

# NORTH CAROLINA 50' SERIES PLAN 149.2115

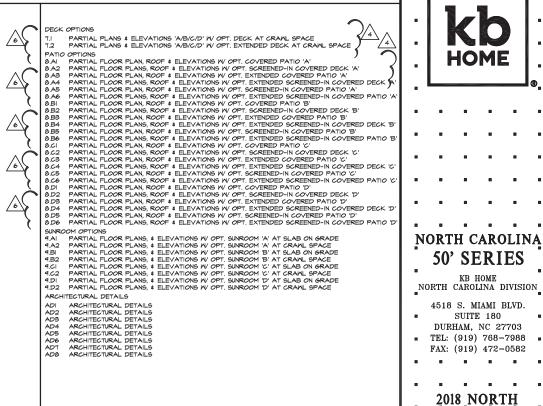
LOT 39 - HIGHLAND GROVE -ELEVATION D

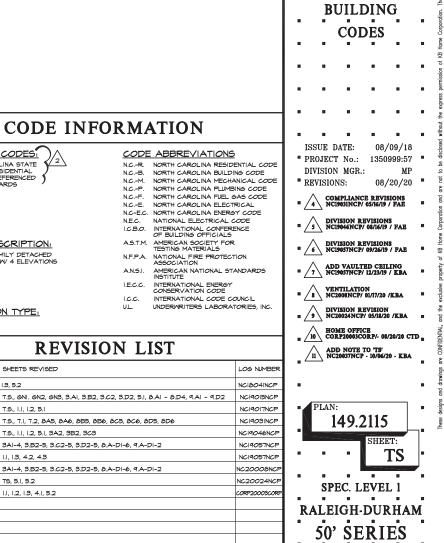
# SHEET INDEX



**CONSULTANTS** 

**SOUARE FOOTAGE** 



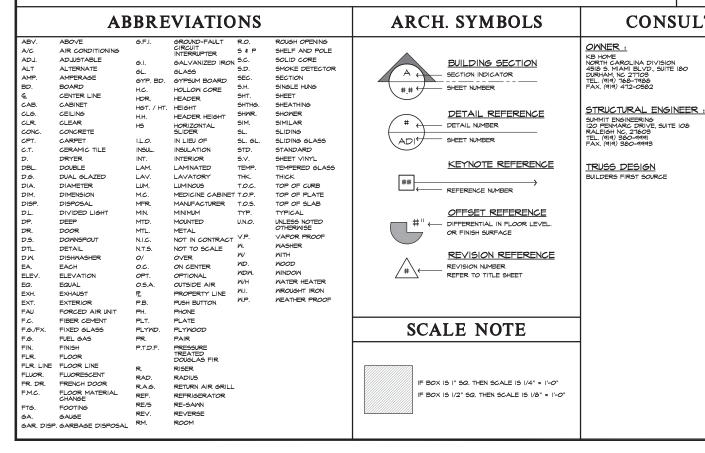


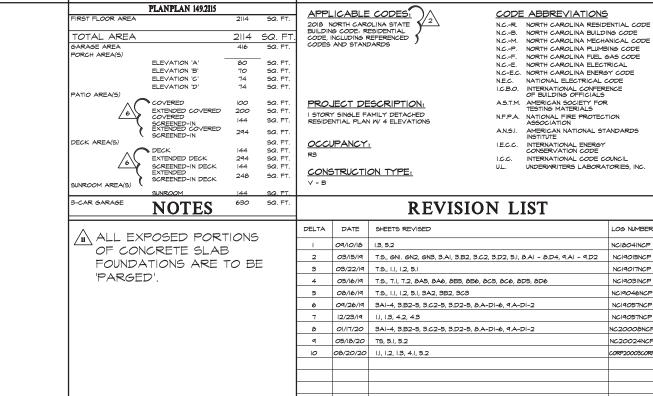
HOME

KB HOME

SUITE 180

**CAROLINA STATE** 





# GENERAL REQUIREMENTS

- 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:
  - A. 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 SITE, THE WORK, OR THE PROSECUTION OF THE MORK.
- B. THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT AND ALL OTHER APPLICABLE CODE REQUIREMENTS RELATING TO SAFETY.
- . THE FAIR HOUSING AMENDMENTS ACT, THE AMERICANS WITH DISA-BILITIES 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, INCOMSISTENCIES, OR OMISSIONS IN THE CONSTRUCTION DOCU-MENTS OR INCOMSISTENCIES WITH APPLICABLE CODE REQUIREMENTS OBSERVED BY THE CONTRACTOR.
- 4. IF CONTRACTOR PERFORMS MORK IMHICH HE KNOWS OR SHOULD KNOW IS CONTRARY TO APPLICABLE CODE REQUIREMENTS, WITHOUT THE AGREEMENT OF OWNER, CONTRACTOR SHALL BE RESPONSIBLE FOR SUCH WORK AND SHALL BEAR THE RESULTANT LOSSES, INCLUDING, MITHOUT LIMITATION, THE COSTS OF CORRECTING DEFECTIVE WORK.
- 5. CONTRACTOR SHALL PROVIDE CERTIFICATES OF INSURANCE ACCEPTABLE TO OWNER PRIOR TO COMMENCEMENT OF WORK.
- CONTRACTOR SHALL TAKE FIELD MEASUREMENTS, VERIFY FIELD CONDITIONS, AND CAREFULLY COMPARE WITH THE CONSTRUCTION DOCUMENTS SUCH FIELD MEASUREMENTS, CONDITIONS, AND OTHER INFORMATION KNOWN TO CONTRACTOR BEFORE COMMENCING THE WORK, ERRORS, INCONSISTENCIES, OR OMISSIONS DISCOVERED AT ANY TIME SHALL BE PROMPTLY REPORTED IN WRITING TO THE OWNER.
- 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 WORK WILL BE OF GOOD QUALITY AND FREE FROM FAULTS AND DEFECTS.
- 8. SUB-CONTRACTORS SHALL INSURE THAT ALL MORK IS DONE IN A PROFESSIONAL WORKMANLIKE WANNER BY SKILLED MECHANICS AND SHALL REPLACE ANY MATERIALS OR ITEMS DAMAGED BY SUB-CONTRACTOR'S PERFORMANCE. SUB-CONTRACTOR'S AND SUPPLIERS AND HEREBY NOTHERD THAT THEY ARE TO CONFER AND COOPERATE FULLY WITH EACH OTHER DIRING THE COURSE OF CONSTRUCTION TO DETERMINE THE EXACT EXTENT AND OVERLAP 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 WORKMANSHIP AT ANY TIME, AND CORRECTIONS NEEDED TO ENHANCE THE GUALITY OF BUILDING MILL BE DONE INMEDIATELY. EACH SUBCONTRACTOR, UNLESS SPECIFICALLY EXPMPTED BY THE TERMS OF HIS/HERS SUB-CONTRACT AGREEMENT, SHALL BE RESPONSIBLE FOR CLEANING UP AND REMOVING FROM THE JOB SITE ALL TRASH AND DEBRIS NOT LEFT BY OTHER SUB-CONTRACT AGREEMENT, SHALL BE RESPONSIBLE FOR CLEANING UP AND REMOVING FROM THE JOB SITE ALL TRASH AND DEBRIS NOT LEFT BY OTHER SUB-CONTRACT OF COMPLETES EACH PHASE OF HIS WORK THAT TRASH AND DEBRIS BE REMOVED FROM THE SITE.
- IO. APPROVAL BY THE BUILDING INSPECTOR DOES NOT MEAN APPROVAL OR ALLOWABLE FAILURE TO COMPLY WITH THE PLANS AND SPECIFICATIONS. ANY DESIGN PHICH FAILS TO BE CLEAR OR IS AMBIGUOUS MUST BE REFERRED TO THE ARCHITECT OR ENGINEER FOR INTERPRETATION OR CLARIFICATION.
- . 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.
- 2. ALL TRADE NAMES AND BRAND NAMES CONTAINED HEREIN ESTABLISH QUALITY STANDARDS. SUBSTITUTIONS ARE PERMITTED, WITH PRIOR APPROVAL BY THE OWNERS REPRESENTATIVE. THE CONTRACTOR SHALL SUBMIT FOR THE ARCHITECT'S AND BUILDER'S APPROVAL ALL MATERIALS OR EQUIPMENT WHICH IS CONSIDERED "OR EQUAL" TO THAT SPECIFIED.
- IB. 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 ISSUANCE OF THE FINAL CONSTRUCTION SET WHICH WILL CONTAIN NO "BID SET" DESIGNATIONS. CONSTRUCTION DOCUMENTS IDENTIFIED AS "BID SET" ARE NOT TO BE CONSTRUED AS BEING THE COMPLETED OF FINAL DRAWINGS AND THEY SHOULD NOT IN ANY WAY BE USED AS SUCH.
- ALL STANDARD NOTES CONTAINED HEREIN ARE TYPICAL UNLESS NOTED OTHERWISE.
- TYPICAL DETAILS AND SPECIFICATIONS ARE MINIMUM REQUIREMENTS TO BE USED WHEN CONDITIONS ARE NOT SHOWN OTHERWISE.
- 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 MECHANICAL DRAWINGS FOR PITS, TRENCHES, ROOF OPENINGS, DEPRESSIONS, ETC. MOST GLOVAL, ONLINE TOTAL PROMINERS.
- 18. 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, CISTERNS, 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.
- ALL FOOTINGS SHALL REST ON FIRM NATURAL SOIL OR APPROVED COMPACTED FILL. REFER TO GEOTECHNICAL REPORT.
- 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.
- FILL MATERIALS SHALL BE FREE FROM DEBRIS, VEGETABLE MATTER AND OTHER FOREIGN SUBSTANCES.

MET. REQUIREMENTS OF THE STRUCTURAL DRAWINGS THAT EXCEED THE REQUIREMENTS SHOWN HERE SHALL BE MET.

- 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 CONTSRUCTION, PLANS TO COMPLY WITH NECESSARY INSPECTIONS APPROVED BY THE BUILDING OFFICIAL.

  15. THE REQUIREMENTS IN THESE NOTES ARE THE MINIMUM THAT SHALL BE

# 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.
- 4. THE DEPOSITING OF CONCRETE SHALL COMPLY WITH THE PROVISIONS ACI 318, SECTION 5.10.
- 5. 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 318, SECTION 6.3, ARE PERMITTED TO BE EMPEDDED IN CONCRETE WITH APPROVAL OF THE REGISTERED DESIGN PROFESSIONAL.
- 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" H.J.D.) 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 BENEBODED MATERIALS AND ITEMS MUST BE SECURED AND APPROFISIATELY FASTENED IN THEIR PROPER LOCATIONS PRIOR TO THE PLACEMENT OF CONCRETE. SUB-CONTRACTOR SHALL VERIFY INSTALLATION OF HOLD-DOWNS, ANCHOR BOLTS, PA STRAPS, AND OTHER ANCHORAGE MATERIAL AND ITEMS PRIOR TO PLACEMENT OF CONCRETE.
- POST-TENSION SLABS, IF APPLICABLE
- A. POINT AND LINE LOADS FROM STRUCTURE ABOVE TO BE PROVIDED TO POST-TENSION ENGINEER PRIOR TO POST-TENSION DESIGN.
- 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/TMS 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
- 4. MORTAR FOR USE IN MASONRY CONSTRUCTION SHALL COMPLY WITH ASTM C 270. THE TYPE OF MORTAR SHALL BE IN ACCORDANCE WITH THE NC.-R AND SHALL MEET THE PROPORTION SPECIFICATIONS OR THE PROPERTY SPECIFICATIONS OF ASTM C 270
- GROUT SHALL CONSIST OF FIBER CEMENT MATERIAL AND AGGREGATE IN ACCORDANCE NITH ASTM C 476 AND THE PROPORTION SPECIFICATIONS PER THE N.C.-R
- AGGREGATES FOR MORTAR AND GROUT SHALL BE NATURAL SAND AND ROCK CONFORMING TO A.S.T.M. C-I44-04 (MASONRY MORTAR) AND C-404-07 (GROUT).
- 7. 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
- 9. 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 NITS, BUT SHALL NOT BE GREATER THAN THE LENGTH OF THE THREADS ON THE BOLTS
- 4. FASTENERS FOR PRESERVATIVE-TREATED AND FIRE-RETARDANT-TREATED WOOD SHALL BE OF HOT-DIPPED ZINC COATED GALVANIZED STEEL, STAINLEGS STEEL, SILICON BRONZE OR COPPER VERIPY ACCEPTABLE FASTENERS FER CHEMICALS USED IN PRESSURE PRESERVITIVELY TREATED WOOD M N.C.-R. FASTENINGS FOR MOOD FOUNDATIONS SHALL BE AS REQUIRED IN AF 8PA TECHNICAL REPORT NO. T.

# MOOD & 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 DWELLINGS AND ACCESSORY BUILDINGS SHALL COMPLY MITH TABLE R802.1.
- ALL LUMBER SHALL MEET THE STANDARDS OF QUALITY AS STATED IN THE N.C.-R
- LUMBER AND PLYWOOD REQUIRED TO BE PRESSURE PRESERVATIVELY TREATED IN ACCORDANCE WITH THE N.C.-R AND SHALL BEAR THE QUALITY MARK OF AN APPROVED INSPECTION AGENCY THAT MAINTAINS CONTINUINS SUPERVISION, TESTING AND INSPECTION OVER THE QUALITY OF THE PROPUCE AND THAT HAS BEEN APPROVED BY AN ACCREDITATION BODY THAT COMPLIES WITH THE REQUIREMENTS OF THE AMERICAN LUMBER STANDARD COMMITTEE TREATED WOOD PROSRAM.
- 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.
- GLUED LAMINATED TIMBERS SHALL BE MANUFACTURED AND IDENTIFIED AS REQUIRED IN AITC AIGO. I AND ASTM D 3737.

### PROTECTION AGAINST DECAY & TERMITE

- IN AREAS SUBJECT TO DECAY DAMAGE AS ESTABLISHED BY THE NC.-R THE FOLLOWING LOCATIONS SHALL REQUIRE THE USE OF NATURALLY DIRABLE WOOD OF WOOD THAT IS PRESERVATIVE TREATED IN ACCORDANCE WITH AVEA UI FOR THE SPECIES, PRODUCT, PRESERVATIVE AND END USE, PRESERVATIVES SHALL BE LISTED IN SECTION 4 OF AMPA UI
- I. WOOD JOISTS OR THE BOTTOM OF WOOD FLOOR WHEN CLOSER THAN 18 INCHES, OR WOOD GIRDERS WHEN CLOSER THAN 12 INCHES TO THE EXPOSED GROUND IN CRANL SPACES OR UNEXCAVATED AREAS LOCATED WITHIN THE PERIPHERY OF THE BUILDING FOUNDATION.
- 2. ALL EXTERIOR SILLS &PLATES THAT REST ON CONCRETE OR MASONRY 5. EXTERIOR FOUNDATION WALLS.
- SILLS AND SLEEPERS ON A CONCRETE OR MASONRY, UNLESS THE SLAB THAT IS IN DIRECT CONTACT WITH THE GROUND IS SEPARATE FROM THE GROUND BY AN APPROVED IMPERVIOUS MOISTURE BARRIER.
- THE ENDS OF WOOD GIRDERS ENTERING EXTERIOR MASONRY OR CONCRETE WALLS HAVING CLEARANCES OF LESS THAN 0.5 INCH ON TOPS, SIDES AND ENDS.
- MOOD 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 ROOFS THAT ARE EXPOSED TO THE WEATHER, SUCH AS CONCRETE OR MASONRY SLABS, UNLESS EPERARTED FROM SUCH FLOORS OR ROOFS BY ANIMPERVIOUS MOISTURE BARRIER.
- WOOD FURRING STRIPS OR OTHER WOOD FRAMING MEMBERS ATTACHED 2. DIRECTLY TO THE INTERIOR OF EXTERIOR MASONRY WALLS OR CONCRETE WALLS BELOW GRADE EXCEPT WHERE AN APPROVED YAPOR RETARDER IS APPLIED BETWEEN THE WALL AND THE FURRING 3. STRIPS OR FRAMING MEMBERS.
- ALL PORTIONS OF A PORCH, SCREEN PORCH OR DECK FROM THE BOTTOM OF THE HEADER DOWN, INCLUDING POSTS, GUARDRAILS, PICKETS, STEPS AND FLOOR STRUCTURE, COVERINGS THAT MOULD PREVENT MOISTURE OR WATER ACCUMILATION ON THE SURFACE OR AT JOINTS BETWEEN IMPUBERS 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

# MOOD \$ FRAMING (continued)

## SHEATHING

- WOOD STRUCTURAL PANELS SHALL CONFORM TO THE REQUIREMENTS AS SET FORTH IN THE N.C.-R
- 2. ROOF SHEATHING PANELS SHALL BE LAID WITH FACE GRAIN OR STRENGTH AXIS PERPENDICULAR TO SUPPORTS AND WITH PANEL CONTINUOUS OVER TWO OR MORE SPANS.
- . 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.
- 5. 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 STRENSTH, GRADE, AND THICKNESS FOR PLYMOOD 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 1/2 INCH THICKNESS.
- ). WHERE APPLICABLE, REFER TO THE SHEAR WALL SCHEDULE FOR REQUIRED STRENGTH, GRADE, AND THICKNESS OF PLYWOOD SHEAR PANELS AND FOR REQUIRED SHEAR WALL NO LINE SCHEDULE.
- I. IN ONE- AND TWO-FAMILY DWELLING CONSTRUCTION USING HARD BOARD OR ALUMINUM 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, 23/92 INCH WOOD SHEATHING OR 5/8 INCH SYPSUM BOARD, VENTING REQUIREMENTS APPLY TO BOTH SOFFIT AND UNDERLAYMENT AND SHALL BE PER SECTION ROOF OF THE NORTH CAROLINA RESIDENTIAL CODE. WHERE THE PROPERTY LINE IS 10 FEET OR MORE FROM THE BUILDING FACE, THE PROVISIONS OF THIS CODE 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.

## ROOF 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 DRAWINGS FOR APPROVAL OF DESIGN LOADS, CONFIGURATION (2 OR 3 POINT BEARING), VOLUME CELLING OPTIONS, AND SHEAR TRANSFER, PRIOR TO FABRICATION.
- 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 (E.S. HYAC EQUIPMENT, WATER HEATER) THAT EXCEEDS THE DESIGN LOAD FOR THE TRUSSES SHALL NOT BE PERMITTED MITHOUT WRITTEN VERFICATION 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.
- MANUFACTURER IS TO SECURE BUILDING DEPARTMENT APPROVAL OF CALCULATIONS AND SHOP DRAWINGS PRIOR TO FABRICATION.

# MALL FRAMING

- I. THE SIZE, HEIGHT, AND SPACING OF STUDS SHALL BE IN ACCORDANCE
- STUDS SHALL BE PLACED WITH THEIR WIDE DIMENSION PERPENDICULAR TO THE WALL.
- 3. NOT LESS THAN THREE STUDS SHALL BE INSTALLED AT EACH CORNER OF AN EXTERIOR WALL.
- WOOD STUD WALLS SHALL BE CAPPED WITH A DOUBLE TOP PLATE INSTALLED TO PROVIDE OVERLAPPING AT CORNERS AND INTERSECTIONS WITH BEARING PARTITIONS, END JOINTS IN TOP PLATES SHALL BE OFFSET AT LEAST 24 INCHES. JOINTS IN TOP DEATES SHALL BE STUDS, PLATES SHALL BE NOT OCCUR OVER STUDS, PLATES SHALL BE NOT LESS THAN 2-INCHES NOMINAL THICKNESS AND HAVE A WIDTH AT LEAST EQUAL TO THE WIDTH OF THE STUDS. SEE
- . 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.
- 7. INTERIOR NONBEARING WALLS SHALL BE PERMITTED TO BE CONSTRUCTED MITH 2-INCH-BY-3-INCH STUDS SPACED 24 INCHES ON CENTER OR, WHEN NOT A PART OF A BRACED MALL LINE, 2-INCH-BY-4-STUDD SPACED 16 INCHES ON CENTER. INTERIOR NONBEARING WALLS SHALL BE CAPPED WITH AT LEAST A SINGLE TOP PLATE. INTERIOR NONBEARING WALSHALL BE FIREBLOCKED IN ACCORDANCE WITH THE N.C.-R.

# MOOD & FRAMING (continued)

- 8. DRILLING AND NOTHCING OF STUDS SHALL BE IN ACCORDANCE WITH THE
- I. NOTHCINS, ANY STUD IN AN EXTERIOR MALL OR BEARING PARTITION MAY BE OUT OR NOTCHED TO A DEPTH NOT EXCEEDING 25 PERCENT OF ITS WIDTH, STUDS IN NONBEARING PARTITIONS MAY BE NOTCHED TO A SINGLE STUD WIDTH, STUD HEAD OF THE STUD WIDTH, NOT HEAD ON THE STUD WIDTH, NOT OF EXCEED ONE-FOURTH THE HEIGHT OF THE STUD. NOTCHING SHALL NOT OCCUR IN THE BOTTOM OR TOP 6 INCHES OF BEARING STUDS.
- 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 NIDTH, THE EDGE OF THE HOLE IS NO MORE THAN 50'S INCH TO THE EDGE OF THE STUD, AND THE HOLE SHALL NOT BE CLOSER THAN 6 INCHES FROM AN ADJACENT HOLE OR NOTCH. HOLES NOT EXCEEDING 9/4 INCH DIAMETER CAN BE AS CLOSE AS I I/2 INCHES ON CENTRE SPACING, STUDG 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 STUDG BORED.
- B. CUTTING AND NOTCHING OF STUDS SHALL BE PERMITTED TO BE INCREASED TO 65 PERCENT OF THE WIDTH OF THE STUD IN EXTERIOR AND INTERIOR WALLS AND BEARING PARTITIONS, PROVIDED THAT ONE OF THE FOLLONING CONDITIONS ARE MET:

  (a) THE WALL SECTION IS REINFORCED WITH 1/2-1NCH EXTERIOR GRADE PLYWOOD OR EQUIVALENT REINFORCEMENT ON THE NOTCHED SIDE OF THE WALL. PLYWOOD, IF USED, SHALL REACH FROM THE FLOOR TO CEILING AND AT LEAST ONE STUD FIRTHER ON EACH SIDE OF THE SECTION THAT HAS BEEN NOTCHED OR CUT.

  (b) THE SECTION THAT HAS BEEN NOTCHED OR CUT.

  (c) THE EXTERIOR WALLS OF A KITCHEN MAY BE REINFORCED BY PLACING 1/2-1NCH PLYWOOD OR EQUIVALENT REINFORCEMENT ON THE NOTCHED SIDE OF THE WALL. PLYWOOD, IT USED, SHALL REACH FROM THE FLOOR TO COUNTERTOP HEIGHT AND AT LEAST ONE STUD FIRTHER ON EACH SIDE OF THE SECTION THAT HAS BEEN NOTCHED OR CUT.
- I. WHEN PIPING OR DUCTHORK IS PLACED IN OR PARTIALY IN AN EXTERIOR OR INTERIOR LOAD-BEARING WALL, NECESSITATION CUTTING, DRILLING OR NOTCHING OF THE TOP PLATE B MORE THAN 50 PERCENT OF ITS WIDTH A GALYANIZED METAL TIE OF NOT LESS THAN 0.054 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 MINIMM LENGTH OF I 1/2 INCHES (83 MIN) AT EACH SIDE OR EQUIVALENT. THE METAL TIE MUST EXTEND A MINIMM 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
- 13. FOUNDATION CRIPPLE WALLS SHALL MEET THE REQUIREMENTS OF THE
- 14. WOOD STUD WALLS SHALL BE BRACED AS REQUIRED BY THE N.C.-R
- IS. WILESS COVERED BY INTERIOR OR EXTERIOR WALL COVERINGS OR SHEATHING MEETING THE MINIMAM REQUIREMENTS OF THIS CODE, ALL STUD PARTITIONS OR NALLS WITH STUDS HAVING A HEIGHT-TO-LEAST THICKNESS RATIO EXCEEDING SO SHALL HAVE BRIDGHING NOT LESS THAN 2 INCHES IN THICKNESS AND OF THE SAME WIDTH AS THE STUDS FITTED SNUGLY 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
- 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 23/32-INCH WOOD STRUCTURAL PARIELS WITH JOINTS
  BACKED BY 23/32-INCH WOOD STRUCTURAL PARIELS OR ONE THICKNESS
  OF 3/4-INCH PARTICLEBOARD WITH JOINTS BACKED BY 3/4-INCH
  PARTICLEBOARD, I/2-INCH GYPSOM BOARD, OR I/4-INCH CEMENT-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 FERMITTED FOR COMPLIANCE WITH THE 10 FOOT HORIZONTAL FIREBLOCKING IN WALLS CONSTRUCTED USING PARALLEL ROVE OF STUDS OR STAGGERED STUDS. LOOSE FILL INSULATION MATERIAL SHALL NOT BE USED AS A FIREBLOCK WILESS 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.
- . WHEN THERE IS USABLE SPACE BOTH ABOVE AND BELOW THE CONCEALED SPACE OF A FLOOR/CEILING ASSEMBLY, DRAFTSTOPS 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, WHERE THE ASSEMBLY IS ENCLOSED BY A FLOOR MEMBRANE ABOVE AND A CEILING MEMBRANE BELOW, DRAFTSTOPPING SHALL BE PROVIDED IN FLOOR/CEILING ASSEMBLIES INDER THE FOLLOWING CIRCUMSTANCES:
- CEILING IS SUSPENDED UNDER THE FLOOR FRAMING.
   FLOOR FRAMING IS CONSTRUCTED OF TRUSS-TYPE OPEN-WEB OR PERFORATED MEMBERS.

# HANDRAIL AND GUARDRAIL

- 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

4506 S. MIAMI BLVD.

SUITE 180

DURHAM, NC 27703

TEL: (919) 768-7980

FAX: (919) 544-2928

2018 NORTH
CAROLINA STATE
BUILDING
CODES

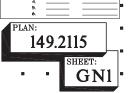
# . . . . . .

