

Converting Den to bedroom. Floor plan review only



NORTH CAROLINA 40' SERIES PLAN 240.3174-R

LOT 39 MASON POINTE -ELEVATION C

SHEET INDEX

ARCHITECTURAL DETAILS

PLAN #240.3174-R

TITLE SHEET GENERAL NOTES GENERAL NOTES GENERAL NOTES

CENERAL NOTES
FIRST FLOOR PLAN
SECOND FLOOR PLAN
FIRST FLOOR AT CRAWL SPACE OPTION
FIRST FLOOR PLAN OPTIONS
FIRST FLOOR PLAN OPTIONS

SLAB INTERFACE PLAN 'A'

PARTIAL SLAB INTERFACE PLAN 'B', 'C', & 'D'
CRANL SPACE PLAN 'A'
PARTIAL CRANL SPACE PLAN 'B', 'C' & 'D'

ROOF PLAN, FRONT & REAR ELEVATIONS (A)
LEFT & RIGHT ELEVATIONS (A)
PARTIAL FIRST FLOOR PLAN, FRONT ELEVATION AND PARTIAL LEFT AND RIGHT
ELEVATIONS (A) AT CRANL SPACE
FRONT ELEVATION (A) AT OPTIONAL 91-0" PLATE AT SLAB & CRANL SPACE

PARTIAL FIRST & SECOND FLOOR PLANS B'
ROOF PLAN, FRONT & REAR ELEVATIONS B'
LEFT & RIGHT ELEVATIONS B'
PARTIAL FIRST FLOOR PLAN, FRONT ELEVATION AND PARTIAL LEFT AND RIGHT
ELEVATIONS B' AT CRANL SPACE
FRONT ELEVATION B' AT OPTIONAL 91-0° PLATE AT SLAB & CRANL SPACE

PARTIAL FIRST & SECOND FLOOR PLANS 'C'
ROOF PLAN, FRONT & REAR ELEVATIONS 'C'
LEFT & RIGHT ELEVATIONS 'C'
PARTIAL FIRST FLOOR PLAN, FRONT ELEVATION AND PARTIAL LEFT AND RIGHT
ELEVATION 'C' AT CRANL SPACE
FRONT ELEVATION 'C' AT OPTIONAL 9"-0" PLATE AT SLAB & CRAWL SPACE

PARTIAL FIRST & SECOND FLOOR PLANS D'
ROOF PLAN, FRONT & REAR ELEVATIONS D'
LEFT & RIGHT ELEVATIONS D'
PARTIAL FIRST FLOOR PLAN, FRONT ELEVATION AND PARTIAL LEFT AND RIGHT
ELEVATIONS D' AT CRAYL SPACE
FRONT ELEVATION D' AT OPTIONAL 9"-0" PLATE AT SLAB & CRAYL SPACE 3.D4

INTERIOR ELEVATIONS

SECTIONS SLAB ON GRADE SECTIONS CRAWL SPACE

PARTIAL FLOOR PLAN, ELEVATIONS, CRAWL SPACE PLAN 'A/B/C/D' AT 12'x12' DECK PARTIAL FLOOR PLAN, ELEVATIONS, CRAWL SPACE PLAN 'A/B/C/D' AT 21'x12' DECK

PARTIAL FLOOR PLAN, ROOF & ELEVATIONS W OPT, COVERED PATIO

PARTIAL FLOOR PLAN, ROOF & ELEVATIONS W OPT. EXTENDED COVERED PATIO
PARTIAL FLOOR PLAN, ROOF & ELEVATIONS W OPT. COVERED SCREENED PATIO
PARTIAL FLOOR PLAN, ROOF & ELEVATIONS W OPT. EXTENDED COVERED SCREENED PATIO
PARTIAL FLOOR PLAN, ELEVATIONS & SLAB INTERFACE PLAN 'A/B/C/D' AT SCREENED-IN

12'x12' COVERED DECK

SECOND FLOOR AREA

TOTAL AREA

PORCH AREA(S)

OPTION (AREA)

DECK AREA(S)

SQUARE FOOTAGE

PLAN 240.3174 PARTIN PLACE 2

FLEVATION 'A

ELEVATION 'B

ELEVATION 'D

DEN/BDRM, 5/BA,3

10'x20' COVERED

OPEN 21'x12' SCREEN-IN 12'x12'

SCREEN-IN 21'x12

OPEN 12'X12'

3174 SQ. FT

SQ. FT.

126 126 101

CONSULTANTS

OWNER:

ARCHITECT

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PARTIAL FLOOR PLAN, ELEVATIONS & SLAB INTERFACE PLAN 'A/B/C/D' AT SCREENED-IN

CODE INFORMATION

APPLICABLE CODES: 2018 NORTH CAROLINA STATE BUILDING CODE: RESIDENTIAL CODE, INCLUDING REFERENCED CODES AND STANDARDS

PROJECT DESCRIPTION:

OCCUPANCY:

CONSTRUCTION TYPE:

CODE ABBREVIATIONS

N.C.-R. NORTH CAROLINA RESIDENTIAL CODE
N.C.-B. NORTH CAROLINA BUILDING CODE NORTH CAROLINA MECHANICAL COD NORTH CAROLINA PLUMBING CODE NORTH CAROLINA FUEL GAS CODE

N.C.-E. NORTH CAROLINA ELECTRICAL N.C.-E.C. NORTH CAROLINA ENERGY CODE
N.E.C. NATIONAL ELECTRICAL CODE
I.C.B.O. INTERNATIONAL CONFERENCE
OF BUILDING OFFICIALS

A.S.T.M. AMERICAN SOCIETY FOR TESTING MATERIALS N.F.P.A. NATIONAL FIRE PROTECTION ASSOCIATION

AMERICAN NATIONAL STANDARDS I.E.C.C. INTERNATIONAL ENERGY CONSERVATION CODE

INTERNATIONAL CODE COUNCIL

REVISION LIST

DELTA	DATE	SHEETS REVISED	LOG NUMBER
I.	01/23/19	T.5,	NC19015NCP
2	02/28/19	Al.I- Al.7, 3.Al,3.A2, 3.Bl, 3.B2, 3.B3, 3.Cl, 3.Dl,	NC19005NCP
3	04/22/19	3.BI	NC19029NCP
4	07/31/19	ALL	NC19055NCP

HOME

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2018 NORTH

CAROLINA STATE BUILDING CODES ISSUE DATE: 07/31/18 PROJECT No.: 1350999:56 DIVISION MGR.: REVISIONS: 07/31/19 2018 CODE UPDATE NCI9015NCP- 01/23/19 MCP DIVISION REVISION
NC19055NCP- 07/31/19 FAE 240.3174-R HEET: TS

SPEC. LEVEL 1

RALEIGH-DURHAM

GROUND-FAULT CIRCUIT INTERRUPTER GALVANIZED IRON S.C. ADJ. ADJUSTABLE SOLID CORE ALTERNATE SMOKE DETECTOR AMPERAGE SECTION GYPSUM BOARD SINGLE HUNG BOARD CENTER LINE SHEET HDR. HEADER CABINET SHEATHING CLG. CLR. CEILING SHOWER HEADER HEIGHT SIMILAR CLEAR HS CONC CONCRETE SI IDING CARPET IN LIEU OF SLIDING GLASS CERAMIC TILE INSUL. INT. INSULATION STANDARD INTERIOR DRYER SHEET VINYL DBL. D.G. DOUBLE LAMINATED TEMPERED GLASS LAV. LAVATORY DUAL GLAZED DIA. DIM. DIAMETER LUM. M.C. LIMINOUS TOG TOP OF CURB TOP OF PLATE MEDICINE CABINET T.O.P. DIMENSION DISP DISPOSAL MFR. MANUFACTURER T.O.S. TOP OF SLAB MIN. MINIMUM TYPICAL DIVIDED LIGHT DEEP MTD MOUNTED IINO UNLESS NOTED OTHERWISE DOOR MTL. METAL VAPOR PROOF NOT IN CONTRACT V.P. NIC WASHER DETAIL N.T.S. NOT TO SCALE DISHWASHER OVER WOOD ON CENTER EACH MINDOM ELEV. ELEVATION OPTIONAL OUTSIDE AIR WATER HEATER 0.S.A. EQUAL EXHAUST PROPERTY LINE WEATHER PROOF EXTERIOR PUSH BUTTON FORCED AIR LINIT PH. PLT.

PLATE

PAIR

RISER

REVERSE

RETURN AIR GRILL REFRIGERATOR

PLYWOOD

PLYWD.

P.T.D.F.

RAG

REF.

REV.

RE/S

ABBREVIATIONS

ABOVE

F.6./FX.

FR. DR

FTG.

FIXED GLASS

FLUORESCENT

FRENCH DOOR

FUEL GAS

FINISH

FLR. LINE FLOOR LINE

AIR CONDITIONING

SHELF AND POLE

ADIS

REVISION REFERENCE REVISION NUMBER REFER TO TITLE SHEET

OFFSET REFERENCE

DIFFERENTIAL IN FLOOR LEVEL

SCALE NOTE

ARCH. SYMBOLS

BUILDING SECTION

DETAIL REFERENCE

KEYNOTE REFERENCE

SECTION INDICATOR

SHEET NUMBER

DETAIL NUMBER

REFERENCE NUMBER

OR FINISH SURFACE

IF BOX IS I" SQ. THEN SCALE IS 1/4" = 1'-0" IF BOX IS 1/2" SQ. THEN SCALE IS 1/8" = 1'-0"

GENERAL REQUIREMENTS

- I. THE WORD 'CONTRACTOR' AS USED HEREIN SHALL MEAN THE GENERAL CONTRACTOR, SUBCONTRACTORS AND ALL PERSONS DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM.
- CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH THE FOLLOWING APPLICABLE CODE REQUIREMENTS;
 - A. ALL LAWS, STATUTES, THE MOST RECENT BUILDING CODES, OF ALL PUBLIC AUTHORITIES HAVING JIRD LAWFUL ORDERS OF ALL PUBLIC AUTHORITIES HAVING JIRDSDICTION OVER OWNER, CONTRACTOR, ANY SUBCONTRACTOR, THE PROJECT, THE PROJECT, THE PROFILE WORK, OF THE PROSECUTION OF THE MORK.
- B. THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT AND ALL OTHER APPLICABLE CODE REQUIREMENTS RELATING TO SAFETY.
- C. THE FAIR HOUSING AMENDMENTS ACT, THE AMERICANS WITH DISA-BILITIES ACT, AND ALL OTHER APPLICABLE CODE REQUIREMENTS RELATING THERETO.
- CONTRACTOR SHALL CAREFULLY STUDY AND REVIEW THE CONSTRUCTION DOCUMENTS AND INFORMATION FURNISHED BY ONNERS, AND SHALL PROMPTLY REPORT IN MRITING TO ONNERS REPRESENTATIVE ANY ERRORS, INCONSISTENCIES, OR OMISSIONS IN THE CONSTRUCTION DOCUMENTS OR INCONSISTENCIES, OR PHILOZOPHER CODE REQUIREMENTS OBSERVED BY THE CONTRACTOR.
- IF CONTRACTOR PERFORMS WORK WHICH HE KNOWS OR SHOULD KNOW IS CONTRARY TO APPLICABLE CODE REQUIREMENTS, WITHOUT THE AGREEMENT OF OWNER, CONTRACTOR SHALL BE RESPONDIBLE FOR SUCH WORK AND SHALL BEAR THE RESULTANT LOSSES, INCLUDING, WITHOUT LIMITATION, THE COSTS OF CORRECTING DEFECTIVE WORK.
- CONTRACTOR SHALL PROVIDE CERTIFICATES OF INSURANCE ACCEPTABLE TO OWNER PRIOR TO COMMENCEMENT OF WORK.
- 6. CONTRACTOR SHALL TAKE FIELD MEASUREMENTS, VERIFY FIELD CONDITIONS, AND CAREFULLY COMPARE WITH THE CONSTRUCTION DOCUMENTS SUCH FIELD MEASUREMITS, CONDITIONS, AND OTHER INFORMATION KNOWN TO CONTRACTOR BEFORE COMMENCING THE WORK ERRORS, INCONSISTENCIES, OR OMISSIONS DISCOVERED AT ANY TIME SHALL BE PROMPTLY REPORTED IN WRITING TO THE OWNEY.
- CONTRACTOR SHALL PROMPTLY NOTIFY OWNER'S REPRESENTATIVE IF CONTRACTOR BECOMES AWARE DURING THE PERFORMANCE OF THE WORK THAT THE CONSTRUCTION DOCUMENTS ARE NOT IN COM-PLIANCE WITH APPLICABLE CODE REQUIREMENTS.
- 8. BY SUBMITTAL OF BID, CONTRACTOR WARRANTS TO OWNER THAT ALL MATTERIALS AND EQUIPMENT TO BE FURNISHED ARE NEW UNLESS NOTED OTHERWISE AND ALL WORK WILL BE OF GOOD QUALITY AND FREE FROM FAULTS AND DEFECTS.
- 1. SUB-CONTRACTORS SHALL INSURE THAT ALL WORK IS DONE IN A PROFESSIONAL WORKMANLIKE MANNER BY SKILLED MECHANICS AND SHALR REPLACE ANY MATERIALS OR ITEMS DAMASED BY SUB-CONTRACTORS PERFORMANCE. SUB-CONTRACTORS AND SUPPLIERS AND EXPERIENCE OF THE PROPERTY MATERIALS OR ITEMS DAMASED BY SUB-CONTRACTORS PROPERTY OF THE PR
- 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 CLAPICATION.
- 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.
- ALL TRADE NAMES AND BRAND NAMES CONTAINED HEREIN ESTABLISH
 ADALITY STANDARDS, SUBSTITUTIONS ARE PERMITTED, MITH PRIOR
 APPROVAL BY THE ONNER'S REPRESENTATIVE. THE CONTRACTOR SHALL
 SUBMIT FOR THE ARCHITECTS AND BUILDER'S APPROVAL ALL MATERIALS
 OR EQUIPMENT MHICH IS CONSIDERED 'OR EQUIAL" TO THAT SPECIFIED.
- 19. CONSTRUCTION DOCUMENTS IDENTIFIED AS "BID SET" ON ANY OR ALL SHEETS MAY BE SUBJECT TO REVIEW. THIS REVIEW MAY RESULT IN CHANGES WHICH MAY BE MADE TO THE PLANS PRIOR TO THE 195UANCE OF THE FINAL CONSTRUCTION SET WHICH WILL CONTAIN NO "BID SET" DESIGNATIONS. CONSTRUCTION DOCUMENTS IDENTIFIED AS "BID SET" ARE NOT TO BE CONSTRUCT ON BEING THE COMPLETED OR FINAL DRAWINGS AND THEY SHOULD NOT IN ANY WAY BE USED AS SUCH.
- ALL STANDARD NOTES CONTAINED HEREIN ARE TYPICAL UNLESS NOTED OTHERWISE.
- 15. TYPICAL DETAILS AND SPECIFICATIONS ARE MINIMUM REQUIREMENTS
 TO BE USED WHEN CONDITIONS ARE NOT SHOWN OTHERWISE.
- 6. SPECIFIC NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.
- SEE ARCHITECTURAL, STRUCTURAL, ELECTRICAL, AND MECHANICA DRAWINGS FOR PITS, TRENCHES, ROOF OPENINGS, DEPRESSIONS, ETC. NOT SHOWN ON THE OTHER DRAWINGS.
- 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.
- 3. REFER TO THE SOILS REPORT AS PREPARED BY THE GEOTECHNICAL ENGINEER
- 4. REFER TO CIVIL ENGINEER'S CURRENT GRADING AND PLOT PLANS

SITE WORK (continued)

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

CONCRETE

- REFER TO STRUCTURAL ENGINEERING CALCULATIONS AND SOILS REPORT FOR THE PERFORMANCE REQUIREMENTS FOR CONCRETE FOUNDATIONS.
- CONCRETE SHALL BE PROPORTIONED TO PROVIDE AN AVERAGE COMPRESSIVE STRENGTH AS PRESCRIBED IN THE N.C.-R, AS WELL AS SATISFY THE DURABILITY CRITERIA OF THE N.C.-R
- MIXING OF CONCRETE SHALL BE PERFORMED IN ACCORDANCE MITH ACI 318, SECTION 5.8.
- THE DEPOSITING OF CONCRETE SHALL COMPLY WITH THE PROVISIONS ACI 316, SECTION 5.10.
- 5. THE CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318, SECTION 5.11.
- ALL FORM WORK SHALL BE DESIGNED, CONSTRUCTED, UTILIZED, AND REMOVED.
- CONDUIT, PIPES AND SLEEVES OF ANY MATERIAL NOT HARMFUL TO CONCRETE AND WITHIN THE LIMITATIONS OF ACI 316, SECTION 6.3, ARE PERMITTED TO BE EMBEDDED IN CONCRETE WITH APPROVAL OF THE REGISTERED DESIGN 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
- IO. TOP OF CONCRETE SLABS TO BE A MINIMUM 4" W MASONRY VENEER 6" ELSEWHERE (8" 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 EMBEDDED MATERIALS AND ITEMS MUST BE SECURED AND APPROPRIALLY FASTENED IN THEIR PROPER LOCATIONS PRIOR TO THE PLACEMENT OF CONCRETE. SUB-CONTRACTOR SHALL VERIEY INSTALLATION OF HOLD-DOMS, ANCHOR BOLTS, PA STRAPS, AND OTHER ANCHORAGE MATERIAL AND ITEMS PRIOR TO PLACEMENT OF CONCRETE.
- 13. POST-TENSION SLABS, IF APPLICABLE:
- POINT AND LINE LOADS FROM STRUCTURE ABOVE TO BE PROVIDED TO POST-TENSION ENGINEER PRIOR TO POST-
- B. ANCHOR BOLTS AND OTHER HARDWARE TO BE SHOWN ON POST-TENSION PLANS TO AVOID MIS-LOCATION OF HARDWARE AND POSSIBLE FIELD FIXES WHICH MAY CUT TENDONS.

