIRECTION, U.N.O. 6:12 ROOF MATERIAL: COMPOSITION SHINGLE

ROOF PLAN NOTES 'C'

12" (INCHES) TYPICAL ROOF OVERHANG AT RAKE, U.N.O. 12" (INCHES) TYPICAL ROOF OVERHANG AT EAVE, U.N.O. LOCATE EAVE/ RAFTER VENTS EQUALLY BALANCED AROUND HOUSE EXCEPT ABOVE SHEARWALL PANELS.

# ATTIC VENT CALCULATIONS

PROVIDE I SO, IN. OF VENTILATION PER SOO SO, IN. OF ATTIC
SPACE. PROVIDE THAT AT LEAST 50% & NO MORE THAN 80% OF
THE REQ. VENTILATING AREA IS PROVIDED BY VENTILATORS
LOCATED IN THE UPPER PORTION OF THE ATTIC, (HIGH VENTING)
AT 3'-0' ABOVE EAVE VENT WITH THE BALANCE BEING PROVIDED
BY EAVE VENTS, (LOW VENTING) (2018 NC.-R. 806.2)
\*\* CALCULATION BY 1/80, HIGHLON VENTING NOT REQUIRED.

APPROXIMATE RIDGE VENT LOCATIONS SHOWN.
ACTUAL LOCATIONS TO BE DETERMINED IN THE FIELD.

# AREA I / MAIN w/ OPTIONAL IOXIO COVERED PATIO VENTILATION REQUIRED: ATTIC AREA 2104 SQ. FT. / 300 =

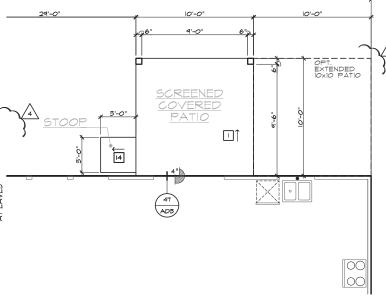
× 144 = × 50% =

X 50% = VENTILATION PROVIDED.
HIGH
(37) LIN. FEET OF RIDGE VENT AT (18 SQ. IN./FOOT) = (0) 5-144 ROOF VENT(5) AT (144 SQ. IN. EA) = SUB-TOTAL HIGH VENTILATION: 666 SQ. IN. 0 SQ. IN. 666 SQ. IN.

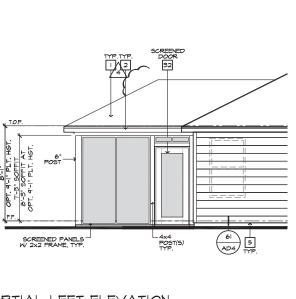
LOW (150) LIN. FEET OF VENTILATED SOFFIT (5 SQ. IN./FOOT) = TOTAL VENTILATION PROVIDED: 1316 SQ. IN

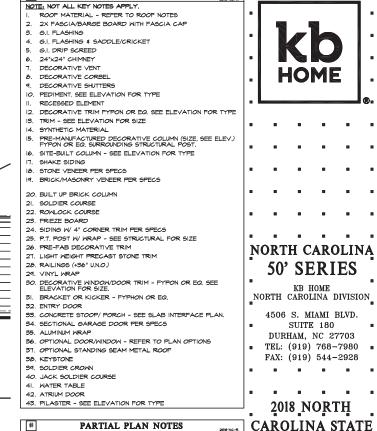


PARTIAL ROOF PLAN SCALE 1/8"=1'-0" (22"X34") - 1/16"=1'-0" (11"X17")

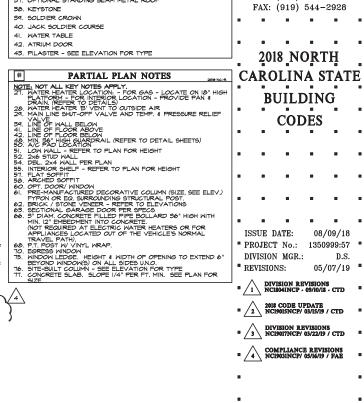


SCALE |/4"=1'-0" (22"X34") - |/8"=1'-0" (|1"X|7")





ELEVATION NOTES

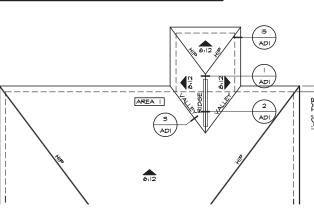


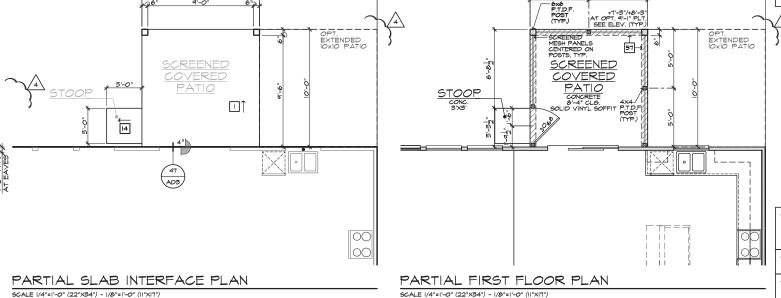
HOME

KB HOME

SUITE 180

DURHAM, NC 27703





29'-0"

PLAN THE CRANL SPACE IS TO BE CONDITIONED PER NC-R SECTION R409.

THE CRANL SPACE VAPOR RETARDER (BARRIER) IS TO BE PER NC-R SECTION R409.2. 149.2115 NOTE: REFER TO BASIC ROOF PLAN FOR INFORMATION NOT SHOWN HERE NOTE: REFER TO BASIC ELEVATIONS FOR INFORMATION NOT SHOWN HERE NOTE: REFER TO BASIC FLOOR PLAN FOR INFORMATION NOT SHOWN HERE

SPEC. LEVEL 1 RALEIGH-DURHAM 50' SERIES

SHEET:

8.C5

10'X10' SCREENED-IN COVERED PATIO 'C'

SCALE 1/4"=1'-0" (22"X34") - 1/8"=1'-0" (11"X17")

# STRUCTURAL PLANS FOR:



# 149.2115 - LH GARAGE

PLAN RELEASE / REVISIONS				
REV DATE ARCH PLAN VERSION REVISION DESCRIPTION				
5/1/2019	2115_ABCD_NC19015NCP_03.11.19	INITIAL SETUP OF LAYOUT	CAR	
5/1/2019	2115_ABCD_NC19015NCP_03.11.19	CREATED LOT-SPECIFIC STRUCTURAL LAYOUT FROM MASTER PLAN AND EWP LAYOUT	CAR	

# **NOTES**

- 1. ENGINEER'S SEAL APPLIES TO STRUCTURAL COMPONENTS ONLY, ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT, INCLUDING ROOF GEOMETRY. JDS CONSULTING & DESIGN, PLLC ASSUMES NO LIABILITY FOR CHANGES MADE TO THESE PLANS BY OTHERS, OR FOR CONSTRUCTION METHODS, OR FOR ANY DEVIATION FROM THE PLANS. ENGINEER TO BE NOTIFIED PRIOR TO CONSTRUCTION IF ANY DISCREPANCIES ARE NOTED ON THE PLANS.
- 2. DIMENSIONS SHALL GOVERN OVER SCALE, AND CODE SHALL GOVERN OVER DIMENSIONS.
- 3. PLANS MUST HAVE SIGNED SEAL TO BE VALID AND ARE LIMITED TO THE FOLLOWING USES:
  - A. IF THESE PLANS ARE ISSUED AS A MASTER-PLAN SET, THE SET IS VALID FOR 18 MONTHS FROM THE DATE ON THE SEAL, UNLESS ANY CODE-REQUIRED UPDATES ARE PLACED IN EFFECT BY THE MUNICIPALITY.
  - B. IF THESE PLANS ARE NOT ISSUED AS A MASTER-PLAN SET, THE SET IS VALID FOR A CONDITIONAL, ONE-TIME USE FOR THE LOT OR ADDRESS SPECIFIED ON THE TITLE BLOCK

# CODE

ALL CONSTRUCTION, WORKMANSHIP, AND MATERIAL QUALITY AND SEI ECTION SHALL BE PER:

2018 NORTH CAROLINA STATE BUILDING CODE: RESIDENTIAL CODE

# **ENGINEER OF RECORD**

JDS CONSULTING & DESIGN, PLLC
ENGINEERING, BUILDING DESIGN, & CONSTRUCTION
CONSULTING SERVICES
8600 'D' JERSEY COURT
RALEIGH, NC 27617
FIRM LIC. NO: P-0961
PROJECT REFERENCE: 19900631



KB HOME
NORTH CAROLINA DIVISION
4518 S. MIAMI BLVD.

SUITE 180
DURHAM, NC 27703
TEL: (919) 768-7988
FAX: (919) 472-0582



CONSULTING & DESIGN, PLLC

INFO@JDSDESIGNONLINE.COM WWW.JDSDESIGNONLINE.COM

PROJECT NO.: 19900631 DATE: 5/1/2019

PLAN: **149.2115** 

TITLE SHEET

T

NOTE: ALL CHAPTERS, SECTIONS, TABLES, AND FIGURES CITED WITHOUT A PUBLICATION TITLE ARE FROM THE APPLICABLE RESIDENTIAL CODE (SEE TITLE SHEET).