- ISSUE DATE: 08/09/18
  PROJECT No.: 1350999:57
  DIVISION MGR.: D.S.
- REVISIONS: 08/20/20

  COMPLIANCE REVISIONS
  NCISCISINCEY 05/16/19 / FAR
- DIVISION REVISIONS
  NCI9046NCP/ 08/16/19 / FAB
- DIVISION REVISIONS
  NC19057NCP/ 09/26/19 / FAB

  ADD VAULTED CEILING
  NC19057NCP/ 12/23/19 / KBA
- VENTILATION
  NC2008NCP/ 01/17/20 /KBA





spec level 1
RALEIGH-DURHAM
50' SERIES

# THERMAL & MOISTURE PROTECTION

- PROVIDE ALL FLASHING, COUNTER-FLASHING, BITUTHENE, MEMBRANE WATERPROOFING, SHEET METAL, CAULKING, SEALANTS, ELASTOMERIC WALKING SURFACES, AND RAIN GUITERS AND/OR DIVERTERS WHERE REQUIRED, TO MAKE WORK COMPLETELY WATERPROOF.
- "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.
- 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 MANUFACTURERS SPECIFICATIONS AT DECKS AND BALCONIES. COLOR, FINSH, 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 OF THE DECK OR BALCONY.
- FOUNDATION WALLS WHERE THE OUTSIDE GRADE IS HIGHER THAN THE INSIDE GRADE SHALL BE WATER-PROOFED ALL DAMPPROOFED IN ACCORDANCE WITH THE N.C.-R.
- PARAPET WALLS SHALL BE PROPERLY COPED WITH NONCOMBUSTIBLE. PACATHERPROOF MATERIALS OF A WIDTH NO LESS THAN THE THICKNESS OF THE PARAPET WALL. PARAPET COPING SHALL EXTEND 2" MINIMUM DOWN THE FACES OF THE PARAPET

## FLASHING

- APPROVED CORROSION-RESISTANT FLASHING SHALL BE APPLIED APPROVED CORROSION-RESISTANT FLASHING SHALL BE APPLIED SHINGLE-FASHION IN A MANIER TO PREVENT ENTRY OF MATER INTO THE MALL 12. CAVITY OR PENETRATION OF WATER TO THE BUILDING STRUCTURAL FRAMING COMPONENTS, SELF-ADHRED DEMORRANES USED AS FLASHING IN COMPLY WITH AAMA TII. FLUID-APPLIED MEMBRANES USED AS FLASHING IN 18. EXTERIOR WALLS SHALL COMPLY WITH AAMA TII. THE FLASHING SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL FINISH, ALLMINUM FLASHING SHALL ON THE SURFACE OF THE EXTERIOR WALL FINISH, ALLMINUM FLASHING SHALL BY THE USED TO CONTACT WITH FIBER CEMENT MATERIAL EXCEPT AT COUNTER FLASHING. APPROVED CORROSION-RESISTANT FLASHINGS SHALL BE ALLED AT ALL OF THE LOCATIONS STATED IN N.C.-R
- AT ALL WINDOW AND DOOR OPENINGS USE FORTIFIBER WATER-RESISTIVE BARRIERS, I.C.C. ESR-1027, INSTALLED PER MANUFACTURER'S SPECIFICATIONS, OR APPROVED EQUAL.
- ALL BEAMS, OUTLOOKERS, CORBELS, ETC. PROJECTED THROUGH EXTERIOR WALLS OR PENETRATING EXTERIOR FINISHES SHALL BE FLASHED WITH A MINIMUM O.O.I9-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 (SMACNA), THE ARCHITECTURAL SHEET METAL ANNAL, AND SEALANT, WATERPROOFING AND RESTORATION INSTITUTE'S (SWR.I.) GUIDE -SEALANT'S: THE PROFESSIONAL'S GUIDE".
- SHEET METAL SHALL BE STEEL SHEET, HOT-DIPPED, TIGHT COATED SALE HIGHAL DE PALLE SELE SALE IN TO PUPITION HOR CONTENT AND GALVANIZED, CONFORMING TO A.S.T.M. A525 AND SHALL BE A NUMBER 24 SHEET METAL GAGE UNLESS OTHERWISE NOTED IN THESE NOTES, PLANS, OR MANUFACTURER'S SPECIFICATIONS.
- SHEET ALUMINUM SHALL CONFORM WITH FEDERAL SPECIFICATIONS QQ-A-359 AND A.S.T.M. B209 ALLOY 3003.
- 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, MEATHER 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 MANUFACTURER'S INSTALLATION INSTRUCTIONS. BASE FLASHING SHALL BE OF EITHER CORROSION-RESISTANT METAL OF MINIMM MOMINAL, O/014-INCH THICKNESS OR MINERAL SURFACE ROLL ROOFING MEIGHING A MINIMM OF 77 FOUNDS PER IOO SOURABLE FEET. CAP FLASHING SHALL BE CORROSION-RESISTANT METAL OF MINIMM NOMINAL O/014-INCH THICKNESS
- VALLEY LININGS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS BEFORE APPLYING SHINGLES, VALLEY LININGS OF THE FOLLOWING TYPES SHALL BE PERMITTED AS STATED PER THE N.C.-R
- A CRICKET OR SADDLE SHALL BE INSTALLED ON THE RIDGE SIDE OF ANY CHIMMEY OR PENETRATION 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. VIDE FLASHING AT THE INTERSECTION OF CRICKET OR SADDLE AND
- FLASHING AGAINST A VERTICAL SIDEMALL SHALL BE BY THE STEP-FLASHING METHOD PER NC-R.
- FLASHING AGAINST A VERTICAL FRONT WALL, AS WELL AS SOIL STACK ASPHALT SHINGLE MANUFACTURER'S PRINTED INSTRUCTIONS
- AT THE JUNCTURE OF ROOF VERTICAL SURFACES, FLASHING AND COUNTERFLASHING SHALL BE PROVIDED IN ACCORDANCE WITH THE N.C.-R. AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND NHERE OF METAL, SHALL NOT BE LESS THAN O.O.I. INCH (NO. 26 GALVANIZED
- 16. VALLEY FLASHING FOR CONCRETE TILE 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.C.-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. QUALITY, AND LIMITATIONS OF APPLICATION OF THE MATERIALS.

# THERMAL & MOISTURE PROTECTION (continued)

- ROOF COVERING MATERIALS SHALL BE DELIVERED IN PACKAGES BEARING THE MANUFACTURER'S IDENTIFYING MARKS AND APPROVED TESTING AGENCY 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 REQUIREMED OF THE N.C.-R
- UNDERLAYMENT FOR ASPHALT SHINGLES SHALL CONFORM TO ASTM D 226 TYPE I, ASTM D 4664, TYPE I, OR ASTM D 675. SELF-ADHERING POLYMER MODIFIED BITUMEN SHEET SHALL COMPLY WITH ASTM D 1970
- ASPHALT SHINGLES SHALL COMPLY WITH ASTM D 225 OR ASTM D 3462.
- FASTENERS FOR ASPHALT SHINGLES SHALL BE GALVANIZED STEEL, STAINLESS SITEL, ALIMINUM, OR COPPER ROOFING NAILS, MINIMUM 12 GAGE SHANK WITH A MINIMUM 3/6 INCH DIAMETER HEAD, ASTM F 1667, OF A LENSTH TO PENETRATE THROUGH THE ROOFING MATERIALS AND A MINIMUM OF 3/4 INCH INTO THE ROOF SHEATHING. MHERE THE ROOF SHEATHING. IS LESS THAN 3/4 INCH THICK, THE FASTENERS SHALL PENETRATE THROUGH THE SHEATHING. FASTENERS SHALL COMPLY WITH ASTM F 1667.
- 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 INDIVIDUAL SHINGLE PER N.C.-R.
- UNDERLAYMENT FOR ASPHALT SHINGLES SHALL BE APPLIED IN ACCOR-DANCE 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 ASTM C 1167.

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 I2 UNITS HORIZONTAL (2-1/2:12)
  OR GREATER. FOR ROOF SLOPES FROM 2 1/2 UNITS VERTICAL
  IN 12 UNITS HORIZONTAL (2-1/2:12) TO FOUR UNITS VERTICAL
  IN 12 UNITS HORIZONTAL (4-1/2), DOUBLE UNDERLAYMENT APPLICATION IS REQUIRED IN ACCORDANCE WITH THE N.C.-R.
- UNDERLAYMENT FOR CLAY AND CONCRETE TILE SHALL CONFORM WITH ASTM D 226, TYPE II; ASTM D 2626 TYPE I; OR ASTM D 6380 CLASS M MINERAL SURFACED ROLL ROOFING.
- 15. CONCRETE ROOF TILE SHALL COMPLY WITH ASTM C 1492.
- NAILS SHALL BE CORROSION-RESISTANT AND NOT LESS THAN II GAGE, NAILD SHALL BE CORNOSION-RESISTANT ARLY NOT LESS THAN II GASE, 516-INCH HEAD, AND OF SUFFICIENT LENGTH TO FENETRATE THE DECK A MINIMUM OF 34-INCH OR THROUGH THE THICKNESS OF THE DECK, WHICHEVER IS LESS. ATTACHING WIRE FOR CLAY OR CONCRETE TILE SHALL NOT BE SMALLER THAN O OB3-INCH. PERIMETER FASTENING AREAS INCLUDE THREE TILE COURSES BUT NOT LESS THAN 36 INCHES FROM EITHER SIDE OF PHIPS OR RIDGES AND EDGES OF EAVES AND SABLE RAKES.
- 17. 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, UNDERLAYMENT SYSTEM, AND TYPE OF TILE BEING INSTALLED PER THE N.C.-R
- 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 12 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
  12 UNITS HORIZONTAL (1-PERCENT SLOPE).
- 21. BUILT-UP ROOF COVERING MATERIALS SHALL COMPLY WITH THE STANDARDS PER THE N.C.-R

- 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 INCLIDE FLASHING, THE EXTERIOR WALL ENVELOPE SHA BIC DESIGNED AND CONSTRUCTED IN A MANNER THAT PREVENTS THE ACCUMILATION OF WATER WITHIN THE WALL ASSEMBLY BY PROVIDING A WATER-RESISTANT BARRIER BEHIND THE EXTERIOR VENEER AS REQUIRED AND A MEANS OF DRAINING WATER THAT ENTERS THE ASSEMBLY TO THE EXTERIOR. PROTECTION ASAINST CONDENSATION IN THE EXTERIOR WALL ASSEMBLY SHALL BE PROVIDED.
- ONE LAYER OF NO. 15 ASPHALT FELT, FREE FROM HOLES AND BREAKS, COMPLYING WITH ASTM D 226 FOR TYPE I FELT OR OTHER APPROVED WATER-RESISTIVE BARRIER SHALL BE APPLIED OVER STUDS OR SHEATHING OF ALL EXTERIOR WALLS, SUCH FELT OR MATERIAL SHALL BE APPLIED HORIZONTALLY, MITH THE UPPER LAYER LAPPED OVER THE LOWER LAYER NOT LESS THAN 2 INCHES, MHERE JOINTS OCCUR, FELT SHALL BE LAPPED NOT LESS THAN 6 INCHES, THE FELT OR OTHER APPROVED MATERIAL SHALLS END TERMINATED AT PENETRATIONS AND BUILDING APPENDAGES IN A MANNER TO MEET THE REQUIREMENTS OF THE EXTERIOR WALLE NOVELOPE.
- FIBER CEMENT SIDING CONFORMING TO THE REQUIREMENTS OF THE N.C.-R AND FIBER CEMENT SIDING CONFORMING TO THE REQUIREMENTS OF THE N.C.-R. AND COMPLYING WITH ASTM D SATE 914ALL BE PERMITTED ON EXTERIOR WALLS OF BUILDINGS OF TYPE V CONSTRUCTION LOCATED IN AREAS WHERE THE ULTIMATE WIND SPEED SPECIFIED DOES NOT EXCEED ICO MILES PER HOUR AND THE BUILDINGS HEIGHT IS LESS THAN 40 FIET IN EXPOSURE C. MHERE CONSTRUCTION IS LOCATED IN AREAS WHERE THE ULTIMATE WIND SPEED EXCEEDS SO MILES PER HOUR OR BUILDING HEIGHTS ARE IN EXCESS OF 40 FT. DATA INDICATING COMPLIANCE MIST BE SUBMITTED. FIBER CEMENT SIDIN SHALL BE SECURED TO BUILDING HE OF PROVIDE WEATHER PROTECTION FOR THE EXTERIOR WALLS OF THE BUILDING.
- THE N.C.-R FIBER CEMENT SIDING SHALL BE APPLIED TO CONFORM WITH THE WEATHER-RESISTIVE BARRIER REQUIREMENTS FIBER CEMENT SIDING AND ACCESSORIES SHALL BE INSTALLED IN ACCORDANCE WITH APPROVED
- FIBER CEMENT SIDING FASTENERS AND ACCESSORIES SHALL MEET THE REQUIREMENTS OF THE N.C.-B
- EXTERIOR WALLS OF WOOD CONSTRUCTION SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE N.C.-R

# THERMAL & MOISTURE PROTECTION (continued)

- HARDBOARD SIDING SHALL CONFORM TO THE REQUIREMENTS OF AHA A1856 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 BE NOT LESS THAN I-INCH NOMINAL THICKNESS, O.438-INCH EXTERIOR HARDBOARD SIDING OR O.375-INCH EXTERIOR-TYPE WOOD STRUCTURAL PANELS OR PARTICLE-BOARD AND SHALL CONFORM TO THE REQUIREMENTS OF THE N.C.-R
- FIBER-CEMENT LAP SIDING HAVING A MAXIMUM WIDTH OF 12 INCHES SHALL COMPLY WITH THE REQUIREMENTS OF ASTM CIID6, TYPE A, MINIMUM GRADE III. LAP SIDING SHALL BE LAPPED A MINIMUM OF III/4 INCHES (32 MM) AND LAP SIDING NOT HAVING TONGUE-AND-EROOVE END JOINTS SHALL HAVE THE ENDS SEALED WITH CAULKING, INSTALLED WITH AN H-SECTION JOINT COVER, LOCATED OVER A STRIP OF FLASHING OR SHALL BE DESIGNED TO COMPLY WITH INC-R. LAP SIDING COURSES MAY BE INSTALLED WITH THE FASTENER HEADS EXPOSED OR CONCEALED, ACCORDING TO NC-R OR APPROVED MANUFACTURERS' INSTALLATION INSTRUCTIONS.

## INSULATION

- INSULATING MATERIALS, INCLUDING FACINGS, SUCH AS VAPOR RETARDERS OR VAPER-PERVIEABLE MEDRANES, INSTALLED WITHIN FLOOR-CEILING ASSEMBLIES, ROOF-CEILING ASSEMBLIES, RALL-ASSEMBLIES, CRANL SPACES AND ATTICS SHALL HAVE A FLAME-SPREAD INDEX NOT TO EXCEED 25 WITH AN ACCOMPANYING SMOKEDEVELOPED INDEX NOT TO EXCEED 450 WHEN YESTER WING SMOKED INDEX NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE
- DUCT INSULATION MATERIALS SHALL CONFORM TO THE FOLLOWING
- INSULATION AND COYERING 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 17. CENTIMETER PER N.C.-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 INSULATIN MATERIAL SHALL BE CLEARLY LABELED IN ACCORDANCE WITH CPSC 16 CFR, PARTS 1209 AND 1404.
- INSULATION IN FLOOR-CEILING ASSEMBLIES, ROOF-CEILING ASSEMBLIES, WALLS, CRAWL SPACES OR ATTICS SHALL BE EITHER OF THE BLONN-IN CELLULOSE TYPE OR FIBERGLASS BATTS OR BLANKET TYPE PER BUILDER'S SPECIFICATIONS.
- THE ENERGY EFFICIENCY REQUIREMENTS INCLUDING I.E.C.C. BUT NOT LIMITED TO INSULATION "R" VALUES, PERCENTAGE OF GLAZING "U" VALUES, ETC. SHALL BE DETERMINED BY THE ADPTED STATE AND LOCAL ENERGY CODE EQUIREMENTS, REFER TO MECHANICAL PLANS FOR SPECIFICATIONS.
- THE BUILDING THERMAL ENVELOPE SHALL BE DURABLY SEALED WITH AN AIR BARRIER SYSTEM TO LIMIT INFLITRATION. THE SEALING METHODS BETWEEN DISSIMILAR MATERIALS SHALL ALLOW FOR DIFFERENTIAL EXPANSION AND CONTRACTION. FOR ALL HOMES, INHERE PRESENT, THE FOLLOWING SHALL BE CAULKED, GASKETED, WEATHERSTRIPPED OR OTHERWISE SEALED WITH AN AIR BARRIER MATERIAL OR SOLID MATERIAL CONSISTENT WITH APPENDIX E-2.3 AND E-2.4 OF THE NC-R; INSURED AND UNDER KNEE WALLS OPEN TO UNCONDITIONED OR EXTERIOR SPACE. 2. CAPPING AND SEALING SHAFTS OR CHASES, INCLUDING FLUE 31. CAPPING AND SEALING SOFFIT OR DROPPED CEILING AREAS
- FRAMED CAVITY WALLS, THE EXTERIOR THERMAL ENVELOPE WALL INSULATION SHALL BE INSTALLED IN SUBSTANTIAL CONTACT AND CONTINUOUS ALIGNMENT MITH THE BUILDING ENVELOPE AIR BARRIER, INSULATION SHALL BE SUBSTANTIALLY FREE FROM INSTALLATION GAPS, VOIDS, OR COMPRESSION, FOR FRAMED WALLS, THE CAVITY INSULATION SHALL BE ENCLOSED ON ALL SIDES WITH A RIGID MATERIAL OR AN AIR BARRIER MATERIAL, WALL INSULATION SHALL BE ENCLOSED AT THE FOLLOWING LOCATIONS WHEN INSULATION SHALL BE ENCLOSED AT THE FOLLOWING LOCATIONS WHEN NSTALLED ON EXTERIOR WALLS PRIOR TO BEING COVERED BY SUBSEQUENT CONSTRUCTION, CONSISTENT WITH APPENDIX E-2.3 AND E-2.4 OF NC-R:
- I. TUBS
  2. SHOWERS
  3. STAIRS
  4. FIREPLACE UNITS
  ENCLOSURE 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.

# DOORS & WINDOWS

- SEE FLOOR 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.
- OPENINGS FROM A PRIVATE GARAGE DIRECTLY INTO A ROOM USED FOR SLEEPING PURPOSES SHALL NOT BE PERMITTED. OTHER OPENINGS DETIVED HE GARAGE AND RESIDENCE SHALL EQUIPPED WITH SOLID MOOD DOORS NOT LESS THAN I 3/8 INCHES IN THICKNESS, SOLID OR HONEYCOMB CORE STEEL DOORS NOT LESS THAN I 3/9 INCHES THICK, OR 20-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 MOOD FRENCH DOORS SHALL BE USED IN ANY CASE.
- PROVIDE SECURITY HARDWARE FOR ALL DOORS AND WINDOWS IANCE WITH ALL STATE AND LOCAL CODE REQUIREMENTS.
- 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 PRECAUTION TO PREVENT THE DOOR FROM CLOSING WHEN SOMETHING IS BLOCKING THE PATH OF THE DOOR. SEE MANUFACTURER'S
- ALL MANUFACTURED WINDOWS AND SLIDING GLASS DOORS SHALL MEET THE AIR INFILTRATION STANDARDS OF THE CURRENT AMERICAN
  FIBER CEMENT SIDING SHALL BE APPLIED OVER SHEATHING OR MATERIALS LISTED INATIONAL STANDARDS INSTITUTE A.S.T.M. E288-73 WITH A PRESSURE DIFFERENTIAL OF 1.57 POUNDS PER SQUARE FOOT AND SHALL BE CERTIFIED AND LABELED
  - 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 SHALL HAVE A SILL HEIGHT OF NOT MORE THAN 44 INCHES ABOVE
  - EMERGENCY ESCAPE AND RESCUE OPENINGS WITH A FINISHED SILL HEIGHT BELOW THE ADJACENT GROUND ELEVATION SHALL BE PROVIDED WITH A MINDOM WELL

# DOORS & WINDOWS (continued)

- ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF NOT LESS THAN 5 SQUARE FEET IN THE CASE OF ROUND FLOOR LEVEL WINDOW AND NOT LESS THAN 5.7 SQUARE FEET IN THE CASE OF AN UPPER STORY WINDOW.
- L EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM I CLEAR OPENING HEIGHT OF 24 INCHES.
- ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING WIDTH OF  $20\,$  INCHES.
- EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM THE INSIDE OF THE ROOM WITHOUT THE USE OF KEYS, TOOLS OF SPECIAL KNOWLEDGE.
- THE MINIMUM 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 MINDOW WELL SHALL ALLOW ENERGENCY ESCAPE AND RESCUE OPENING TO BE FULLY 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 WELL.
- MINDOW WELLS WITH A VERTICAL DEPTH GREATER THAN 44 INCHES SHALL BE EQUIPPED WITH A PERMANENTLY AFFIXED LADDER OR STEPS USABLE WITH THE WINDOW IN THE FULLY OPEN POSITION.
- BARS GRILLES COVERS SCREENS OR SIMILAR DEVICES ARE PERMITTED TO BARS, GRILLES, COVERS, SCREENS OR SIMILAR DEVICES ARE PERMITTED TO BE PLACED OVER EMERGENCY ESCAPE AND RESCUE OPENINGS, BULKHEAD ENCLOSURES, OR NINDOM WELLS THAT SERVE SUCH OPENINGS, PROVIDED THE MINIMAN NET CLEAR OPENING SIZE COMPLIES WITH THE NC.-R AND SUCH DEVICES SHALL BE RELEASABLE OR REMOVABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, TOOL, SPECIAL KNOWLEDGE OR FORCE GREATER 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 ESPE 19 TO BE MADE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT.

### 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 WINDOWS, SKYLIGHTS, DOORS, LOUVERS OR OTHER APPROVED OPENINGS TO THE OUTDOOR AIR, SUCH OPENINGS SHALL 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 CLOSET COMPARTMENTS AND OTHER SIMILAR ROOMS SHALL BE PROVIDED WITH AGGREGATE GLAZING AREAS IN WINDONS OF NOT LESS THAN 3 SQUARE FEET, ONE-HALF OF WHICH MUST BE OPENABLE.
- EXCEPT AS INDICATED, EACH PANE OF GLAZING INSTALLED IN HAZARDOUS LOCATIONS 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, CERAWIC-FIRED, LASER ETCHED, EMBOSSED, OR BE OF A TYPE WHICH ONCE APPLIED CANNOT BE REMOVED WITHOUT BEING DESTROYED.
- 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,
- SUDING AND BIFOLD DOORS

  SLIDING AND BIFOLD DOORS

  SLAXING IN AN INDIVIDUAL PIXED 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 MALKING
- 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 18 INCHES ABOVE THE FLOOR
- 3.3 TOP EDGE MORE THAN 36 INCHES ABOVE THE FLOOR
- 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 MALKING SURFACE.
- GLAZING IN DOORS AND ENCLOSURES FOR HOT TUBS, WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHTUBS AND SHOWERS, 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.
- GLAZING IN WALLS AND FENCES ENCLOSING INDOOR AND OUTDOOR SWIMMING POOLS, HOT TUBS AND SPAS WHERE THE BOTTOM EDGE OF THE GLAZING IS LEGS THAN 60 INCHES ABOVE A WALKING SWIFFACE AND WITHIN 60 INCHES HORIZONTALLY OF THE WATER'S EDGE. THIS LL APPLY TO SINGLE GLAZING AND ALL PANES IN MULTIPLE
- GLAZING ADJACENT TO STAIRWAYS, LANDINGS AND RAMPS WITHIN 36 INCHES HORIZONTALLY OF A WALKING SURFACE WHEN THE EXPOSED SURFACE OF THE GLAZING IS LESS THAN 36 INCHES ABOVE THE PLANE OF 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 CONSERVATION CODE.
- LOCATED MORE THAN 72 INCHES (1829 MM) ABOVE THE FINISHED GRADE OR SURFACE BELOW, THE LOWEST PART OF THE CLEAR OPENING OF THE NINDOM 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 (IO2 MM) DIAMETER SPHERE WHERE SUCH OPENINGS ARE LOCATED WITHIN 24 INCHES (610 MM) OF THE FINISHED FLOOR

IN DWELLING UNITS, WHERE THE OPENING OF AN OPERABLE WINDOW IS

# 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 REQUIREMENTS SHALL GOVERN.
- MATERIALS. ALL GYPSUM BOARD MATERIALS AND ACCESSORIES SHALL CONFORM TO A STM C 22, C 475, C 314, C 1002, C 1047, C 1176, C 1178, C 1179, C 1279, C 1346, OR C 1656 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THE NC.-R. ADMESIVES FOR THE INSTALLATION OF GYPSUM BOARD SHALL CONFORM TO ASTM C 557.
- GYPSUM BOARD MATERIALS SHALL CONFORM TO THE APPROPRIATE STANDARDS LISTED IN THE NC.-R WHERE REQUIRED FOR FIRE PROTECTION, CONFORM TO THE NC.-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 FRAMING MEMBERS, EXCEPT THOSE EDGES AND ENDS THAT ARE PERPENDICULAR TO THE FRAMING MEMBERS. EDGES AND ENDS OF GYPSUM BOARD SHALL BE IN MODERATE CONTACT EXCEPT IN CONCEALED SPACES WHERE FIRE-RESISTACE-RATED CONSTRUCTION, SHEAR RESISTANCE, OR FIRE-RESISTACE-RATED CONSTRUCTION.
- FASTENERS AT THE TOP AND BOTTOM PLATES OF VERTICAL ASSEMBLIES, FASTENERS AT THE TOP AND BOTTOM PLATES OF VERTICAL ASSEMBLLES, OR THE EDGES AND ENDS OF HORIZONTAL ASSEMBLLES PERPENDICULAR TO SUPPORTS, AND AT THE WALL LINE MAY BE OMITTED EXCEPT ON SHEAR-RESISTING ELEMENTS OR FIRE- RESISTIVE ASSEMBLIES. FASTENERS ALL 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 1175 OR C1275, USE OF WATER-RESISTANT GYPSUM BACKING BOARD SHALL BE PERMITTED ON CEILINGS WHERE FRAMING SPACING DOES NOT EXCEED 12 INCHES ON CENTER FOR 1/2-INCH-THICK OR 16 INCHES FOR 5/8-INCH-THICK GYPSUM BOARD WATER-RESISTANT GYPSUM BOARD SHALL NOT BE INSTALLED OVER A VAPOR RETARDER IN A SHOWER OR TUB COMPARTMENT, GUT OR EXPOSED EDGES, INCLUDING THOSE AT WALL INTERSECTIONS, SHALL BE SEALED AS RECOMMENDED BY THE MANUFACTURER.
- MATER RESISTANT GYPSUM BACKING BOARD SHALL NOT BE USED WHERE THERE WILL BE DIRECT EXPOSURE TO WATER, OR IN AREAS SUBJECT TO CONTINUOUS HIGH HUMIDITY.
- WHEN APPLYING A WATER-BASED TEXTURE MATERIAL. THE MINIMUM SYPSUM BOARD THICKNESS SHALL BE INCREASED FROM 3/6 INCH TO 1/2 INCH FOR I6-INCH ON CENTER FRAMING, AND FROM I/2 INCH TO 5/6 INCH FOR 24-INCH ON CENTER FRAMING OR I/2 INCH SAG-RESISTANT GYPSUM CEILING BOARD SHALL BE USED.