MASONRY

- ALL MASONRY DESIGN SHALL FOLLOW THE REQUIREMENTS OF THE CURRENT ADOPTED CODES.
- ANCHORED MASONRY VENEER SHALL COMPLY WITH THE PROVISIONS OF N.C.-R, AND SECTIONS 6.1 AND 6.2 OF ACI 530/ASCE 5/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
- MORTAR FOR USE IN MASONRY CONSTRUCTION SHALL COMPLY WITH ASTM C 270. THE TYPE OF MORTAR SHALL BE IN ACCORDANCE WITH THE N.C. FR AND SHALL MEET THE PROPORTION SPECIFICATIONS OR THE PROPERTY SPECIFICATIONS OF ASTM C 270
- GROUT SHALL CONSIST OF CEMENTITIOUS MATERIAL AND ASSREGATE IN ACCORDANCE WITH ASTM C 476 AND THE PROPORTION SPECIFICATIONS PER THE N.C.-R.
- ASGREGATES FOR MORTAR AND GROUT SHALL BE NATURAL SAND AND ROCK CONFORMING TO A.S.T.M. C-144-04 (MASONRY MORTAR) AND C-404-07 (GROUT).
- 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
- 9. 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 REINFORGING STEEL SPECIFICATIONS.
- 2. ALL STRUCTURAL STEEL SHALL CONFORM TO AISC/CRED
- 3. ANCHOR RODS SHALL BE SET ACCURATELY TO THE PATTERN AND DIMENSIONS CALLED FOR ON THE PLANS. THE PROTRUSION OF THE THREADED ENDS THROUGH THE CONNECTED MATERIAL SHALL BE SUFFICIENT TO FULLY ENGAGE THE THREADS OF THE NUTS, BUT SHALL NOT BE GREATER THAN THE LENGTH OF THE THREADS ON THE BOLTS
- 4. FASTENERS FOR PRESERVATIVE-TREATED AND FIRE-RETARDANT-TREATED WOOD SHALL BE OF HOT-DIPPED ZINC COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER VERIFY ACCEPTABLE FASTENERS PER CHEMICALS USED IN PRESSURE PRESERVITIVELY TREATED WOOD W NC-R. FASTENINGS FOR WOOD FOUNDATIONS SHALL BE AS REGUIRED IN AFEPA TECHNICAL REPORT NO.

WOOD & FRAMING

LUMBER

- . THE DESIGN AND CONSTRUCTION OF CONVENTIONAL LIGHT-FRAME WOOD CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE N.C.-R.
- CONSTRUCTION, PROJECTIONS, OPENINGS AND PENETRATIONS OF EXTERIOR WALLS OF DWELLINGS AND ACCESSORY BUILDINGS SHALL COMPLY WITH TABLE R802.1.
- ALL LUMBER SHALL MEET THE STANDARDS OF QUALITY AS STATED IN THE N.C.-R
- 4. LIMBER AND FLYWOOD REQUIRED TO BE PRESERVE PRESERVATIVELY TREATED IN ACCORDANCE WITH THE N.C.-IR AND SHALL BEAR THE QUALITY MARK OF AN APPROVED INSPECTION AGENCY THAT MAINTAINS CONTINUING SUPERVISION, TESTING AND INSPECTION OVER THE QUALITY OF THE PRODUCT AND THAT HAS BEEN APPROVED BY AN ACCREDITATION BODY THAT COMPLIES WITH THE REQUIREMENTS OF THE AMERICAN LUMBER STANDARD COMMITTEE TREATED MOOD PROGRAM.
- 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 AI9O.I AND ASTM D 3737.

PROTECTION AGAINST DECAY & TERMITE

- IN AREAS SUBJECT TO DECAY DAMAGE AS ESTABLISHED BY THE N.C.-R
 12 THE FOLLOWINS LOCATIONS SHALL REQUIRE THE USE OF NATURALLY
 DURABLE MODD OR MOOD THAT IS PRESERVATIVE TREATED
 IN ACCORDANCE WITH AMPA UI FOR THE SPECIES, PRODUCT, PRESERVATIVE
 AND END USE, PRESERVATIVES SHALL BE LISTED IN SECTION 4 OF AMPA UI
- MOOD JOISTS OR THE BOTTOM OF WOOD FLOOR WHEN CLOSER THAN 16 INCHES, OR MOOD GIRDERS INHEN CLOSER THAN 12 INCHES TO THE EXPOSED GROUND IN CRAML SPACES OR UNEXCAVATED AREAS LOCATED MITHIN THE PERIPHERY OF THE BUILDING FOUNDATION.
- 2. ALL EXTERIOR SILLS &PLATES THAT REST ON CONCRETE OR MASONRY
- SILLS AND SLEEPERS ON A CONCRETE OR MASONRY, UNLESS THE SLAB THAT IS IN DIRECT CONTACT WITH THE GROUND IS SEPARATED FROM THE GROUND BY AN APPROVED IMPERVIOUS MOISTURE BARBIES
- THE ENDS OF WOOD GIRDERS ENTERING EXTERIOR MASONRY OR CONCRETE WALLS HAVING CLEARANCES OF LESS THAN 0.5 INCH ON TOPS, SIDES AND ENDS.
- 5. WOOD SIDING AND SHEATHING ON THE EXTERIOR OF A BUILDING HAVING A CLEARANCE OF LESS THAN 6 INCHES FROM THE GROUND.
- WOOD STRUCTURAL MEMBERS SUPPORTING MOISTURE-PERMEABLE FLOORS OR ROOFS THAT ARE EXPOSED TO THE MEATHER, SUCH AS CONCRETE OR MASONRY SLABS, UNLESS SEPARATED FROM SUCH FLOORS OR ROOFS BY ANIMPERVIOUS MOISTURE BARRIER.
- WOOD FURRING STRIPS OR OTHER WOOD FRAMING MEMBERS ATTACHED DIRECTLY TO THE INTERIOR OF EXTERIOR MASONRY WALLS OR CONCRETE WALLS DELOW GRADE EXCEPT WHERE AN APPROVED VAPOR RETARDER IS APPLIED BETWEEN THE WALL AND THE FURRING STRIPS OR FRAMING MEMBERS.
- ALL PORTIONS OF A PORCH, SCREEN PORCH OR DECK FROM THE BOTTOM OF THE HEADER DOWN, INCLUDING POSTS, GUARDRALLS, PICKETS, STEPS AND FLOOR STRUCTURE. COVERINGS THAT MOULD PREVENT MOISTURE OR WATER ACCUMULATION ON THE SURFACE OR AT JOINTS BETWEEN MEMBERS ARE ALLOWED.
- IN AREAS SUBJECT TO DAMAGE FROM TERMITES METHODS OF PROTECTION SHALL BE ONE OF THE METHODS LISTED IN THE N.C.-R
- UNDER-FLOOR AREAS SHALL BE VENTILATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE N.C.-R

WOOD & FRAMING (continued)

SHEATHING

- WOOD STRUCTURAL PANELS SHALL CONFORM TO THE REQUIREMENTS AS SET FORTH IN THE N.C.-R
- ROOF SHEATHING PANELS SHALL BE LAID WITH FACE GRAIN OR STRENGTH AXIS PERPENDICULAR TO SUPPORTS AND WITH PANEL CONTINUOUS OVER TWO OR MORE SPANS.
- 3. ROOF SHEATHING SHALL BE IN ACCORDANCE WITH THE N.C.-R
- FLOOR SHEATHING PANELS SHALL BE LAID WITH FACE GRAIN OR STRENGTH AXIS PERPENDICULAR TO SUPPORTS AND WITH PANEL CONTINUOUS OVER TWO OR MORE SPANS.
- STRUCTURAL FLOOR SHEATHING SHALL COMPLY WITH THE PROVISIONS OF THE N.C.-R
- . REFER TO THE STRUCTURAL ENGINEER'S CURRENT SPECIFICATIONS, CALCULATIONS, AND PLANS FOR REQUIRED STRENGTH, GRADE, AND THICKNESS FOR PLYWOOD FLOOR SHEATHING PAULS 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 11/2 INCH THICKNESS.
- b. WHERE APPLICABLE, REFER TO THE SHEAR WALL SCHEDULE FOR REQUIRED STRENGTH, GRADE, AND THICKNESS OF PLYMOOD SHEAR PANELS AND FOR REQUIRED SHEAR WALL NAILING SCHEDULE.
- 9. IN ONE- AND TWO-FAMILY DIVELLING CONSTRUCTION USING VINYL OR ALIMINUM AS A SOFFIT MATERIAL, THE SOFFIT MATERIAL SHALL BE SECURELY ATTACHED TO FRAMING MEMBERS AND USE AN INDERLAYMENT MATERIAL OF EITHER FIRE RETARDANT TREATED WOOD, 23/32 INCH WOOD SHEATHING OR 5/6 INCH CYPSUM BOARD, VENTING REQUIREMENTS APPLY TO BOTH SOFFIT AND UNDERLAYMENT AND SHALL BE PER SECTION REGO OF THE NORTH CARGUINA RESIDENTIAL CODE. WHERE THE PROPERTY LINE IS IO FEET OR MORE FROM THE BUILDING FACE THE PROVINGING 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.

OOF FRAMING

- ROOF FRAMING SHALL BE BY PRE-MANUFACTURED ROOF TRUSSES SPACED AT 24 INCHES ON CENTER UNLESS NOTED OTHERWISE.
- WOOD TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE N.C.-R
- THE MANUFACTURER SHALL SUPPLY TO THE ARCHITECT AND BUILDER CALCULATIONS AND SHOP DRAWINGS FOR APPROVAL OF DESIGN LOADS, CONFIGURATION (2 OR 5 POINT BEARING), VOLUME CEILING 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.g. HYAC EQUIPMENT, WATER HEATER) THAT EXCEEDS THE DESIGN LOAD FOR THE TRUSSES SHALL NOT BI PERMITTED WITHOUT WRITTEN VERIFICATION THAT THE TRUSS IS CAPABLE OF SUPPORTING SUCH ADDITIONAL LOADING.
- ALL CALCULATIONS AND SHOP DRAWINGS SHALL BE SIGNED BY A
 PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHEREIN THE
 PROJECT IS TO BE BUILT.
- 7. MANUFACTURER IS TO SECURE BUILDING DEPARTMENT APPROVAL OF CALCULATIONS AND SHOP DRAWINGS PRIOR TO FABRICATION.

WALL FRAMING

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

MOOD & FRAMING

(continued)

- DRILLING AND NOTHCING OF STUDS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
 - NOTHCING, ANY STUD IN AN EXTERIOR WALL OR BEARING PARTITION MAY BE OUT OR NOTCHED TO A DEPTH NOT EXCEEDING 25 PERCENT OF ITS WIDTH, STUDG IN NONBEARING PARTITIONS MAY BE NOTCHED TO A DEPTH NOT TO EXCEED 40 PERCENT OF A SHALE STUD HIDTH. NOTCHING OF BEARING STUDG SHALL BE ON ONE EDGE ONLY AND NOT TO EXCEED ONE-FOURTH THE HEIGHT OF THE STUD. NOTCHING SHALL NOT OCCUR IN THE BOTTOM OR TOP 6 INCHES OF BEARING STUDS.
 - 2. DRILLING, ANY STUD MAY BE BORED OR DRILLED, PROVIDED THAT THE DIAMETER OF THE RESULTING HOLE IS NO MORE THAN 60 PERCENT OF THE STUD WIDTH, THE EDGE OF THE HOLE IS NO MORE THAN 5/8" INCH TO THE EDGE OF THE STUD, AND THE HOLE SHALL NOT BE CLOSER THAN 6 INCHES PROVID AN ADJUACENT HOLE OR NOTCH. HOLES NOT EXCEEDING 3/4 INCH DIAMETER CAN BE AS CLOSE AS I I/2 INCHES ON CENTER SPACING, STUDS LOCATED IN EXTERIOR WALLS OR BEARING PARTITIONS DRILLED OVER 40 PERCENT AND UP TO 60 PERCENT SHALL ALSO BE DOUBLED WITH NO MORE THAN TWO SUCCESSIVE DOUBLED STUDS BORED.
 - 5. 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 FOLLOWING CONDITIONS ARE MET.

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

 (b) THE EXTERIOR WALLS OF A KITCHEN MAY BE REINFORCED BY PLACING 1/2-INCH PLYMOOD OR EQUIVALENT REINFORCEMENT ON THE NOTCHED SIDE OF THE MALL. PLYMOOD, IF USED, SHALL REACH FROM THE FLOOR TO COUNTER-TOP HEIGHT AND AT LEAST ONE STUD PURTHER ON EACH SIDE OF THE MALL. PLYMOOD, IF USED, SHALL REACH FROM THE FLOOR TO COUNTER-TOP HEIGHT AND AT LEAST ONE STUD PURTHER ON EACH SIDE OF THE SECTION THAT HAS BEEN NOTCHED OR CUT.
- 9. WHEN PIPING OR DUCTWORK 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 MIDTH A GALVANIZED METAL IE OF NOT LESS THAN 2.054 INCH THICK AND I 1/2" INCHES MIDE SHALL BE FASTENED ACROSS AND TO THE PLATE A TEACH SIDE OF THE OPENING WITH NOT LESS THAN EIGHT IOD NAILS HAVING A MINIMAL IELENTH OF I 1/2 INCHES (38 MM) AT EACH SIDE OR EQUIVALENT. THE METAL TIE MUST EXTEND A MINIMAM OF 6 INCHES PAST THE OPENING.
- IO. HEADERS SHALL MEET THE REQUIREMENTS OF THE N.C.-R
- II. PROVIDE LATERAL BRACING PER THE N.C.-R
- FOUNDATION CRIPPLE WALLS SHALL MEET THE REQUIREMENTS OF THE N.C.-R. CODE
- 14. WOOD STUD WALLS SHALL BE BRACED AS REQUIRED BY THE N.C.-R
- IS. UNLESS COVERED BY INTERIOR OR EXTERIOR MALL COVERINGS OR SHEATHINS MEETING THE MINIMAM REQUIREMENTS OF THIS CODE, ALL STUD PARTITIONS OR MALLS WITH STUDS HAVING A HEIGHT-TO-LEAST THICKNESS RATIO EXCEEDING 50 SHALL HAVE BRIDGING NOT LESS THAN 2 INCHES IN THICKNESS AND OF THE SAME MIDTH AS THE STUDS FITTED SNULLY 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 MOOP-FRAME CONSTRUCTION IN THE LOCATIONS SPECIFIED IN THE N.C.-R
- 2. FIRE BLOCKING SHALL CONSIST OF 2 INCHES NOMINAL LUMBER, OR TWO THICKNESSES OF I-INCH NOMINAL LUMBER WITH BROKEN LAP JOINTS, OR ONE THICKNESS OF 23/932-INCH WOOD STRUCTURAL PANELS WITH JOINTS BACKED BY 23/92-INCH WOOD STRUCTURAL PANELS OR ONE THICKNESS OF 5/4-INCH PARTICLEBOARD WITH JOINTS BACKED BY 34-INCH PARTICLEBOARD WITH JOINTS BACKED BY 34-INCH PARTICLEBOARD, I/2-INCH GROWENT-BASED
- BATTS OR BLANKETS OF MINERAL WOOL OR GLASS FIBER OR OTHER APPROVED MATERIALS INSTALLED IN SUCH A MANNER AS TO BE SECURELY RETAINED IN PLACE SHALL BE PERMITTED AS AN ACCEPTABLE FIRE BLOCK.
- 4. BATTS OR BLANKETS OF MINERAL OR GLASS FIBER OR OTHER APPROVED NON-RIGID MATERIALS SHALL BE PERMITTED FOR COMPLIANCE WITH THE 10 FOOT HORIZONTAL FIREBLOCKING IN WALLS CONSTRUCTED USING PARALLEL ROVES OF STAGGERED STUDS. LOOSE FILL INSULATION MATERIAL SHALL NOT BE USED AS A FIREBLOCK WILLESS SPECIFICALLY TESTED IN THE FORM AND MANNER INTENDED FOR USE TO DEMONSTRATE IT'S ABILITY TO REMAIN IN PLACE AND TO RETARD THE SPREAD OF FIRE AND HOT GASSES.
- 5. WHEN THERE IS USABLE SPACE BOTH ABOVE AND BELOW THE CONCEALED SPACE OF A FLOOR/CEILING ASSEMBLY, DRAFTSTOPS SHALL BE INSTALLED SO THAT THE AREA OF THE CONCEALED SPACE DOES NOT EXCEED 1,000 SQUARE FEET. DRAFTSTOPPING SHALL DIVIDE THE CONCEALED SPACE INTO APPROXIMATELY EQUAL AREAS, HIERER THE ASSEMBLY IS ENCLOSED BY A FLOOR MEMBRANE ABOVE AND A CEILING MEMBRANE BELOW, DRAFTSTOPPING SHALL BE PROVIDED IN FLOOR/CEILING ASSEMBLIES UNDER THE FOLLOWING CIRCUMSTANCES.
 - I. CEILING IS SUSPENDED UNDER THE FLOOR FRAMING.
- FLOOR FRAMING IS CONSTRUCTED OF TRUSS-TYPE OPEN-WEB OR PERFORATED MEMBERS.