# **GENERAL**

- 1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. FURTHERMORE, CONTRACTOR IS III TIMATELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, AND SAFETY ON SITE, NOTIFY JDS CONSULTING & DESIGN, PLLC IMMEDIATELY IF DISCREPANCIES ON PLAN EXIST.
- BRACED-WALL DESIGN IS BASED ON SECTION R602.10 WALL BRACING. PRIMARY PRESCRIPTIVE METHOD TO BE CS-WSP. SEE WALL BRACING PLANS AND DETAILS FOR ADDITIONAL INFORMATION.
  - ALL NON-PRESCRIPTIVE SOLUTIONS ARE BASED ON GUIDELINES ESTABLISHED IN THE AMERICAN SOCIETY OF CIVIL ENGINEERS PUBLICATION ASCE 7 AND THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION - SPECIAL DESIGN PROVISIONS FOR
- SEISMIC DESIGN SHALL BE PER SECTION R301.2.2 SEISMIC PROVISIONS, INCLUDING ASSOCIATED TABLES AND FIGURES. BASED ON LOCAL SEISMIC DESIGN CATEGORY.

# **DESIGN LOADS**

VGGIIMED GUII	REARING-CAPACITY	2 000 PS

ULTIMATE DESIGN WIND SPEED GROUND SNOW ROOF	LIVE LOAD 115 MPH, EXPOSURE B 15 PSF 20 PSF
RESIDENTIAL CODE TABLE R301.5	LIVE LOAD (PSF)
DWELLING UNITS	40
SLEEPING ROOMS	30
ATTICS WITH STORAGE	20
ATTICS WITHOUT STORAGE	10
STAIRS	40
DECKS	40
EXTERIOR BALCONIES	60
PASSENGER VEHICLE GARAGES	50
FIRE ESCAPES	40
GUARDS AND HANDRAILS	200 (pounds, concentrated

COMPONENT AND CLADDING LOADS, INCLUDING THOSE FOR DOORS AND WINDOWS, SHALL BE DERIVED FROM TABLES R301.2(2) AND R301.2(3) FOR A BUILDING WITH A MEAN ROOF HEIGHT OF 35 FEET, LOCATED IN EXPOSURE B.

ABBREVIATIONS		KS	KING STUD COLUMN	
			LVL	LAMINATED VENEER LUMBER
	ABV		MAX	
		ABOVE FINISHED FLOOR	MECH	
		ALTERNATE	MFTR	
		BEARING	MIN	
		BASEMENT	NTS	NOT TO SCALE
	CANI	CANTILEVER	OA	OVERALL
	CJ	CEILING JOIST	OC	
	CLG CMU	CEILING	PT	PRESSURE TREATED
			R.	RISER
	CO	CASED OPENING	REF	REFRIGERATOR
	COL	COLUMN CONCRETE	RFG	
		CONTINUOUS	RO	ROUGH OPENING
	D	CLOTHES DRYER	RS	ROOF SUPPORT
	DBL		SC	STUD COLUMN
	DIAM		QE.	SQUARE FOOT (FEET)
	DJ	DOUBLE JOIST	SH	SHELF / SHELVES
	DN	DOWN	SHTG	SHEATHING
	DP	DEEP	SHW	SHOWER
	DR	DOUBLE RAFTER	SIM	SIMILAR
	DSP	DOUBLE STUD POCKET	SJ	SINGLE JOIST
	EA	EACH	SP	STUD POCKET
	EE	EACH END	SPEC'D	SPECIFIED
	FO	FOLIAL	SQ	SQUARE
	EX	EXTERIOR	T	TREAD
	FAU	FORCED-AIR UNIT	TEMP	TEMPERED GLASS
	FDN	FOUNDATION	THK	THICK(NESS)
	FF	FINISHED FLOOR	TJ	TRIPLE JOIST
	FLR	FLOOR(ING)	TOC	TOP OF CURB / CONCRETE
	FP	FIREPLACE	TR	TRIPLE RAFTER
	FTG	FOOTING	TYP	TYPICAL
	нв	HOSE BIBB	UNO	
	HDR		W	CLOTHES WASHER
	HGR		WH	
	JS	JACK STUD COLUMN		WELDED WIRE FABRIC
			ΧJ	EXTRA JOIST

# **MATERIALS**

1. INTERIOR / TRIMMED FRAMING LUMBER SHALL BE #2 SPRUCE PINE FIR (SPF) WITH THE FOLLOWING DESIGN PROPERTIES (#2 SOUTHERN YELLOW PINE MAY BE SUBSTITUTED):

Fb = 875 PSI Fv = 70 PSI E = 1.4E6 PSI

FRAMING LUMBER EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND, CONCRETE, OR MASONRY SHALL BE PRESSURE TREATED #2 SOUTHERN YELLOW PINE (SYP) WITH THE FOLLOWING DESIGN PROPERTIES:

Fb = 975 PSI Fv = 95 PSI E = 1.6E6 PSI

3. LVL STRUCTURAL MEMBERS TO BE LAMINATED VENEER LUMBER WITH THE FOLLOWING MINIMUM DESIGN PROPERTIES:

Fb = 2600 PSI Fv = 285 PSI F = 1.9F6 PSI

PSL STRUCTURAL MEMBERS TO BE PARALLEL STRAND LUMBER WITH THE FOLLOWING MINIMUM DESIGN PROPERTIES:

Fb = 2900 PSI Fv = 290 PSI F = 2.0F6 PSI

LSL STRUCTURAL MEMBERS TO BE LAMINATED STRAND LUMBER WITH THE FOLLOWING MINIMUM DESIGN PROPERTIES:

Fb = 2250 PSI Fv = 400 PSI E = 1.55E6 PSI

- 6. STRUCTURAL STEEL WIDE-FLANGE BEAMS SHALL CONFORM TO ASTM A992. Fv = 50 KSI
- REBAR SHALL BE DEFORMED STEEL CONFORMING TO ASTM A615, GRADE 60.
- POURED CONCRETE COMPRESSIVE STRENGTH TO BE A MINIMUM 3.000 PSI AT 28 DAYS, MATERIALS USED TO PRODUCE CONCRETE SHALL COMPLY WITH THE APPLICABLE STANDARDS LISTED IN AMERICAN CONCRETE INSTITUTE STANDARD ACI 318 OR ASTM
- CONCRETE SUBJECT TO MODERATE OR SEVERE WEATHERING PROBABILITY PER TABLE R301.2(1) SHALL BE AIR-ENTRAINED WHEN REQUIRED BY TABLE R402.2.
- 10. CONCRETE MASONRY UNITS (CMU) SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE PUBLICATION 530: BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES AND COMPANION COMMENTARIES AND THE MASONRY SOCIETY PUBLICATION TMS 402/602: BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES.
- 11. MORTAR SHALL COMPLY WITH ASTM INTERNATIONAL STANDARD C270.
- 12. INDICATED MODEL NUMBERS FOR ALL METAL HANGERS, STRAPS, FRAMING CONNECTORS, AND HOLD-DOWNS ARE SIMPSON STRONG-TIE BRAND. EQUIVALENT USP BRAND PRODUCTS ARE ACCEPTABLE.
- 13. REFER TO I-JOIST EQUIVALENCE CHART ON I-JOIST DETAIL SHEET FOR SUBSTITUTION OF MANUFACTURER SERIES.