- 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 UNLESS SPECIFIED OF HERWISE, ALL WALL COVENINGS SHALL BE SECURELY FASTENED PER THE N.C.-R. OR NITH OTHER APPROVED ALUMINUM, STAINLESS STEEL, ZINC-COATED OR OTHER APPROVED CORROSION-RESISTIVE FASTENERS, WHERE THE BASIC MIND 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.019-INCH (NO. 26 GALVANIZED SHEET GAGE), CORROSION-RESISTANT MEEP SCREED OR PLASTIC MEEP SCREED, WITH A MINIMUM VERTICAL ATTACHMENT FLANGE OF 31/2 INCHES SHALL BE PROVIDED AT OR BELOM THE FOUNDATION PLATE LINE ON EXTERIOR STUD MALLS IN ACCORDANCE WITH ASTM C 426. THE NEEP 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 MEATHER-RESISTANT BARRIER SHALL LAP THE ATTACHMENT FLANGE. THE EXTERIOR LATH SHALL COVER AND TERMINATE ON THE ATTACHMENT FLANGE OF THE MEEP SCREED. A MINIMUM O.O.I9-INCH (NO. 26 GALVANIZED SHEET GAGE),

PLASTERING WITH PORTLAND 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 HIPEN APPLIED OVER MESONRY, CONCRETE PRESSURE-PRESERVATIVE TREATED WOOD OR DECAY-RESISTANT WOOD O STPSUM BACKING, IF THE PLASTER SURFACE IS COMPLETELY COVERED VENEER OR OTHER FACING MATERIAL OR IS COMPLETELY COVERALED, PLASTER APPLICATION NEED BE ONLY TWO COATS, PROVIDED THE TOTAL THICKNESS IS AS SET FORTH PER THE N.C.-R

ON MOOD-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 FIBER CEMENT MATERIALS SHALL BE

- 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. HYDRATED LIME OR THE EQUIVALENT AMOUNT OF LIME PUTTY USED AS A PLASTICIZER MAY BE ADDED TO CEMENT PLASTER. OR CEMENT AND LIME PLASTER IN AN AMOUNT NOT TO EXCEED THAT
- GYPSUM PLASTER SHALL NOT BE USED ON EXTERIOR SURFACES
- PLASTER COATS SHALL BE PROTECTED FROM FREEZING FOR A IOD 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 C), UNLESS PROVISIONS ARE MADE TO KEEP CEMENT PLASTER WORK ABOVE 40 DEGREES I (4 DEGREES C), PRIOR TO & DURING APPLICATION AND 48 HOURS
- 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-4776. "EXPO FIBREWALL" I.C.C. NO. ER-4368. OR APPROVED EQUAL MAY BE USED IN LIEU OF A 3-COAT EXTERIOR



HOME

. . . . . .

. . . . . .

. . . . . .

# **NORTH CAROLINA** 50' SERIES

KB HOME NORTH CAROLINA DIVISION

4506 S. MIAMI BLVD. SUITE 180 DURHAM, NC 27703 TEL: (919) 768-7980 . FAX: (919) 544-2928

# 2018 NORTH **CAROLINA STATE** BUILDING CODES

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

D.S.

REVISIONS: 08/20/20 COMPLIANCE REVISIONS NCI9031NCP/ 05/16/19 / FAE

DIVISION MGR.:

DIVISION REVISIONS
NCI9046NCP/ 08/16/19 / FAB

ADD VAULTED CEILING NCI9057NCP/ 12/23/19 / KBA

DIVISION REVISIONS
NC19057NCP/ 09/26/19 / FAE

WENTILATION NC2008NCP/ 01/17/20 /KBA

DIVISION REVISION NC20024NCP/ 05/18/20 /KBA HOME OFFICE CORP20003CORP/- 08/20/20 CTD ... FOR INTERNAL USE ONL'

149.2115 SHEET GN<sub>2</sub>

# MECHANICAL & PLUMBING

- ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN CONFORMANCE WITH THE NORTH CAROLINA RESIDENTIAL AND MECHANICAL CODE. INSTALLATIONS OF MECHANICAL APPLIANCES, EQUIPMENT AND SYSTEMS NOT ADDRESSED BY THIS CODE SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF THE NORTH CAROL RESIDENTIAL AND FUEL 6AS CODE.
- CONTRACTOR SHALL DESIGN ENTIRE H.V.A.C. SYSTEM AND SUBMIT DRAWINGS FOR OWNER/BUILDER'S APPROVAL PRIOR TO ORDERIN 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.
- WHERE THE PRIMARY HEATING SYSTEM IS A FORCED-AIR FURNACE, AT LEAST ONE THERMOSTAT PER DWELLING UNIT 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 TEMPORABLY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55 DEG. F (13 C) OR UP TO 85 DEG. F (29 C).
- 5. ALL DUCTWORK SHALL CONFORM TO THE REQUIREMENTS OF THE N.C.-R
- COMBUSTION AIR SHALL BE PROVIDED FOR FORCED AIR UNITS IN ACCORDANCE WITH N.C.-R
- 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 CONSTRUCTED OF A MINIMUM NO. 26 GAGE SHEET STEEL OR OTHER APPROVED MATERIAL AND SHALL HAVE NO OPENINGS INTO THE
- EXTERIOR-GRADE INSTALLATIONS. EQUIPMENT AND APPLIANCES INSTALLED ABOVE GRADE LEVEL SHALL BE SUPPORTED ON A SOLID BASE OR APPROVED MATERIAL A MINIMUM OF 2 INCHES THICK.
- IO. UNDER-FLOOR INSTALLATION, SUSPENDED EQUIPMENT SHALL BE A MINIMUM OF 6 INCHES ABOVE THE ADJOINING GRADE.
- CRAWL SPACE SUPPORTS. IN A CRAWL SPACE, A MINIMUM OF 2-INCH THICK SOLID BASE, 2-HOH (SI MM) THICK FORMED CONCRETE, OR STACKED MASONRY UNITS HELD IN PLACE BY MORTAR OR OTHER APPROVED METHOD. THE MATER HEATER SHALL BE SUPPORTED NOT LESS THAN 2
- 12. DRAINAGE. BELOW-GRADE INSTALLATIONS SHALL BE PROVIDED WITH A NATURAL DRAIN OR AN AUTOMATIC LIFT OR SUMP PUMP. FOR PIT REQUIREMENTS REFER TO NC.-M

## VENTING

- IN LIEU OF REQUIRED EXTERIOR OPENINGS FOR NATURAL VENTILATION IN LIEU OF REQUIRED EXTENSION OFFENINGS FOR NATURAL VENTILATION IN BATHEROOMS CONTRIBUTED A MECHANICAL VENTILATION SYSTEM MAY BE PROVIDED. THE MINIMAY WENTILATION RATES SHALL BE SO COMP FOR INTERMITTENT VENTILATION OR 20 CFM FOR CONTINUOUS VENTILATION. VENTILATION AIR FROM THE SPACE SHALL BE EXHAUSTED DIRECTLY TO THE OUTSIDE FER NO.—R
- 2. EXHAUST DUCTS SHALL TERMINATE OUTSIDE THE BUILDING AND SHALL BE EQUIPPED WITH BACKDRAFT DAMPERS.
- RANGE HOODS SHALL DISCHARGE TO THE OUTDOORS THROUGH A DUCT.
  THE DUCT SERVING THE HOOD SHALL HAVE A SMOOTH INTERIOR SURFACE,
  SHALL BE AIR TIGHT, SHALL BE EQUIPPED WITH A BACK-DRAFT DAMPER
  AND SHALL BE INDEPENDENT OF ALL OTHER EXHAUST SYSTEMS, DUCTS
  SERVING RANGE HOODS SHALL NOT TERMINATE IN AN ATTIC OR CRANL
  SPACE OR AREAS INSIDE THE BUILDING, DUCTS SERVING RANGE HOODS
  SHALL BE CONSTRUCTED OF GALVANIZED STEEL, STAINLESS STEEL OR
- 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 MITH DOWN DRAFT EXHAUST SYSTEMS SHALL BE PERMITTED TO BE CONSTRUCTED OF SCHEDULE 40 PVC PIPE PROVIDED THAT THINSTALLATION COMPLIES WITH ALL OF THE FOLLOWING PER N.C.
- THE DUCT SHALL BE INSTALLED UNDER A CONCRETE SLAB POURED ON GRADE.
- THE UNDERFLOOR TRENCH IN WHICH THE DUCT IS INSTALLED SHALL BE COMPLETELY BACKFILLED WITH SAND OR GRAVEL.
- THE PVC DUCT SHALL EXTEND NOT GREATER THAN I INCH ABOVE THE INDOOR CONCRETE FLOOR SURFACE.
- THE PVC DUCT SHALL EXTEND NOT GREATER THAN I INCH ABOVE GRADE OUTSIDE THE BUILDING.
- THE PVC DUCTS SHALL BE SOLVENT CEMENTED.
- 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 CUBIC 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 BY VENT AND COMPLY WITH THE REQUIREMENTS OF THE NC.-M

# PLUMBING

- A POTABLE WATER SUPPLY SYSTEM SHALL BE DESIGNED, INSTALLED CONTAMINATION FROM NONPOTABLE LIQUIDS, SOLIDS OR GASES BEING INTRODUCED INTO THE POTABLE MATER SUPPLY THROUGH CROSS-CONNECTIONS OR ANY OTHER PIPING CONNECTIONS TO THE SYSTEM. BACKFLOW PRE- VENTER APPLICATIONS SHALL CONFORM TO
- 2. THE SUPPLY LINES OR FITTINGS FOR EVERY PLUMBING FIXTURE SHALL BE INSTALLED SO AS TO PREVENT BACKFLOW, PLUMBING FIXTURE FITTINGS SHALL PROVIDE BACKFLOW PROTECTION IN ACCORDANCE WITH ASME All2.18.1.

# MECHANICAL & PLUMBING (continued)

- 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 A12.16.1 IN ADDITION TO THE REQUIREMENTS IN N.C.-P
- THE INSTALLATION OF A WATER SERVICE OR WATER DISTRIBUTION PIPE THE INSTALLATION OF A WATER SERVICE OR WATER DISTRIBUTION PIPE SHALL BE PROHIBITED IN SOIL AND SEROUND WATER THAT IS CONTAMINATED. SROUND WATER CONDITIONS SHALL BE REQUIRED TO ACCERTAIN THE ACCEPTABILITY OF THE WATER SERVICE OR WATER DISTRIBUTION PIPING MATERIAL FOR THE SPECIFIC INSTALLATION. WHERE DETRIMENTAL CONDITIONS EXIST, APPROVED ALTERNATIVE MATERIALS OR ROUTING SHALL BE REQUIRED.
- MATER DISTRIBUTION PIPE SHALL CONFORM TO NSF 61 AND SHALL CONFORM TO ONE OF THE STANDARDS LISTED IN N.C.-PILMBING. ALL MATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF IOO PSI AT 180 DEGREES F.
- 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 MILL MITHSTAND 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
- PIPES PASSING UNDER OR THROUGH WALLS SHALL BE PROTECTED FROM
- 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 SETTLEMENT. PIPING SHALL BE INSTALLED TO AVOID STRUCTURAL STRESSES OR STRAINS WITHIN BUILDING COMPONENTS.
- WATER PIPES INSTALLED IN A MALL EXPOSED TO THE EXTERIOR SHALL BE LOCATED ON THE HEATED SIDE OF THE WALL INSULATION, IN OTHER CASES, WATER, SOIL, AND PASTE PIPES SHALL NOT DE INSTALLED OUTSIDE OF A BUILDING, IN INCONDITIONED ATTICS, INCONDITIONED UTILLITY ROOMS OR IN ANY OTHER PLACE SUBJECTED TO FREEZING TEMPERATURES UNLESS ADEQUATE PROVISION IS MADE TO PROTECT SUCH PIPES FROM FREEZING BY A MINIMAM OF R-65 INSULATION DETERMINED AT 15 DEG. F IN ACCORDANCE WITH ASTM CITT OR HEAT OR BOTH OR BOTH.
  EXTERIOR WATER SUPPLY SYSTEM PIPING SHALL BE INSTALLED NOT
  LESS THAN 6 INCHES BELOW THE FROST LINE AND NOT LESS
  THAN 12 INCHES BELOW GRADE.
- 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
- 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.
- CLEANOUTS ON BUILDING SEWERS SHALL BE LOCATED AS SET FORTH IN
- THE MAXIMUM WATER CONSUMPTION FLOW RATES AND QUANTITIES FOR ALL PLUMBING FIXTURES SHALL BE IN ACCORDANCE WITH N.C.-R.
- INDIVIDUAL SHOWER AND TUB/SHOWER COMBINATION VALVES SHALL BE EQUIPPED NITH CONTROL VALVES OF THE PRESSURE-BALANCE, THERMOSTATIC-MIXING OR COMBINATION PRESSURE-BALANCE/THERMOSTATIC-MIXING VALVE TYPES WITH A HIGH LIMIT STOP IN ACCORDANCE WITH ASSEL 1006 / ASPE AIL2/1016/CSA BIZEJS AND SHALL E INSTALLED AND ADJUSTED PER MANUFACTURE'S INSTRUCTIONS.
- GAS AND ELECTRIC WATER HEATERS HAVING AN IGNITION SOURCE SHALL ELEVATED SUCH THAT THE SOURCE OF IGNITION IS NOT LESS THAN 10 INC ABOVE THE GARAGE FLOOR. REFER TO N.C.-R FOR EXCEPTION.
- MATER HEATERS, (USING SOLID, LIQUID OR GAS FUEL) 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 BEDROOM OR BATHROOM, HOWEVER, WATER HEATERS OF THE AUTOMATIC STORAGE TYPE MAY BE INSTALLED AS REPLACEMENT IN A BATHROOM, WHEN APPROVED BY THE PLUMBING OFFICIAL, PROVIDED THEY ARE VENTED AND SUPPLIED WITH ADEQUATE COMBUSTION AIR.
- IN SEISMIC DESIGN CATEGORIES DO, DI AND D2 AND TOWNHOUSES IN SEISMIC DESIGN CATEGORY C, WATER HEATERS SHALL BE ANCHORED OR STRAPPED IN THE UPPER ONE-THIND AND IN THE LOWER ONE-THIRD OF THE APPLIANCE TO RESIST A HORIZONTAL FORCE EQUAL TO ONE-THIRD OF THE OPERATING PICHORY 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 PROTECTED FROM IMPACT BY A MOVING VEHICLE.
- 23. WHERE WATER HEATERS OR HOT WATER STORAGE TANKS ARE INSTALLED IN: MEMBER WALLEN HEALTENS ON HOT MALLEN PISTORAGE TANNS ARE INSTALLEN PISTOR REMOTE LOCATIONS SUCH AS SUSPENDED CEILING, ATTICS, ABOVE OCCUPIED SPACES, OR INVENTILATED CRAWL 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 MINIMUM THICKNESS OF 24 GAGE, OR OTHER PANS APPROVED FOR SUCH USE.
- WHERE CLOTHES WASHING MACHINES ARE LOCATED ON WOOD FRAMED FLOORS WHERE LEAKAGE WOULD CAUSE DAMAGE, A GALVANIZED STEEL PAN HAVING A MINIMUM THICKNESS OF 24 GAGE, OR OTHER PANS APPROVED FOR SUCH USE SHALL BE PROVIDED

# MECHANICAL & PLUMBING (continued)

- APPLIANCES AND EQUIPMENT USED FOR HEATING WATER OR STORING HOT WATER SHALL BE PROTECTED BY A SEPARATE PRESSURE-RELIEF VALVE AND A SEPARATE TEMPERATURE- RELIEF VALVE OR A COMBINATION PRESSURE-AND-TEMPERATURE RELIEF VALVE, RELIEF VALVES SHALL HAVE A MINIMUM RATED CAPACITY FOR THE EQUIPMENT SERVED AND SHALL CONFORM TO ANSI 221.22. THE RELIEF VALVE SHALL NOT BE USED AS A MEANS OF CONTROLLING THERMAL EXPANSION.
- THE WATER SUPPLY TO A DISHMASHER SHALL BE PROTECTED AGAINST BACKFLON BY AN AIR GAP COMPLYING WITH ASME AII2.1.3 OR AII2.1.2 THAT IS INSTALLED INTEGRALLY WITHIN THE MACHINE OR A BACKFLOM PREVENTER IN ACCORDANCE WITH THE NC-R.
- SINK AND DISHWASHER. THE COMBINED DISCHARGE FROM A DISHWASHER AND A ONE- OR TWO-COMPARTMENT SINK, WITH OR WITHOUT A FOOD-WASTE DISPOSER, SHALL BE SERVED BY A TRAP OF NOT LESS THAN I/2 INCHES (36 MM) IN OUTSIDE DIAMETER. THE DISHWASHER DISCHARGE PIPE OR TUBING SHALL RISE TO THE WIDERSIDE OF THE COUNTER AND SHALL BE SECURELY FASTENED TO THE WIDERSIDE OF THE COUNTER AND SHALL BE SECURELY CONNECTING TO THE WIDERSIDE OF THE SINK RIM OR COUNTER BEFORE CONNECTING TO THE HEAD OF THE FOOD-WASTE DISPOSER OR TO A WYE FITTING IN THE SINK TAILPIECE.

- 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. 127.
- 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 CURRENT SAE REQUIREMENTS.
- ALL ELECTRICAL SYSTEMS, CIRCUITS, FIXTURES AND EQUIPMENT SHALL BE GROUNDED IN A MANNER 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-
- ALL 125-VOLT, SINGLE-PHASE, 15- AND 20-AMPERE RECEPTACLES THE GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL.
  THE GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL.
  THE GROUND-FAULT CIRCUIT-INTERRUPTER SHALL BE INSTALLED IN A
  READILY ACCESSIBLE LOCATION.
- A. BATHROOMS.
- B. GARAGES AND ALSO ACCESSORY BUILDINGS THAT HAVE A FLOOR LOCATED AT OR BELON GRADE LEVEL NOT INTENDED AS HABITABLE ROOMS AND LIMITED TO STORAGE AREAS, WORK AREAS, AND AREAS OF SIMILAR USE.
- CRAWL SPACES. WHERE THE CRAWL SPACE IS AT OR BELOW GRADE LEVEL.
- UNFINISHED PORTIONS OR AREAS OF THE BASEMENT NOT INTENDED AS HABITABLE ROOMS.
- KITCHENS. WHERE THE RECEPTACLES ARE INSTALLED TO SERVE
- SINKS, WHERE RECEPTACLES ARE INSTALLED MITHIN 6 FT FROM THE TOP INSIDE EDGE OF THE BOWL OF THE SINK.
- BATHTUBS OR SHOWER STALLS WHERE RECEPTACLES ARE INSTALLED WITHIN 6' OF THE OUTSIDE EDGE OF THE BATHTUB OR SHOWER STALL.
- DISHWASHER GFCI PROTECTION IS NOT REQUIRED FOR OUTLETS THAT SUPPLY DISHWASHERS INSTALLED IN DWELLING UNIT
- CRAML SPACE LIGHTING OUTLETS, GFCI PROTECTION SHALL BE PROVIDED FOR LIGHTING OUTLETS NOT EXCEEDING 120 VOLTS INSTALLED IN CRAML SPACES.
- APPLIANCE RECEPTACLE OUTLETS INSTALLED IN A DWELLING UNIT FOR SPECIFIC APPLIANCES, SUCH AS LANDRY 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 DWELLING UNITS, RECEPTACLE OUTLETS SHALL BE INSTALLED SO THAT NO POINT ALONG THE FLOOR LINE IN ANY WALL SPACE IS MORE THAN 6 FEET, MEASURED HORIZONTALLY, FROM AN OUTLET IN THAT SPACE, INCLUDING ANY WALL SPACE 2 FEET OR MORE IN WIDTH (INCLUDING SPACE WALL SPACE 2 FEET OR MORE IN WIDTH (INCLUDING SPACE MEASURED AROUND CORNERS) AND UNBROKEN ALONS THE FLOOR LINE BY DOORWAYS AND SIMILAR OPENINGS, FIREPLACES, AND FIXED CABINETS, AND THE WALL SPACE OCCUPIED BY FIXED PAINELS IN EXTERIOR WALLS, BUT EXCLUDING SLIDING PANELS IN EXTERIOR WALLS, THE WALL SPACE AFFORDED BY FIXED ROOM DIVIDERS, SUCH AS FREESTANDING BARSTYPE COUNTERS OR RAILINGS, SHALL BE INCLUDED IN THE 6 FOOT MEASUREMENT.
- IN THE KITCHEN, PANTRY, BREAKFAST ROOM, DINING ROOM, OR SIMILAR AREA OF A DINELLING UNIT, THE TWO OR MORE 20-AMPERE SMALL-APPLIANCE BRANCH CIRCUITS REQUIRED SHALL SERVE A ALL WALL AND FLOOR RECEPTACLE OUTLETS, ALL COUNTERTOP OUTLETS, AND RECEPTACLE OUTLETS FOR REFRIGERATION EQUIPMENT. THE TWO OF MORE SMALL-APPLIANCE BRANCH CIRCUITS SHALL HAVE NO OTHER OUTLETS
- IN KITCHENS, PANTRIES, BREAKFAST ROOMS, DINING ROOMS AND SIMILAR AREAS OF DWELLING UNITS, RECEPTACLE OUTLETS FOR COUNTER SPACES SHALL BE INSTALLED IN ACCORDANCE WITH THE
- (I) A RECEPTACLE OUTLET SHALL BE INSTALLED AT EACH WALL COUNTER SPACE 12 INCHES OR WIDER. RECEPTACLE OUTLETS SHALL BE INSTALLED SO THAT NO POINT ALONG THE WALL LINE 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.
- AT LEAST ONE RECEPTACLE OUTLET SHALL BE INSTALLED AT EACH PENINGULAR COUNTER SPACE WITH A LONG DIMENSION OF 52 INCHES OR GREATER AND A SHORT DIMENSION OF 12 INCHES OR GREATER. A PENINGULAR COUNTERTOP IS MEASURED FROM CONNECTINE PERPENDICULAR WALL.
- COUNTERTOP SPACES SEPARATED BY RANGE TOPS, REFRIGERATORS, OR SINKS SHALL BE CONSIDERED AS SEPARATE COUNTERTOP SPACES IN APPLYING THE REQUIREMENTS OF (I), (2), AND (3), ABOVE. IF A RANGE, COUNTER-MOUNTED COOKING UNIT, OR SINK IS INSTALLED IN AN ISLAND OR PENINSULAR COUNTERTOP AND THE PEPIN OF THE COUNTER BEHIND THE ITEM IS LESS THEN IS NOT HE ITEM SILES THEN IS NOT HE TO SEPARE OF THE COUNTER OF THE COUNTER SENIOR TO SPACE INTO UNITED SPACE INTO UNITED SPACE INTO UNITED SPACE INTO SPACE SEAL COUNTERTOP SPACE TWO SEPARATE COUNTERTOP SPACES. EACH COUNTERTOP SPACE SHALL COMPLY WITH APPLICABLE REQUIREMENTS.
- (5) RECEPTACLE OUTLETS SHALL BE LOCATED NOT MORE THAN 20 INCHES ABOVE THE COUNTERTOP, RECEPTACLE OUTLETS RENDERED NOT READILLY ACCESSIBLE BY APPLIANCE 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.
- 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" BELOW THE COUNTERTOR
- 12. IN DWELLING UNITS, AT LEAST ONE RECEPTACLE OUTLET SHALL BE INSTALLED IN AREAS DESIGNATED FOR THE INSTALLATION OF LAUNDRY EQUIPMENT.
- IN EACH ATTACHED GARAGE AND IN EACH DETACHED GARAGE WITH ELECTRIC POWER, THE BRANCH CIRCUIT SUPPLYING THIS RECEPTACLE(S) SHALL NOT SUPPLY OUTLETS OUTSIDE OF THE GARAGE. AT LEAST ONE RECEPTACLE OUTLET SHALL BE INSTALLED IN EACH VEHICLE BAY.
- 14. CABLE- OR RACEWAY-TYPE WIRING METHODS INSTALLED IN A GROOVE. TO BE COVERED BY MALLBOARD, SIDING, PANELING, CARPETING, OR SIMILAR FINISH, SHALL BE PROTECTED Y 1/16 INCH THICK STEEL PLATE, SLEEVE, OR EQUIVALENT OR BY MOT LESS THAN 11-14 INCH FREE SPACE FOR THE FULL LENGTH OF THE GROOVE IN WHICH THE CABLE OR RACEWAY
- 15. RECEPTACLES IN DAMP OR WET LOCATIONS.
  - A RECEPTACLE INSTALLED OUTDOORS IN A LOCATION PROTECTED FROM MEATHER OR IN OTHER DAMP LOCATIONS SHALL HAVE AN ENCLOSURE FOR THE RECEPTACLE THAT IS NEATHERPROOF WHEN THE RECEPTACLE IS COVERED. (ATTACHMENT PLUS CAP NOT INSERTED AND RECEPTACLE COVERS (LOSED.)
  - ALL 15- AND 20- AMPERE, 125- AND 250-VOLT RECEPTACLES INSTALLED IN A MET LOCATION SHALL HAVE AN ENCLOSURE THAT IS MEATHER PROOF WHETHER OR NOT THE ATTACHMENT PLIGS 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, 125- AND 250-VOLT NONLOCKING RECEPTACLES SHALL BE LISTED WEATHER RESISTANT TYPE.
- LIGHT FIXTURES WITHIN CLOTHES CLOSETS SHALL BE INSTALLED IN ACCORDANCE WITH N.E.C.
- ALL 120-VOLT, SINGLE PHASE, 15- AND 20-AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLING INIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PRECESS, LIBRARIES, DENS, BEDROOMS, SUNGAOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY AN ARC-FAULT CIRCUIT INTERRUPTER(S), COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT. THE ARC-FAULT CIRCUIT INTERRUPTER SHALL BE INSTALLED IN A READLY ACCESSIBLE
- 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.
- TAMPER-RESISTANT RECEPTACLES IN DWELLING UNITS IN ALL AREAS.
   ALL NON-LOCKING TYPE I25-VOLT I5-AND 20-AMPERE RECEPTACLES.
   SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES. EXCEPTIONS LISTED BELON.
  - RECEPTACLES LOCATED MORE THAN 5½ ABOVE THE FLOOR. 2. RECEPTACLES THAT ARE PART OF A LUMINAIRE OR APPLIANCE
  - 3. 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
- DIMMER-CONTROLLED RECEPTACLES. A RECEPTACLE SUPPLYING LIGHTING LOADS SHALL NOT BE CONNECTED TO A DIMMER UNLESS THE PLUS-RECEPTACLE COMBINATION IS A NONSTANDARD CONFIGURATION TYPE THAT IS SPECIFICALLY LISTED AND IDENTIFIED FOR EACH SUCH

# SMOKE DETECTORS

- 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 WARNING EQUIPMENT PROVISIONS OF NFPA 72

HOUSEHOLD FIRE ALARM SYSTEMS INSTALLED IN ACCORDANCE WITH NEPA AND AUDIBLE NOTIFICATION DEVICE INSTALLED AS REQUIRED BY THE NC-R R314.3 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 NG-R FOR SMOKE ALARMS IN THE EVENT THE FIRE ALARM PANEL IS REMOVED OR THE SYSTEM IS NOT CONNECTED TO A CENTRAL STATION

REQUIRED SMOKE DETECTORS SHALL BE LOCATED IN ACCORDANCE

# ELECTRICAL (continued)

## CARBON MONOXIDE ALARMS

- CARBON MONOXIDE ALARMS IN DMELLING UNITS SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE INMEDIATE 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 MITHIN THE BEDROOM.
- SINGLE STATION CARBON MONOXIDE ALARMS SHALL BE LISTED AS COMPLYING MITH UL 2034 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE NC-R R315 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 MI502.4.5



. . . . . .