ANDRAII AND GIARDRAII

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



HOME .

NORTH CAROLINA 40' SERIES

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2018 NORTH
CAROLINA STATE
BUILDING
CODES

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PLAN: 240.3174-R SHEET: GN1

THERMAL & MOISTURE PROTECTION

- I. PROVIDE ALL FLASHING, COUNTER-FLASHING, BITUTHENE, MEMBRANE MATERPROOFING, SHEET METAL, CAULKING, SEALANTS, ELASTONERIC MALKING SURFACES, AND RAIN GUTTERS AND/OR DIVERTERS WHERE PEOLIDED TO MAKE MORE CAMPLETED, WATERPORT
- "CORROSION RESISTANCE" SHALL MEAN THE ABILITY OF A MATERIAL TO WITHSTAND DETERIORATION OF IT'S SURFACE OR IT'S PROPERTIES WHEN EXPOSED TO IT'S ENVIRONMENT.
- BALCONIES, LANDINGS, EXTERIOR STAIRMAYS, OCCUPIED ROOFS AND SIMILAR SURFACES EXPOSED TO THE WEATHER AND SEALED UNDER-NEATH SHALL BE WATERPROOFED AND SLOPED A MINIMUM OF 1/4 UNIT VERTICAL IN 12 UNITS HORIZONTAL (2% SLOPE) FOR DRAINAGE.
- PROVIDE A MINIMUM 2 INCH DROP FROM FINISHED INTERIOR FLOOR ELEVATION TO THE HIGHEST FLOOR ELEVATION OF ANY ADJOINING DECK OR BALCONY.
- ELASTOMERIC OR MEMBRANE DECK COATINGS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS AT DECKS AND BALCONIES. COLOR, FINISH, AND DETAILING SHALL BE APPROVED BY OWNER/ BUILDER AND ARCHITECT.
- 6. 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 BAI CONY.
- FOUNDATION WALLS WHERE THE OUTSIDE GRADE IS HIGHER THAN THE INSIDE GRADE SHALL BE WATER-PROOFED AND DAMPPROOFED IN ACCORDANCE WITH THE N.C.-R
- PARAPET WALLS SHALL BE PROPERLY COPED WITH NONCOMBUSTIBLE, MEATHERPROOF MATERIALS OF A WIDTH NO LESS THAN THE THICKNESS OF THE PARAPET WALL. PARAPET COPING SHALL EXTEND 2" MINIMM DOWN THE FACES OF THE PARAPET.

FLASHING

- APPROVED CORROSION-RESISTANT FLASHING SHALL BE APPLIED SHINGLE-FASHION IN A MANNER TO PREVENT ENTRY OF WATER INTO THE WALL 12. CAVITY OR PENERTATION OF HANTER TO THE BUILDING STRUCTURAL FRAMING COMPONENTS, SELF-ADHERED MEMBRANES USED AS FLASHING SHALL COMPLY HITH ANAM TII, FLUID-APPLIED MEMBRANES USED AS FLASHING IN EXTERIOR WALLS SHALL COMPLY HITH ANAM TI4. THE FLASHING SHALL EXTENOR WALLS SHALL COMPLY HITH ANAM TI4. THE FLASHING SHALL EXTEND TO THE SURFACE OF THE EXTERIOR MALL FINISH, ALUMINUM FLASHING SHALL NOT BE USED IN CONTACT WITH CEMENTITIOUS MATERIAL, EXCEPT AT COUNTER FLASHING, APPROVED CORROSION-RESISTANT FLASHINGS SHALL BE INSTALLED AT ALL OF THE LOCATIONS STATED IN N.C.-R.
- AT ALL WINDOW AND DOOR OPENINGS USE FORTIFIBER WATER-RESISTIN BARRIERS, I.C.C. ESR-IO27, INSTALLED PER MANUFACTURER'S SPECIFICATIONS OR APPROVED EQUAL
- ALL BEAMS, OUTLOOKERS, CORBELS, ETC. PROJECTED THROUGH EXTERIOR NALLS OR PENETRATING EXTERIOR FINISHES SHALL BE FLASHED WITH A MINIMUM 0.019-INCH (No. 26 SHEET METAL GAGE) CORROSION-RESISTANT METAL AND CAULKED.
- 4. ALL SHEET METAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE RECOMMENDATIONS AND STANDARDS OF THE SHEET METAL AND AIR CONDITIONIS CONTRACTOR'S NATIONAL ASSOCIATION (SM.A.C.N.A.). THE ARCHITECTURAL SHEET METAL MANUAL, AND SEALANT, WATERPROOFING AND RESTORATION INSTITUTE'S (S.W.R.I.) GUIDE -"SEALANTS: THE PROFESSIONAL'S GUIDE".
- SHEET METAL SHALL BE STEEL SHEET, HOT-DIPPED, TIGHT COATED AND GALYANIZED, CONFORMING TO AS.T.M. A525 AND SHALL BE A NUMBER 24 SHEET METAL GAGE UNLESS OTHERWISE NOTED IN THESE NOTES, PLANS, OR MANUFACTURERS SPECIFICATIONS.
- 6. SHEET ALUMINUM SHALL CONFORM WITH FEDERAL SPECIFICATIONS
- FABRICATE SHEET METAL WITH FLAT LOCK SEAMS AND SOLDER WITH TYPE AND FLUX RECOMMENDED BY MANUFACTURER. SEAL ALUMINUM 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, NEATHER RESISTANT INSTALLATION.
- ASPHALT SHINGLES SHALL HAVE SELF-SEAL STRIPS OR BE INTERLOCKING, AND COMPLY WITH ASTM D 225 OR D 3462.
- IO. BASE AND CAP FLASHING SHALL BE INSTALLED IN ACCORDANCE MITH
 MANUFACTURER'S INSTALLATION INSTRUCTIONS. BASE FLASHING SHALL BE OF
 EITHER CORROSION-RESISTANT METAL OF MINIMM MOMINAL CO/IN-INCH
 THICKNESS OR MINERAL SURFACE ROLL ROOFING WEIGHING A MINIMM OF TI
 POUNDS PER IOO SQUARE FEET. CAP FLASHING SHALL BE
 CORROSION-RESISTANT METAL OF MINIMM NOMINAL CO/IN-INCH THICKNESS
- II. 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.
- 12. A CRICKET OR SADDLE SHALL BE INSTALLED ON THE RIDGE SIDE OF ANY CHINNEY OR PENETRATION MORE THAN 30 INCHES HIDE AS MEASURED PERPENDICULAR TO THE SLOPE, CRICKET OR SADDLE COVERINGS SHALL BE SHEET METAL OR OF THE SAME MATERIAL AS THE ROOF COVERING. PROVIDE FLASHING AT THE INTERSECTION OF CRICKET OR SADDLE AND THE CHINNEY.
- 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, VENT PIPE AND CHIMNEY FLASHING, SHALL BE APPLIED ACCORDING TO THE ASPHALT SHINGLE MANUFACTURER'S PRINTED INSTRUCTIONS.
- 15. AT THE JINCTURE OF ROOF VERTICAL SURFACES, FLASHING AND COUNTERFLASHING SHALL BE PROVIDED IN ACCORDANCE WITH THE N.C.-R. AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND, WHERE OF METAL, SHALL NOT BE LESS THAN COID INCH (NO. 26 GALYANIZED SHEET GAGE) CORROSION-RESISTANT METAL.
- 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 MITH THE BUILDING OR STRUCTURE TO WHICH THE MATERIALS ARE APPLIED.
- 8. 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 GUESTIONABLE SUITABILITY, TESTING BY AN APPROVED TESTING AGENCY SHALL BE REQUIRED BY THE BUILDING OFFICIAL TO DETERMINE THE CHARACTER, GUALITY, AND LIMITATIONS OF APPLICATION OF THE MATERIALS.

THERMAL & MOISTURE PROTECTION (continued)

- 4. ROOF COVERING MATERIALS SHALL BE DELIVERED IN PACKAGES BEARING THE MANUFACTURER'S IDENTIFYING MARKS AND APPROVED TESTING AGENC' LABELS WHEN REQUIRED. BULK SHIPMENTS OF MATERIALS SHALL BE ACCOMPANIED BY THE SAME INFORMATION ISSUED IN THE FORM OF A CERTIFICATE OR ON A BILL OF LADING BY THE MANUFACTURER
- COMPOSITION ROOFING SHINGLES SHALL BE OF ASPHALT OR APPROVED RELATED MATERIALS AND MEET THE REQUIREMENTS OF THE N.C.-R
- 6. UNDERLAYMENT FOR ASPHALT SHINGLES SHALL CONFORM TO ASTM P 226 TYPE!, ASTM P 4260, TYPE!, I, OR ASTM D 6/157. SELF-ADHERING POLYMER MODIFIED BITMEN SHEET SHALL COMPLY WITH ASTM D 14TO
- ASPHALT SHINGLES SHALL COMPLY WITH ASTM D 225 OR ASTM D 3462.
- 8. FASTENERS FOR ASPHALT SHINGLES SHALL BE GALVANIZED STEEL, STAINLESS STEEL, ALLMINM, OR COPPER ROOFING NAILS, MINIMM IS GAGE SHANK WITH A MINIMM 3/9 INCH DIANETER HEAD, ASTM F 1661, OF A LENGTH TO PENETRATE THROUGH THE ROOFING MATERIALS AND A MINIMM OF 3/4 INCH INTO THE ROOF SHEATHING. WHERE THE ROOF SHEATHING IS LESS THAN 3/4 INCH THICK, THE FASTENERS SHALL PENETRATE THROUGH THE SHEATHING. FASTENERS SHALL COMPLY WITH ASTM F 1661.
- 9. 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 OF PER N.C. #
- O. UNDERLAYMENT FOR ASPHALT SHINGLES SHALL BE APPLIED IN ACCORDANCE WITH THE N.C.-R
- II. 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
- 19. CLAY AND CONCRETE ROOF TILE SHALL BE INSTALLED ON ROOF SLOPES OF 2 1/2 UNITS VERTICAL. IN 12 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 I; ASTM D 2626 TYPE I; OR ASTM D 6360 CLASS M MINERAL SURFACED ROLL ROOFING.
- . CONCRETE ROOF TILE SHALL COMPLY WITH ASTM C 1492.
- 16. NAILS SHALL BE CORROSION-RESISTANT AND NOT LESS THAN II GAGE, 5/16-INCH HEAD, AND OF SUFFICIENT LENGTH TO PENETRATE THE DECK A MINIMUM OF 3/4-INCH OR THROUGH THE THICKNESS OF THE DECK, WHICHEVER IS LESS. ATTACHING WIRE FOR CLAY OR CONCRETE TILE SHALL NOT BE SMALLER THAN 2/083-INCH. PERIMETER FASTENING AREAS INCLUDE THREE TILE COURSES BUT NOT LESS THAN 36 INCHES FROM EITHER SIDE OF HIPS OR RIDGES AND EDGES OF EAVES AND GABLE RAKES
- 17. CLAY AND CONCRETE ROOF TILES SHALL BE FASTENED IN ACCORDANCE WITH THE N.C.-R
- 6. TILE SHALL BE APPLIED ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, BASED ON CLIMATIC CONDITIONS, ROOF SLOPE, UNDERLAYMENT SYSTEM, AND TYPE OF TILE BIEIG INSTALLED PER THE N.C.-R
- 19. 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

EXTERIOR WALL COVERINGS

- I. 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 MEATHER-RESISTANT EXTERIOR WALL ENVELOPE. THE EXTERIOR MALL ENVELOPE SHALL INCUIDE FLASHING, THE EXTERIOR WALL ENVELOPE SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT PREVENTS THE ACCUMULATION OF WATER HITHIN THE WALL ASSEMELY BY PROVIDING A WATER-RESISTANT BARRIER BEHIND THE EXTERIOR VENEER AS REQUIRED AND A MEANS OF DRAINING MATER THAT ENTERS THE ASSEMBLY TO THE EXTERIOR, PROTECTION AGAINST 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 APPRACED WATER-RESISTIVE BARRIER SHALL BE APPLIED OVER STUDS OR SHEATHING OF ALL EXTERIOR WALLS, SUCH FELT OR MATERIAL SHALL BE APPLIED HORIZONTALLY, WITH THE UPPER LAYER LAPPED OVER THE LOWER LAYER NOT LESS THAN 2 INCHES, HERE JOINTS OCCUR, FELT SHALL BE LAPPED NOT LESS THAN 6 INCHES, THE FELT OR OTHER APPROVED MATERIAL SHALL BE CONTINUOUS TO THE TOP OF WALLS AND TERMINATED AT PENETRATIONS AND BUILDING APPENDAGES IN A MANNER TO MEET THE REQUIREMENTS OF THE EXTERIOR WALL ENVELOPE.
- VINT. SIDING CONFORMING TO THE REQUIREMENTS OF THE N.C.-R. AND COMPLYING WITH ASTM D 3679 SHALL BE PERMITTED ON EXTERIOR NALLS OF BUILDINGS OF TYPE V CONSTRUCTION LOCATED IN AREAS WHERE THE ULTIMATE WIND SPEED SPECIFIED DOES NOT EXCEED IOO MILES PER HOUR AND THE BUILDING HEIGHT IS LESS THAN 40 FEET IN EXPOSURE C. MIERE CONSTRUCTION IS LOCATED IN AREAS WHERE THE ULTIMATE WIND SPEED EXCEEDS 150 MILES PER HOUR OR BUILDING HEIGHTS ARE IN EXCESS OF 40 FT, DATA INDICATING COMPLIANCE MUST BE SUBMITTED. VINTL SIDING SHALL BE SECURED TO BUILDING TO PROVIDE WEATHER PROTECTION FOR THE EXTERIOR WALLS OF THE BUILDING.
- 6. VINYL SIDING SHALL BE APPLIED OVER SHEATHING OR MATERIALS LISTED IN THE N.C.-R VINYL SIDING SHALL BE APPLIED TO CONFORM NITH THE WEATHER-RESISTIVE BARRIER REQUIREMENTS VINYL SIDING AND ACCESSORIES SHALL BE INSTALLED IN ACCORDANCE WITH APPROVED MANUFACTURER'S INSTRUCTIONS.
- 7. VINYL 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)

- 4. HARDBOARD SIDING SHALL CONFORM TO THE REQUIREMENTS OF AHA AISS & AND, WHERE USED STRUCTURALLY, SHALL BE SO IDENTIFIED BY THE LABEL OF AN APPROVED AGENCY.
- IO. MOOD VENEERS ON EXTERIOR WALLS OF BUILDINGS OF TYPES I, II, III, AND IV CONSTRUCTION SHALL BE NOT LESS THAN I-INCH NOMINAL THICKNESS, 0.436-INCH EXTERIOR HARDBOARD SIDING OR 0.375-INCH EXTERIOR-TYPE MOOD STRUCTURAL PANELS OR PARTICLE-BOARD AND SHALL CONFORM TO THE REQUIREMENTS OF THE N.C.-R
- II. FIBER-CEMENT LAP SIDING HAVING A MAXIMUM WIDTH OF 12 INCHES SHALL COMPLY WITH THE REQUIREMENTS OF ASTM CII86, TYPE A, MINIMUM GRADE
- II.