# **FOUNDATION**

- MINIMUM ALLOWABLE SOIL BEARING CAPACITY IS ASSUMED TO BE 2,000 PSF, IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SOIL BEARING CAPACITY IF UNSATISFACTORY CONDITIONS
- 2. CONCRETE FOUNDATION WALLS TO BE SELECTED AND CONSTRUCTED PER SECTION R404 OR AMERICAN CONCRETE **INSTITUTE STANDARD ACI 318.**
- MASONRY FOUNDATION WALLS TO BE SELECTED AND CONSTRUCTED PER SECTION R404 AND/OR AMERICAN CONCRETE INSTITUTE PUBLICATION 530: BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES AND COMPANION COMMENTARIES AND/OR THE MASONRY SOCIETY PUBLICATION TMS 402/602: BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES
- CONCRETE WALL HORIZONTAL REINFORCEMENT TO BE PER TABLE R404.1.2(1) OR AS NOTED OR DETAILED. CONCRETE WALL VERTICAL REINFORCEMENT TO BE PER TABLES R404.1.2(3 AND 4) OR AS NOTED OR DETAILED. ALL CONCRETE WALLS SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 6.
  - A. TABLES ASSUME THAT WALLS HAVE PERMANENT LATERAL SUPPORT AT THE TOP AND BOTTOM.
  - B. FOUNDATION DRAINS ARE ASSUMED AT ALL WALLS PER SECTION R405
- PLAIN-MASONRY WALL DESIGN TO BE PER TABLE R404.1.1(1) OR AS NOTED OR DETAILED. MASONRY WALLS WITH VERTICAL REINFORCEMENT TO BE PER TABLES R404.1.1 (2 THROUGH 4) OR AS NOTED OR DETAILED. ALL MASONRY WALLS SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 6.
  - A. TABLES ASSUME THAT WALLS HAVE PERMANENT LATERAL SUPPORT AT THE TOP AND BOTTOM.
  - WALL REINFORCING SHALL BE PLACED ACCORDING TO FOOTNOTE (c) OF THE TABLES (REINFORCING IS NOT CENTERED IN WALL).
  - C. FOUNDATION DRAINS ARE ASSUMED AT ALL WALLS PER SECTION R405.
- WOOD SILL PLATES TO BE ANCHORED TO THE FOUNDATION WITH 1/2" DIAMETER ANCHOR BOLTS WITH MINIMUM 7" EMBEDMENT, SPACED A MAXIMUM OF 6'-0" OC AND WITHIN 12" FROM THE ENDS OF EACH PLATE SECTION. INSTALL MINIMUM (2) ANCHOR BOLTS PER SECTION. SEE <u>SECTION R403.1.6</u> FOR SPECIFIC CONDITIONS.
- THE UNSUPPORTED HEIGHT OF SOLID MASONRY PIERS SHALL NOT **EXCEED TEN TIMES THEIR LEAST DIMENSION. UNFILLED, HOLLOW** PIERS MAY BE USED IF THE UNSUPPORTED HEIGHT IS NOT MORE THAN FOUR TIMES THEIR LEAST DIMENSION
- CENTERS OF PIERS TO BEAR IN THE MIDDLE THIRD OF THE FOOTINGS, AND GIRDERS SHALL CENTER IN THE MIDDLE THIRD OF
- 9. ALL FOOTINGS TO HAVE MINIMUM 2" PROJECTION ON EACH SIDE OF FOUNDATION WALLS (SEE DETAILS).
- 10. ALL REBAR NOTED IN CONCRETE TO HAVE AT LEAST 2" COVER FROM EDGE OF CONCRETE TO EDGE OF REBAR.
- 11. FRAMING TO BE FLUSH WITH FOUNDATION WALLS.
- 12. WITH CLASS 1 SOILS, VAPOR BARRIER AND CRUSHED STONE MAY BE OMITTED.

# **FRAMING**

- 1. ALL BEARING HEADERS TO BE (2) 2x6 SUPPORTED W/ MIN (1) JACK STUD AND (1) KING STUD EACH END, UNO.
- 2. ALL NON-BEARING HEADERS TO BE (2) 2x4, UNO.
- NON-BEARING INTERIOR WALLS NOT MORE THAN 10' NOMINAL HEIGHT AND NOT SHOWN AS BRACED WALLS MAY BE FRAMED WITH 2x4 STUDS @ 24" OC.
- SOLID BLOCKING TO BE PROVIDED AT ALL POINT LOADS THROUGH FLOOR LEVELS TO THE FOUNDATION OR TO OTHER STRUCTURAL COMPONENTS
- 5. ALL BEAMS SPECIFIED ARE MINIMUM SIZES ONLY, LARGER MEMBERS MAY SUBSTITUTED AS NEEDED FOR EASE OF CONSTRUCTION.
- 6. ALL EXTERIOR WALLS TO BE FULLY SHEATHED WITH 7/16" OSB.
- PORCH / PATIO COLUMNS TO BE 4x4 MINIMUM PRESSURE-TREATED
  - A. ATTACH PORCH COLUMNS TO SLAB / FDN WALL USING ABA ABU, ABW, OR CPT SIMPSON POST BASES TO FIT COLUMN SIZES NOTED ON PLAN -OR- ANY OTHER COLUMN CONNECTION WITH 500# UPLIFT CAPACITY.
  - ATTACH PORCH COLUMNS TO PORCH BEAMS USING AC OR BC SIMPSON POST CAPS TO FIT COLUMN SIZES NOTED ON PLAN -OR- ANY OTHER COLUMN CONNECTION WITH 500# UPLIFT CAPACITY.
  - C. TRIM OUT COLUMN(S) AND BEAM(S) PER BUILDER AND DETAILS.
- ALL ENGINEERED WOOD PRODUCTS (LVL, PSL, LSL, ETC.) SHALL BE INSTALLED WITH CONNECTIONS PER MANUFACTURER SPECIFICATIONS.
- 9. ENGINEERED WOOD FLOOR SYSTEMS AND ROOF TRUSS SYSTEMS: A SHOP DRAWINGS FOR THE SYSTEMS SHALL BE PROVIDED. TO THE ENGINEER OF RECORD FOR REVIEW AND COORDINATION BEFORE CONSTRUCTION.
  - TRUSS PROFILES SHALL BE SEALED BY THE TRUSS MANUFACTURER.
  - INSTALLATION OF THE SYSTEMS SHALL BE PER MANUFACTURER'S INSTRUCTIONS.
  - TRUSS LAYOUT AND PLACEMENT BY MANUFACTURER TO COINCIDE WITH THE SUPPORT LOCATIONS SHOWN IN THESE
- 10. ALL BEAMS TO BE CONTINUOUSLY SUPPORTED LATERALLY AND SHALL BEAR FULL WIDTH ON THE SUPPORTING WALLS OR COLUMNS INDICATED, WITH A MINIMUM OF THREE STUDS, UNO.
- 11. ALL STEEL BEAMS TO BE SUPPORTED AT EACH END WITH A MIN BEARING LENGTH OF 3 1/2" AND FULL FLANGE WIDTH. BEAMS MUST BE ATTACHED AT EACH END WITH A MINIMUM OF FOUR 16d NAILS OR TWO 1/2" x 4" LAG SCREWS, UNO.
- 12. STEEL FLITCH BEAMS TO BE BOLTED TOGETHER USING (2) ROWS OF 1/2" DIAMETER BOLTS (ASTM 307) WITH WASHERS PLACED LINDER THE THREADED END OF THE BOLT, BOLTS TO BE SPACED AT 24" OC (MAX) AND STAGGERED TOP AND BOTTOM OF BEAM (2" EDGE DISTANCE), WITH TWO BOLTS TO BE LOCATED AT 6" FROM EACH END OF FLITCH BEAM.
- 13. WHEN A 4-PLY LVL BEAM IS USED, ATTACH WITH (1) 1/2" DIAMETER BOLT, 12" OC, STAGGERED TOP AND BOTTOM, 1 1/2" MIN FROM ENDS. ALTERNATE EQUIVALENT ATTACHMENT METHOD MAY BE USED, SUCH AS SDS, SDW, OR TRUSSLOK SCREWS (SEE MANUFACTURER SPECIFICATIONS).
- 14. FOR STUD COLUMNS OF 4-OR-MORE STUDS, INSTALL SIMPSON STRONG-TIE CS16 STRAPS ACROSS STUDS @ 30" OC, 6" MAX FROM PLATES, ON INSIDE FACE OF COLUMN (EXTERIOR WALL), ON BOTH FACES OF COLUMN (INTERIOR WALL).
- 15. FLOOR JOISTS ADJACENT AND PARALLEL TO THE EXTERIOR FOUNDATION WALL SHALL BE PROVIDED WITH FULL-DEPTH SOLID BLOCKING, NOT LESS THAN TWO (2) INCHES NOMINAL IN THICKNESS, PLACED PERPENDICULAR TO THE JOIST AT SPACING NOT MORE THAN FOUR (4) FEET. THE BLOCKING SHALL BE NAILED TO THE FLOOR SHEATHING, THE SILL PLATE, THE JOIST, AND THE EXTERIOR RIM JOIST / BOARD.
- 16. BRACED WALL PANELS SHALL BE FASTENED TO MEET THE **UPLIFT-RESISTANCE REQUIREMENTS IN CHAPTERS 6 AND 8 OF** THE APPLICABLE CODE (SEE TITLE SHEET). REQUIREMENTS OF THE STRUCTURAL DRAWINGS THAT EXCEED THE CODE MINIMUM SHALL BE MET.



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. . . . . кв номе NORTH CAROLINA DIVISION 4518 S. MIAMI BLVD.

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PROJECT NO: 19900631 5/1/2019 DATE:

149.2115

**GENERAL NOTES** 

. . . . . .