. . . . . .

. . . . . .

. . . . . .

HOME

. . . . . . **NORTH CAROLINA** 50' SERIES

KB HOME

NORTH CAROLINA DIVISION 4506 S. MIAMI BLVD. SUITE 180 DURHAM, NC 27703 ■ TEL: (919) 768-7980 ■ FAX: (919) 544-2928

2018 NORTH **CAROLINA STATE** BUILDING CODES

. . . . . .

. . . . . .

08/20/20

ISSUE DATE: 08/09/18 PROJECT No.: 1350999:57 DIVISION MGR.: D.S.

COMPLIANCE REVISIONS NCI9031NCP/ 05/16/19 / FAE

REVISIONS:

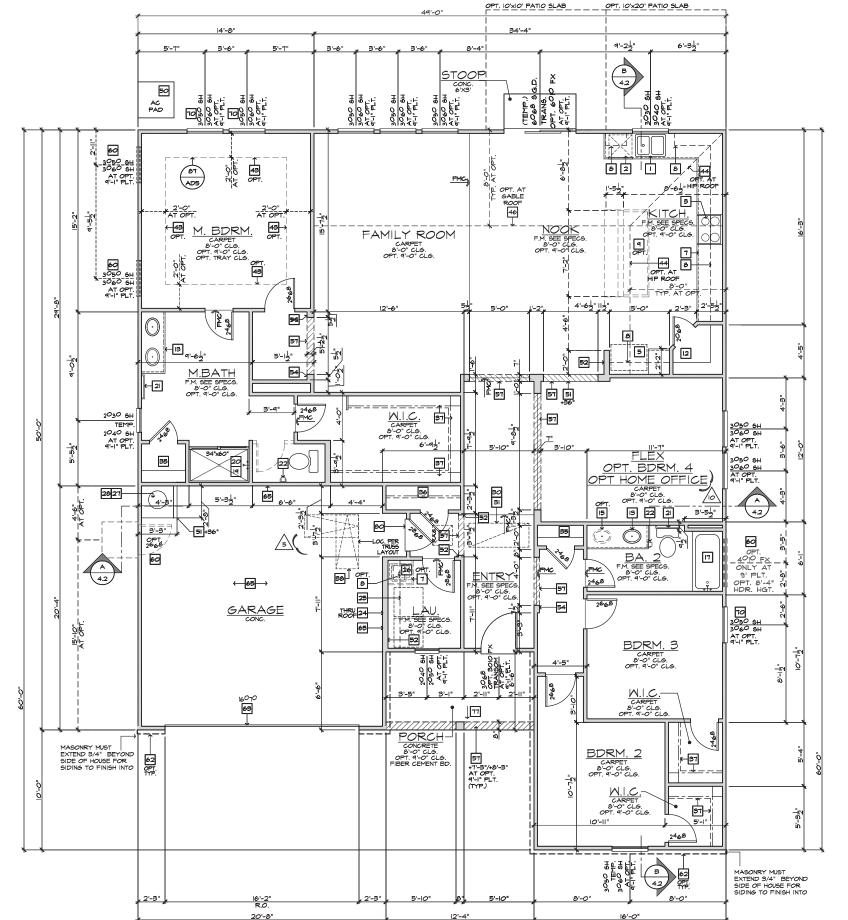
DIVISION REVISIONS
NCI9046NCP/ 08/16/19 / FAB DIVISION REVISIONS
NC19057NCP/ 09/26/19 / FAE

ADD VAULTED CEILING NCI9057NCP/ 12/23/19 / KBA

VENTILATION
NC2008NCP/ 01/17/20 /KBA

DIVISION REVISION NC20024NCP/ 05/18/20 /KBA HOME OFFICE CORP20003CORP/- 08/20/20 CTD. FOR INTERNAL USE ONLY

149.2115 SHEET GN3



HOME

**NORTH CAROLINA** 50' SERIES

кв номе NORTH CAROLINA DIVISION

4506 S. MIAMI BLVD. 27. WATER HEATER LOCATION: - FOR GAS - LOCATE ON 18" HIGH-PLATFORM - FOR INTERIOR LOCATION - PROVIDE PAN & DRAIN. (REFER TO 15/AD4) SUITE 180 DURHAM, NC 27703 TEL: (919) 768-7980 29. MAIN LINE SHUT-OFF VALVE AND TEMP. & PRESSURE RELIEF FAX: (919) 544-2928 30. F.A.U. LOCATION (REFER TO DETAIL 88/AD5)

> **2018 NORTH CAROLINA STATE BUILDING CODES**

> > 08/09/18

D.S.

08/20/20

PROJECT No.: 1350999:57

4 COMPLIANCE REVISIONS NCI903INCP/ 05/16/19 / FAE

DIVISION REVISIONS
NC19046NCP/ 08/16/19 / FAE

DIVISION REVISIONS
NCI9057NCP/ 09/26/19 / FAE

ADD VAULTED CEILING NCI9057NCP/ 12/23/19 / KBA

VENTILATION NC2008NCP/ 01/17/20 /KBA

DIVISION REVISION NC20024NCP/ 05/18/20 /KBA

HOME OFFICE CORP20003CORP/- 08/20/20 CTD

FOR INTERNAL USE ONLY

ISSUE DATE:

REVISIONS:

DIVISION MGR.:

. . . .

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 92/AD5) 44. LINE OF HIP AT OPTIONAL VOLUME CEILING

FLOOR PLAN NOTES

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 30" COOKTOP W BUILT-IN VENTED HOOD W LIGHT & FAN VERIFY WITH MANUFRS' SPECS

YENTI WITH FUNDING STELLS

91" CLEAR REFRIGERATOR SPACE W OPTIONAL CABINETS
ABOVE - OPT. PLUMBING FOR ICEMAKER (RECESSED IN WALL)
COMBINATION DOUBLE OVEN OR OVEN MICROMAVE OVEN OR
OVEN VERIFY DIMENSIONS WITH MANUFACTURERS' SPECS

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

13. SINK CABINET(S) - REFER TO INTERIOR ELEVATIONS

15. OPT. SINK - REFER TO INTERIOR ELEVATIONS

16. KNEE SPACE - REFER TO INTERIOR ELEVATIONS

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

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

23. RECESSED, MIRRORED MEDICINE CABINET

25. I2" SHELF PER SPECS

28. RESERVED

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

PRE-FAB, TUB/SHOWER COMBO W/ FIBERGLASS WAINSCO' 72" - VERIFY DIMENSIONS W/ MANUF'S SPECS

19. PRE-FAB, SHOWER PAN W 30" MIN, CLR. INSIDE & WAINSCOT TO 72" - VERIFY DIMENSIONS W/ MANUF'S SPECS

B. OVAL TUB - VERIFY DIMENSIONS WITH MANUFR'S SPECS.

20. SHATTERPROOF (TEMPERED) GLASS SHOWER ENCLOSURE.

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

24. MASHER & DRYER: - PROVIDE MATER & MASTE FOR MASHER - RECESS MASHER CONTROL VALVES IN MALL - VENT DRYER TO OUTSIDE AIR. - ACCOMMODATE APPLIANCES TO BE LOCATED MASHER AT LEFT AND DRYER AT RIGHT.

32. LISTED FACTORY-BUILT GAS FIRED DEC. APPLIANCE (REF. 80/AD4) - INSTALL PER MFR. SPECS 33. HEARTH TO BE INSTALLED PER FACTORY-BUILT FIREPLACE LISTING

36. COAT CLOSET W SHELF & POLE (REFER TO DETAILTS/AD4)

37. WARDROBE W/ SHELF & POLE (REFER TO DETAILTS/AD4)

38. 22"X30" MIN. ATTIC ACCESS 25"x54" PULL DOWN LADDER R.O. ATTIC ACCESS TO BE PROTECTED

NOTE: NOT ALL KEY NOTES APPLY

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

45. LINE OF RIDGE AT OPTIONAL VOLUME CEILING

46. CEILING BREAK

34. GAS APPLIANCE 'B' VENT FROM BELOW 35. LINEN PER SPECS (15" DEEP OR U.N.O.)

47. STAIR TREADS & RISERS: - MIN. IO" TREAD & MAX. 7 3/4" RISER - (REFER TO DETAIL 81-82/AD5)

48. MIN. 42" HIGH GUARDRAIL (REFER TO DETAIL 86/AD5)

49. 34" TO 38" HIGH HANDRAIL (REFER TO DETAIL 83/AD5)

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.

56. MEDIA NICHE 57. FLAT SOFFIT - SEE ELEV. FOR HGT.

58. ARCHED SOFFIT - SEE ELEV. FOR HGT.

59. WINDOW SEAT

60. OPT. DOOR/ WINDOW

61. 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. 1/2" GYP. 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 & 5/6" UNDER LIVING AREA U.N.O.

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

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

70. EGRESS MINDOW

II. PROVIDE ADDITIONAL RISER(S) AT OPTIONAL PLATE HT. 73. PLUMBING DROP FROM ABOVE

74. ADJUST OPENING AT OPTION TO FIT THE DOOR SIZE SHOWN 75. WINDOW LEDGE. HEIGHT & WIDTH OF OPENING TO EXTEND 6" BEYOND WINDOW(S) ON ALL SIDES U.N.O.

76. SITE-BUILT COLUMN - SEE ELEVATION FOR TYPE

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

76. RESERVED
79. SLOPING LOW WALL 38" ABOVE ADJACENT TREADS 80. 20 MIN. FIRE-RATED DOOR

149.2115 1.1

SPEC. LEVEL 1 RALEIGH-DURHAM 50' SERIES

FIRST FLOOR PLAN 'A'

INTERIOR KEY

**SQUARE FOOTAGE** 

PLANPLAN 149.2115

ELEVATION 'A'

ELEVATION 'B' ELEVATION 'C'

ELEVATION 'D'

EXTENDED COVERED

SCREENED-IN EXTENDED COVERED

EXTENDED DECK

SCREENED-IN DECK EXTENDED

SCREENED-IN DECK

PLATE NOTES

8'-I" PLATE NOTES

9'-I" PLATE NOTES

GENERAL PLAN NOTES

ALL CEILING HEIGHTS PER SECTION AND ELEVATION PLATE HEIGHTS, U.N.O.

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

ALL HOUSE TO GARAGE DOORS TO BE 20-MINUTE FIRE-RATED (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. STAIR DATA NOTES

FIRST FLOOR WITH \$-1" PLATE HEIGHT:
14" DEEP T.J.I. FLOOR JOISTS WITH 3/4" T&G DECKING.
14 TREADS AT 10" EACH
15 RISERS AT 7-71/6" EACH

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

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

MINDOM HEADER HEIGHT:
2nd FLOOR HINDOM HDR. HEIGHT:
2nd FLOOR HINDOM HDR. HEIGHT:
5LIDING 6LASS DOOR HEIGHT:
NITERIOR SOFFIT HEIGHT:
174' UND.
6-8' UND.
6-8' UND.
7-6' UND.
6-8' UND.
6-8' UND.
7-6' UND.
6-8' UND.

MINDOM HEADER HEIGHT IS IF IL.
MINDOM HEADER HEIGHT 2nd FIL.
4010 MINDOM OVER TUB HDR. HGT.
ENTRY DOOR HEIGHT.
SILDING SLASS DOOR HEIGHT.
INTERIOR SOFFIT HEIGHT.
INTERIOR SOFFIT HEIGHT.
INTERIOR DOOR HEIGHT.
INTERIOR DOOR HEIGHT.

COVERED

SUNROOM

2114 SQ. FT

5Q. F1

50. F

5Q. F1

50. F1

SQ. F1

5Q. F1

50 F1

SQ. F1

80

248

144

TOTAL AREA

GARAGE AREA PORCH AREA(S)

PATIO AREA(S)

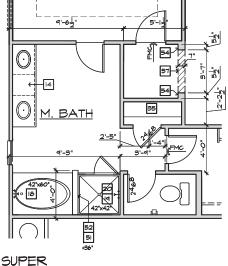
DECK AREA(S)

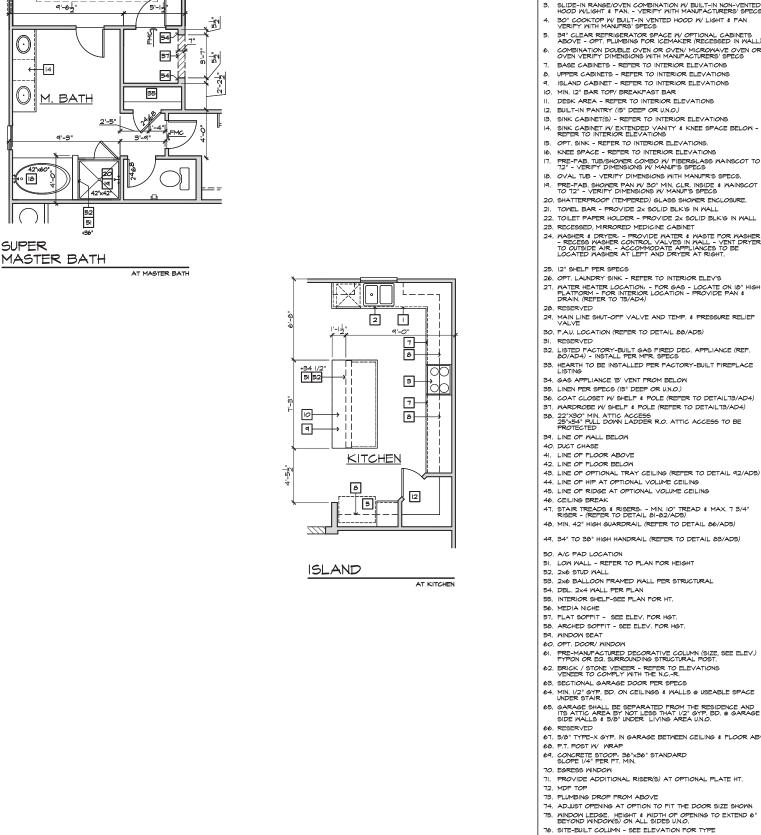
SUNROOM AREA(S)

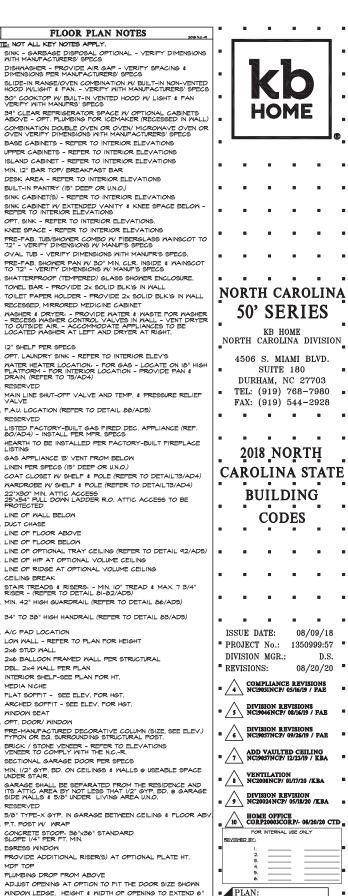
3-CAR GARAGE

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









149.2115

SPEC. LEVEL 1 RALEIGH-DURHAM

50' SERIES

HEET:

1.3

FLOOR PLAN NOTES

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

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

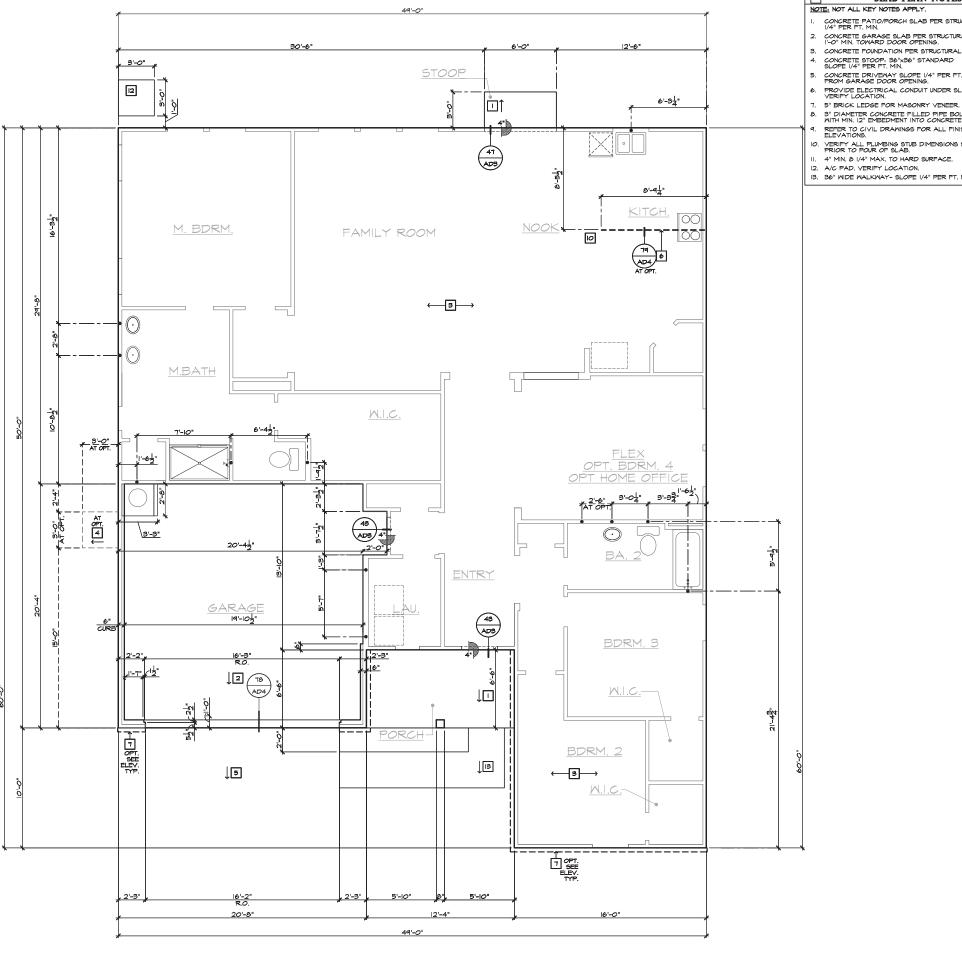
76. RESERVED
79. SLOPING LOW WALL 36" ABOVE ADJACENT TREADS

80. 20 MIN. FIRE-RATED DOOR

NOTE: NOT ALL KEY NOTES APPLY.

FLOOR PLAN OPTIONS

SCALE: I/4"=1'-0" (22"x34") - I/8"=1'-0" (II"x17",



SLAB INTERFACE PLAN 'A'

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

SLAB PLAN NOTES

NOTE: NOT ALL KEY NOTES APPLY.

CONCRETE PATIO/PORCH SLAB PER STRUCTURAL- SLOPE I/4" PER FT. MIN.

2. CONCRETE GARAGE SLAB PER STRUCTURAL- SLOPE 1/8" PER. 1-0" MIN. TOMARD DOOR OPENING.
3. CONCRETE FOUNDATION PER STRUCTURAL.

. CONCRETE STOOP: 36"x36" STANDARD SLOPE 1/4" PER FT. MIN.

5. CONCRETE DRIVEWAY SLOPE I/4" PER FT. MIN. AWAY FROM GARAGE DOOR OPENING.

6. PROVIDE ELECTRICAL CONDUIT UNDER SLAB AT ISLAND. VERIFY LOCATION.

3" DIAMETER CONCRETE FILLED PIPE BOLLARD 36" HIGH WITH MIN. 12" EMBEDMENT INTO CONCRETE.

REFER TO CIVIL DRAWINGS FOR ALL FINISH SURFACE ELEVATIONS.

VERIFY ALL PLUMBING STUB DIMENSIONS SHOWN HERE PRIOR TO POUR OF SLAB.

4" MIN. 8 I/4" MAX. TO HARD SURFACE.
 A/C PAD. VERIFY LOCATION.

13. 36" WIDE WALKWAY- SLOPE 1/4" PER FT. MIN.

HOME

# NORTH CAROLINA 50' SERIES

KB HOME NORTH CAROLINA DIVISION

4506 S. MIAMI BLVD. SUITE 180 DURHAM, NC 27703 ■ TEL: (919) 768-7980 ■ FAX: (919) 544-2928

# 2018 NORTH CAROLINA STATE BUILDING CODES

ISSUE DATE: 08/09/18 ■ PROJECT No.: 1350999:57 ■ DIVISION MGR.: D.S.

REVISIONS: 08/20/20 COMPLIANCE REVISIONS NCI903INCP/ 05/16/19 / FAE

DIVISION REVISIONS
NC19046NCP/ 08/16/19 / FAE

DIVISION REVISIONS
NCI9057NCP/ 09/26/19 / FAE ADD VAULTED CEILING NC19057NCP/ 12/23/19 / KBA

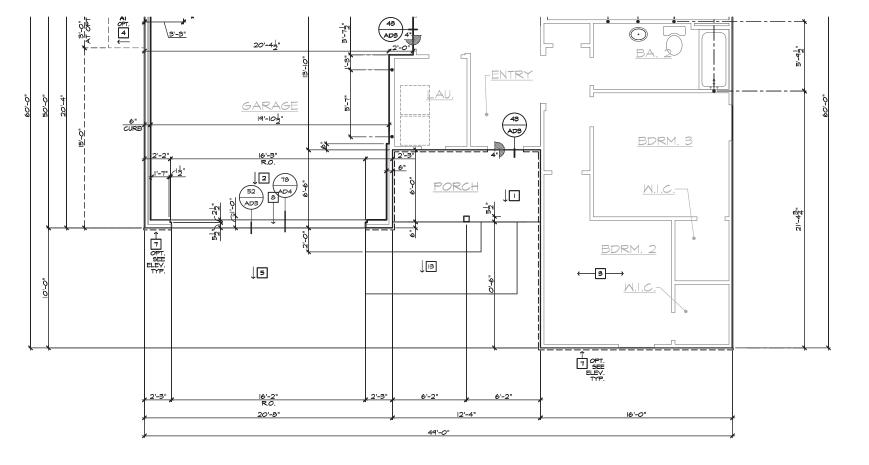
WENTILATION NC2008NCP/ 01/17/20 /KBA

DIVISION REVISION NC20024NCP/ 05/18/20 /KBA



149.2115

2.1



# PARTIAL SLAB INTERFACE PLAN 'D'

BASIC PLAN AT SLAB-ON-GRADE

# SLAB PLAN NOTES

NOTE: NOT ALL KEY NOTES APPLY.

- CONCRETE PATIO/PORCH SLAB PER STRUCTURAL- SLOPE I/4" PER FT. MIN.
- 2. CONCRETE GARAGE SLAB PER STRUCTURAL- SLOPE 1/8" PER. 1-0" MIN. TOWARD DOOR OPENING.
  3. CONCRETE FOUNDATION PER STRUCTURAL.
- 4. CONCRETE STOOP: 36"x36" STANDARD SLOPE I/4" PER FT. MIN.
- 5. CONCRETE DRIVENAY SLOPE 1/4" PER FT. MIN. AWAY FROM GARAGE DOOR OPENING.
- 6. PROVIDE ELECTRICAL CONDUIT UNDER SLAB AT ISLAND. VERIFY LOCATION.
- 7. 5" BRICK LEDGE FOR MASONRY VENEER.
  8. 3" DIAMETER CONCRETE FILLED PIPE BOLLARD 36" HIGH WITH MIN. 12" EMBEDMENT INTO CONCRETE.
- REFER TO CIVIL DRAWINGS FOR ALL FINISH SURFACE ELEVATIONS.
- 10. VERIFY ALL PLUMBING STUB DIMENSIONS SHOWN HERE PRIOR TO POUR OF SLAB.
- II. 4" MIN. 8 I/4" MAX. TO HARD SURFACE.
  I2. A/C PAD. VERIFY LOCATION.
- 13. 36" WIDE WALKWAY- SLOPE 1/4" PER FT. MIN.