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

. INSULATING MATERIALS, INCLUDING FACINGS, SUCH AS VAPOR RETARDERS OR VAPER-PERMEABLE MEMBRANES, INSTALLED WITHIN FLOOR-CEILING ASSEMBLIES, ROOF-CEILING ASSEMBLIES, WALL-ASSEMBLIES, CRAINL SPACES AND ATTOS SHALL HAVE A FLAME-SPREAD INDEX NOT TO EXCEED 25 TITH AN ACCOMPANYING SHOKEDEVELOPED INDEX NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR UL 128.

- DUCT INSULATION MATERIALS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS OF THE N.C.-R
- INSULATION AND COVERING ON PIPE AND TUBING SHALL HAVE A FLAME-SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 450, SEE EXCEPTIONS.
- 4. ALL EXPOSED INSULATION MATERIALS INSTALLED ON ATTIC FLOORS SHALL HAVE A CRITICAL RADIANT FLUX OF NOT LESS THAN 0.12 WATT PER SQUARE I'CENTIMETER PER N.C.-R. TESTS FOR CRITIAL RADIANT FLUX SHALL BE MADE IN ACCORDANCE WITH ASTM F. 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 CPR, PARTS 1204 AND 1404. EACH PACKAGE OF SUCH INSULATING MATERIAL SHALL BE CLEARLY LABELED IN ACCORDANCE WITH CPSC 16 CFR, PARTS 1204 AND 1404.
- INSULATION IN FLOOR-CEILING ASSEMBLIES, ROOF-CEILING ASSEMBLIES, WALLS, CRANL SPACES OR ATTICS SHALL BE EITHER OF THE BLOWN-IN CELLULOSE TYPE OR FIBERGLASS BATTS OR BLANKET TYPE PER BUILDER'S SPECIFICATIONS.
- THE ENERGY EFFICIENCY REQUIREMENTS INCLUDING I.E.C.C. BUT NOT LIMITED TO INSULATION "S" VALUES, PERCENTAGE OF GLAZING "U" VALUES, ETC. SHALL BE DETERMINED BY THE ADOPTED STATE AND LOCAL ENERGY CODE EQUIREMENTS, REFER TO MECHANICAL PLANS EDR BEYLIFIC AT TO STATE TO MECHANICAL PLANS EDR BEYLIFIC AT THE MECHA
- THE BUILDING THERMAL ENVELOPE SHALL BE DURABLY SEALED MITH AN AIR BARRIER SYSTEM TO LIMIT INFILTRATION. THE SEALING METHODS BETWEEN DISSIMILAR MATERIALS SHALL ALLOW FOR DIFFERENTIAL EXPANSION AND CONTRACTION. FOR ALL HOMES, WHERE PRESENT THE FOLLOWING SHALL BE CAULKED, SACKETED, MEATHERSTIPPED OR OTHERWISE SEALED MITH AN AIR BARRIER MATERIAL OR SOLID MATERIAL CONSISTENT MITH APPENDIX E-2.3 AND E-2.4 OF THE NC-R.

 BLOCKING AND SEALING FILCOR/CEILING SYSTEMS AND UNDER KNEE WALLS OPEN TO UNCONDITIONED OR EXTERIOR SPACE.

 2. CAPPING AND SEALING SHATTS OR CHASES, INCLUDING FILE SHATTS.

 3. CAPPING AND SEALING SHATTS OR CHASES, INCLUDING FILE SHATTS.
- 2. FRAMED CAVITY MALLS, THE EXTERIOR THERMAL ENVELOPE MALL 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 MALLS, THE CAVITY INSULATION SHALL BE ENCLOSED ON ALL SIDES WITH A RIGHD MATERIAL OR AN AIR BARRIER MATERIAL, MALL INSULATION SHALL BE ENCLOSED AT THE FOLLOWING LOCATIONS WHEN INSTALLED ON EXTERIOR MALLS PRIOR TO BEING COVERED BY SUBSECUENT CONSTRUCTION, CONSISTENT WITH APPENDIX E-2.3 AND E-2.4 OF NC-R. I. TUBS
- 1. 1095
 2. SHONERS
 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 SLEPING PURPOSES SHALL NOT BE PERMITTED. OTHER OPENINGS BETWEEN THE GARAGE AND RESIDENCE SHALL EQUIPPED WITH SOLID WOOD DOORS NOT LESS THAN I 3/6 INCHES IN THICKNESS, SOLID OR HONEYCOMB CORE STELL DOORS NOT LESS THAN I 3/6 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 <u>MOOD</u> FRENCH DOORS SHALL BE USED IN ANY CASE.
- PROVIDE SECURITY HARDWARE FOR ALL DOORS AND WINDOWS
- ALL AUTOMATIC GARAGE DOOR OPENERS REQUIRE THE INCLUSION OF A PHOTOGLECTRIC SENSOR, EDGE SENSOR OR SOME OTHER SIMILAR DEVICE FOR REMOTE OPERATION AND AS A SAFETY PRE-CAUTION TO PREVENT THE DOOR FROM CLOSING WHEN SOMETHING IS BLOCKING THE PATH OF THE DOOR. SEE MANUFACTURER'S INSTALLTION INSTRUCTIONS.
- ALL MANIFACTURED WINDOWS AND SLIDING GLASS DOORS SHALL MEET THE AIR INFILTRATION STANDARDS OF THE CURRENT AMERICAN NATIONAL STANDARDS INSTITUTE A.S.T.M. E225-T3 MITH A PRESSURE DIFFERENTIAL OF 1.5T POUNDS PER SQUARE FOOT AND SHALL BE CERTIFIED AND LABBLED.
- 7. BASEMENTS, HABITABLE ATTICS AND EVERY SLEEPING ROOM SHALL HAVE AT LEAST ONE OPENABLE EMERGENCY ESCAPE AND RESCUE OPENING
- WHERE EMERGENCY ESCAPE AND RESCUE OPENINGS ARE PROVIDED THEY SHALL HAVE A SILL HEIGHT OF NOT MORE THAN 44 INCHES ABOVE THE FLOOR.
- EMERGENCY ESCAPE AND RESCUE OPENINGS WITH A FINISHED SILL HEIGHT BELOW THE ADJACENT GROWN ELEVATION SHALL BE PROVIDED WITH A MINDOW MELL.

DOORS & WINDOWS (continued)

- IO. ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF NOT LESS THAN 5 SQUARE FEET IN THE CASE OF A GROUND FLOOR LEVEL MINDOW AND NOT LESS THAN 5.7 SQUARE FEET
- II. ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING HEIGHT OF 24 INCHES.
- 12. ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING WIDTH OF 20 INCHES.
- IS. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM THE INSIDE OF THE ROOM WITHOUT THE USE OF KEYS, TOOLS OR SPECIAL KNOWLEDGE.
- 4. THE MINIMM HORIZONTAL AREA OF THE MINDOW MELL SHALL BE 9 SQUARE FEET, MITH A MINIMM HORIZONTAL PROJECTION AND MIDTH OF 36 INCHES. THE AREA OF THE MINDOW MELL SHALL ALLOW EMERGEBRY ESCAPE AND RESCUE OFENING 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 MELL.
- I5. 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.
- 16. BARS, GRILLES, COVERS, SCREENS OR SIMILAR DEVICES ARE PERMITTED TO BE PLACED OVER EMERGENCY ESCAPE AND RESCUE OPENINGS, BULKHEAD ENCLOSMES, OR MINDOW MELLS THAT SERVE SUCH OPENINGS, PROVIDED THE MINIMAM NET CLEAR OPENING SIZE COMPLIES WITH THE N.C.-R. AND SUCH DEVICES SHALL BE RELEASABLE OR REMOVABLE FROM THE INSIDE MITHOUT THE USE OF A KEY, TOOL, SPECIAL KNONLEDGE OR FORCE GREATER THAN THAT WHICH IS REQUIRED FOR NORMAL OPERATION OF THE ESCAPE AND RESCUE OPENING.
- ALL INTERIOR EGREEG DOORS AND A MINIMUM OF ONE EXTERIOR EGREEG DOOR SHALL BE READILY OPENABLE FROM THE SIDE FROM WHICH EGREEG IS TO BE MADE MITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR

GLAZING & SAFETY GLAZING

- HABITABLE ROOMS SHALL HAVE AN AGGREGATE GLAZING AREA OF NOT LESS THAN 8 PERCENT OF THE FLOOR AREA OF SUCH ROOMS, NATURAL VENTILLATION SHALL BE THROUGH MINOOMS, SKYLIGHTS, DOORS, LOUVERS OR OTHER APPROVED OPENINGS TO THE OUTDOOR AIR, SUCH OPENINGS SHALL BE REVOIPED 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 WINDOWS OF NOT LESS THAN 3 SQUARE FEET, ONE-HALF OF WHICH MUST BE OPENABLE.
- 3. EXCEPT AS INDICATED, EACH PANE OF GLAZING INSTALLED IN HAZARDOUS LOCATIONS SHALL BE PROVIDED WITH MANNEAUTRERS DESIGNATION SPECIFYING HAD APPLIED THE DESIGNATION, DESIGNATING THE TYPE OF GLASS AND THE SAFETY GLAZING STANDARD WITH HAILEN IT COPPLIES, WHICH IS VISIBLE IN THE FINAL INSTALLATION. THE DESIGNATION SHALL BE ACID ETCHED, SANDELASTED, CERAMIC—FIRED, LASER ETCHED, EMBOSÉED, OR BE OF A TYPE HHICH 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, SLIDING AND BIFOLD DOORS
- SLIDING AND BIFOLD DOORS

 GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL IN THE SAME PLANE AS A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN 24-INCHES OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES ABOVE THE FLOOR OR WALKING
- SUKFACE.

 S 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
- 5.3 TOP EDGE MORE THAN 36 INCHES ABOVE THE FLOOR.
 5.4 ONE OR MORE WALKING SURFACES WITHIN 36 INCHES, MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, OF THE GLAZING.
- GLAZING IN GUARDS AND RAILINGS, INCLUDING STRUCTURAL BALUSTER PANELS AND NONSTRUCTURAL IN-FILL PANELS, REGARDLESS OF AREA OR HEIGHT ABOVE A WALKING SURFACE.
- GLAZING IN DOORS AND ENCLOSURES FOR HOT TUBS, MHIRLPOOLS, 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 MALKING SURFACE.
- 6. SLAZING IN WALLS AND FENCES ENCLOSING INDOOR AND OUTDOOR SKIMMING POOLS, HOT TUBS AND SPAS WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE A WALKING SURFACE AND NITHIN 60 INCHES HORIZONTALLY OF THE WATER'S EDGE. THIS SHALL APPLY TO SINGLE GLAZING AND ALL PANES IN MULTIPLE GLAZING.
- T. 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
 MHERE 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.
- 6. 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.
- IN DWELLING UNITS, WHERE THE OPENING OF AN OPERABLE MINDOW IS LOCATED MORE THAN 72 INCHES (1824 MM) ABOVE THE FINISHED GRADE OR SURFACE BELOW, THE LOWER PART OF THE CLEAR OPENING OF THE MINDOW SHALL BE A MINIMM OF 24 INCHES (610 MM) ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH THE MINDOW IS LOCATED, OPERABLE SECTIONS OF MINDOWS SHALL NOT FERRIT OPENINGS THAT ALLOW PASSAGE OF A 4 INCH (102 MM) DIAMETER SPHERE HURRE SUCH OPENINGS ARE LOCATED VITHIN 24 INCHES (610 MM) OF THE FINISHED FLOOR.

FINISHES

SYPSUM BOAR

- SYPSUM MALLBOARD SHALL BE INSTALLED IN CONFORMANCE WITH THE CURRENT EDITION OF THE MORTH CAROLLINA RESIDENTIAL CODE AND ALL STATE AND LOCAL BUILDING CODES. THE MOST STRINGENT PROJUBEMENTS, SHALL GOVERN
- MATERIALS, ALL GYPSUM BOARD MATERIALS AND ACCESSORIES SHALL
 CONFORM TO ASTM 6 22, 6 4T5, 6 514, 6 1002, 6 1047, 6 1171, 6 1176, 6 1276,
 C 1396, OR 6 (658 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE
 PROVISIONS OF THE N.C.-R. ADHESIVES FOR THE INSTALLATION OF GYPSUM
 BOARD SHALL CONFORM TO ASTM 6 551.
- GYPSUM BOARD MATERIALS SHALL CONFORM TO THE APPROPRIATE STANDARDS LISTED IN THE N.C.-R WHERE REQUIRED FOR FIRE PROTECTION, CONFORM TO THE N.C.-R
- 4. INTERIOR GYPSUM BOARD SHALL NOT BE INSTALLED WHERE IT IS DIRECTLY EXPOSED TO THE WEATHER OR TO WATER.
- 5. ALL EDGES AND ENDS OF GYPSUM BOARD SHALL OCCUR ON THE FRAMING MEMBERS, EXCEPT THOSE EDGES AND ENDS THAT ARE PERFENDICULAR TO THE FRAMING MEMBERS, EDGES AND ENDS OF GYPSUM BOARD SHALL BE IN MODERATE CONTACT EXCEPT IN CON-CEALED SPACES WHERE FIRE-RESISTACE-RATED CONSTRUCTION, SHEAR RESISTANCE, OR DIAPHRAGM ACTION IS NOT REQUIRED. CEALED SPACES WHERE FIRE-RESISTACE-RATED CONSTRUCTION.
- FASTENERS AT THE TOP AND BOTTOM PLATES OF VERTICAL ASSEMBLIES, OR THE EDGES AND ENDS OF HORIZONTAL ASSEMBLIES PERPENDICULAR TO SUPPORTS, AND AT THE WALL LINE MAY BE OMITTED EXCEPT ON SHEAR-RESISTING ELEMENTS OR FIRE- RESISTIVE ASSEMBLIES. FASTENERS SHALL BE APPLIED IN SUCH A MANNER AS NOT TO FRACTURE THE FACE PAPER WITH THE FASTENER HEAD.
- GYPSUM BOARD USED AS THE BASE OR BACKER FOR ADHESIVE APPLICATION OF CERAMIC TILE OR OTHER REQUIRED NON-ABSORBENT FINISH MATERIAL SHALL CONFORM TO ASTM C 1986, C III OR C IZ18. USE OF WATER-RESISTANT GYPSUM BACKING BOARD SHALL BE PERMITTED ON CEILINGS WHERE FRAMING SPACING DOES NOT EXCEED IZ INCHES ON CENTER FOR IZ-INCH-THICK OR IG INCHES FOR 5/6-INCH-THICK GYPSUM BOARD. WATER-RESISTANT GYPSUM BOARD SHALL NOT BE INSTALLED OVER A VAPOR RETARDER IN A SHOWER OR TUB COMPARTMENT. CUT OR EXPOSED EDGES, INCLUDING THOSE AT WALL INTERSECTIONS, SHALL BE SEALED AS RECOMMENDED BY THE MANUFACTURER.
- WATER RESISTANT GYPSUM BACKING BOARD SHALL NOT BE USED WHERE THERE HILL BE DIRECT EXPOSURE TO WATER, OR IN AREAS SUBJECT TO CONTINUOUS HIGH HUMIDITY.
- 9. WHEN APPLYING A WATER-BASED TEXTURE MATERIAL, THE MINIMUM GYPSUM BOARD THICKNESS SHALL BE INCREASED FROM 3/6 INCH TO I/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.

EXTERIOR LATH

- ALL LATH AND LATH ATTACHMENTS SHALL BE OF CORROSION
- BACKING OR A LATH SHALL PROVIDE SUFFICIENT RIGIDITY TO PERMIT PLASTER APPLICATION.
- WHERE LATH ON VERTICAL SURFACES EXTENDS BETWEEN RAFTERS OR OTHER SIMILAR PROJECTING MEMBERS, SOLID BACKING SHALL BE INSTALLED TO PROVIDE SUPPORT FOR LATH AND ATTACHMENTS.

 SYPSUM LATH OR SYPSUM 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 MIRE FABRIC LATH AND CEMENT PLASTER.
- CEMENT PLASTER.

 5. UNLESS SPECIFIED OTHERWISE, ALL WALL COVERINGS SHALL BE SECURELY FASTENED PER THE N.C.-R. OR WITH OTHER APPROVED ALLMINUM, STAINLESS STEEL, SINC-COATED OR OTHER APPROVED CORROSION-RESISTIVE FASTENERS, INJERE THE BASIC WIND SPEED IS 110 MILES PER HOUR OR HIGHER, THE ATTACHMENT OF MAIL. COVERINGS SHALL BE DESIGNED TO RESIST THE COMPONENT AND CLADDING LOADS SPECIFIED TO SECURING SPECIFIED TO SECURING SPECIFIED.
- AND ADJISTED FOR HEIGHT AND EXPOSURE.