FASTENER SCHEDULE			
CONNECTION	3" x 0.131" NAIL	3" x 0.120" NAIL	
JOIST TO SILL PLATE	(4) TOE NAILS	(4) TOE NAILS	
SOLE PLATE TO JOIST / BLOCKING	NAILS @ 8" OC (typical) (4) PER 16" SPACE (at braced panels)	NAILS @ 8" OC (typical) (4) PER 16" SPACE (at braced panels)	
STUD TO SOLE PLATE	(4) TOE NAILS	(4) TOE NAILS	
TOP OR SOLE PLATE TO STUD	(3) FACE NAILS	(4) FACE NAILS	
RIM JOIST OR BAND JOIST TO TOP PLATE OR SILL PLATE	TOE NAILS @ 6" OC	TOE NAILS @ 4" OC	
BLOCKING BETWEEN JOISTS TO TOP PLATE OR SILL PLATE	(4) TOE NAILS	(4) TOE NAILS	
DOUBLE STUD	NAILS @ 8" OC	NAILS @ 8" OC	
DOUBLE TOP PLATES	NAILS @ 12" OC	NAILS @ 12" OC	
DOUBLE TOP PLATES LAP (24" MIN LAP LENGTH)	(12) NAILS IN LAPPED AREA, EA SIDE OF JOINT	(12) NAILS IN LAPPED AREA, EA SIDE OF JOINT	
TOP PLATE LAP AT CORNERS AND INTERSECTING WALLS	(3) FACE NAILS	(3) FACE NAILS	
OPEN-WEB TRUSS BOTTOM CHORD TO TOP PLATES OR SILL PLATE (PARALLEL TO WALL)	NAILS @ 6" OC	NAILS @ 4" OC	
BOTTOM CHORD OF TRUSS TO TOP PLATES OR SILL PLATE (PERPENDICULAR TO WALL)	(3) TOE NAILS	(3) TOE NAILS	

SEE TABLE R602.3(1) FOR ADDITIONAL STRUCTURAL-MEMBER FASTENING REQUIREMENTS.

DETAILS AND NOTES ON DRAWINGS GOVERN.

#### BALLOON WALL FRAMING SCHEDULE (USE THESE STANDARDS UNLESS NOTED OTHERWISE ON THE FRAMING PLAN SHEETS)

	,
FRAMING MEMBER SIZE	MAX HEIGHT (PLATE TO PLATE) 115 MPH ULTIMATE DESIGN WIND SPEED
2x4 @ 16" OC	10'-0"
2x4 @ 12" OC	12'-0"
2x6 @ 16" OC	15'-0"
2x6 @ 12" OC	17'-9"
_	
2x8 @ 16" OC	19'-0"
2x8 @ 12" OC	22'-0"
(2) 2x4 @ 16" OC	14'-6"
(2) 2x4 @ 10 OC	17'-0"
(2) 2x6 @ 16" OC	21'-6"
(2) 2x6 @ 12" OC	25'-0"
(2) 2x8 @ 16" OC	27'-0"
(2) 2x8 @ 12" OC	31'-0"

- a. ALL HEIGHTS ARE MEASURED SUBFLOOR TO TOP OF WALL PLATE.
- b. WHEN SPLIT-FRAMED WALLS ARE USED FOR HEIGHTS OVER 12', THE CONTRACTOR SHALL ADD 6' MINIMUM OF CS16 COIL STRAPPING (FULLY NAILED), CENTERED OVER THE WALL BREAK.
- c. FINGER-JOINTED MEMBERS MAY BE USED FOR CONTINUOUS HEIGHTS WHERE TRADITIONALLY MILLED LUMBER LENGTHS ARE LIMITED.
- d. FOR GREATER WIND SPEED, SEE ENGINEERED SOLUTION FOR CONDITION IN DRAWINGS.

# ROOF SYSTEMS

#### TRUSSED ROOF - STRUCTURAL NOTES

- PROVIDE CONTINUOUS BLOCKING THROUGH STRUCTURE FOR ALL POINT LOADS.
- 2.

DENOTES OVER-FRAMED AREA

- 3. MINIMUM 7/16" OSB ROOF SHEATHING
- 4. TRUSS LAYOUT AND PLACEMENT BY MANUFACTURER TO COINCIDE WITH THE SUPPORT LOCATIONS SHOWN. TRUSS PROFILES SHALL BE SEALED BY THE TRUSS MANUFACTURER. TRUSS PLANS TO BE COORDINATED WITH THE SEALED STRUCTURAL DRAWINGS. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 5. MANUFACTURER TO PROVIDE REQUIRED UPLIFT CONNECTION.
- 6. PROVIDE H2.5A (MINIMUM) OR EQUIVALENT AT EACH TRUSS-TO-TOP PLATE CONNECTION AT OVER-FRAMED AREAS, UNLESS NOTED OTHERWISE.
- 7. UPLIFT CONNECTION TO BE CARRIED THROUGH TO FLOOR SYSTEM.

#### STICK-FRAMED ROOF - STRUCTURAL NOTES

- PROVIDE 2x4 COLLAR TIES AT 48" OC AT UPPER THIRD OF RAFTERS, UNLESS NOTED OTHERWISE.
- 2. FUR RIDGES FOR FULL RAFTER CONTACT.
- PROVIDE CONTINUOUS BLOCKING THROUGH STRUCTURE FOR ALL POINT LOADS.



**DENOTES OVER-FRAMED AREA** 

- 5. MINIMUM 7/16" OSB ROOF SHEATHING
- 6. PROVIDE 2x4 RAFTER TIES AT 16" OC AT 45° BETWEEN RAFTERS AND CEILING JOISTS. USE (4) 16d NAILS AT EACH CONNECTION. RAFTER TIES MAY BE SPACED AT 48" OC AT LOCATIONS WHERE NO KNEE WALLS ARE INSTALLED.
- 7. PROVIDE H2.5A (MINIMUM) OR EQUIVALENT AT EACH RAFTER-TO-TOP PLATE CONNECTION AT OVER-FRAMED AREAS, UNLESS NOTED OTHERWISE.
- 8. UPLIFT CONNECTION TO BE CARRIED THROUGH TO FLOOR

BRICK VENEER LINTEL SCHEDULE			
SPAN	STEEL ANGLE SIZE	END BEARING LENGTH	
UP TO 42"	L3-1/2"x3-1/2"x1/4"	8" (MIN. @ EACH END)	
UP TO 72"	L6"x4"x5/16"* (LLV) 8" (MIN. @ EACH END)		
OVER 72"	L6"x4"x5/16"* (LLV) ATTACH LINTEL w/ 1/2" THRU BOLT @ 12" OC, 3" FROM EACH END		

\* FOR QUEEN BRICK: LINTELS AT THIS CONDITION MAY BE 5"x3-1/2"x5/16"

NOTE: BRICK LINTELS AT SLOPED AREAS TO BE 4"x3-1/2"x1/4" STEEL ANGLE WITH 16D NAILS IN 3/16" HOLES IN 4" ANGLE LEG AT 12" OC TO TRIPLE RAFTER. WHEN THE SLOPE EXCEEDS 4:12 A MINIMUM OF 3"x3"x1/4" PLATES SHALL BE WELDED AT 24" OC ALONG THE STEEL ANGLE.



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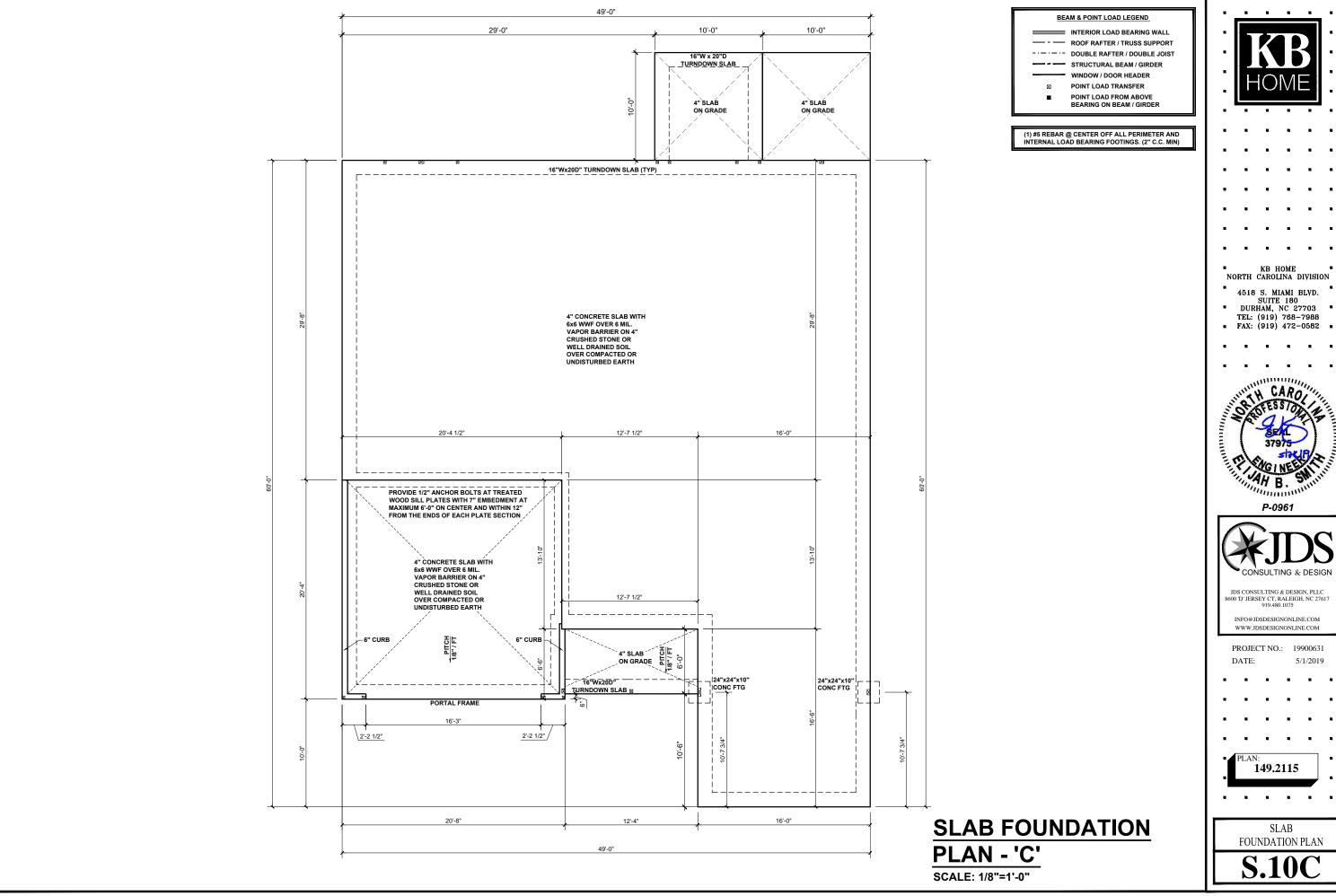
DATE: 5/1/2019