# NORTH CAROLINA 50' SERIES

KB HOME NORTH CAROLINA DIVISION

4506 S. MIAMI BLVD. SUITE 180 DURHAM, NC 27703 ■ TEL: (919) 768-7980 ■ FAX: (919) 544-2928

# 2018 NORTH CAROLINA STATE BUILDING CODES

ISSUE DATE: 08/09/18 PROJECT No.: 1350999:57 DIVISION MGR.: D.S.

08/20/20

COMPLIANCE REVISIONS
NC1903INCP/ 05/16/19 / FAE

DIVISION REVISIONS
NC19046NCP/ 08/16/19 / FAE

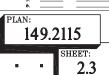
REVISIONS:

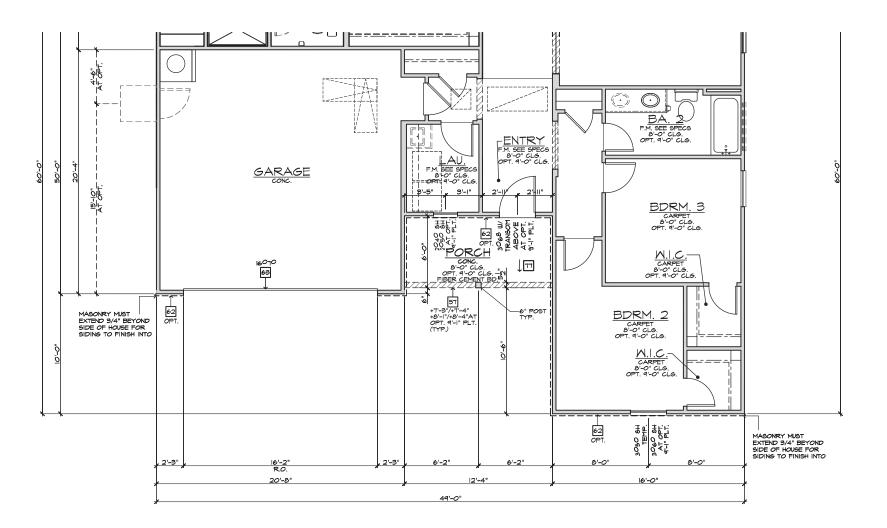
DIVISION REVISIONS
NCI9057NCP/ 09/26/19 / FAE

ADD VAULTED CEILING NCI9057NCP/ 12/23/19 / KBA WENTILATION NC2008NCP/ 01/17/20 /KBA

DIVISION REVISION NC20024NCP/ 05/18/20 /KBA



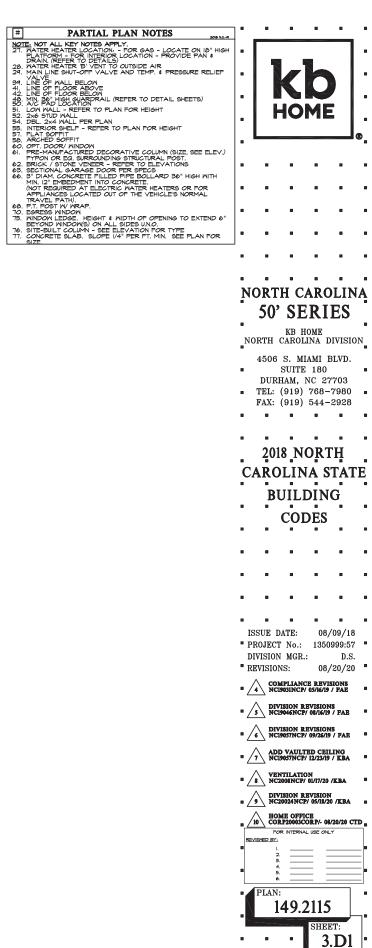




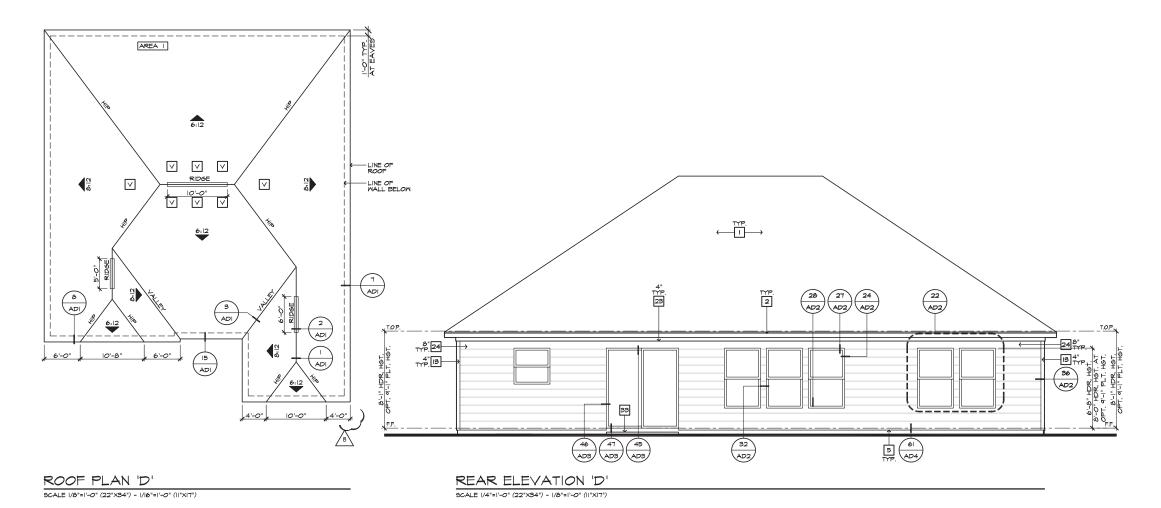
PARTIAL FIRST FLOOR PLAN 'D'

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

BASIC PLAN



NOTE: REFER TO BASIC FLOOR PLAN FOR INFORMATION NOT SHOWN HERE



FRONT DETAIL 'B' -6" SQUARE COLUMN(S) -Ix2 TRIM DETAIL 'A'

SCALE: N.T.S.

**ELEVATION NOTES** NOTE: NOT ALL KEY NOTES APPLY.

I. ROOF MATERIAL - REFER TO ROOF NOTES 2. 2X FASCIA/BARGE BOARD WITH FASCIA CAP 3. G.I. FLASHING 4. G.I. FLASHING & SADDLE/CRICKET
5. G.I. DRIP SCREED 6. 24"x24" CHIMNEY 7. DECORATIVE VENT HOME 8. DECORATIVE CORBEL 9. DECORATIVE SHUTTERS IO. PEDIMENT. SEE ELEVATION FOR TYPE II. RECESSED ELEMENT 12. DECORATIVE TRIM FYPON OR EQ. SEE ELEVATION FOR TYPE 13. TRIM PER SPEC- SEE ELEVATION FOR SIZE 14. SYNTHETIC MATERIAL 15. PRE-MANUFACTURED DECORATIVE COLUMN (SIZE, SEE ELEV.) FYPON OR EQ. SURROUNDING STRUCTURAL POST. 16. SITE-BUILT COLUMN - SEE ELEVATION FOR TYPE IT. SHAKE SIDING 18. 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 **NORTH CAROLINA** 27. LIGHT WEIGHT PRECAST STONE TRIM 50' SERIES 28. P.T. LUMBER RAILINGS (+36" U.N.O.) 30. DECORATIVE WINDOW/DOOR TRIM - FYPON OR EQ. SEE ELEVATION FOR SIZE. KB HOME NORTH CAROLINA DIVISION 31. BRACKET OR KICKER - FYPHON OR EQ. 32. ENTRY DOOR 4506 S. MIAMI BLVD. 33. CONCRETE STOOP/ PORCH - SEE SLAB INTERFACE PLAN. 34. SECTIONAL GARAGE DOOR PER SPECS SUITE 180 35. ALUMINUM WRAP DURHAM, NC 27703 36. OPTIONAL DOOR/WINDOW - REFER TO PLAN OPTIONS TEL: (919) 768-7980 **a** 37. OPTIONAL STANDING SEAM METAL ROOF FAX: (919) 544-2928 38. KEYSTONE 39. SOLDIER CROWN . . . . . 40. JACK SOLDIER COURSE 41. WATER TABLE 42. ATRIUM DOOR 43. PILASTER - SEE ELEVATION FOR TYPE 2018 NORTH ROOF PLAN NOTES 'D' **CAROLINA STATE** INDICATES ROOF SLOPE AND DIRECTION, U.N.O. 6:12 BUILDING ROOF MATERIAL: COMPOSITION SHINGLE 12" (INCHES) TYPICAL ROOF OVERHANG AT RAKE, U.N.O. CODES 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

SQ. FT. / 300 8.68 SQ. FT. X 144 = 1250 SQ. IN. TOTAL HIGH \$ LOW = 1250 SQ. IN. × 50% = 625 SQ. IN LF RIDGE VENT(S) AT 18 SQ. IN. / LF. = 378 SQ. IN. 50 SQ. IN. EA. = 400 SQ. IN. 

ALL VENT OPENINGS SHALL BE COVERED WITH 1/4" CORROSION RESISTANT METAL MESH.

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

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

FOR INTERNAL USE ONLY 149.2115

08/09/18

D.S.

08/20/20

■ PROJECT No.: 1350999:57 ■

COMPLIANCE REVISIONS
NCI903INCP/ 05/16/19 / FAE

DIVISION REVISIONS NCI9057NCP/ 09/26/19 / FAE

VENTILATION NC2008NCP/ 01/17/20 /KBA

DIVISION REVISIONS NC19046NCP/ 08/16/19 / FAB

ADD VAULTED CEILING NCI9057NCP/ 12/23/19 / KBA

DIVISION REVISION NC20024NCP/ 05/18/20 /KBA

DIVISION MGR.:

REVISIONS:

SPEC. LEVEL 1 RALEIGH-DURHAM 50' SERIES

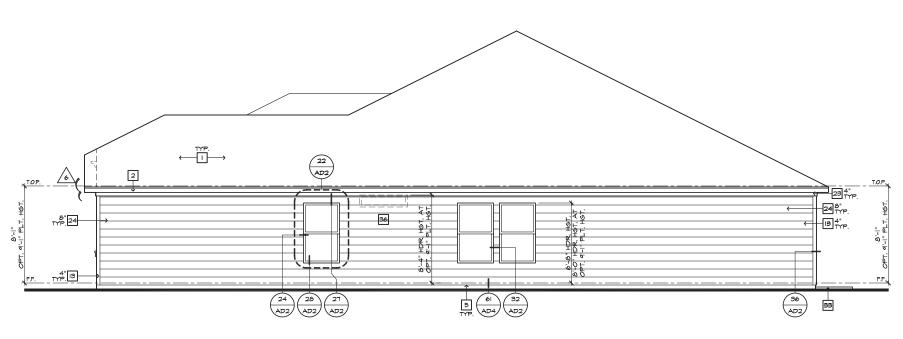
ATTIC VENT CALCULATIONS
PROVIDE I SO, IN, OF EATTIC
SPACE, PROVIDE THAT AT LEAST 50% \$ NO MORE THAN 80% OF
THE REQ. VENTILATING AREA IS PROVIDED BY VENTILATORS
LOCATED IN THE UPPER PORTION OF THE ATTIC, (HIGH VENTING)
AT 3-0° ABOVE EAVE VENT WITH THE BALANCE BEING PROVIDED
BY EAVE VENTS, (LOW VENTING) (2016 N.C.-R. 806.2)

# CALCULATION BY (180, HIGH) (2016 N.C.-R. 806.2)
APPROXIMATE RIDGE VENT LOCATIONS 500NN.
ACTUAL LOCATIONS TO BE DETERMINED IN THE FIELD. ISSUE DATE:

O ROOF VENT(S) AT
TOTAL VENTILATION PROVIDED: NOTES:

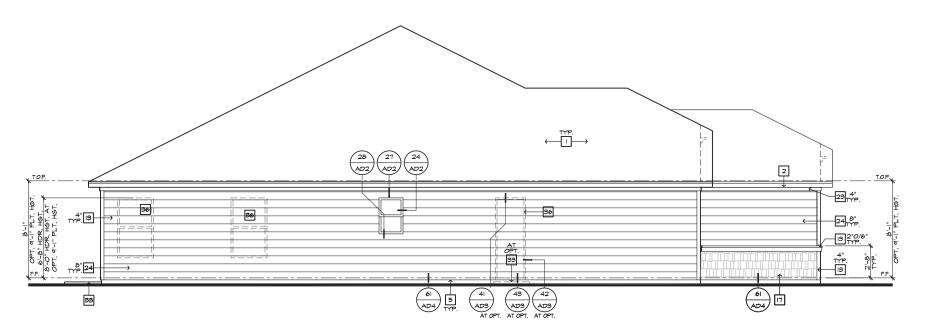
FRAMER SHALL BE RESPONSIBLE FOR COORDINATING WITH TRUSS MANUFACTURER TO ACCOMMODATE ALL ATTIC VENTS.

3.D2



# RIGHT ELEVATION 'D'

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



LEFT ELEVATION 'D'

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

# **ELEVATION NOTES** NOTE: NOT ALL KEY NOTES APPLY. I. ROOF MATERIAL - REFER TO ROOF NOTES 2. 2X FASCIA/BARGE BOARD WITH FASCIA CAP 4. G.I. FLASHING & SADDLE/CRICKET 5. G.I. DRIP SCREED

3. G.I. FLASHING

6. 24"x24" CHIMNEY
7. DECORATIVE VENT

8. DECORATIVE CORBEL
9. DECORATIVE SHUTTERS

II. RECESSED ELEMENT

20. BUILT UP BRICK COLUMN 21. SOLDIER COURSE 22. ROWLOCK COURSE

IO. PEDIMENT. SEE ELEVATION FOR TYPE

13. TRIM PER SPEC- SEE ELEVATION FOR SIZE 14. SYNTHETIC MATERIAL

23. FRIEZE BOARD
24. SIDING W/ 4" CORNER TRIM PER SPECS

31. BRACKET OR KICKER - FYPHON OR EQ. 32. ENTRY DOOR

34. SECTIONAL GARAGE DOOR PER SPECS

43. PILASTER - SEE ELEVATION FOR TYPE

35. ALUMINUM WRAP

38. KEYSTONE 39. SOLDIER CROWN 40. JACK SOLDIER COURSE 41. WATER TABLE 42. ATRIUM DOOR

24. SIDING W 4\* CORNER INIM TER STECS
25. P.T. POST W WRAP - SEE STRUCTURAL FOR SIZE
26. PRE-FAB DECORATIVE TRIM
27. LIGHT WEIGHT PRECAST STONE TRIM
29. P.T. LIMBER RAILINGS (+36" U.N.O.)
29. WRAP

30. DECORATIVE WINDOW/DOOR TRIM - FYPON OR EQ. SEE ELEVATION FOR SIZE.

33. CONCRETE STOOP/ PORCH - SEE SLAB INTERFACE PLAN.

36. OPTIONAL DOOR/MINDOM - REFER TO PLAN OPTIONS 37. OPTIONAL STANDING SEAM METAL ROOF

12. DECORATIVE TRIM FYPON OR EQ. SEE ELEVATION FOR TYPE

 PRE-MANUFACTURED DECORATIVE COLUMN (SIZE, SEE ELEV.) FYPON OR EQ. SURROUNDING STRUCTURAL POST. 16. SITE-BUILT COLUMN - SEE ELEVATION FOR TYPE SHAKE SIDING
 STONE VENEER PER SPECS
 BRICK/MASONRY VENEER PER SPECS

> NORTH CAROLINA 50' SERIES KB HOME NORTH CAROLINA DIVISION

HOME

4506 S. MIAMI BLVD.

SUITE 180

DURHAM, NC 27703 TEL: (919) 768-7980 **a** FAX: (919) 544-2928

2018 NORTH CAROLINA STATE BUILDING CODES

ISSUE DATE: 08/09/18 ■ PROJECT No.: 1350999:57 ■ DIVISION MGR.: D.S. 08/20/20 REVISIONS:

COMPLIANCE REVISIONS NC1903INCP/ 05/16/19 / FAE

DIVISION REVISIONS
NC19046NCP/ 08/16/19 / FAE DIVISION REVISIONS
NC19057NCP/ 09/26/19 / FAE

ADD VAULTED CEILING NCI9057NCP/ 12/23/19 / KBA

WENTILATION NC2008NCP/ 01/17/20 /KBA

DIVISION REVISION
NC20024NCP/ 05/18/20 /KBA

HOME OFFICE CORP20003CORP/- 08/20/20 CTD

149.2115 3.D3



FRONT ELEVATION 'D' W/ STONE AT OPTIONAL 9'-I" PLT. HGT.

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

# **ELEVATION NOTES** NOTE: NOT ALL KEY NOTES APPLY. I. ROOF MATERIAL - REFER TO ROOF NOTES 2. 2X FASCIA/BARGE BOARD WITH FASCIA CAP

3. G.I. FLASHING

4. G.I. FLASHING & SADDLE/CRICKET
5. G.I. DRIP SCREED

6. 24"x24" CHIMNEY
7. DECORATIVE VENT

8. DECORATIVE CORBEL
9. DECORATIVE SHUTTERS

IO. PEDIMENT. SEE ELEVATION FOR TYPE

II. RECESSED ELEMENT 12. DECORATIVE TRIM FYPON OR EQ. SEE ELEVATION FOR TYPE

13. TRIM PER SPEC- SEE ELEVATION FOR SIZE 14. SYNTHETIC MATERIAL

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

16. SITE-BUILT COLUMN - SEE ELEVATION FOR TYPE

17. SHAKE SIDING18. STONE VENEER PER SPECS19. 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 MRAP - SEE STRUCTURAL FOR SIZE
26. PRE-FAB DECORATIVE TRIM
27. LIGHT WEIGHT PRECAST STONE TRIM
28. P.T. LUMBER RAILINGS (+36\* UNLO.)

30. DECORATIVE WINDOW/DOOR TRIM - FYPON OR EQ. SEE ELEVATION FOR SIZE.

31. BRACKET OR KICKER - FYPHON OR EQ. 32. ENTRY DOOR

33. CONCRETE STOOP/ PORCH - SEE SLAB INTERFACE PLAN. 34. SECTIONAL GARAGE DOOR PER SPECS

35. ALUMINUM WRAP

36. OPTIONAL DOOR/MINDOW - REFER TO PLAN OPTIONS 37. OPTIONAL STANDING SEAM METAL ROOF

38. KEYSTONE 39. SOLDIER CROWN

40. JACK SOLDIER COURSE 41. WATER TABLE

42. ATRIUM DOOR 43. PILASTER - SEE ELEVATION FOR TYPE HOME

# NORTH CAROLINA 50' SERIES

KB HOME NORTH CAROLINA DIVISION

4506 S. MIAMI BLVD. SUITE 180 DURHAM, NC 27703

TEL: (919) 768-7980 **a** FAX: (919) 544-2928

2018 NORTH CAROLINA STATE BUILDING CODES

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

D.S.

REVISIONS: 08/20/20 COMPLIANCE REVISIONS NC1903INCP/ 05/16/19 / FAE

DIVISION REVISIONS
NC19046NCP/ 08/16/19 / FAE

DIVISION REVISIONS NCI9057NCP/ 09/26/19 / FAE

ADD VAULTED CEILING NCI9057NCP/ 12/23/19 / KBA WENTILATION NC2008NCP/ 01/17/20 /KBA

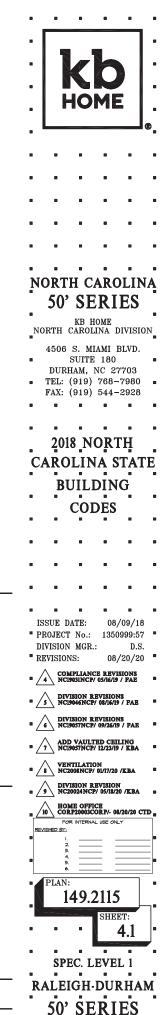
DIVISION REVISION NC20024NCP/ 05/18/20 /KBA

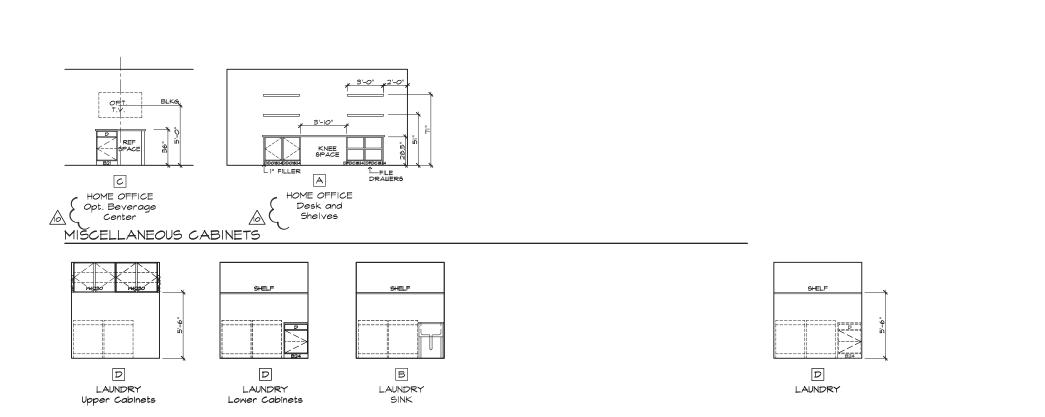
HOME OFFICE CORP20003CORP/- 08/20/20 CTD

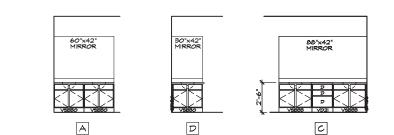
149.2115 3.D7

SPEC. LEVEL 1 RALEIGH-DURHAM 50' SERIES

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





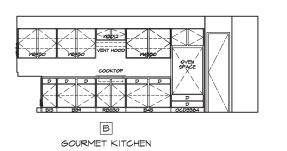


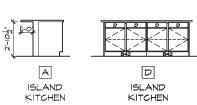
BATH 3

LAUNDRY AND MISCELLANEOUS CABINETS



BATH 2







# Α

KITCHEN

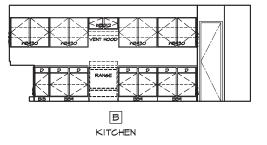
KITCHEN CABINETS

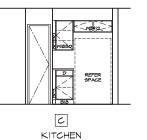
LAUNDRY CABINETS

0

M. BATH

BATH CABINETS





KITCHEN CABINETS

M. BATH

Super Master Bath/ Deluxe M. Bath

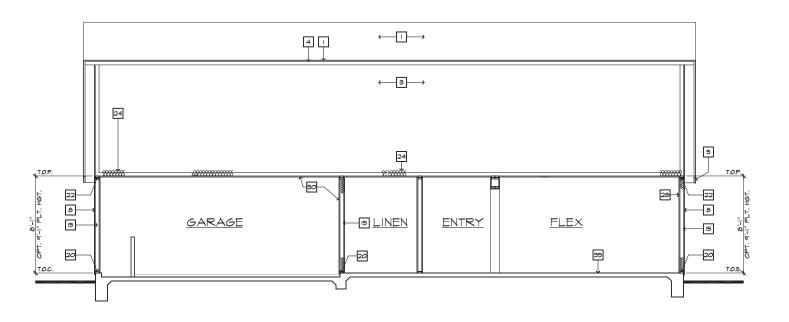
OPTIONAL INTERIOR ELEVATIONS STANDARD INTERIOR ELEVATIONS SCALE: I/4"=1'-0" (22"X34") - I/8"=1'-0" (II"XIT")

SCALE: I/4"=1'-0" (22"X84") - I/8"=1'-0" (II"XI7")

Α

BATH 2

SPEC. LEVEL 1 RALEIGH-DURHAM

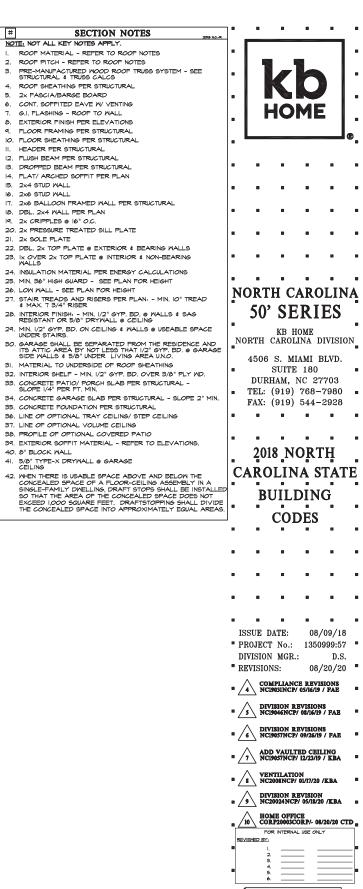


SECTION "A" SCALE I/4"=1'-0" (22"X34") - I/8"=1'-0" (II"XI7") AT SLAB-ON-GRADE



SECTION "B"

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



# SECTION I

5. 2x FASCIA/BARGE BOARD 6. CONT. SOFFITED EAVE W/ VENTING

15. 2x4 STUD WALL I6. 2x6 STUD WALL

2I. 2x SOLE PLATE

18. DBL. 2x4 WALL PER PLAN

I9. 2x CRIPPLES @ 16" O.C. 2O. 2x PRESSURE TREATED SILL PLATE

G.I. FLASHING - ROOF TO WALL 8. EXTERIOR FINISH PER ELEVATIONS 7. FLOOR FRAMING PER STRUCTURAL IO. FLOOR SHEATHING PER STRUCTURAL II. HEADER PER STRUCTURAL 12. FLUSH BEAM PER STRUCTURAL 13. DROPPED BEAM PER STRUCTURAL 14. FLAT/ ARCHED SOFFIT PER PLAN