 6. A MINIMM 0.014-INCH (NO. 26 GALVANIZED SHEET GAGE),
 CORROGION-RESISTANT WEEP SCREED OR PLASTIC WEEP SCREED, WITH A
 MINIMM VERTICAL ATTACHMENT FLANGE OF 31/2 INCHES SHALL BE
 PROVIDED AT OR BELOW THE FOUNDATION PLATE LINE ON EXTERIOR STUD
 WALLS IN ACCORDANCE HITH ASTM C 426. THE WEEP SCREED SHALL BE
 PLACED A MINIMM 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 WEEP SCREED.

EXTERIOR PLASTER

PLASTERING WITH FORTLAND CEMENT PLASTER SHALL BE NOT LESS THAN THREE COATS WHEN APPLIED OVER METAL LATH OR NIRE LATH AND SHALL BE NOT LESS THAN TWO COATS WHEN APPLIED OVER MASONRY, CONCRETE, PRESSURE-PRESERVATIVE TREATED WOOD OR DECAY-RESISTANT WOOD OR O'PSMM BACKING. IF THE PLASTER SURFACE IS COMPLETELY COVERED BY VENEER OR O'THER FACING MATERIAL OR IS COMPLETELY CONCEALED, PLASTER APPLICATION NEED BE ONLY TWO COATS, PROVIDED THE TOTAL THICKNESS IS AS SET FORTH PER THE NC-R

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

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

- ONLY APPROVED PLASTICITY AGENTS AND APPROVE AMOUNTS THEREOF MAY BE ADDED TO PORTLAND CEMENT. WHEN PLASTIC CEMENT IS USED, NO ADDITIONAL LIME 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
- 3. GYPSUM PLASTER SHALL NOT BE USED ON EXTERIOR SURFACES.
- PLASTER COATS SHALL BE PROTECTED FROM FREEZING FOR A PERIOD OF NOT LESS THAN 24 HOURS AFTER SET HAS OCCURRED. PLASTER SHALL BE APPLIED WHEN THE AMBIENT TEMPERATURE IS HIGHER THAN 40 DEGREES F (4 DEGREES C), UNLESS PROVISIONS ARE MADE TO KEEP CEMENT PLASTER WORK SHOVE 40 DEGREES F (4 DEGREES C), PRIOR TO & DURING APPLICATION AND 46 HOURS THEREAFTER.
- 5. 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-4366, OR APPROVED EQUAL MAY BE USED IN LIEU OF A 3-COAT EXTERIOR PLASTER SYSTEM.



NORTH CAROLINA 40' SERIES

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MECHANICAL & PLUMBING

- ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN CONFORMANCE WITH THE NORTH CAROLINA RESIDENTIAL AND MECHANICAL CODE. INSTALLATIONS OF MECHANICAL APPLIANCES MECHANICAL CODE. INSTITUTION OF MECHANICAL APPLIANCES, EQUIPMENT AND SYSTEMS NOT ADDRESSED BY THIS CODE SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF THE NORTH CAROLINA RESIDENTIAL AND FUEL GAS CODE.
- WHERE AIR CONDITIONING IS AN OPTIONAL FEATURE, HEATING SYSTEMS MUST BE DESIGNED AND DUCT WORK SIZED TO ACCOMMODATE FUTURE AIR CONDITIONING NEEDS.
- MHERE 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 TEMPORARILY OPPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55 DEG. F (13 C) OR UP TO 65 DEG. F (29 C).
- ALL DUCTHORK SHALL CONFORM TO THE REQUIREMENTS OF THE
- COMBUSTION AIR SHALL BE PROVIDED FOR FORCED AIR UNITS IN
- CONTRACTOR TO PROVIDE BOOT IN DUCTWORK WHEN OPTIONAL "HONEYWELL" OR "CARRIER" ELECTRONIC AIR CLEANER IS PROVIDED.
- DICTS IN THE GARAGE AND DICTS PENETRATING THE WALLS OR CEILINGS SEPARATING THE DWELLING FROM THE GARAGE SHALL B 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 MINIMM 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-INCH (5I MM) THICK FORMED CONCRETE, OR STACKED MASONRY UNITS HELD IN PLACE BY MORTAR OR OTHER APPROVED METHOD, THE WATER HEATER SHALL BE SUPPORTED NOT LESS THAN 2 INCHES ABOVE GRADE.
- DRAINAGE. BELOW-GRADE INSTALLATIONS SHALL BE PROVIDED WITH A NATURAL DRAIN OR AN AUTOMATIC LIFT OR SUMP PUMP. FOR PIT REQUIREMENTS REFER TO N.C.-M

- IN LIEU OF REQUIRED EXTERIOR OPENINGS FOR NATURAL VENTILATION N BATHROOMS CONTAINING A BATHTUB, SHOWER OR COMBINATION IN BATHREOMS CONTINUING A BATHTICK STOCKER OF COMBINATION THEREOF, A MECHANICAL VENTILATION SYSTEM MAY BE REVOIDED. THE MINIMUM YENTILATION RATES SHALL BE SO CFM FOR INTERMITTENT VENTILATION OR 20 CFM FOR CONTINUOUS VENTILATION. VENTILATION AIR FROM THE SPACE SHALL BE EXHAUSTED DIRECTLY TO THE OUTSIDE PER NC.-R.
- 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 CRAVL SPACE OR AREAS INSIDE THE BUILDING, DUCTS SERVING RANGE HOODS SHALL BE CONSTRUCTED OF GALVANIZED STEEL, STAINLESS STEEL OR COPPER.
- WHERE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S NSTALLATION INSTRUCTIONS, AND WHERE MECHANICAL OR NATURAL VENTILATION IS OTHERWISE PROVIDED, LISTED AND LABELED DUCTLESS RANGE HOODS SHALL NOT BE REQUIRED TO DISCHARGE
- DUCTS FOR DOMESTIC KITCHEN COOKING APPLIANCES EQUIPPED WITH DOWN DRAFT EXHAUST SYSTEMS SHALL BE PERMITTED TO BE CONSTRUCTED OF SCHEDULE 40 PVC PIPE PROVIDED THAT THE INSTALLATION COMPILIES WITH ALL OF THE FOLLOWING PER N.C.-M:
- 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.
- E. THE PVC DUCTS SHALL BE SOLVENT CEMENTED.
- EXHAUST HOOD SYSTEMS CAPABLE OF EXHAUSTING IN EXCESS OF 400 CPM 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 OFFERATE SHALL TAKENDALLY KITH THE SHAUST SYSTEM. DAMPERS SHALL BE ACCESSIBLE FOR INSPECTION, SERVICE, REPAIR AND REPLACEMENT WITHOUT REMOVING PERMANENT CONSTRUCTION
- DOMESTIC WATER HEATERS, UNLESS SPECIFIED OTHERWISE BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, SHALL BE VENTED TO THE OUTSIDE AIR BY A TYPE B' VENT AND COMPLY WITH THE REQUIREMENTS OF THE N.C.-M

- A POTABLE WATER SUPPLY SYSTEM SHALL BE DESIGNED, INSTALLED AND MAINTAINED IN SUCH A MANNER SO AS TO PREVENT CONTAMINATION FROM NONPOTABLE LIGUIDS, SOLIDS OR GASES BEING INTRODUCED INTO THE POTABLE WATER SUPPLY THROUGH CROSS-CONNECTIONS OR ANY OTHER PIPING CONNECTIONS TO THE SYSTEM. BACKFLOW PRE- VENTER APPLICATIONS SHALL CONFORM TO
- THE SUPPLY LINES OR FITTINGS FOR EVERY PLUMBING FIXTURE SHALL BE INSTALLED SO AS TO PREVENT BACKFLOW, PLUMBING FIXTURE FITTINGS SHALL PROVIDE BACKFLOW PROTECTION IN ACCORDANCE WITH ASME AII.2.16.1.

MECHANICAL & PLUMBING (continued)

- ALL DEVICES, APPURTENANCES, APPLIANCES AND APPARATUS INTENDED TO SERVE SOME SPECIAL FUNCTION, SUCH AS STERILIZATION, DISTILL LATION, PROCESSING, COOLING, OR STORAGE OF ICE OR FOODS, AND THAT CONNECT TO THE WATER SUPPLY SYSTEM, SHALL BE PROVIDED MITH PROTECTION AGAINST BACKFLOW AND CONTAMINATION OF THE WATER SUPPLY SYSTEM. WATER PUMPS, FILTERS, SOFTENERS, TANKA AND ALL OTHER APPLIANCES AND DEVICES THAT HANDLE OR REP POTABLE WATER SHALL BE PROTECTED AGAINST CONTAMINATION.
- 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 MATER DISTRIBUTION SYSTEM SO THAT HOT WATER CORRESPONDS TO THE LEFT SIDE OF THE FITTINGS.
- DIVERTERS FOR SINK FAIGETS WITH A SECONDARY OUTLET CONSISTING OF A FLEXIBLE HOSE AND SPRAY ASSEMBLY SHALL CONFORM TO ASTM AII2.IB.I 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 MATER DISTRIBUTION PIPE SHALL BE PROHIBITED IN SOIL AND GROUND WATER THAT IS CONTAMINATED. GROUND WATER CONDITIONS SHALL BE REQUIRED A ACERTAIN THE ACCEPTABILITY OF THE WATER SERVICE OR MATER OBSTRIBUTION PIPING MATERIAL FOR THE SPECIFIC INSTALLATION, WHERE DETRIMENTAL CONDITIONS EXIST, APPROVED ALTERNATIVE MATERIALS OR ROUTING SHALL BE REQUIRED.
- WATER DISTRIBUTION PIPE SHALL CONFORM TO NSF 61 AND SHALL CONFORM TO ONE OF THE STANDARDS LISTED IN N.C.-PLUMBING. WATER DISTRIBUTION PIPE AND TUBING SHALL HAVE A MINIMUM PRESSURE RATING OF 100 PSI AT 160 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 WITHSTAND ANY REACTION FROM THE LIME AND ACID OF CONCRETE, CINDER OR OTHER CORROSIVE MATERIAL SHEATHING OR WRAPPING SHALL ALLOW FOR EXPANSION AND CONTRACTION OF PIPING TO PREVENT ANY RUBBING ACTION, MINIMUM MALL THICKNESS OF MATERIAL SHALL BE 0.025-INCH
- PIPES PASSING UNDER OR THROUGH WALLS SHALL BE PROTECTED FROM PHYSICAL DAMAGE PER NC-R.
- PIPING SHALL BE INSTALLED SO AS TO PREVENT DETRIMENTAL STRAINS AND STRESSES IN THE PIPE. PROVISIONS SHALL BE MADE TO PROTECT PIPING FROM DANAGE RESULTING FROM EXPANSION, CONTRACTION AND STRUCTURAL SETTLEMENT. PIPING SHALL BE INSTALLED TO AVOID STRUCTURAL STRESSES OF STRAINS WITHIN BUILDING COMPONENTS.
- WATER PIPES INSTALLED IN A WALL EXPOSED TO THE EXTERIOR SHALL PALEX PITES INSTALLED IN A WALL EAROSED INE EXTENSION SHALL SEE LOCATED ON THE HEATED SIDE OF THE WALL INSULATION. IN OTHER CASES, WATER, SOIL AND WASTE PIFES SHALL NOT BE INSTALLED OUTSIDE OF A BUILDING, IN UNCONDITIONED ATTICS, UNCONDITIONED JTILITY ROOMS OR IN ANY OTHER PLACE SUBJECTED TO FREEZING UTILITY ROOMS OR IN ANY OTHER PLACE SUBJECTED TO FREEZING TEMPERATURES UNLESS ADEQUATE REVOVISION IS MADE TO PROTECT SUCH PIPES FROM FREEZING BY A MINIMUM OF R-65 INSULATION DETERMINED AT 15 DEG. F IN ACCORDANCE WITH ASTM CIT! OR HEAT 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 NC.-P.
- WHERE WASTE LINE DROPS OCCUR IN A LOCATION WHERE THE SOUND OF FLUSHED TOILET MAY BE UNDESIRABLE, SUCH AS IN WALLS OR PARTITIONS ADJACENT TO EATING ROOMS, USE CAST IRON PIPING OR SIMILAR APPROVED HARD OR DENSE PIPING TO MITIGATE SOUND.
- 16. CLEANOUTS ON BUILDING SEMERS 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 WITH CONTROL. VALVES OF THE PREESURE-BALANCE, THERMOSTATIC-MIXING OR COMBINATION PREESURE-BALANCE/THERMOSTATIC-MIXING VALVE TYPES WITH A HIGH LIMIT STOP IN ACCORDANCE WITH ASSE IO16/ ASME AII.2.IO16/CSA BI25.16. AND SHALL BE INSTALLED AND ADJASTED PER MANUFACTURES INSTRUCTIONS.
- GAS AND ELECTRIC WATER HEATERS HAVING AN IGNITION SOURCE SHALL BE ELEVATED SUCH THAT THE SOURCE OF IGNITION IS NOT LESS THAN IS INCHES ABOVE THE GARAGE FLOOR, REFER TO NC.-R FOR EXCEPTION.
- 20. WATER HEATERS, (USING SOLID, LIQUID OR GAS FUEL) WITH THE EXCEPTION WATER 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, HONEVER, 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 SEISMIN DESIGN CATEGORY C, WATER HEATERS SHALL BE ANCHORED OR STRAPPEED IN THE UPPER ONE-THIRD OF THE APPLIANCE TO RESIST A HORIZONTAL FORCE EQUAL TO ONE-THIRD OF THE OPERATING WEIGHT OF THE MATER HEATER, ACTING IN ANY HORIZONTAL DIRECTION, OR IN ACCORDANCE WITH THE APPLIANCE MANUFACTURER'S RECOMMENDATIONS
- 22. APPLIANCES LOCATED IN A GARAGE OR CARPORT SHALL BE PRO-TECTED FROM IMPACT BY A MOVING VEHICLE.
- 23 WHERE WATER HEATERS OR HOT WATER STORAGE TANKS ARE INSTALLED IN. REMOTE LOCATIONS SUCH AS SUSPENDED CEILING, ATTICS, ABOVE OCCUPIED SPACES, OR UNVENTILATED 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 . 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 MINIMAM THICKNESS OF 24 GAGE, OR OTHER PANS APPROVED FOR SUCH USE SHALL BE PROVIDED.