PLAN: **149.2115** 

GENERAL NOTES

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**GN1.1** 



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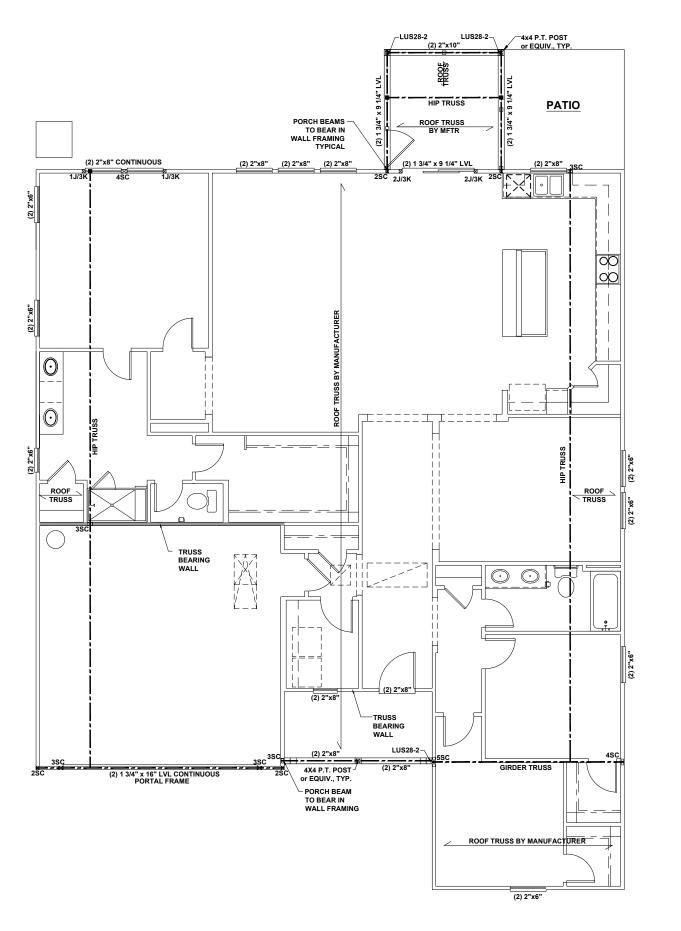
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5/1/2019

149.2115

SLAB FOUNDATION PLAN



# BEAM & POINT LOAD LEGEND

INTERIOR LOAD BEARING WALL

ROOF RAFTER / TRUSS SUPPORT

DOUBLE RAFTER / DOUBLE JOIST

STRUCTURAL BEAM / GIRDER

WINDOW / DOOR HEADER

POINT LOAD TRANSFER

■ POINT LOAD FROM ABOVE BEARING ON BEAM / GIRDER

STRUCTURAL FRAMING NOTES - (SEE GENERAL NOTES SHEET FOR ADDITIONAL REQUIREMENTS.)

- 4 ALL EDAMING TO DE #2 SDE MINIMUN
- ALL BEARING HEADERS TO BE (2) 2x6 SUPPORTED w/ MIN (1) JACK AND (1) KING EACH END, UNO.
- 3. EXTERIOR WALL OPENINGS OVER 3' TO HAVE MULTIPLE KING STUDS AS NOTED ON PLAN.
- ALL NON-BEARING HEADERS TO BE (2) 2x4 (1) J / (1) K, UNO.
- PROVIDE CONTINUOUS BLOCKING THROUGH STRUCTURE FOR ALL POINT LOADS.
- . ALL HANGERS AND CONNECTORS SPECIFIED ARE TO BE SIMPSON STRONG-TIE OR EQUIVALENT.
- 7. ALL BEAMS SPECIFIED ARE MINIMUM SIZES ONLY. LARGER MEMBERS MAY SUBSTITUTED AS NEEDED FOR EASE OF CONSTRUCTION. MINIMUM BEAM SUPPORT IS (1) 2x4 STUD.
- ALL EXTERIOR WALLS TO BE FULLY SHEATHED WITH 7/16" OSB.
- FRONT PORCH COLUMNS TO BE MIN 4x4 PT ATTACHED AT TOP AND BOTTOM USING SIMPSON (OR EQUIV) COLUMN BASE OR SST A24 BRACKETS. TRIM OUT PER BUILDER.
- 0. PORCH COLUMNS TO BE MIN 4x4 PT ATTACHED AT BOTTOM USING SIMPSON (OR EQUIV) ABA44 AND AT TOP USING CS 16 STRAPPING (12" MIN) TO PORCH HEADER / BAND.
- 1. WHEN A 4-PLY LVL IS USED, ATTACH WITH (1) 1/2" Ø BOLT 12" OC STAGGERED, TOP AND BOTTOM, 1-1/2" MIN FROM ENDS. ALTERNATE ATTACHMENT EQUIVALENT METHOD MAY BE USED, SUCH AS SDW OR TRUSSLOK SCREWS (SEE MANUFACTURER'S SPECIFICATIONS).
- 2. FOR STUD COLUMNS OF 4 OR MORE, INSTALL SST CS16 STRAPS @ 30" OC, 6" MAX FROM PLATES, ON INSIDE FACE OF COLUMN (EXTERIOR WALL), ON BOTH FACES OF COLUMN (INTERIOR WALL).

ALL FLUSH BEAMS TO BE DIRECTLY SUPPORTED BY (2) 2X\_STUDS UNLESS OTHERWISE NOTED. STUD COLUMNS TO BE SUPPORTED BY SOLID BLOCKING TO FOUNDATION OR TO BEARING COMPONENT BELOW.



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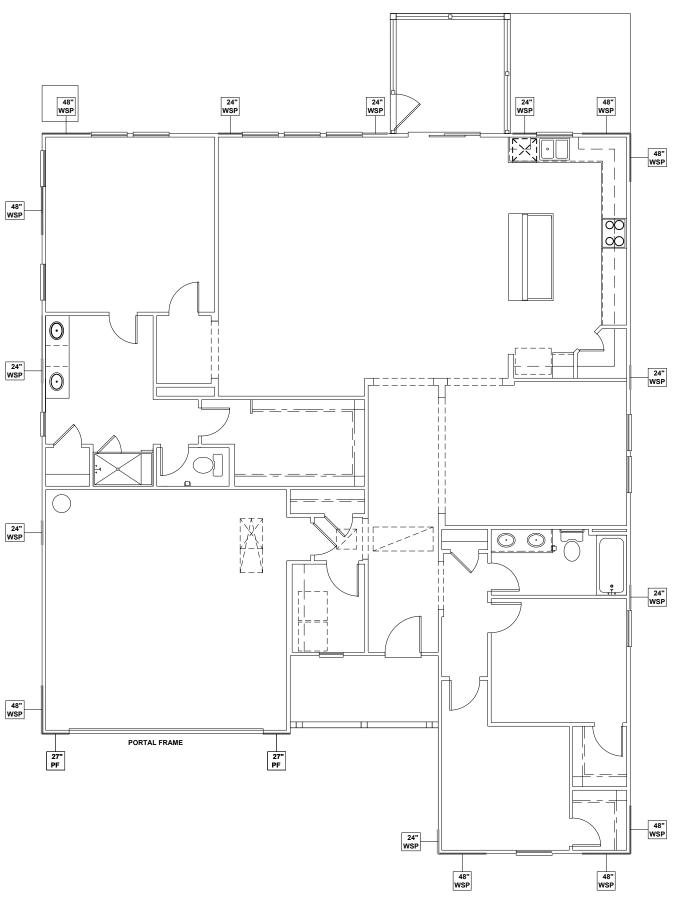
PLAN: **149.2115** 

FIRST FLOOR CEILING FRAMING PLAN

**S1.0C** 

FIRST FLOOR CEILING FRAMING PLAN - 'C'

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



# WALL BRACING REQUIREMENTS

- MINIMUM PANEL WIDTH IS 24"
   FIGURES BASED ON THE CONTINUOUS SHEATHING METHOD USING THE RECTANGLE CIRCUMSCRIBED AROUND THE FLOOR PLAN OR PORTION OF THE FLOOR PLAN. IF NO RECTANGLE IS NOTED, THE STRUCTURE HAS BEEN FIGURED ALL WITHIN ONE RECTANGLE.
- RECTANGLE.