SECTION NOTES

ROOF MATERIAL - REFER TO ROOF NOTES 2. ROOF PITCH - REFER TO ROOF NOTES

17. 2x6 BALLOON FRAMED WALL PER STRUCTURAL

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

33. CONCRETE PATIO/ PORCH SLAB PER STRUCTURAL SLOPE 1/4" PER FT. MIN.

35. CONCRETE FOUNDATION PER STRUCTURAL 36. LINE OF OPTIONAL TRAY CEILING/ STEP CEILING

37. LINE OF OPTIONAL VOLUME CEILING 38. PROFILE OF OPTIONAL COVERED PATIO

40. 8" BLOCK WALL

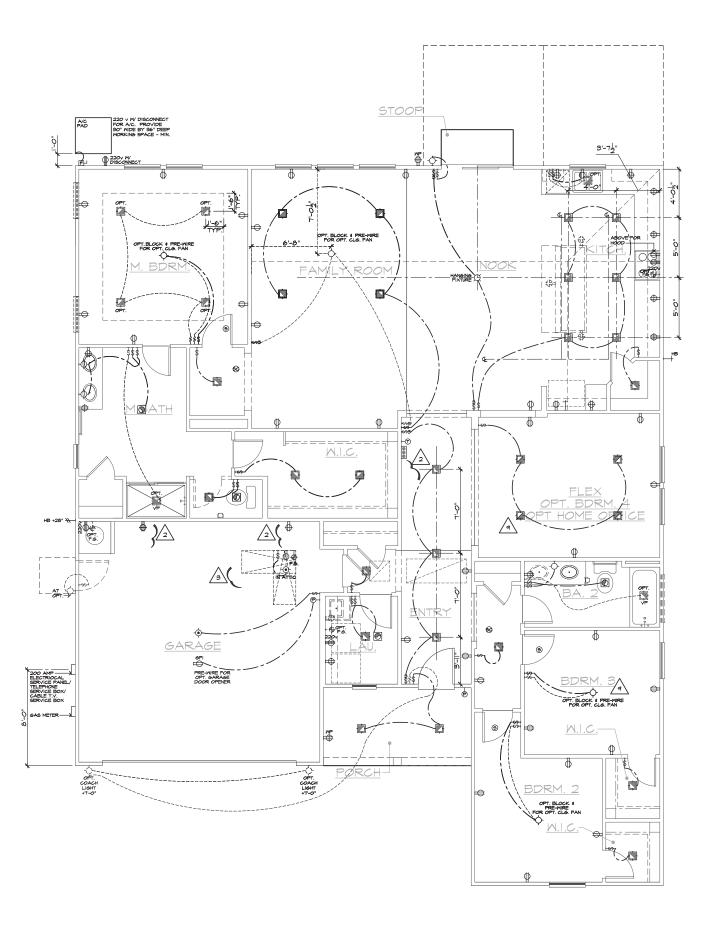
08/09/18 D.S. 08/20/20

TEL: (919) 768-7980 = FAX: (919) 544-2928

**CAROLINA STATE** 

149.2115

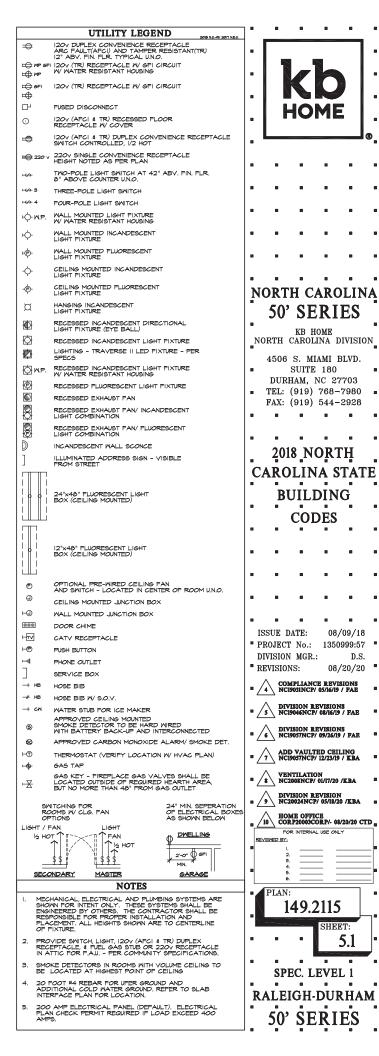
SPEC. LEVEL 1 RALEIGH-DURHAM

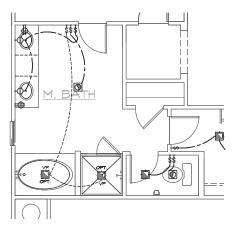


FIRST FLOOR UTLITY PLAN

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

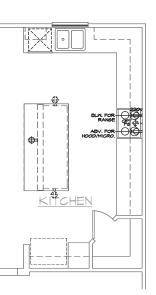
BASIC PLAN





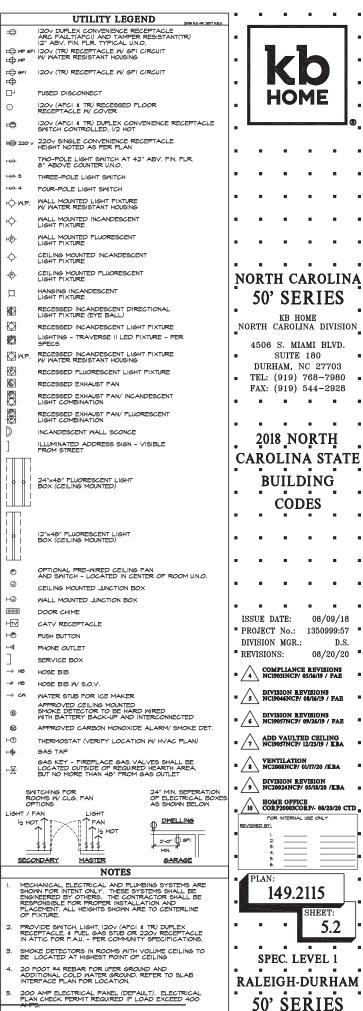
SUPER MASTER BATH

AT MASTER BATH



ISLAND

AT KITCHEN



HOME

NORTH CAROLINA 50' SERIES KB HOME

NORTH CAROLINA DIVISION 4506 S. MIAMI BLVD. SUITE 180 DURHAM, NC 27703 TEL: (919) 768-7980 . FAX: (919) 544-2928 . . . .

2018 NORTH CAROLINA STATE BUILDING CODES

D.S.

08/20/20 '

000 +H®

ㅁ

0

ф

**\( \rightarrow \)** 

Ø

Ö

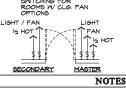
0

 $\vdash \bigcirc$ 

(5)

HT +

 $\vdash X$ 

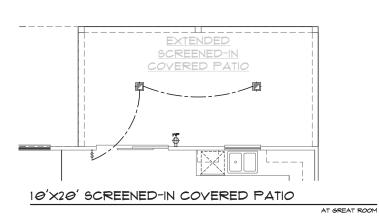


RALEIGH-DURHAM 50' SERIES

FOR INTERNAL USE ONLY

149.2115

SHEET: 5.2



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. MP GFI 120V (TR) RECEPTACLE W GFI CIRCUIT
W WATER RESISTANT HOUSING E GFI 120√ (TR) RECEPTACLE W GFI CIRCUIT ㅁ FUSED DISCONNECT 120v (AFCI & TR) RECESSED FLOOR RECEPTACLE W/ COVER 0 120v (AFCI & TR) DUPLEX CONVENIENCE RECEPTACLE SMITCH CONTROLLED, 1/2 HOT  $\Box$ 220 v 220 v 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 ₩ 4 FOUR-POLE LIGHT SMITCH -W.P. WALL MOUNTED LIGHT FIXTURE WY WATER RESISTANT HOUSING ф WALL MOUNTED INCANDESCENT LIGHT FIXTURE WALL MOUNTED FLUORESCENT LIGHT FIXTURE **\( \rightarrow \)** CEILING MOUNTED INCANDESCENT LIGHT FIXTURE CEILING MOUNTED FLUORESCENT LIGHT FIXTURE HANGING INCANDESCENT LIGHT FIXTURE Ø **D** RECESSED INCANDESCENT DIRECTIONAL LIGHT FIXTURE (EYE BALL)  $\bigcirc$ RECESSED INCANDESCENT LIGHT FIXTURE LIGHTING - TRAVERSE II LED FIXTURE - PER SPECS RECESSED INCANDESCENT LIGHT FIXTURE W/ MATER RESISTANT HOUSING ₩.P. **P** RECESSED FLUORESCENT LIGHT FIXTURE RECESSED EXHAUST FAN RECESSED EXHAUST FAN/ INCANDESCENT LIGHT COMBINATION 0 RECESSED EXHAUST FAN/ FLUORESCENT LIGHT COMBINATION INCANDESCENT WALL SCONCE ILLUMINATED ADDRESS SIGN - VISIBLE FROM STREET € 000 DOOR CHIME +HO PHONE OUTLET HOSE BIB HT + GAS TAP  $\vdash X$ 

HOME

2019 N.G.-R/ 2017 N.E.G

# NORTH CAROLINA 50' SERIES KB HOME

NORTH CAROLINA DIVISION 4506 S. MIAMI BLVD. SUITE 180 DURHAM, NC 27703 TEL: (919) 768-7980 . FAX: (919) 544-2928

. . . . 2018 NORTH CAROLINA STATE BUILDING

CODES

ISSUE DATE: 08/09/18

COMPLIANCE REVISIONS NCI903INCP/ 05/16/19 / FAE

DIVISION REVISIONS
NCI9046NCP/ 08/16/19 / FAE

DIVISION REVISIONS NCI9057NCP/ 09/26/19 / FAE

ADD VAULTED CEILING NCI9057NCP/ 12/23/19 / KBA

VENTILATION NC2008NCP/ 01/17/20 /KBA

DIVISION REVISION NC20024NCP/ 05/18/20 /KBA

HOME OFFICE CORP20003CORP/- 08/20/20 CTD

FOR INTERNAL USE ONLY

REVIEWED BY:

DIVISION MGR.:

REVISIONS:

PROJECT No.: 1350999:57

D.S.

08/20/20

12"x48" FLUORESCENT LIGHT BOX (CEILING MOUNTED)

- OPTIONAL PRE-MIRED CEILING FAN AND SMITCH LOCATED IN CENTER OF ROOM U.N.O.
- WALL MOUNTED JUNCTION BOX
- CATY RECEPTACLE PUSH BUTTON

SECONDARY

- SERVICE BOX
- HOSE BIB W/ S.O.V.
- 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
- THERMOSTAT (VERIFY LOCATION W/ HVAC PLAN)
- GAS KEY FIREPLACE GAS VALVES SHALL BE LOCATED OUTSIDE OF REQUIRED HEARTH AREA, BUT NO MORE THAN 48" FROM GAS OUTLET
- SMITCHING FOR ROOMS W CLG. FAN OPTIONS 24" MIN. SEPERATION OF ELECTRICAL BOX AS SHOWN BELOW ↑ FAN ↑½ HO1 ½ HOT↑ \$ \$ \$

MASTER

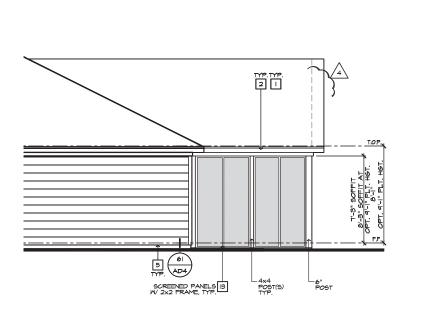
<u>DWELLING</u> 2'-0" GFI

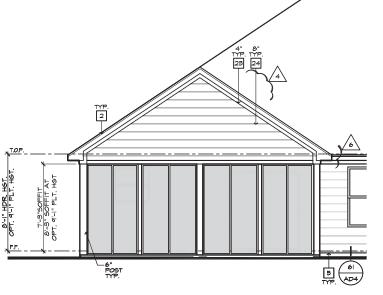
GARAGE

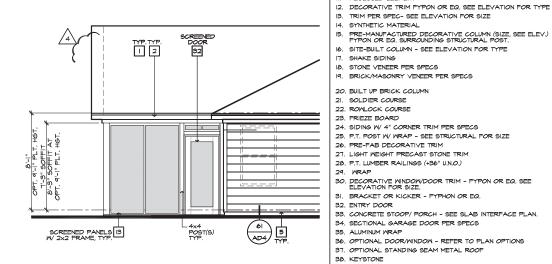
NOTES MECHANICAL ELECTRICAL AND PLIMBING SYSTEMS ARE SHOWN FOR INTENT ONLY. THESE SYSTEMS SHALL BE ENGINEERED BY OTHERS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND PLACEMENT, ALL HEIGHTS SHOWN ARE TO CENTERLINE OF FIXTURE.

- 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 AMP5.

149.2115 SHEET: 5.3







# PARTIAL RIGHT ELEVATION

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

ROOF PLAN NOTES 'D'

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

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

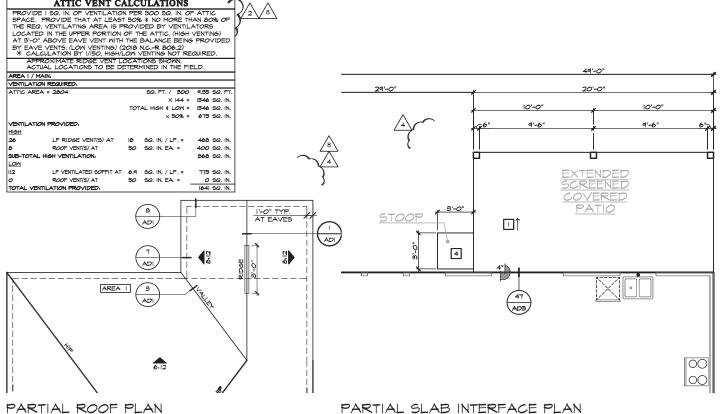
ROOF MATERIAL: COMPOSITION SHINGLE

# PARTIAL REAR ELEVATION

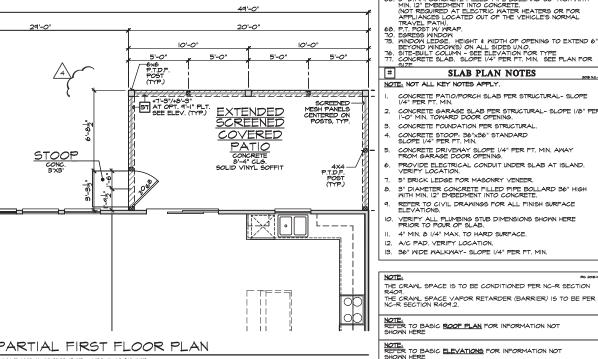
SCALE 1/4"=1'-0" (22"X34") - 1/8"=1'-0" (11"X17")

# PARTIAL LEFT ELEVATION

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

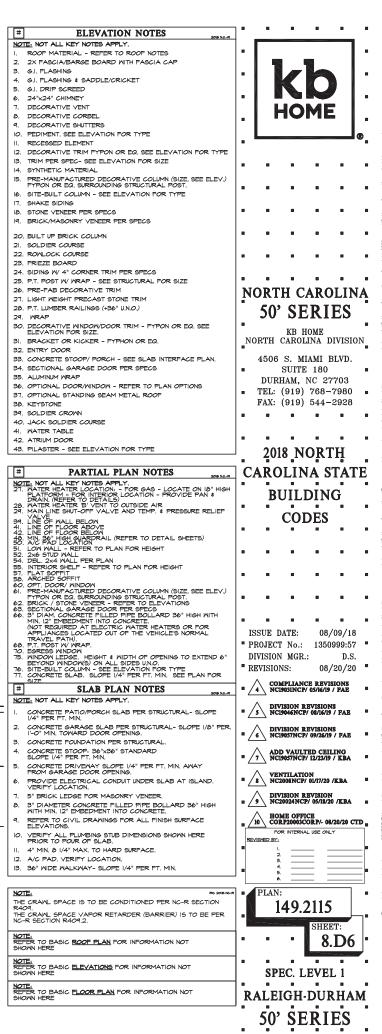


SCALE |/4"=|'-0" (22"X34") - |/8"=|'-0" (||"X|7")



PARTIAL FIRST FLOOR PLAN

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



ELEVATION NOTES

ROOF MATERIAL - REFER TO ROOF NOTES 2. 2X FASCIA/BARGE BOARD WITH FASCIA CAP

NOTE: NOT ALL KEY NOTES APPLY.

4. G.I. FLASHING & SADDLE/CRICKET

3. G.I. FLASHING

5. G.I. DRIP SCREED 6. 24"x24" CHIMNEY 7. DECORATIVE VENT

8. DECORATIVE CORBEL 9. DECORATIVE SHUTTERS IO. PEDIMENT. SEE ELEVATION FOR TYPE

I. RECESSED ELEMENT

39. SOLDIER CROWN

42. ATRIUM DOOR

40. JACK SOLDIER COURSE 4I. WATER TABLE

43. PILASTER - SEE ELEVATION FOR TYPE

PARTIAL PLAN NOTES NOTE, NOT ALL SEY NOTES PELY.

27. MATER HEATER, LOCATION - FOR GG - LOCATE ON 108 "HIGH DEPARTMENT OF MATERIAL SEY NOTES ON THE CONTROL OF T

SLAB PLAN NOTES

CONCRETE PATIO/PORCH SLAB PER STRUCTURAL- SLOPE 1/4" PER FT. MIN.

CONCRETE DRIVEWAY SLOPE  $\rm I/4"$  PER FT. MIN. AWAY FROM GARAGE DOOR OPENING.

PROVIDE ELECTRICAL CONDUIT UNDER SLAB AT ISLAND. VERIFY LOCATION.

3" DIAMETER CONCRETE FILLED PIPE BOLLARD 36" HIGH WITH MIN. 12" EMBEDMENT INTO CONCRETE.

REFER TO CIVIL DRAWINGS FOR ALL FINISH SURFACE ELEVATIONS.

O. VERIFY ALL PLUMBING STUB DIMENSIONS SHOWN HERE PRIOR TO POUR OF SLAB.

NOTE:
REFER TO BASIC FLOOR PLAN FOR INFORMATION NOT

CONCRETE FOUNDATION PER STRUCTURAL

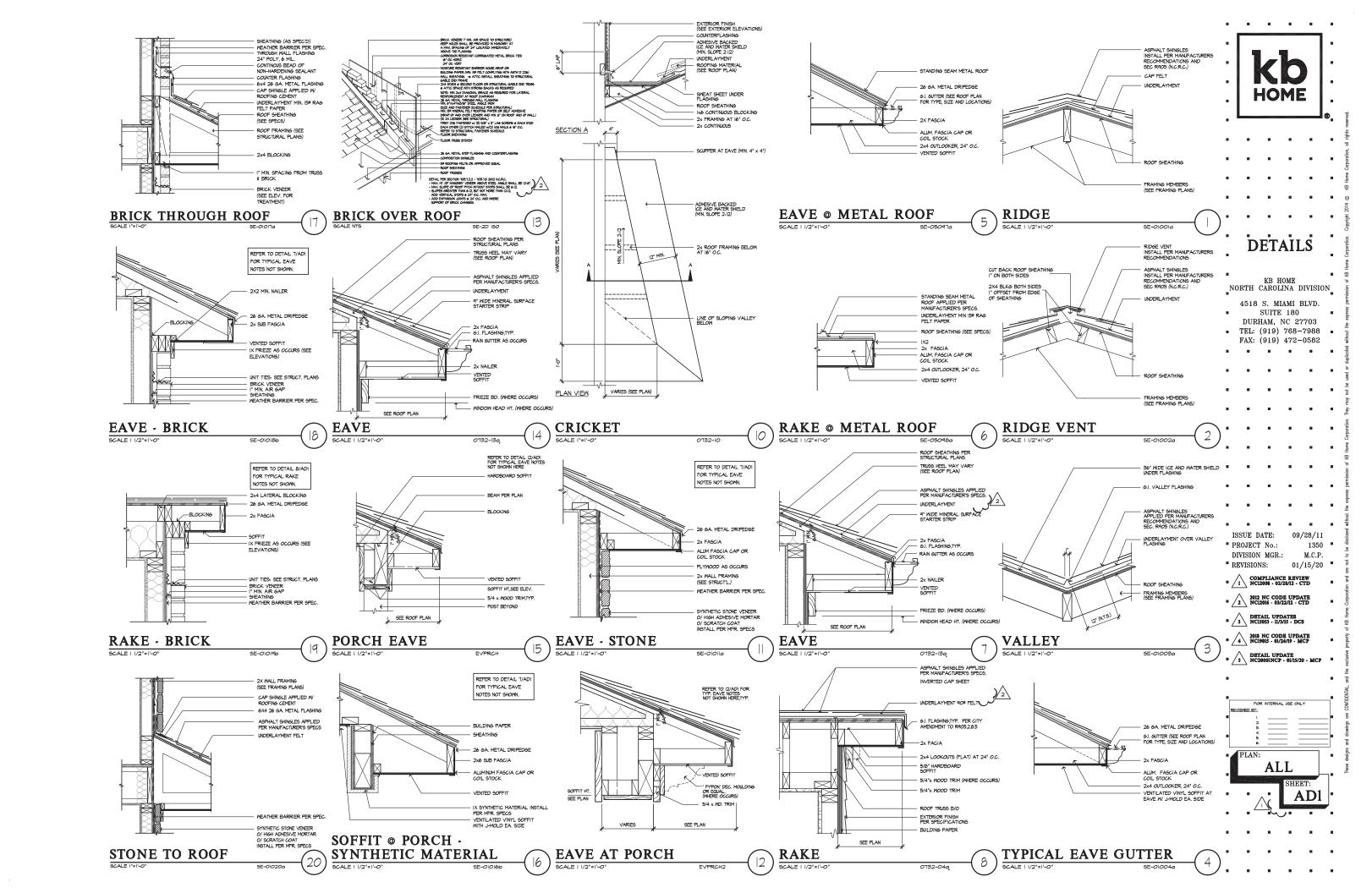
CONCRETE STOOP: 36"x36" STANDARD SLOPE I/4" PER FT. MIN.

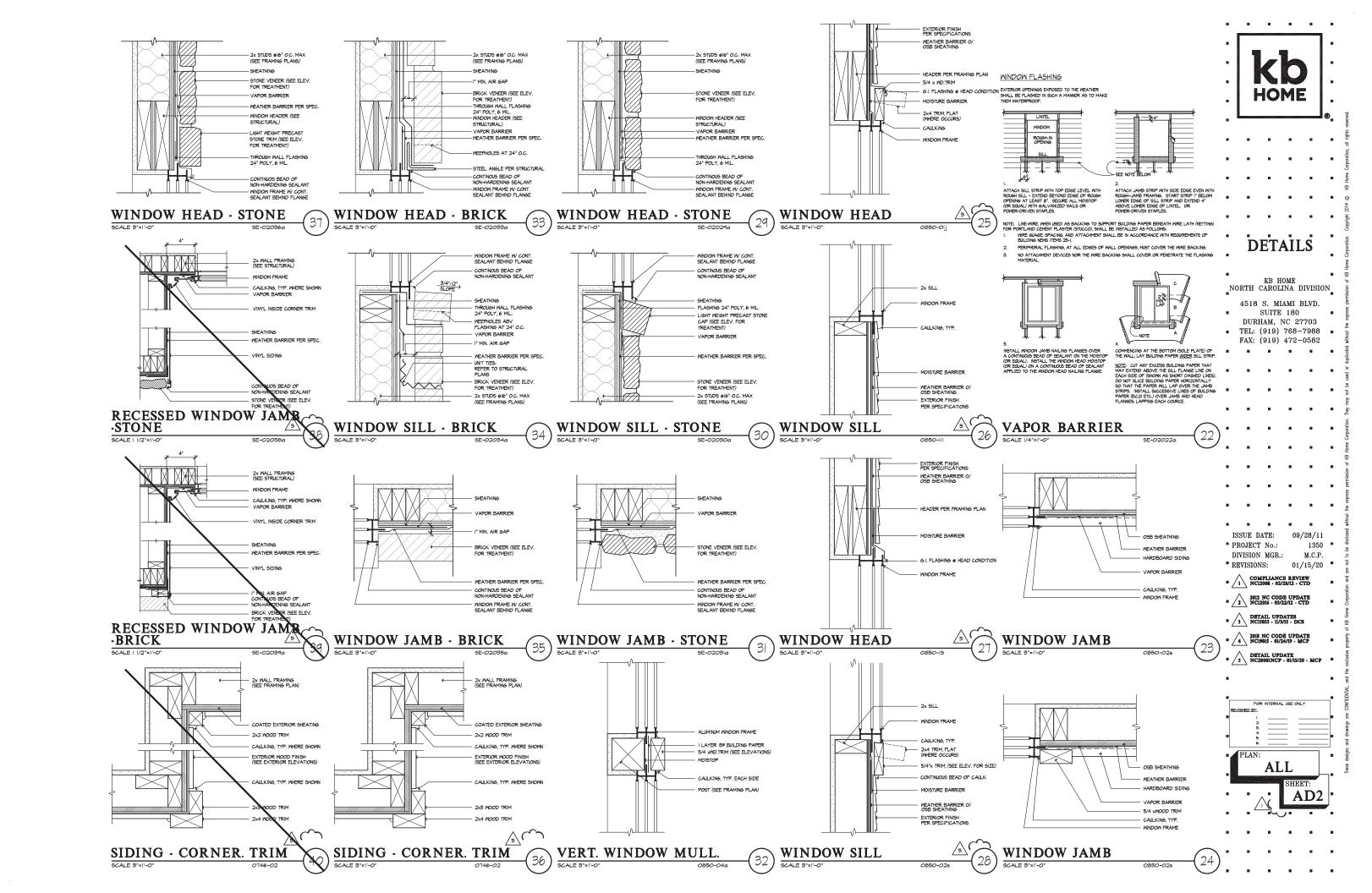
5" BRICK LEDGE FOR MASONRY VENEER

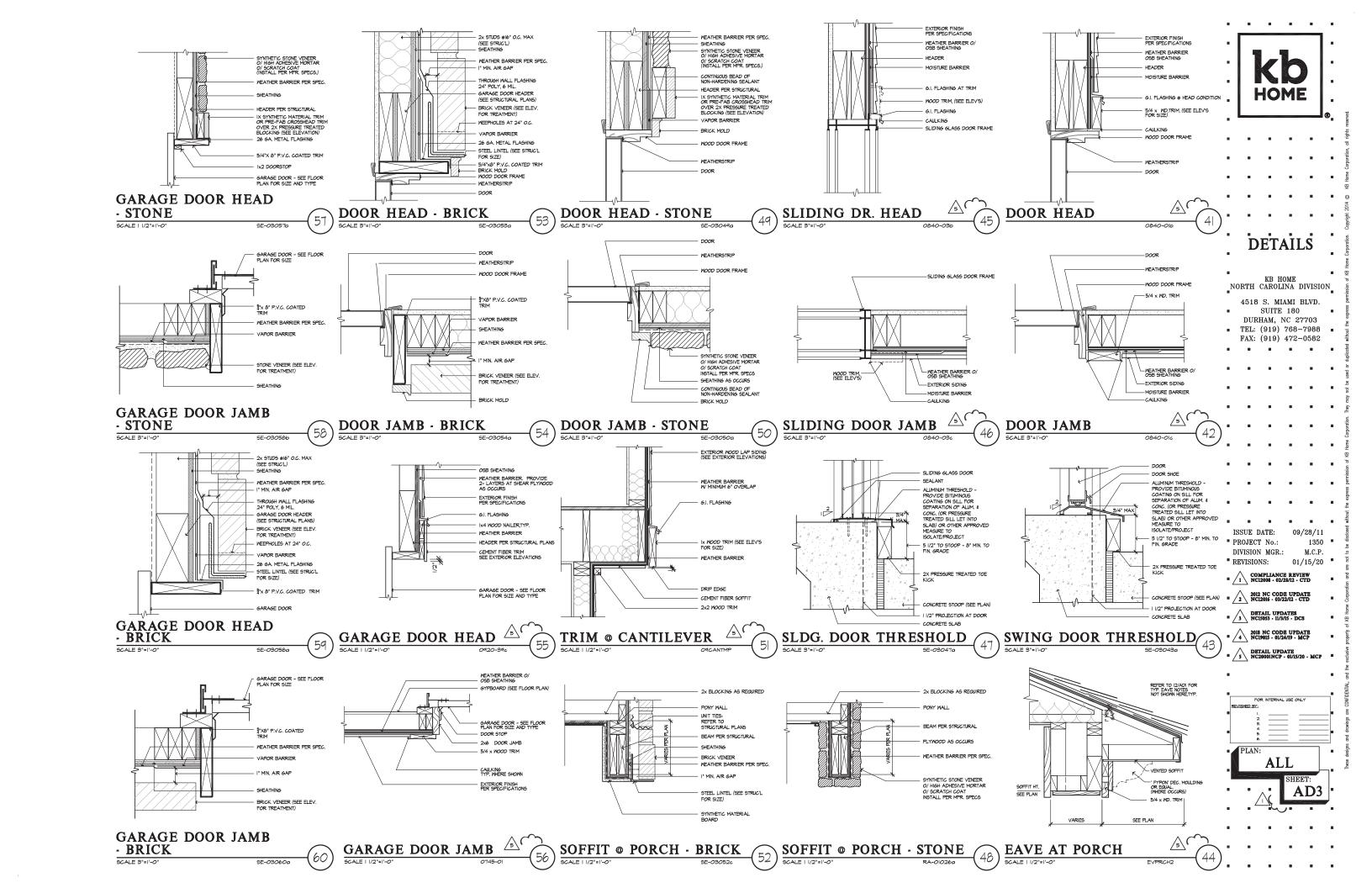
4" MIN. 8 I/4" MAX. TO HARD SURFACE.