MECHANICAL & PLUMBING (continued)

- 25. 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 MINIMM RATED CAPACITY FOR THE EQUIPMENT SERVED AND SHALL CONFORM TO ANSI Z21.22: THE RELIEF VALVE SHALL NOT BE USED AS A MEANS OF CONTROLLING THERMAL EXPANSION.
- SINK AND DISHWASHER. THE COMBINED DISCHARGE FROM A DISHWASHER AND A ONE- OR THO-COMPARTMENT SINK, NITH OR NITHOUT A FOOD-WASTE DISPOSER, SHALL BE SERVED BY A TRAP OF NOT LESS THAN 1/2 INCHES (36 MM) IN OUTSIDE DIAMETER. THE DISHWASHER DISCHARGE PIPE OR TUBINS SHALL RISE TO THE UNDERSIDE OF THE COUNTER AND SHALL BE SECURELY FASTENED TO THE UNDERSIDE 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 LISTING. FACTORY-BUILT FIREPLACES SHALL BE TESTED IN ACCORDANCE WITH UL 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
- 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 GROWIDS 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, IS- AND 20-AMPERE RECEPTACLES INSTALLED IN THE LOCATIONS SPECIFIED BELOW SHALL HAVE OROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL. THE GROUND-FAULT CIRCUIT-INTERRUPTER SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION.
 - A. BATHROOMS.
- GARAGES AND ALSO ACCESSORY BUILDINGS THAT HAVE A FLOOR LOCATED AT OR BELOW GRADE LEVEL NOT INTENDED AS HABITABLE ROOMS AND LIMITED TO STORAGE AREAS, WORK AREAS, AND AREAS OF SIMILAR USE.
- 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 WITHIN 6 FT FROM THE TOP INSIDE EDGE OF THE BOWL OF THE SINK.
- BOAT HOUSES.
- BATHTUBS OR SHOWER STALLS WHERE RECEPTACLES ARE INSTALLED WITHIN 6' OF THE OUTSIDE EDGE OF THE BATHTUB OR SHOWER STALL.
- J. LAUNDRY AREAS
- DISHWASHER GFCI PROTECTION IS NOT REQUIRED FOR OUTLETS THAT SUPPLY DISHWASHERS INSTALLED IN DWELLING UNIT LOCATIONS.
- CRAWL SPACE LIGHTING OUTLETS. GFCI PROTECTION SHALL BE PROVIDED FOR LIGHTING OUTLETS NOT EXCEEDING 120 VOLTS INSTALLED IN CRAWL SPACES.
- APPLIANCE RECEPTACLE OUTLETS INSTALLED IN A DWELLING UNIT FOR SPECIFIC APPLIANCES, SUCH AS LAUNDRY EQUIPMENT, SHALL BE INSTALLED WITHIN 6 FEET OF THE INTENDED LOCATION OF THE APPLIANCE.
- IN EVERY KITCHEN, FAMILY ROOM, DINING ROOM, LIVING ROOM, PARLOR, LIBRARY, DEN, SURROM, 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 MALL SPACE IS MORE THAN 6 FEB.T, MEASURED HORIZONTALLY, FROM AN OUTLET IN THAT SPACE, INCLUDING ANY HORIZONTALLY, FROM AN OUTLET IN THAT SPACE, INCLIDING ANY WALL SPACE 2 FEET OR MORE IN MIDTH (INCLIDING SPACE MEASIRED AROUND CORNERS). AND UNBROKEN ALONG THE FLOOD LINE BY DOORNAYS AND OMILAR OF PENINGS, FIREPLACES, AND THE WALL SPACE OCCUPIED BY FIXED PARELS IN EXTERIOR WALLS, BUT EXCLIDINGS ALIDING PARELS IN EXTERIOR WALLS, BUT EXCLIDINGS ALIDING PARELS IN EXTERIOR WALLS. THE WALL SPACE AFFORDED BY FIXED ROOM DIVIDERS, SUCH AS FREESTANDING BAR-TYPE CONTERS OR RAILINGS, SHALL BE INCLIDED IN THE 6 FOOT MEASUREMENT.
- IN THE KITCHEN PANTRY PREAKEAST ROOM DINING ROOM OR SIMIL AR IN THE KITCHEN, PANIKT, DREAKFAST ROOM, DINING ROOM, OK SMIL AREA OF A DMELLING UNIT, THE TWO OR MORE 20-AMPERE SMALL-APPLIANCE BRANCH CIRCUITS REQUIRED SHALL SERVE ALL WALL AND FLOOR RECEPTACLE OUTLETS, ALL COUNTERTOP OUTLETS, AND RECEPTACLE OUTLETS FOR REFRIGERATION EQUIPMENT MORE SMALL-APPLIANCE BRANCH CIRCUITS SHALL HAVE NO OTHER OUTLETS.
- IN KITCHENS, PANTRIES, BREAKFAST ROOMS, DINING ROOMS OND SIMILAR AREAS OF DIRELLING UNITS, RECEPTACLE CUTLETS FOR COUNTER SPACES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING

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 PENINSULAR COUNTER SPACE WITH A LONG DIMENSION OF 24 INCHES OR GREATER AND A SHORT DIMENSION OF 12 INCHES OR GREATER. A PENINSULAR COUNTERTOP IS MEASURED FROM CONNECTING PERPENDICULAR WALL.
- CONTERTOP 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, COUNTERTOP COKING UNIT, OR SINK IS INSTALLED IN AN ISLAND OR PENINSULAR COUNTERTOP AND THE DEPTH OF THE COUNTER BEHIND THE ITEM IS LESS THEN IS INCHES. IT WILL BE CONSIDERED TO DIVIDE THE COUNTERTOP SPACE INTO WO SEPARATE COUNTERTOP SPACE. 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 READILY ACCESSIBLE BY APPLIANCES FASTENED IN PLACE, APPLIANCE GARAGES, SINKS, OR RANGETOPS AS COVERED IN 4) ABOVE, OR APPLIANCES OCCUPYING DEDICATED SPACE SHALL NOT BE CONSIDERED AS THESE REQUIRED OUTLETS.
- AT LEAST ONE WALL RECEPTACLE OUTLET SHALL BE INSTALLED IN BATHROOMS WITHIN 5 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 OF FACE OF THE BASIN CABINET NOT MORE HAN 12" BELOW THE COUNTERTOR
- IN DWELLING UNITS, AT LEAST ONE RECEPTACLE OUTLET SHALL BE INSTALLED IN AREAS DESIGNATED FOR THE INSTALLATION OF LAUNDRY EXUPMENT.
- 13. IN EACH ATTACHED GARAGE AND IN EACH DETACHED GARAGE WITH IN EACH ATTACHE BARNOH CIRCUIT SUPPLYING THIS RECEPTACLE(S) SHALL NOT SUPPLY CUTLETS OUTSIDE OF THE GARAGE. AT LEAST ONE RECEPTACLE OUTLET SHALL BE INSTALLED IN EACH VEHICLE BAY.
- CABLE- OR RACEWAY-TYPE WIRING METHODS INSTALLED IN A GROOVE, TO BE COVERED BY WALLBOARD, SIDING, PANELING, CARPETING, OR SIMILAR FINISH, SHALL BE PROTECTED BY I/B INCH THICK STEEL PLATE, SLEEVE, OR EQUIVALENT OR BY NOT LESS THAN I-I/4 INCH FREE SPACE FOR THE FULL LENGTH OF THE GROOVE IN WHICH THE CABLE OR RACEWAY IS INSTALLED.
- RECEPTACLES IN DAMP OR WET LOCATIONS.
- A. A RECEPTACLE INSTALLED OUTDOORS IN A LOCATION PROTECTED FROM MEATHER OR IN OTHER DAMP LOCATIONS SHALL HAVE AN ENCLOSURE FOR THE RECEPTACLE THAT IS MEATHERPROOF WHEN THE RECEPTACLE IS COVERED, (ATTACHMENT PLUS CAP NOT INSERTED AND RECEPTACLE COVERS CLOSED.)
- ALL 15- AND 20- AMPERE, 125- AND 250-VOLT RECEPTACLES INSTALLED IN A WET LOCATION SHALL HAVE AN ENCLOSURE THAT I WEATHER PROOF INVETHER OR NOT THE ATTACHMENT PLUS CAP IS INSERTED. AN OUTLET BOX HOOD INSTALLED FOR THIS FURPOSE SHALL BE LISTED AND SHALL BE IDENTIFIED AS "EXTRA DUTY". ALIS- AND 20- AMPERE, 125- AND 20-VOLT NONLOCKING RECEPTACLES SHALL BE LISTED WEATHER RESISTANT TYPE.
- LIGHT FIXTURES WITHIN CLOTHES CLOSETS SHALL BE INSTALLED IN
- ALL 120-VOLT, SINGLE PHASE, IS- AND 20-AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDRACOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLMAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY AN ARC-FAULT CIRCUIT INTERRUPTERS), COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT, THE ARC-FAULT CIRCUIT INTERRUPTERS HALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION.
- BUILDINGS SHALL BE PROVIDED WITH APPROVED ADDRESS IDENTIFICATION. THE ADDRESS IDENTIFICATION SHALL BE LEGIBLE AND PLACED IN A POSITION THAT IS VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY.
- TAMPER-RESISTANT RECEPTACLES IN DWELLING UNITS IN ALL AREAS.
 ALL NON-LOCKING TYPE (25-VOLT IS-AND 20-AMPERE RECEPTACLES
 SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES. EXCEPTIONS
 LISTED BELOW:
 - I. RECEPTACLES LOCATED MORE THAN 51 ABOVE THE FLOOR 2. RECEPTACLES THAT ARE PART OF A LUMINAIRE OR APPLIANCE
 - 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 PLUG/RECEPTACLE COMBINATION IS A NONSTANDARD CONFIGURATION THE THAT IS SPECIFICALLY LISTED AND IDENTIFIED FOR EACH SUCH

- 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 WARRING EQUIPMENT PROVISIONS OF INFPA 12.

HOUSEHOLD FIRE ALARM SYSTEMS INSTALLED IN ACCORDANCE WITH NEPA HOUSEHOLD FIRE ALARM SYSTEMS INSTALLED IN ACCORDANCE WITH IMPA
72 THAT INCLUDE SMOKE ALARMS, OR A COMBINATION OF SMOKE DETECTOR
AND AIDIBLE 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 NC-R FOR SMOKE ALARMS IN THE
EVENT THE FIRE ALARM PAILL IS REMOVED OR THE SYSTEM IS NOT
CONNECTED TO A CENTRAL STATION.

REQUIRED SMOKE DETECTORS SHALL BE LOCATED IN ACCORDANCE WITH THE NC-R R3I4.3

ELECTRICAL (continued)

CARBON MONOXIDE ALARMS

- CARBON MONOXIDE ALARMS IN DWELLING UNITS SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS, MHERE A FUEL-BURNING APPLIANCE IS LOCATED WITHIN A BEDROOM OR ITS ATTACHED BATHROOM, A CARBON MONOXIDE ALARM SHALL BE INSTALLED WITHIN THE BEDROOM.
- SINGLE STATION CARBON MONOXIDE ALARMS SHALL BE LISTED AS COMPLYING MITH UL 2034 AND SHALL BE INSTALLED IN ACCORDANCE MITH 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 MISO 2.4.5



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NORTH CAROLINA 40' SERIES KB HOME NORTH CAROLINA DIVISION 4506 S. MIAMI BLVD.

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. 2018 NORTH **CAROLINA STATE** BUILDING CODES

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NC19005NCP- 02/28/19 MCP

" REVISIONS:

DIVISION REVISION
NC19029NCP- 04/22/19 MCP

DIVISION REVISION
NC19035NCP- 07/31/19 FAE

FOR INTERNAL USE ONLY

240.3174-R GN₃



IIIIDRIOR RDI				
	SQUARE FOOT	AGE		
PLAN	1 240.3174 PARTI	N PLACE 2		
FIRST FLOOR AREA	4	1477	SQ. FT.	
SECOND FLOOR AF	REA .	1697	SQ. FT.	
TOTAL AREA	١	3174	SQ. FT.	
GARAGE AREA		416	SQ. FT.	
PORCH AREA(S)				
	ELEVATION 'A'	57	SQ. FT.	
	ELEVATION 'B'	97	SQ. FT.	
	ELEVATION 'C'	126	SQ. FT.	
	ELEVATION 'D'	126	SQ. FT.	
OPTION (AREA) PATIO AREA(S)	DEN/BDRM, 5/BA.3	101	SQ. FT.	
	IO'XIO' COVERED	100	SQ. FT.	
	IO'x20' COVERED	200	SQ. FT.	
DECK AREA(S)				
	OPEN 12'XI2'	144	SQ. FT.	
	252	SQ. FT.		
	SCREEN-IN 12'x12'	144	SQ. FT.	
	SCREEN-IN 21'x12'	252	SQ. FT.	
PLATE NOTES				
	8'-I" PLATE NO	OTES		
MINDOM HEADER HEIGHT;				
9'-I" PLATE NOTES				
• WINDOM HEADER HEIGHT IS! OR 2nd: 71-8" UN.O. • 40/O WINDOM OVER TUB HDR. H6T.: 6'-8" UN.O. • SUDING GLASS DOOR HEIGHT: 6'-6" (TEMP.) • INTERIOR SOFFIT HEIGHT: 8'-0" UN.O. • TRAY CELLING: 1" TRAY CELLING: 6'-8" UN.O.				

STAIR DATA NOTES	2018 N.G
FIRST FLOOR WITH 8-1" FLATE HEIGHT: 4" DEEP T.J.I. FLOOR JOISTS WITH 3/4" T&G DECKING.	
14 TREADS AT IO" EACH	
15 RISERS AT 7-7/16" EACH FIRST FLOOR WITH 9-1" PLATE HEIGHT:	

14" DEEP T.J.I. FLOOR JOISTS WITH 3/4" T&G DECKING.
15 TREADS AT 10" EACH
16 RISERS AT 7-3/4" EACH

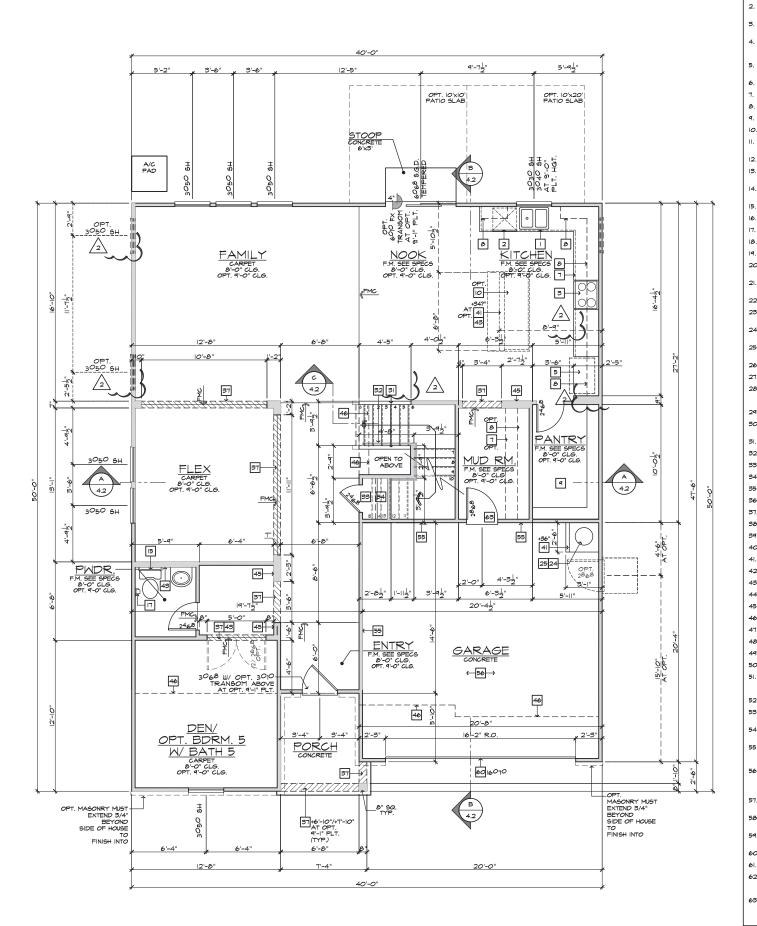
GENERAL PLAN NOTES ALL CEILING HEIGHTS PER SECTION AND ELEVATION PLATE HEIGHTS, U.N.O.

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

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

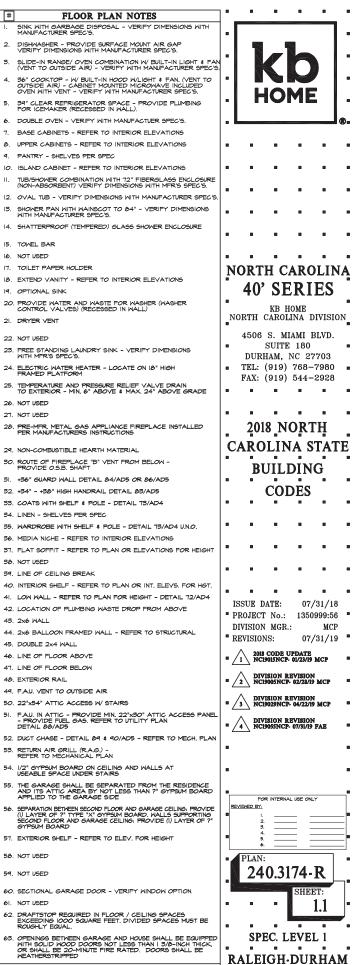
ALL HOUSE TO GARAGE DOORS TO BE 20-MINUTE FIRE-RATED (REFER TO PLAN FOR SIZE).

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.



FIRST FLOOR PLAN 'A'

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



NOTE: FOR ALL PLAN OPTIONS REFER TO BASIC PLAN FOR INFORMATION NOT SHOWN HERE.