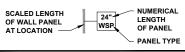
   PANELS MAY SHIFT UP TO 36" EITHER DIRECTION
  FOR EASE OF CONSTRUCTION (NAILING & BLOCK
  REQUIREMENTS STILL APPLY).

   FOR ADDITIONAL WALL BRACING INFORMATION,
  REFER TO WALL BRACING DETAIL SHEET(S).
- SCHEMATIC BELOW INDICATES HOW SIDES OF RECTANGLE ARE TO BE INTERPRETED IN BRACING CHART WHEN APPLIED TO STRUCTURE:



CS16 STRAP FROM STUD, CROSS HEADER, TO WALL TOP PLATE, 36" LONG MINIMUM

SIMPSON MSTA15 HOLD DOWN CAPACITY OF 970 POUNDS PER ANCHOR WITH (12) 10d NAILS. STRAF TO BE LOCATED AT EDGE OF BRACED WALL PANEL. (CS16 STRAPPING MAY BE SUBSTITUTED W/ SIMILAR LENGTH AND NAILING PATTERN.) USE HTT4 FOR ATTACHMENT TO CONCRETE.



# WALL BRACING NOTE:

WALLS WITH REQUIRED LENGTH LISTED AS "N/A" DO NOT MEET THE REQUIREMENTS OF PRESCRIPTIVE WALL BRACING FOUND IN THE NCRC. THESE WALLS HAVE BEEN ENGINEERED BASED ON DESIGN GUIDELINES ESTABLISHED IN ASCE-07 AND THE NDS: WIND & SEISMIC PROVISIONS SUPPLEMENT.

# WALL BRACING: RECTANGLE 1

WALL BIOTOMO MEGIANOLE I			
SIDE	REQUIRED LENGTH	PROVIDED LENGTH	
FRONT	9.0 FT.	14.75 FT.	
RIGHT	7.5 FT.	12.0 FT.	
REAR	9.0 FT.	14.0 FT.	
LEFT	7.5 FT.	14.0 FT.	
		-	



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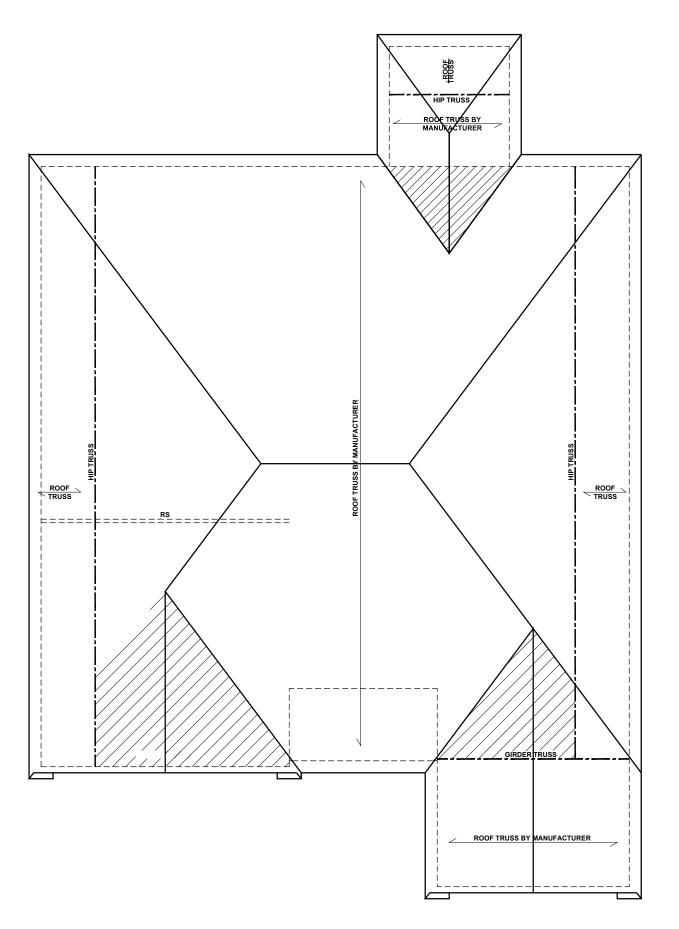
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149.2115

FIRST FLOOR WALL BRACING PLAN

FIRST FLOOR WALL BRACING PLAN - 'C'

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



# **ROOF FRAMING PLAN - 'C'**

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

# BEAM & POINT LOAD LEGEND

WINDOW / DOOR HEADER
POINT LOAD TRANSFER

POINT LOAD FROM ABOVE BEARING ON BEAM / GIRDER

# TRUSSED ROOF - STRUCTURAL NOTES

 PROVIDE CONTINUOUS BLOCKING THROUGH STRUCTURE FOR ALL POINT LOADS.

DENOTE

DENOTES OVER-FRAMED AREA

- 3. MINIMUM 7/16" OSB ROOF SHEATHING
- 4. TRUSS LAYOUT AND PLACEMENT BY MANUFACTURER TO COINCIDE WITH THE SUPPORT LOCATIONS SHOWN. TRUSS PROFILES SHALL BE SEALED BY THE TRUSS MANUFACTURER. TRUSS PLANS TO BE COORDINATED WITH THE SEALED STRUCTURAL DRAWINGS. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- 5. MANUFACTURER TO PROVIDE REQUIRED UPLIFT CONNECTION.
- . PROVIDE H2.5A (MINIMUM) OR EQUIVALENT AT EACH TRUSS-TO-TOP PLATE CONNECTION AT OVER-FRAMED AREAS, UNLESS NOTED OTHERWISE.
- UPLIFT CONNECTION TO BE CARRIED THROUGH TO FLOOR SYSTEM.

#### ATTIC VENTILATION

THE TOTAL NET-FREE VENTILATION AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA OF THE ATTIC SPACE TO BE VENTILATED. THE TOTAL VENTILATION MAY BE REDUCED TO 1/300 PROVIDED AT LEAST 50% BUT NOT MORE THAN 80% OF THE REQUIRED VENTILATION BE LOCATED IN THE UPPER PORTION OF THE AREA TO BE VENTILATED, OR AT LEAST 3' ABOVE THE SOFFIT VENTILATION INTAKE.

2930 SQUARE FEET OF TOTAL ATTIC / 150 =

19.5 SQUARE FEET OF NET-FREE VENTILATION REQUIRED

TRUSS UPLIFT CONNECTORS: EXPOSURE B, 115 MPH, ANY PITCH, 24" O.C. MAX ROOF TRUSS SPACING

TRUSSES SHALL BE ATTACHED TO SUPPORT WALL FOR UPLIFT RESISTANCE. CONTINUOUS OSB WALL SHEATHING BELOW PROVIDES CONTINUOUS UPLIFT RESISTANCE TO FOUNDATION. ALL TRUSSES SUPPORTED BY INTERMEDIATE SUPPORT WALLS, KNEEWALLS, OR BEAMS SHALL BE ATTACHED TO SUPPORTING MEMBER PER SCHEDULE:

ROOF SPAN IS MEASURED HORIZONTALLY BETWEEN FURTHEST SUPPORT POINTS.

ROOF PLAN

CONNECTOR
NAILING PER TABLE 602.3(1)
NCRBC 2018 EDITION

OVER 28'