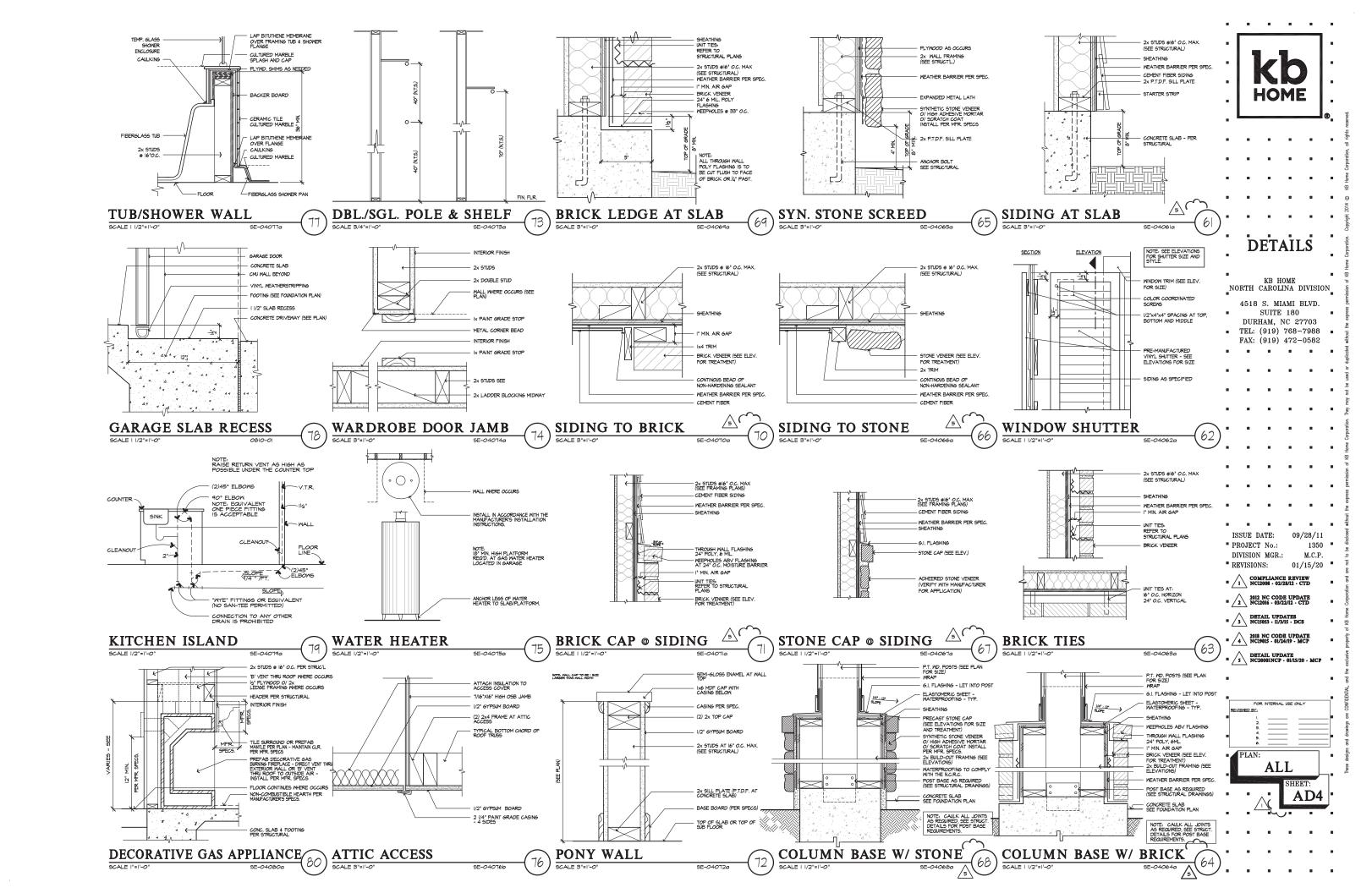
CONCRETE GARAGE SLAB PER STRUCTURAL- SLOPE 1/8" PER 1'-0" MIN. TOWARD DOOR OPENING.

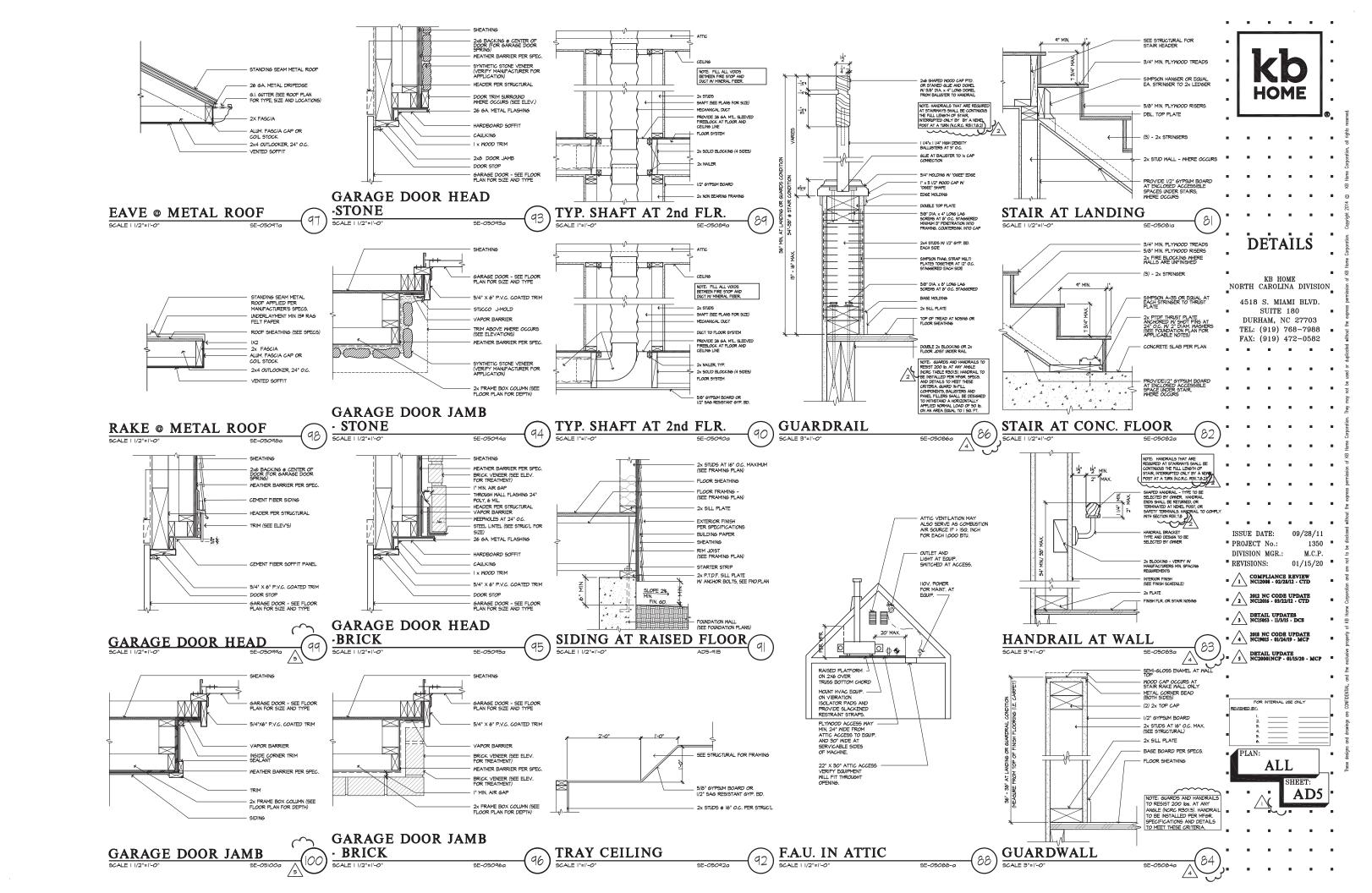
SCALE 1/8"=1'-0" (22"X34") - 1/16"=1'-0" (11"X17")

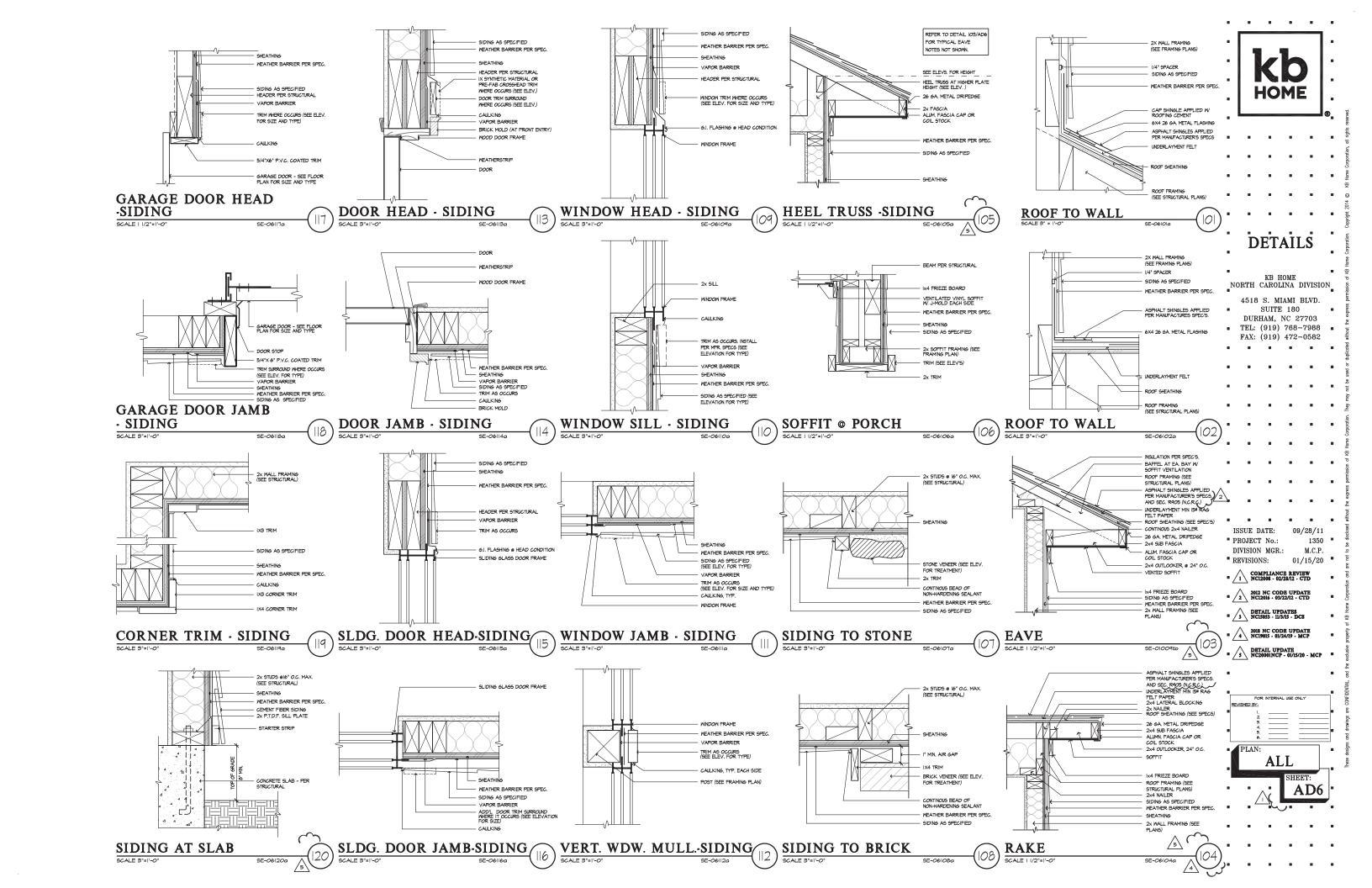


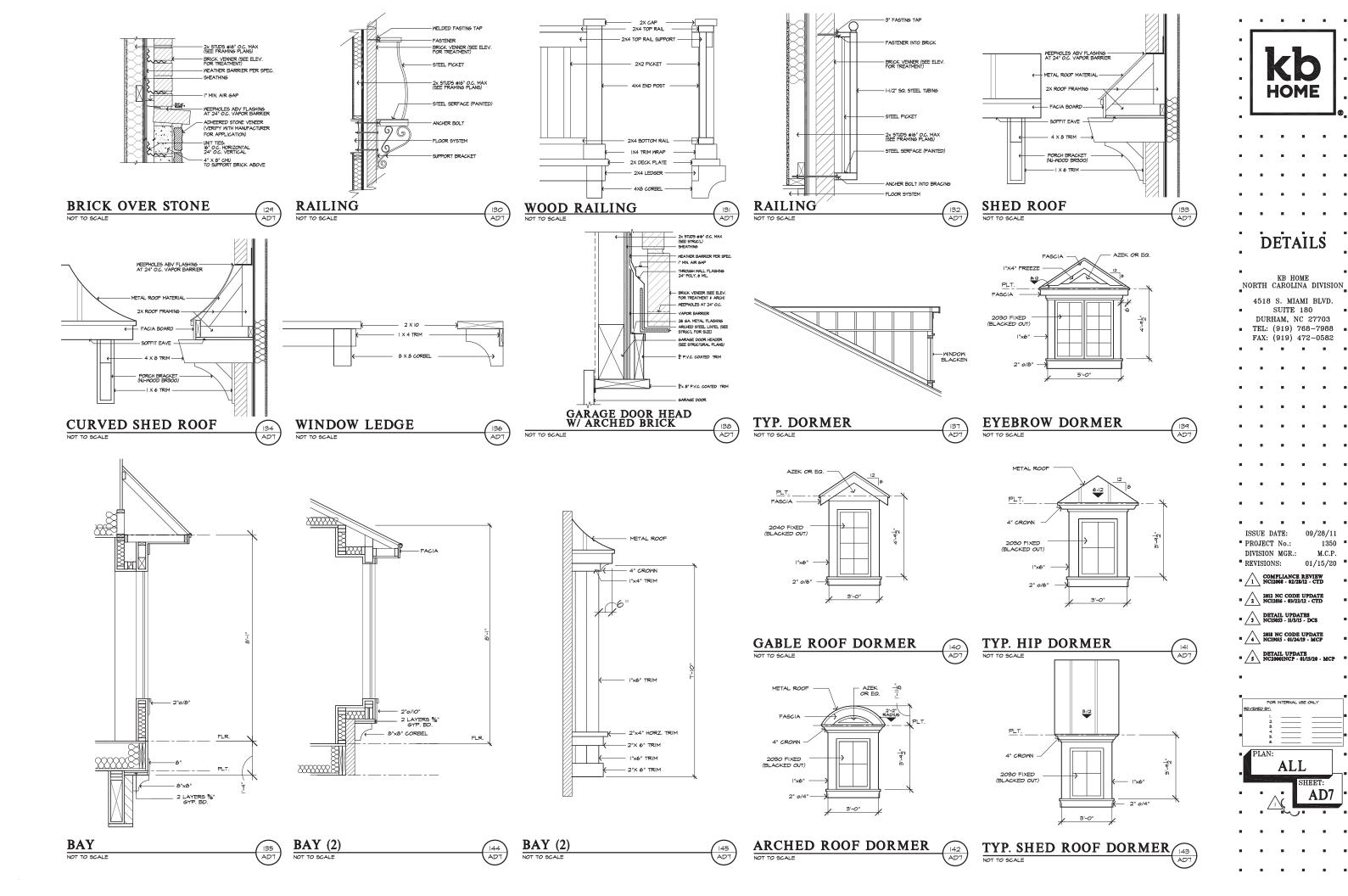


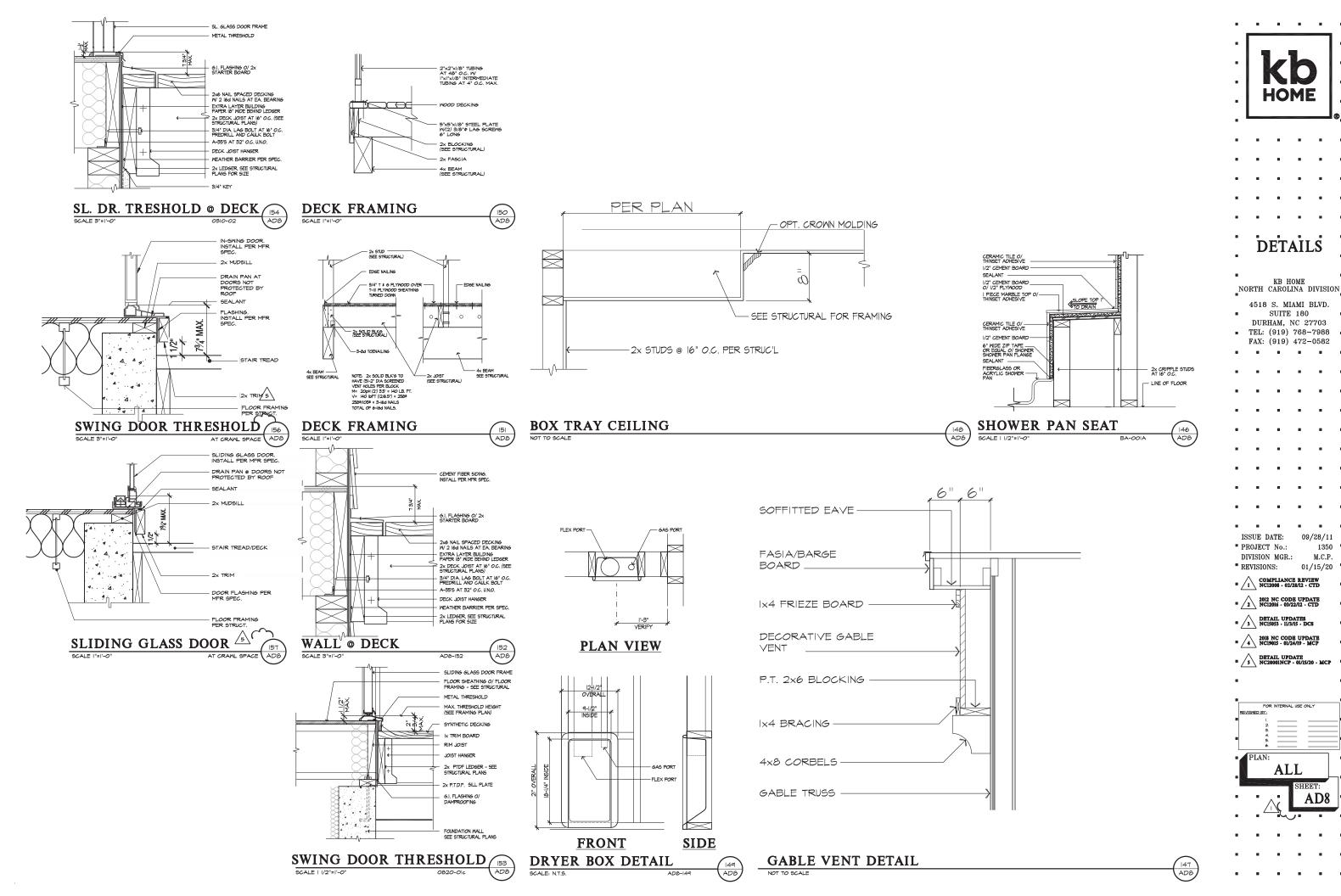










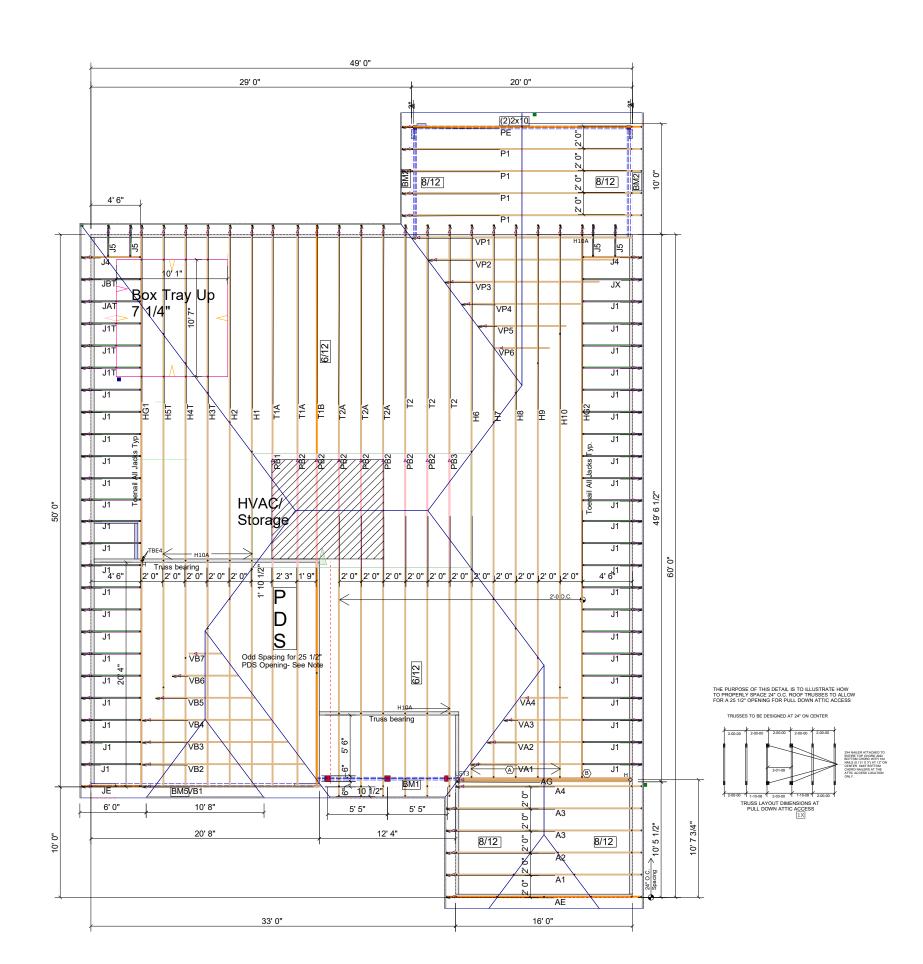


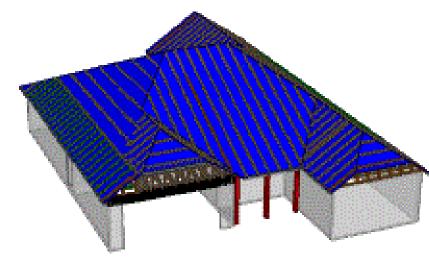
M.C.P.