MCP

1.1

40' SERIES



	PLATE NOTES			
	8'-I" PLATE NO	OTES		
:	WINDOW HEADER HEIGHT: 2nd FLOOR WINDOW HDR. HEIGHT: ENTRY DOOR HEIGHT: SLIDING GLASS DOOR HEIGHT: INTERIOR SOFFIT HEIGHT: INTERIOR DOOR HEIGHT:	6'-8" U.N.O. T'-O" U.N.O. 6'-8" U.N.O. 6'-8" (TEMP.) T'-4" U.N.O. 6'-8" U.N.O.		
	9'-I" PLATE NOTES			
•	WINDON HEADER HEIGHT IS OR 2nd 4010 MINDON OVER TUB HDR. HGT. HGT. SLIDING GLASS DOOR HEIGHT: INTERIOR SOFFIT HEIGHT: TRAY CELLING. INTERIOR DOOR HEIGHT: INTERIOR DOOR HEIGHT:			

STAIR DATA NOTES	2018 N.G.4
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 T-7/16" EACH	
FIRST FLOOR WITH 9:1" PLATE HEIGHT: 14" DEEP T.J.I. FLOOR JOISTS WITH 3/4" T&G DECKING. 15 TREADS AT 10" EACH 16 RISERS AT 7-3/4" EACH	

GENERAL PLAN NOTES

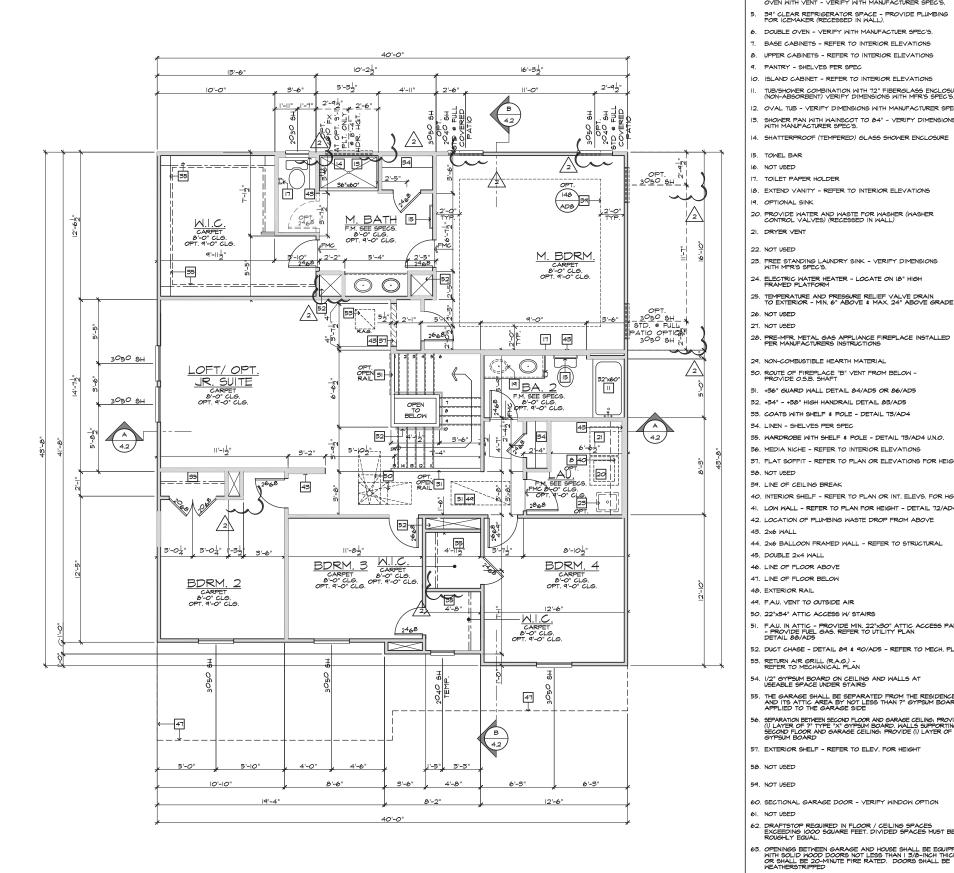
ALL CEILING HEIGHTS PER SECTION AND ELEVATION PLATE HEIGHTS, U.N.O.

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

ALL GARAGE SERVICE DOORS TO BE HOLLOW CORE EXTERIOR GRADE (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.



FLOOR PLAN NOTES SINK WITH GARBAGE DISPOSAL - VERIFY DIMENSIONS WITH MANUFACTURER SPEC'S. DISHWASHER - PROVIDE SURFACE MOUNT AIR GAP VERIFY DIMENSIONS WITH MANUFACTURER SPEC'S. 36" COOKTOP - W BUILT-IN HOOD WLIGHT & FAN. (VENT TO OUTSIDE AIR! - CABINET MOUNTED MICRONAVE INCLUDED OVEN WITH VENT - VERIFY WITH MANUFACTURER SPEC'S. HOME 34" CLEAR REFRIGERATOR SPACE - PROVIDE PLUMBING FOR ICEMAKER (RECESSED IN WALL). BASE CABINETS - REFER TO INTERIOR ELEVATIONS UPPER CABINETS - REFER TO INTERIOR ELEVATIONS IO. ISLAND CABINET - REFER TO INTERIOR ELEVATIONS TUB/SHOWER COMBINATION WITH 72" FIBERGLASS ENCLOSUR! (NON-ABSORBENT) VERIFY DIMENSIONS WITH MFR'S SPEC'S. 12. OVAL TUB - VERIFY DIMENSIONS WITH MANUFACTURER SPEC'S SHOWER PAN WITH WAINSCOT TO 84" - VERIFY DIMENSIONS WITH MANUFACTURER SPEC'S. 4. SHATTERPROOF (TEMPERED) GLASS SHOWER ENCLOSURE **NORTH CAROLINA** 40' SERIES 20. PROVIDE WATER AND WASTE FOR WASHER (WASHER CONTROL VALVES) (RECESSED IN WALL) кв номе NORTH CAROLINA DIVISION 4506 S. MIAMI BLVD. SUITE 180 23. FREE STANDING LAUNDRY SINK - VERIFY DIMENSIONS WITH MFR'S SPEC'S. DURHAM, NC 27703 TEL: (919) 768-7980 • 24. ELECTRIC WATER HEATER - LOCATE ON 18" HIGH FRAMED PLATFORM FAX: (919) 544-2928 2018 NORTH 26. PRE-MFR. METAL GAS APPLIANCE FIREPLACE INSTALLED PER MANUFACTURERS INSTRUCTIONS **CAROLINA STATE** 29. NON-COMBUSTIBLE HEARTH MATERIAL 30. ROUTE OF FIREPLACE "B" VENT FROM BELOW -PROVIDE O.S.B. SHAFT BUILDING CODES 32. +34" - +38" HIGH HANDRAIL DETAIL 83/AD5 33. COATS WITH SHELF & POLE - DETAIL 73/AD4 35. WARDROBE WITH SHELF & POLE - DETAIL 73/AD4 U.N.O. 36. MEDIA NICHE - REFER TO INTERIOR ELEVATIONS 37. FLAT SOFFIT - REFER TO PLAN OR ELEVATIONS FOR HEIGH 41. LOW WALL - REFER TO PLAN FOR HEIGHT - DETAIL 72/AD4 ISSUE DATE: 42. LOCATION OF PLUMBING WASTE DROP FROM ABOVE PROJECT No.: 1350999:56 DIVISION MGR.: 44. 2x6 BALLOON FRAMED WALL - REFER TO STRUCTURAL REVISIONS: 07/31/19 2018 CODE UPDATE NCI9015NCP- 01/23/19 MCP 49. F.A.U. VENT TO OUTSIDE AIR 50. 22"x54" ATTIC ACCESS W/ STAIRS F.A.J. IN ATTIC - PROVIDE MIN. 22"x30" ATTIC ACCESS PANEL - PROVIDE FUEL GAS, REFER TO UTILITY PLAN DETAIL 88/AD5 DIVISION REVISION NC19055NCP- 07/31/19 FAE 52. DUCT CHASE - DETAIL 89 \$ 90/AD5 - REFER TO MECH. PLAN 53. RETURN AIR GRILL (R.A.G.) -REFER TO MECHANICAL PLAN 54. I/2" GYPSUM BOARD ON CEILING AND WALLS AT USEABLE SPACE UNDER STAIRS FOR INTERNAL USE ONLY 56. SEPARATION BETWEEN SECOND FLOOR AND GARAGE CEILING, PROVIDE (I) LAYER OF ?" TYPE "X" GYPSUM BOARD, WALLS SUPPORTING SECOND FLOOR AND GARAGE CEILING, PROVIDE (I) LAYER OF ?" GYPSUM BOARD 57. EXTERIOR SHELF - REFER TO ELEV. FOR HEIGHT 240.3174-R 60. SECTIONAL GARAGE DOOR - VERIFY WINDOW OPTION

NOTE: FOR ALL PLAN OPTIONS REFER TO BASIC PLAN FOR INFORMATION NOT SHOWN HERE.

07/31/18

1.2

SPEC. LEVEL 1

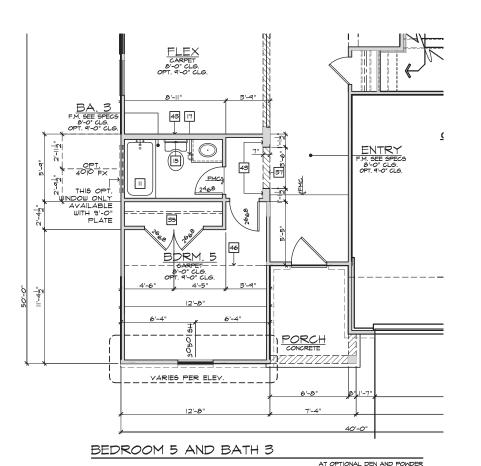
RALEIGH-DURHAM

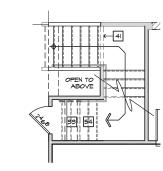
40' SERIES

MCP

SECOND FLOOR PLAN 'A'

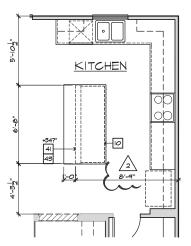
SCALE I/4"=I'-0" (22"X34") - I/8"=I'-0" (II"XI7")





FULL STORAGE

BASIC PLAN



FIRST FLOOR PLAN OPTIONS

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

KITCHEN ISLAND

FLOOR PLAN NOTES SINK WITH GARBAGE DISPOSAL - VERIFY DIMENSIONS WITH MANUFACTURER SPEC'S. DISHWASHER - PROVIDE SURFACE MOUNT AIR GAP VERIFY DIMENSIONS WITH MANUFACTURER SPEC'S. SLIDE-IN RANGE/ OVEN COMBINATION W BUILT-IN LIGHT & FA (VENT TO OUTSIDE AIR) - VERIFY WITH MANUFACTURER SPEC'S 36" COOKTOP - W BUILT-IN HOOD WLIGHT & FAN. (VENT TO OUTSIDE AIR! - CABINET MOUNTED MICRONAVE INCLUDED OVEN WITH VENT - VERIFY WITH MANUFACTURER SPEC'S. 39" CLEAR REFRIGERATOR SPACE - PROVIDE PLUMBING FOR ICEMAKER (RECESSED IN WALL). DOUBLE OVEN - VERIFY WITH MANUFACTUER SPEC'S. BASE CABINETS - REFER TO INTERIOR ELEVATIONS 8. UPPER CABINETS - REFER TO INTERIOR ELEVATIONS IO. ISLAND CABINET - REFER TO INTERIOR ELEVATIONS TUB/SHOWER COMBINATION WITH 72° FIBERGLASS ENCLOSUR! (NON-ABSORBENT) VERIFY DIMENSIONS WITH MFR'S SPEC'S. 12. OVAL TUB - VERIFY DIMENSIONS WITH MANUFACTURER SPEC'S SHOWER PAN WITH WAINSCOT TO 84" - VERIFY DIMENSIONS WITH MANUFACTURER SPEC'S. 14. SHATTERPROOF (TEMPERED) GLASS SHOWER ENCLOSURE 15. TOWEL BAR 16. NOT USED 17. TOILET PAPER HOLDER 18. EXTEND VANITY - REFER TO INTERIOR ELEVATIONS 19. OPTIONAL SINK 20. PROVIDE WATER AND WASTE FOR WASHER (WASHER CONTROL VALVES) (RECESSED IN WALL.) 21. DRYER VENT 22. NOT USED 23. FREE STANDING LAUNDRY SINK - VERIFY DIMENSIONS WITH MFR'S SPEC'S. 24. ELECTRIC WATER HEATER - LOCATE ON 18" HIGH FRAMED PLATFORM 26. NOT USED 27. NOT USED 26. PRE-MFR. METAL GAS APPLIANCE FIREPLACE INSTALLED PER MANUFACTURERS INSTRUCTIONS 29. NON-COMBUSTIBLE HEARTH MATERIAL 30. ROUTE OF FIREPLACE "B" VENT FROM BELOW -PROVIDE O.S.B. SHAFT CODES 32. +34" - +38" HIGH HANDRAIL DETAIL 83/AD5 33. COATS WITH SHELF & POLE - DETAIL 73/AD4 37. FLAT SOFFIT - REFER TO PLAN OR ELEVATIONS FOR HEIGH 41. LOW WALL - REFER TO PLAN FOR HEIGHT - DETAIL 72/AD4 ISSUE DATE: 42. LOCATION OF PLUMBING WASTE DROP FROM ABOVE PROJECT No.: 1350999:56 DIVISION MGR.: 44. 2x6 BALLOON FRAMED WALL - REFER TO STRUCTURAL 45. DOUBLE 2x4 WALL 2018 CODE UPDATE NCI9015NCP- 01/23/19 MCP 46. LINE OF FLOOR ABOVE 47. LINE OF FLOOR BELOW 48. EXTERIOR RAIL 49. F.A.U. VENT TO OUTSIDE AIR 50. 22"x54" ATTIC ACCESS W/ STAIRS F.AJ. IN ATTIC - PROVIDE MIN. 22"x30" ATTIC ACCESS PANEL - PROVIDE FUEL GAS. REFER TO UTILITY PLAN DETAIL 88/AD5 DIVISION REVISION NC19055NCP- 07/31/19 FAE 52. DUCT CHASE - DETAIL 89 \$ 90/AD5 - REFER TO MECH. PLAN 53. RETURN AIR GRILL (R.A.G.) -REFER TO MECHANICAL PLAN 54. I/2" GYPSUM BOARD ON CEILING AND WALLS AT USEABLE SPACE UNDER STAIRS 56. SEPARATION BETWEEN SECOND FLOOR AND GARAGE CEILING, PROVIDE (I) LAYER OF ?" TYPE "X" GYPSUM BOARD, WALLS SUPPORTING SECOND FLOOR AND GARAGE CEILING, PROVIDE (I) LAYER OF ?" GYPSUM BOARD

HOME

NORTH CAROLINA 40' 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

35. WARDROBE WITH SHELF & POLE - DETAIL 73/AD4 U.N.O.

36. MEDIA NICHE - REFER TO INTERIOR ELEVATIONS

38. NOT USED

39 LINE OF CEILING BREAK

40. INTERIOR SHELF - REFER TO PLAN OR INT. ELEVS. FOR HGT.

57. EXTERIOR SHELF - REFER TO ELEV. FOR HEIGHT

58. NOT USED

59. NOT USED

60. SECTIONAL GARAGE DOOR - VERIFY WINDOW OPTION

61. NOT USED

63. OPENINGS BETWEEN GARAGE AND HOUSE SHALL BE EQUIPPE WITH SOLID WOOD DOORS NOT LESS THAN I 3/8-INCH THICK, OR SHALL BE 20-MINUTE FIRE RATED. DOORS SHALL BE MEATHERSTRIPPED

NOTE: FOR ALL PLAN OPTIONS REFER TO BASIC PLAN FOR INFORMATION NOT SHOWN HERE.

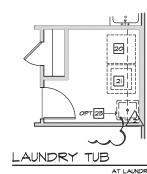
FOR INTERNAL USE ONLY 240.3174-R 1.4 SPEC. LEVEL 1

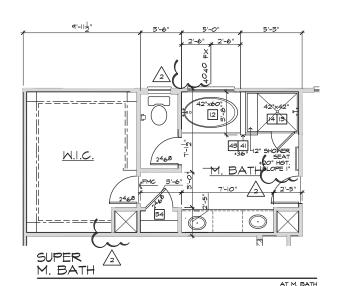
07/31/18

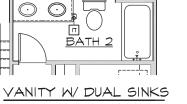
07/31/19

MCP

RALEIGH-DURHAM 40' SERIES



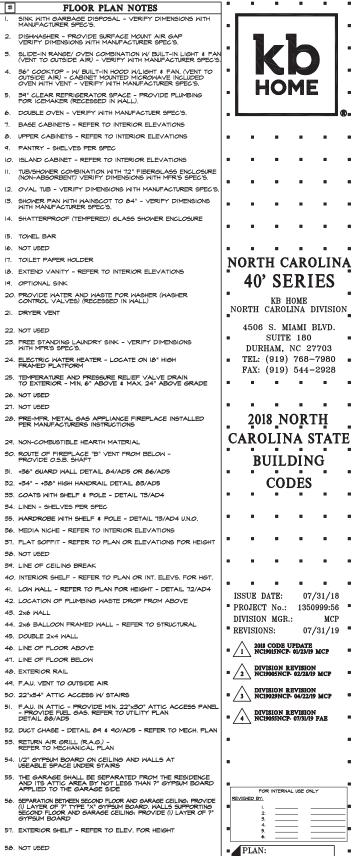




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SECOND FLOOR PLAN OPTIONS SCALE I/4"=1'-0" (22"X34") - I/8"=1'-0" (II"XI7")

BASIC PLAN





NORTH CAROLINA 40' SERIES

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2018 NORTH

BUILDING

CODES

59. NOT USED

60. SECTIONAL GARAGE DOOR - VERIFY WINDOW OPTION

63. OPENINGS BETWEEN GARAGE AND HOUSE SHALL BE EQUIPPE WITH SOLID WOOD DOORS NOT LESS THAN I 3/8-INCH THICK, OR SHALL BE 20-MINUTE FIRE RATED. DOORS SHALL BE MEATHERSTRIPPED

NOTE: FOR ALL PLAN OPTIONS REFER TO BASIC PLAN FOR INFORMATION NOT SHOWN HERE.