(1) SIMPSON H2.5A HURRICANE CLIP TO DBL TOP PLATE OR BEAM

OR (1) SIMPSON H3 CLIP TO SINGLE 2x4 PLATE KB

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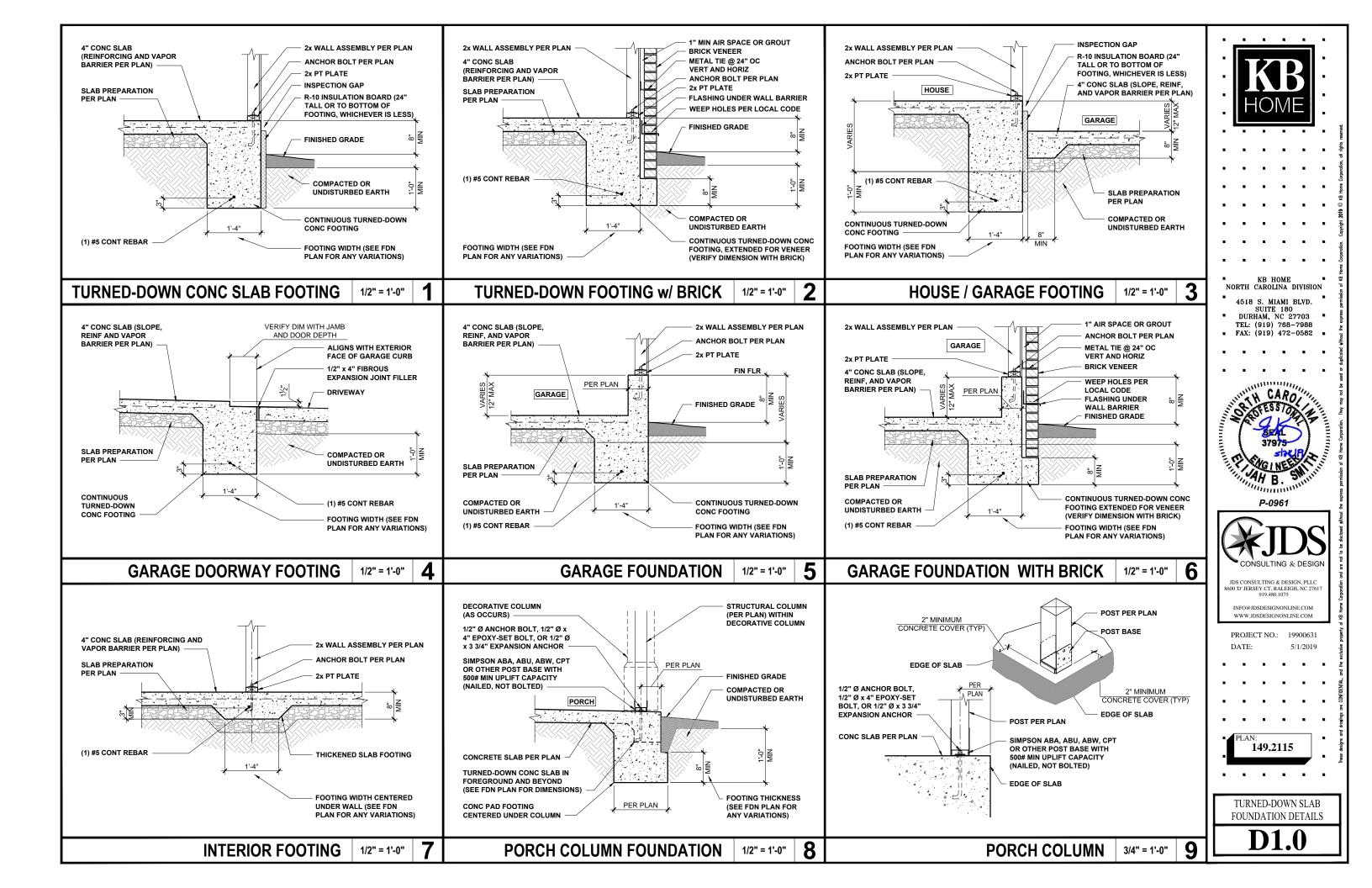
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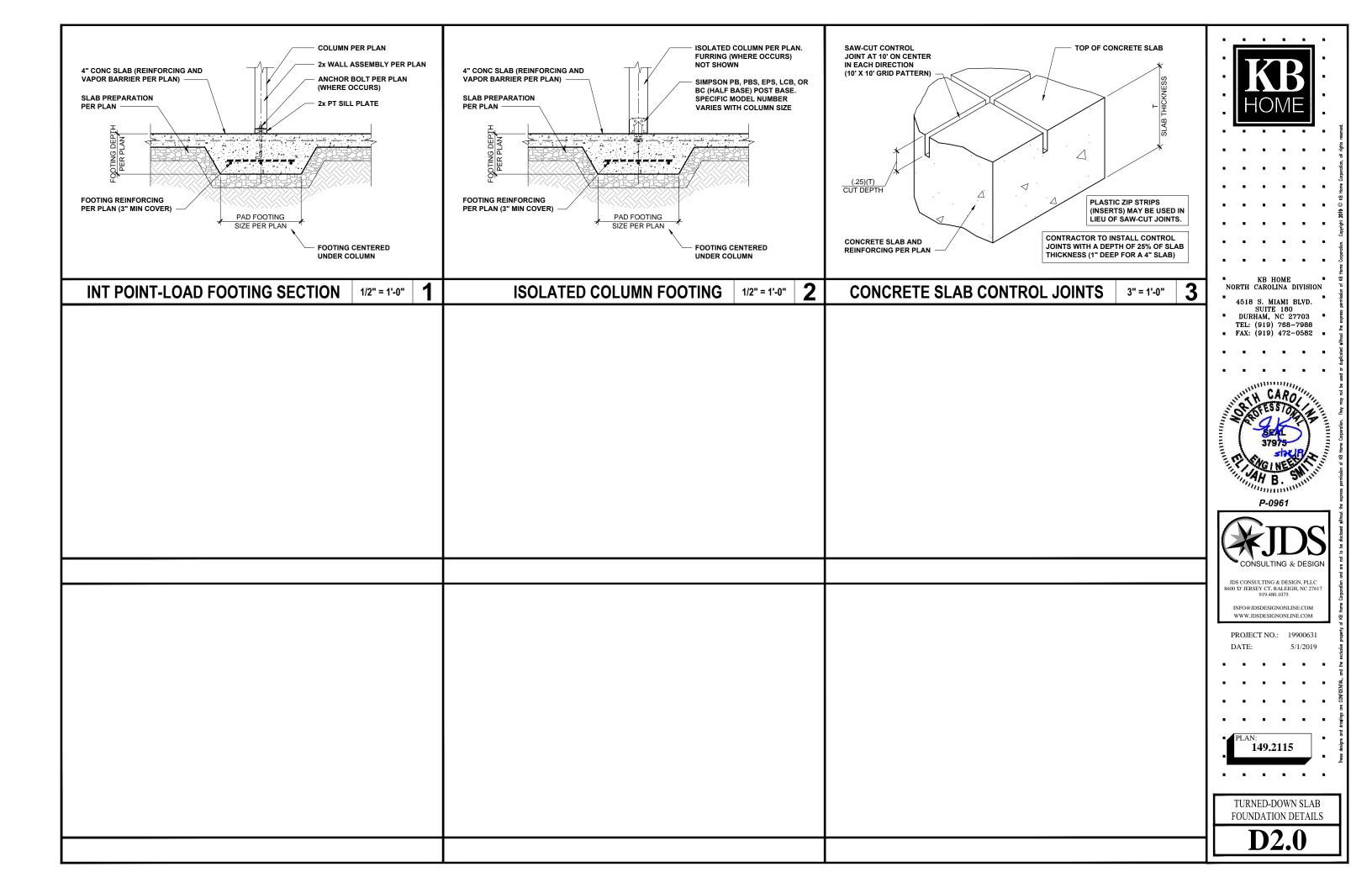
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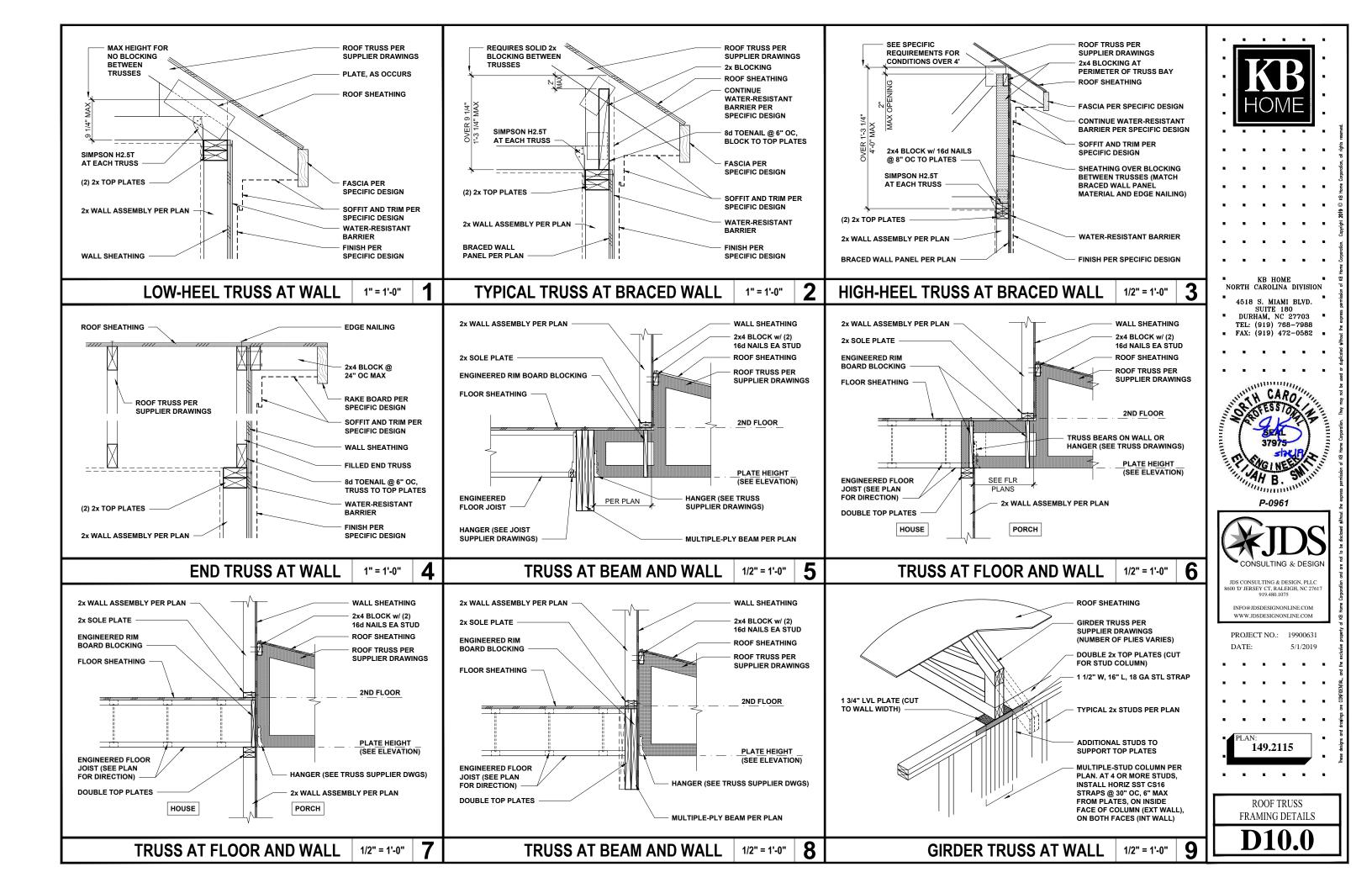
ROOF FRAMING PLAN