01/15/20

SHEET:

AD8





	HANGER LIST					
Α	Simpson	HUS26	5			
В	Simpson	HUS28	1			
H2.5A-	Simpson	H2.5A	150			
H10A	Simpson	H10A	9			
Н	Simpson	HTS20	2			
LGT3	Simpson	LGT3- SDS2.5	1			
TBE4	Simpson	TBE4	1 set			

H2.5A are not included, supplied by framers

**REV: CP Gable** 



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

) (		109 dS	ORDER: 24814	SHIP DATE: 2020
Lot 39 Highland Grove	КВ НОМЕ	MODE   MO	P.O. NUMBER: PO #	REV: 11/2/20
Lot 39 HIÇ	KB	.9.2115 "D		PRINT DATE: 10/29/20
_	CUSTOMER:	MODEL: Plan 14	SCALE: NOT TO SCALE	DRAWN BY:  MWM
T			20 PS	SF.

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 BEARING CONNECTIONS WHICH SHALL BE REVIEWED BY THE BUILDING DESIGNER. IT IS THE RESPONSIBILITY OF THE BUILDING DESIGNER TO RESOLVE ALL ROOF FORCES ADEQUATELY TO THE FOUNDATION.

# STRUCTURAL PLANS FOR:



# 149.2115 - LH GARAGE

REV DATE	ARCH PLAN VERSION	REVISION DESCRIPTION	DRFT
10/20/2020	2115-149-01350 - ABCD LH D11 - 10.06.2020	INITIAL SETUP OF LAYOUT	ABS
10/20/2020	2115-149-01350 - ABCD LH D11 - 10.06.2020	CREATED LOT-SPECIFIC STRUCTURAL LAYOUT FROM MASTER PLAN AND EWP LAYOUT	ABS

# **NOTES**

- 1. ENGINEER'S SEAL APPLIES TO STRUCTURAL COMPONENTS ONLY. ENGINEER'S SEAL DOES NOT CERTIFY DIMENSIONAL ACCURACY OR ARCHITECTURAL LAYOUT, INCLUDING ROOF GEOMETRY. JDSfaulkner, 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 SELECTION SHALL BE PER:

2018 NORTH CAROLINA STATE BUILDING CODE: RESIDENTIAL CODE

# **ENGINEER OF RECORD**

JDSfaulkner, PLLC
ENGINEERING, BUILDING DESIGN, & CONSTRUCTION
CONSULTING SERVICES
8600 'D' JERSEY COURT
RALEIGH, NC 27617
FIRM LIC. NO: P-0961
PROJECT REFERENCE: 20901905



KB HOME
NORTH CAROLINA DIVISION
4518 S. MIAMI BLVD.

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



# P-0961

JDSfaulkner, PLLC HAS PERFORMED A
STRUCTURAL REVIEW OF THESE PLANS. THE
STRUCTURAL COMPONENTS COMPLY WITH THE
2018 NORTH CAROLINA RESIDENTIAL CODE FOR
ONE- AND TWO-FAMILY DWELLINGS FOR NC
PLAN REVIEW. DEVIATION OF ANY STRUCTURAL
REQUIREMENTS OF THESE PLANS WITHOUT THE



DATE: 11/5/2020

. . . .

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**

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION, FURTHERMORE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, AND SAFETY ON SITE, NOTIFY JDSfaulkner 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 WIND AND SEISMIC.
- SEISMIC DESIGN SHALL BE PER SECTION R301.2.2 SEISMIC PROVISIONS, INCLUDING ASSOCIATED TABLES AND FIGURES, BASED ON LOCAL SEISMIC DESIGN CATEGORY

# **DESIGN LOADS**

ASSUMED SOIL BEARING-CAPACITY	2,000 PSF
	LIVE LOAD
ULTIMATE DESIGN WIND SPEED	115 MPH, EXPOSURE B
GROUND SNOW	15 PSF
ROOF	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 LVL	KING STUD COLUMN LAMINATED VENEER	
l	ABV	ABOVE		LUMBER
	AFF	ABOVE FINISHED FLOOR ALTERNATE	MAX	
	ALT	ALTERNATE	MECH	
	BRG	BEARING	MFTR	MANUFACTURER
		BASEMENT	MIN	MINIMUM
		CANTILEVER	NTS	
		CEILING JOIST	OA	OVERALL
		CEILING	oc	ON CENTER
		CONCRETE MASONRY UNIT	PT	PRESSURE TREATED
	co	CASED OPENING	R	RISER
		COLUMN	REF RFG	REFRIGERATOR
	CONC	CONCRETE	RFG RO	ROOFING
	CONT	CONTINUOUS	RO	ROUGH OPENING ROOF SUPPORT
	D	CLOTHES DRYER		
	DBL	DOUBLE	SC	STUD COLUMN
	DIAM	DIAMETER	SF	SQUARE FOOT (FEET)
	DJ	DOUBLE JOIST	SH	
	DN	DOWN		SHEATHING
	DP	DEEP DOUBLE RAFTER DOUBLE STUD POCKET		SHOWER
	DR	DOUBLE RAFTER		SIMILAR
			SJ	
		EACH	SP	
	EE	EACH END		SPECIFIED
	EQ	EQUAL	SQ T	SQUARE TREAD
	EX	EXTERIOR		
		FORCED-AIR UNIT	TEMP THK	THICK(NESS)
		FOUNDATION	TI	TRIPLE JOIST
	FF	FINISHED FLOOR	TJ TOC TR	TOP OF CURB / CONCRETE
	FLR	FLOOR(ING)	TD	TRIPLE RAFTER
	FP	FIREPLACE	TYP	TYPICAL
	FTG		UNO	UNLESS NOTED OTHERWISE
		HOSE BIBB	W	CLOTHES WASHER
l		HEADER	WH	
	HGR	HANGER		WELDED WIRE FABRIC
	JS	JACK STUD COLUMN	XJ	EXTRA JOIST
ı			ΛJ	LATINA JUIST

# **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

2. 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

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 E = 1.9E6 PSI

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

5. 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. Fy = 50 KSI
- 7. REBAR SHALL BE DEFORMED STEEL CONFORMING TO ASTM A615,
- 8. 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
- 9. 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
- 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**

- 1. 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 <u>SECTION R404</u> OR AMERICAN CONCRETE INSTITUTE STANDARD ACI 318.
- 3. 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
- 5. 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.
  - B. WALL REINFORCING SHALL BE PLACED ACCORDING TO FOOTNOTE (c) OF THE TABLES (REINFORCING IS NOT CENTERED IN WALL).
  - FOUNDATION DRAINS ARE ASSUMED AT ALL WALLS PER
- 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 SECTION R403.1.6 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
- 8. CENTERS OF PIERS TO BEAR IN THE MIDDLE THIRD OF THE FOOTINGS, AND GIRDERS SHALL CENTER IN THE MIDDLE THIRD OF
- 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**

- ALL BEARING HEADERS TO BE (2) 2x6 SUPPORTED W/ MIN (1) JACK STUD AND (1) KING STUD EACH END, UNO.
- 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.
- ALL BEAMS SPECIFIED ARE MINIMUM SIZES ONLY LARGER MEMBERS MAY SUBSTITUTED AS NEEDED FOR EASE OF
- ALL EXTERIOR WALLS TO BE FULLY SHEATHED WITH 7/16" OSB.
- PORCH / PATIO COLUMNS TO BE 4x4 MINIMUM PRESSURE-TREATED LUMBER.
  - 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# LIPLIET 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
- ENGINEERED WOOD ELOOR 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.
  - B. 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
- 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 UNDER 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
- 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 FOUIVALENT 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.



. . . . . . . . . . . . KB HOME

. . . .

NORTH CAROLINA DIVISION

4518 S. MIAMI BLVD. SUITE 180 DURHAM, NC 27703 TEL: (919) 768-7988 ■ FAX: (919) 472-0582 ■



P-0961

JDSfaulkner, PLLC HAS PERFORMED A STRUCTURAL REVIEW OF THESE PLANS. THE STRUCTURAL COMPONENTS COMPLY WITH THE 018 NORTH CAROLINA RESIDENTIAL CODE FOR ONE- AND TWO-FAMILY DWELLINGS FOR NC PLAN REVIEW DEVIATION OF ANY STRUCTURAL REQUIREMENTS OF THESE PLANS WITHOUT THE APPROVAL OF THE EOR IS PROHIBITED.



DATE: 11/5/2020

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 <u>TABLE</u> 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)

	MAX HEIGHT (PLATE TO PLATE)
FRAMING MEMBER SIZE	115 MPH ULTIMATE DESIGN WIND SPEED
2x4 @ 16" OC	10'-0"
2x4 @ 12" OC	12'-0"
G	
2x6 @ 16" OC	15'-0"
2x6 @ 12" OC	17'-9"
<b>G</b>	
2x8 @ 16" OC	19'-0"
2x8 @ 12" OC	22'-0"
(2) 2x4 @ 16" OC	14'-6"
(2) 2x4 @ 12" OC	17'-0"
( )	
(2) 2x6 @ 16" OC	21'-6"
(2) 2x6 @ 12" OC	25'-0"
(=, = @ 12 00	20 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
- 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.



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



DENOTES OVER-FRAMED AREA

- 5. MINIMUM 7/16" OSB ROOF SHEATHING
- 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 SYSTEM.

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.



KB HOME
NORTH CAROLINA DIVISION

4518 S. MIAMI BLVD. SUITE 180 DURHAM, NC 27703 TEL: (919) 768-7988

■ FAX: (919) 472-0582 ■



# P-0961

JDSfaulkner, PLLC HAS PERFORMED A STRUCTURAL REVIEW OF THESE PLANS. THE STRUCTURAL COMPONENTS COMPLY WITH THE 2018 NORTH CAROLINA RESIDENTIAL CODE FOR ONE- AND TWO-FAMILY DWELLINGS FOR NC PLAN REVIEW. DEVIATION OF ANY STRUCTURAL REQUIREMENTS OF THESE PLANS WITHOUT THE APPROVAL OF THE EOR IS PROHIBITED.



DATE:

TE: 11/5/2020

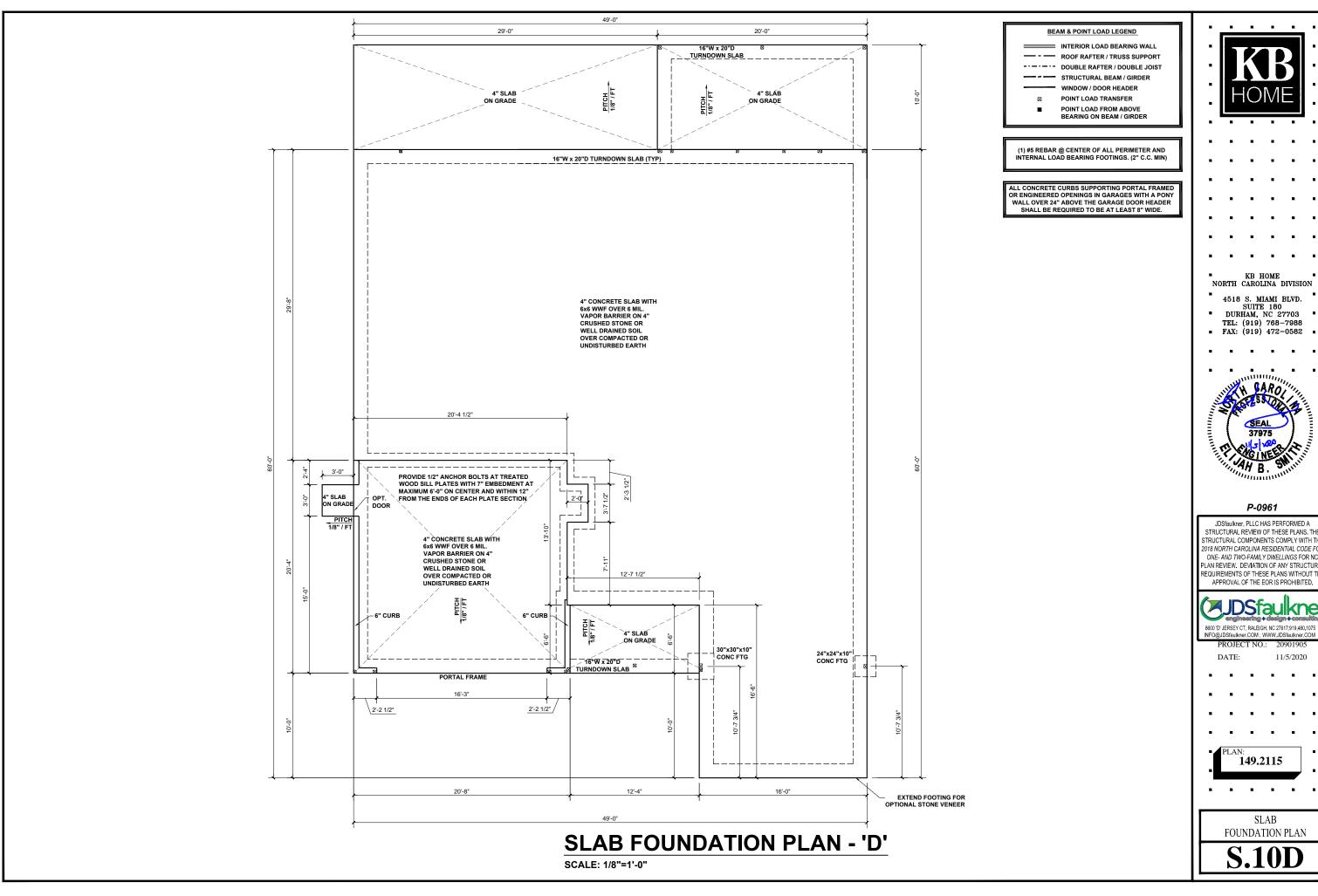
PLAN:

149.2115

. . . . .

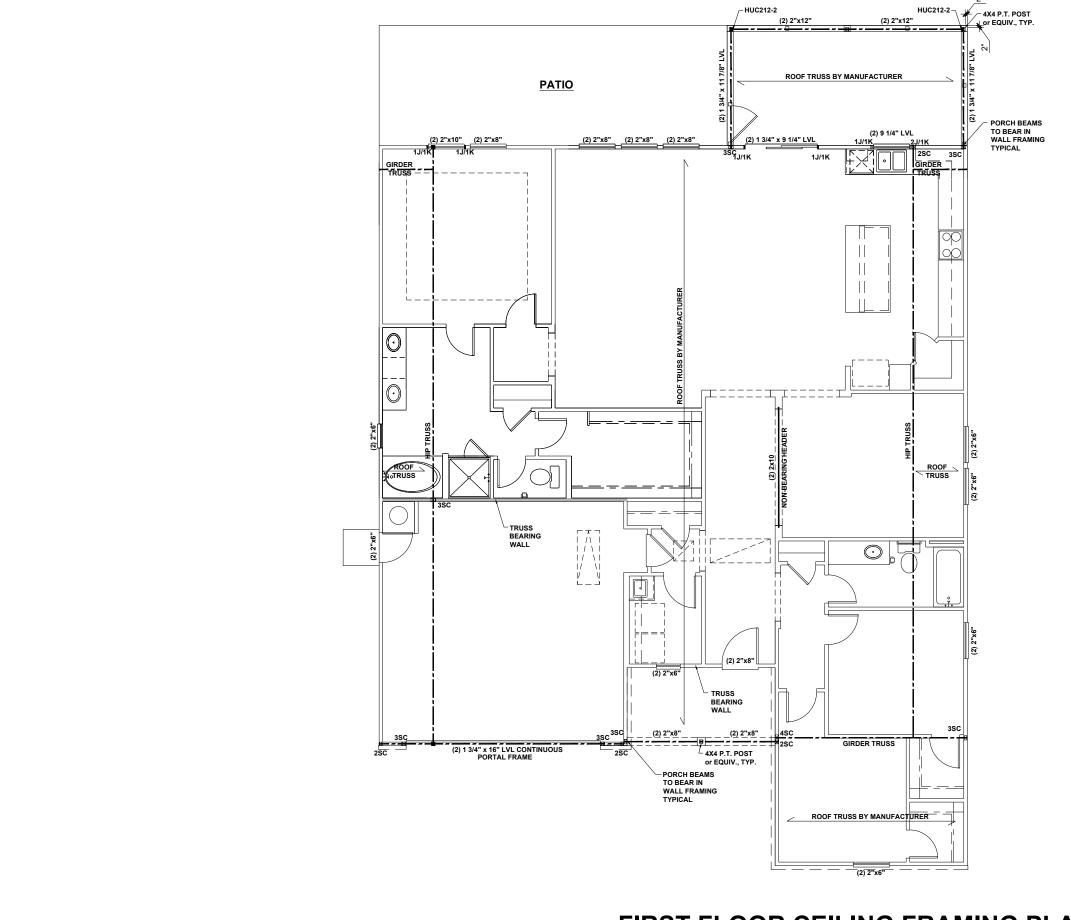
GENERAL NOTES

GN1.1



STRUCTURAL REVIEW OF THESE PLANS. THE STRUCTURAL COMPONENTS COMPLY WITH THE 2018 NORTH CAROLINA RESIDENTIAL CODE FOR ONE- AND TWO-FAMILY DWELLINGS FOR NC PLAN REVIEW. DEVIATION OF ANY STRUCTURAL REQUIREMENTS OF THESE PLANS WITHOUT THE





BEAM & POINT LOAD LEGE

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.)

ALL FRAMING TO BE #2 SPF MINIMUM.

- 2. ALL BEARING HEADERS TO BE (2) 2x6 SUPPORTED W/ MIN (1) JACK AND (1) KING EACH END, UNO.
- B. 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
- 9. 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.
- 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.
- I. 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).
- . FOR STUD COLUMNS OF 4 OR MORE, INSTALL SST C516 STRAPS @ 30" OC, 6" MAX FROM PLATES, ON INSIDE FACE OF COLUMN (EXTERIOR WALL), ON BOTH FACES OF COLUMN (INTERIOR WALL).

I-JOIST SPACING NOT TO EXCEED 19.2" OC IN LOCATIONS WITH TILE FINISH FLOOR

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.

FLOOR FRAMING TO BE 14" DEEP TJI 210 SERIES OR EQUAL, 19.2" OC MAXIMUM SPACING



. . . . . .

NORTH CAROLINA DIVISION

4518 S. MIAMI BLVD. SUITE 180 DURHAM, NC 27703 TEL: (919) 768-7988 FAX: (919) 472-0582

■ FAX: (919) 472-0582 ■

SEAL 37975

P-0961

JDSfaulkner, PLLC HAS PERFORMED A
STRUCTURAL REVIEW OF THESE PLANS. THE
STRUCTURAL COMPONENTS COMPLY WITH THE
2018 NORTH CAROLINA RESIDENTIAL CODE FOR
ONE- AND TWO-FAMILY DWELLINGS FOR NC
PLAN REVIEW. DEVIATION OF ANY STRUCTURAL
REQUIREMENTS OF THESE PLANS WITHOUT THE
APPROVAL OF THE EOR IS PROHIBITED.



PROJECT NO.: 2090190: DATE: 11/5/2020

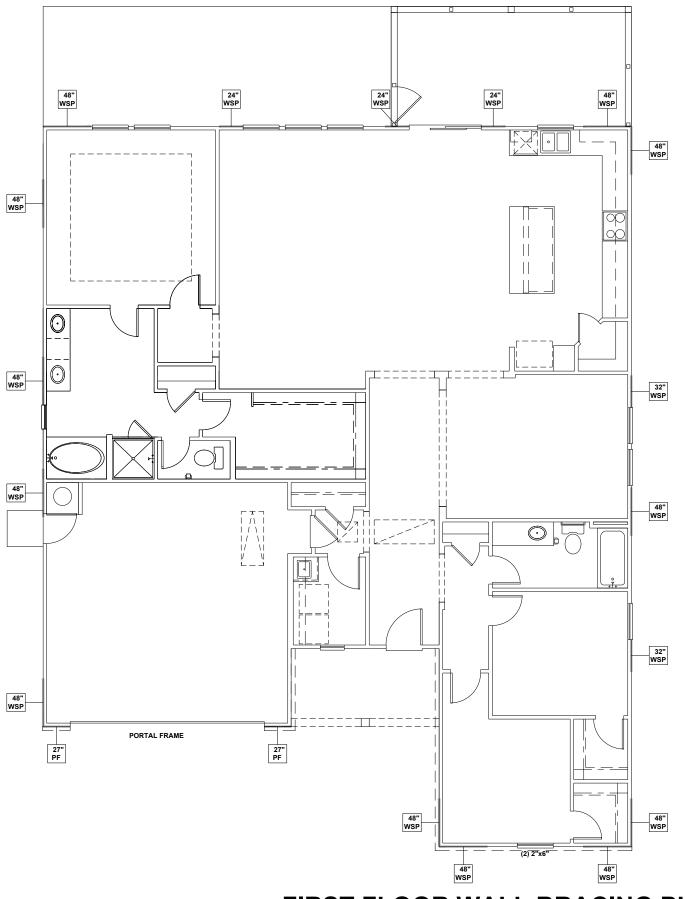
PLAN: **149.2115** 

FIRST FLOOR CEILING FRAMING PLAN

S1.0D

FIRST FLOOR CEILING FRAMING PLAN - 'D'

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



# FIRST FLOOR WALL BRACING PLAN - 'D'

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.
   PANELS MAY SHIFT UP TO 36" EITHER DIRECTION
- 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. STRAP TO BE LOCATED AT EDGE OF BRACED WALL PANEL. (CS16 STRAPPING MAY BE SUBSTITUTED W/SIMILAR LENGTH AND NAILING PATTERN.) USE HT14 FOR ATTACHMENT TO CONCRETE.

SCALED LENGTH
OF WALL PANEL
AT LOCATION

24" LEN WSP OF F

OF PANEL

PANEL TYPE

# WALL BRACING: RECTANGLE 1

SIDE	REQUIRED LENGTH	PROVIDED LENGTH
FRONT	11.0 FT.	14.75 FT.
RIGHT	13.0 FT.	17.3 FT.
REAR	11.0 FT.	14.0 FT.
LEFT	13.0 FT.	20.0 FT.



KB HOME
NORTH CAROLINA DIVISION

4518 S. MIAMI BLVD.
SUITE 180
DURHAM, NC 27703
TEL: (919) 768-7988
FAX: (919) 472-0582



# P-0961

JDSfaulkner, PLLC HAS PERFORMED A STRUCTURAL REVIEW OF THESE PLANS. THE STRUCTURAL COMPONENTS COMPLY WITH THE 2018 NORTH CAROLINA RESIDENTIAL CODE FOR ONE-AND TWO-FAMILY DWELLINGS FOR NC PLAN REVIEW. DEVIATION OF ANY STRUCTURAL REQUIREMENTS OF THESE PLANS WITHOUT THE



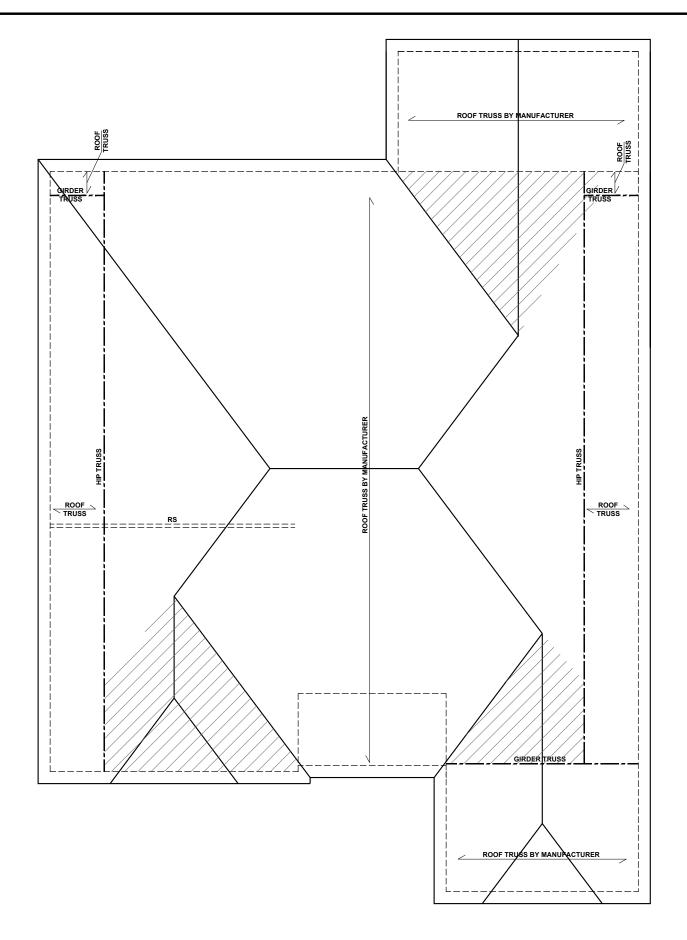
8600 'D' JERSEY CT, RALEIGH, NC 27617;919,480,1075 INFO@JDSfaulkner.COM; WWW.JDSfaulkner.COM PROJECT NO.: 20901905

DATE: 11/5/2020

PLAN: 149.2115

FIRST FLOOR WALL BRACING PLAN

S4.0D



# **ROOF FRAMING PLAN - 'D'**

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

# 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

# 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.
- 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.
- 7. UPLIFT CONNECTION TO BE CARRIED THROUGH TO FLOOR SYSTEM.



	•	•	•	•
	•	•	•	•
	•	•	•	•
NORTH		HOME	DIVISI	• ON
4518	S. M	IAMI E 180	BLVD.	•
	HAM,	NC 2		
	(919) (919)			



# P-0961

JDSfaulkner, PLLC HAS PERFORMED A STRUCTURAL REVIEW OF THESE PLANS. THE STRUCTURAL COMPONENTS COMPLY WITH THE 2018 NORTH CAROLINA RESIDENTIAL CODE FOR ONE- AND TWO-FAMILY DWELLINGS FOR NC PLAN REVIEW. DEVIATION OF ANY STRUCTURAL REQUIREMENTS OF THESE PLANS WITHOUT THE APPROVAL OF THE EOR IS PROHIBITED.



8600 'D' JERSEY CT, RALEIGH, NC 27617;919,480,1075 INFO@JDSfaulkner.COM; WWW.JDSfaulkner.COM PROJECT NO.: 20901905

DATE: 11/5/2020

PLAN: 149.2115

ROOF FRAMING PLAN

**S7.0D** 