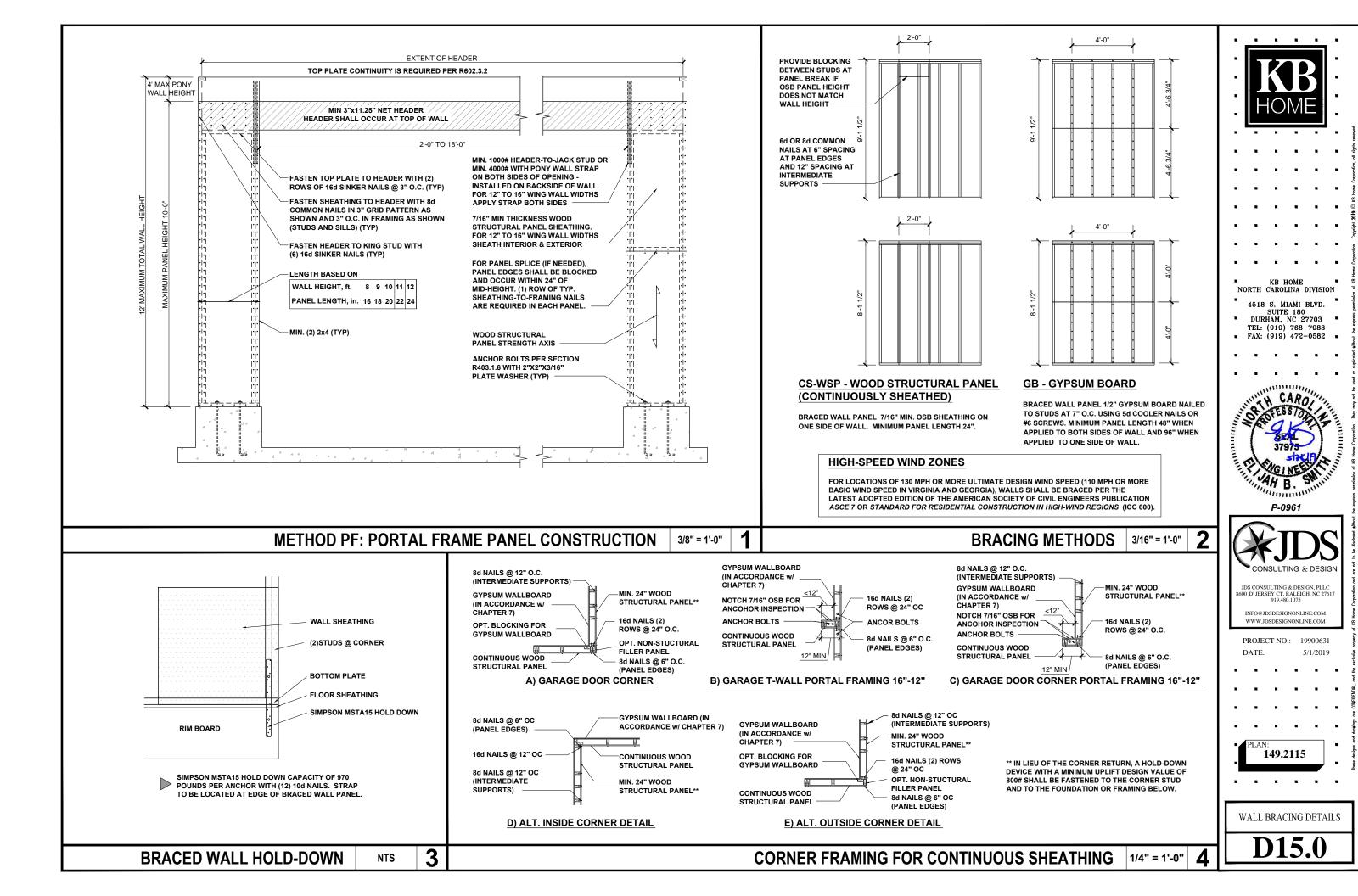
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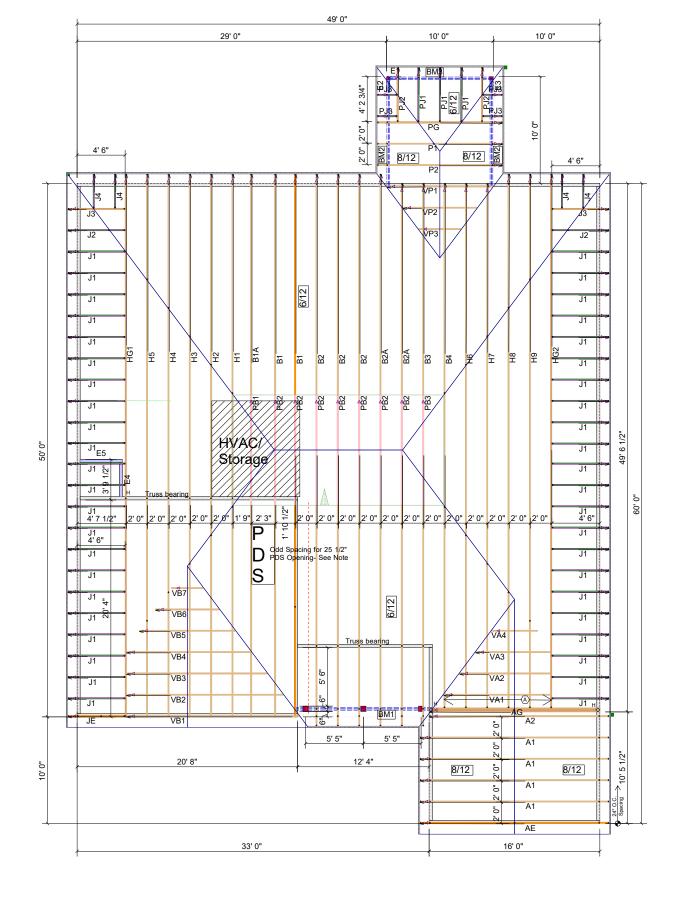
**S7.0C** 

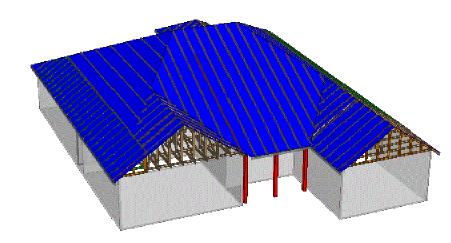












HANGER LIST			
Α	Simpson	HUS26	6
H2.5A- As Info	Simpson	H2.5A	135
Н	Simpson	HTS20	3



DEDICATED TO QUALITY AND EXCELLENCE 200 EMMETT ROAD DUNN, NORTH CAROLINA 28334 PHONE: 910-892-8400 FAX: 910-892-8384

2019

04-30-19

RINT DATE:
Approved

BY: MWM

inte		crn'd GOL	ORDER: 20595
Mason Po	KB HOME	w/ CVP S	P.O. NUMBER: PO #
Lot 45 @ Mason Pointe	KB	Plan 149.2115 "C" w/ CVP Scrn'd GOL	NOT TO SCALE
	JSTOMER:	<b>∂</b> ľan 1,	ALE: NOT 7

TOP LIVE: 20 PSF

TOP DEAD: 10 PSF

**BOTM DEAD: 10 PSF** 

WIND SPD: 130 MPH

# **GENERAL NOTES:**

DO NOT CUT OR MODIFY TRUSSES.

TRUSSES ARE SPACED 24" ON CENTER UNLESS NOTED OTHERWISE.

REFER TO THE INDIVIDUAL TRUSS DESIGN DRAWINGS FOR THE LOCATION OF LATERAL BRACING AND MULTI-PLY CONNECTION REQUIREMENTS.

PER ANSI TPI 1-2002 THE TRUSS ENGINEER IS RESPONSIBLE FOR TRUSS TO TRUSS CONNECTIONS AND TRUSS PLY TO PLY CONNECTIONS.
THIS TRUSS PLACEMENT PLAN RECCOMENDS TRUSS TO BEARING
CONNECTIONS AND TRUSS TO BEAM CONNECTIONS WHICH SHALL BE REVIEWED BY THE BUILDING OF THE BUILDING DESIGNER TO RESOLVE ALL ROOF FORCES ADEQUATELY TO THE FOUNDATION