240.3174-R

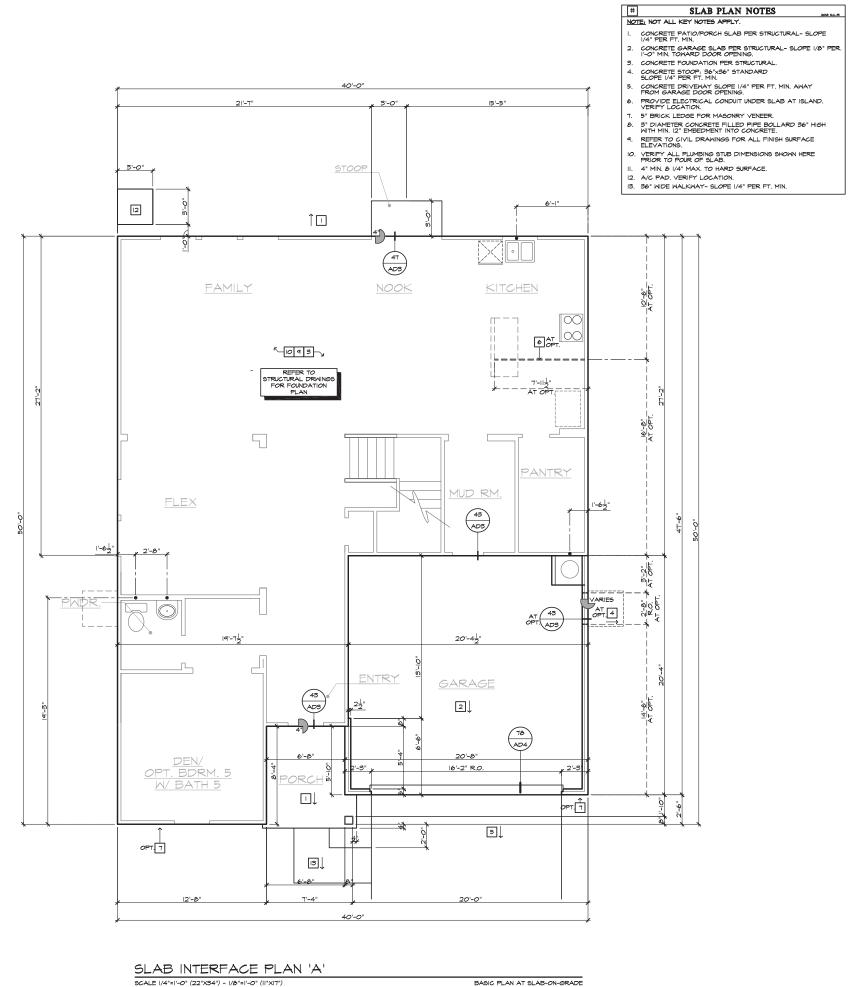
1.5

MCP

07/31/19

SPEC. LEVEL 1 RALEIGH-DURHAM 40' SERIES

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2018 NORTH **CAROLINA STATE** BUILDING CODES

ISSUE DATE: 07/31/18 ■ PROJECT No.: 1350999:56 ■ DIVISION MGR.:

MCP

07/31/19 REVISIONS: ■ 1 2018 CODE UPDATE NC19015NCP- 01/23/19 MCP ■

DIVISION REVISION
NCI9005NCP- 02/28/19 MCP

DIVISION REVISION
NCI9029NCP- 04/22/19 MCP

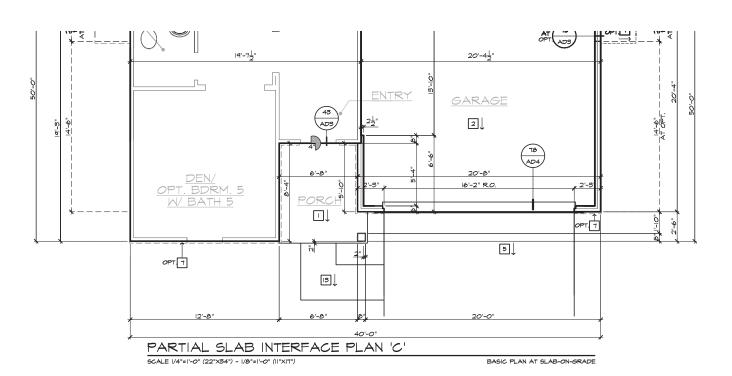
DIVISION REVISION
NC19055NCP- 07/31/19 FAE

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240.3174-R

SPEC. LEVEL 1 RALEIGH-DURHAM 40' SERIES

2.1



SLAB PLAN
NOTE: NOT ALL KEY NOTES APPLY. SLAB PLAN NOTES

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

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

CONCRETE FOUNDATION PER STRUCTURAL.

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

CONCRETE DRIVEWAY SLOPE 1/4" PER FT. MIN. AWAY FROM GARAGE DOOR OPENING.

PROVIDE ELECTRICAL CONDUIT UNDER SLAB AT ISLAND. VERIFY LOCATION.

5" BRICK LEDGE FOR MASONRY VENEER.

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

 REFER TO CIVIL DRAWINGS FOR ALL FINISH SURFACE ELEVATIONS.

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

| 4" MN. 8 | /4" MAX. TO HARD SURFACE. | 12. A/C PAD. VERIFY LOCATION. | 13. 36" WIDE WALKWAY- SLOPE | /4" PER FT. MIN.



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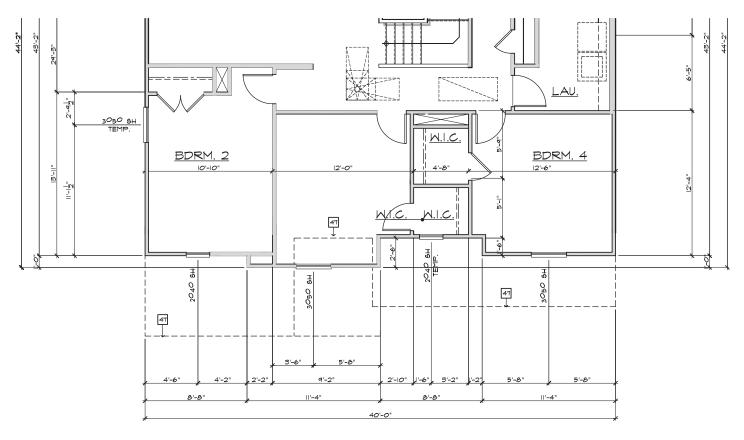
DIVISION REVISION
NC19005NCP- 02/28/19 MCP

DIVISION REVISION
NCI9029NCP- 04/22/19 MCP

DIVISION REVISION NC19055NCP- 07/31/19 FAE

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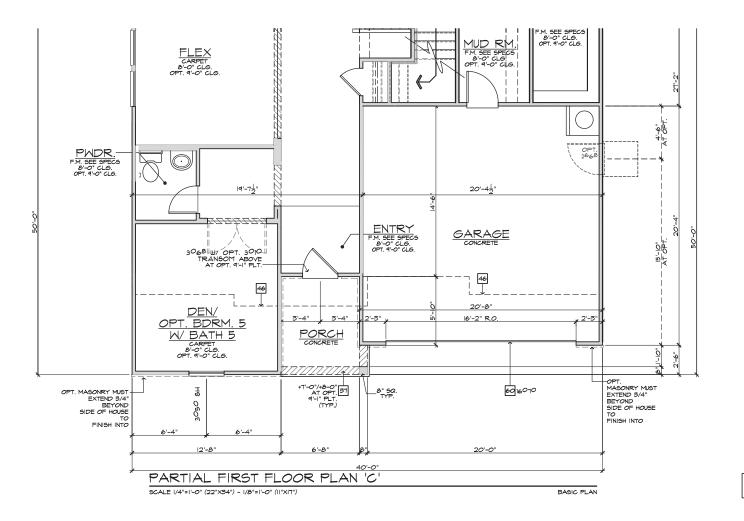
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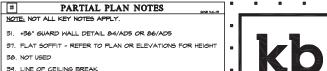


PARTIAL SECOND FLOOR PLAN 'C'

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

BASIC PLAN





40. INTERIOR SHELF - REFER TO PLAN OR INT. ELEVS. FOR HGT.

41. LOW WALL - REFER TO PLAN FOR HEIGHT - DETAIL 12/AD4

44. 2x6 BALLOON FRAMED WALL - REFER TO STRUCTURAL

57. EXTERIOR SHELF - REFER TO ELEV. FOR HEIGHT

60. SECTIONAL GARAGE DOOR - VERIFY WINDOW OPTION

43. 2x6 WALL

45. DOUBLE 2x4 WALL 46. LINE OF FLOOR ABOVE 47. LINE OF FLOOR BELOW

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DIVISION REVISION NCI9029NCP- 04/22/19 MCP

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NC19055NCP- 07/31/19 FAE

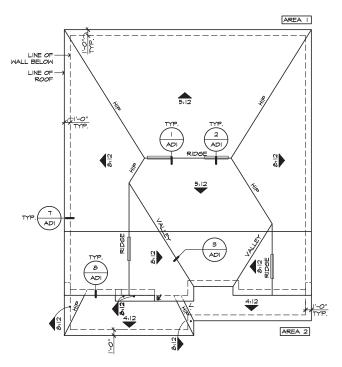
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240.3174-R

3.C1 SPEC. LEVEL 1

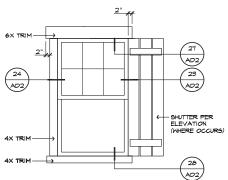
RALEIGH-DURHAM 40' SERIES

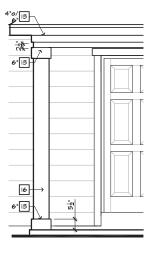
NOTE: REFER TO BASIC FLOOR PLAN FOR INFORMATION NOT SHOWN HERE



ROOF PLAN 'C'

SCALE I/8"=1'-0" (22"X34") - I/I6"=1'-0" (II"XI7")

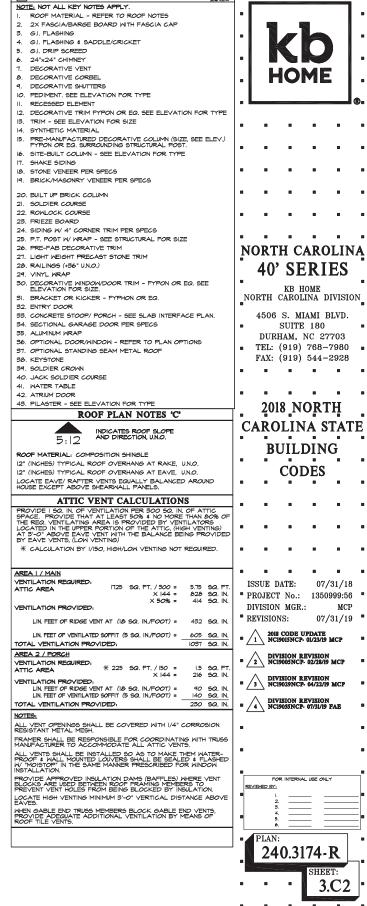




DETAIL 'A'

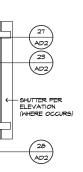
DETAIL 'B'

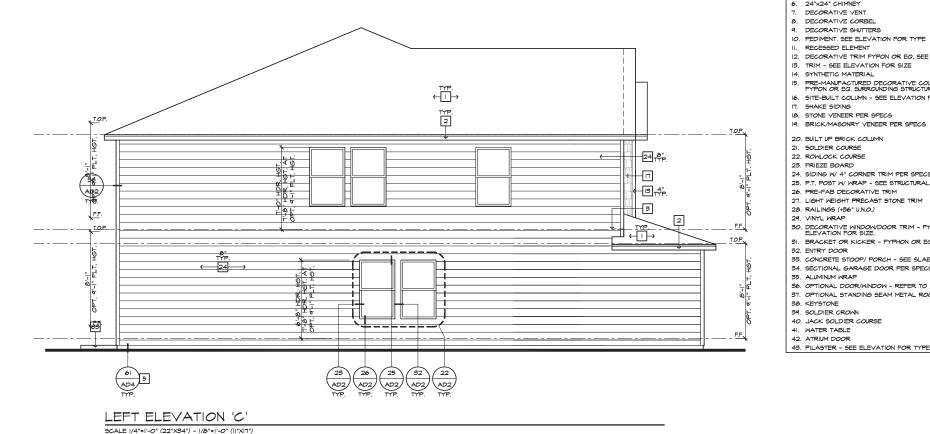


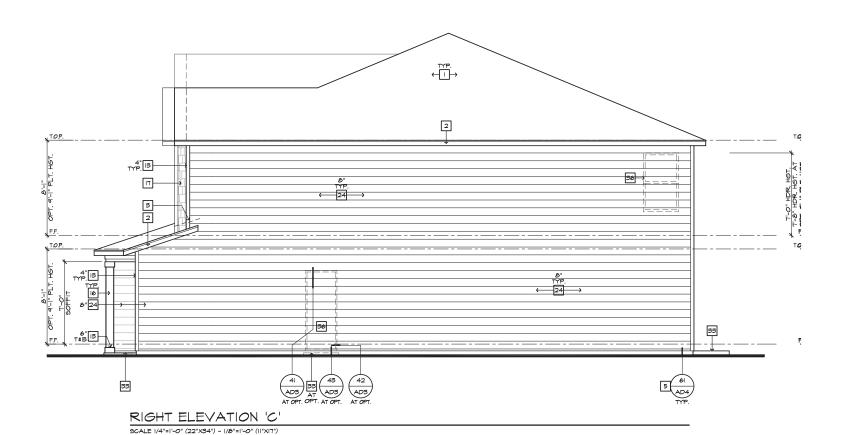


SPEC. LEVEL 1 RALEIGH-DURHAM 40' SERIES

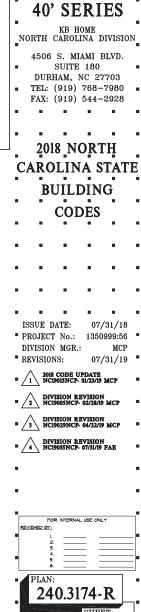
ELEVATION NOTES







ELEVATION NOTES NOTE: NOT ALL KEY NOTES APPLY. ROOF MATERIAL - REFER TO ROOF NOTES 2X FASCIA/BARGE BOARD WITH FASCIA CAP 3. G.I. FLASHING 4. G.I. FLASHING & SADDLE/CRICKET 5. G.I. DRIP SCREED 6. 24"x24" CHIMNEY DECORATIVE VENT 9. DECORATIVE SHUTTERS 10. PEDIMENT. SEE ELEVATION FOR TYPE II. RECESSED ELEMENT 12. DECORATIVE TRIM FYPON OR EQ. SEE ELEVATION FOR TYPE 13. TRIM - SEE ELEVATION FOR SIZE 14. SYNTHETIC MATERIAL PRE-MANUFACTURED DECORATIVE COLUMN (SIZE, SEE ELEV.) FYPON OR EQ. SURROUNDING STRUCTURAL POST. 16. SITE-BUILT COLUMN - SEE ELEVATION FOR TYPE 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 28. RAILINGS (+36" U.N.O.) 29. VINYL WRAP 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/WINDOW - REFER TO PLAN OPTIONS 37. OPTIONAL STANDING SEAM METAL ROOF

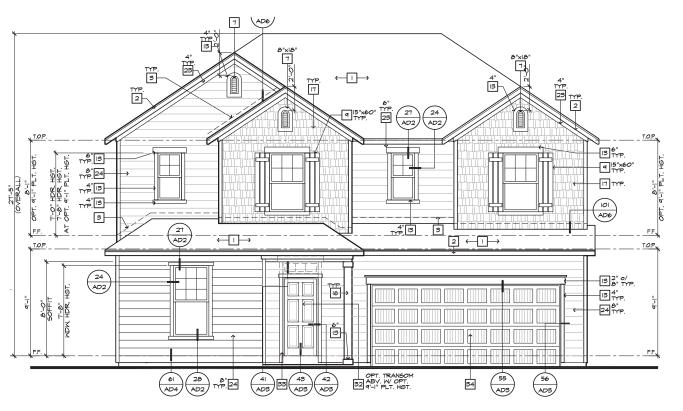


3.C3

SPEC. LEVEL 1 RALEIGH-DURHAM

40' SERIES

HOME



FRONT ELEVATION 'C' AT OPTIONAL 9'-I" PLT. HGT. SCALE I/4"=1'-0" (22"X34") - I/8"=1'-0" (II"XI7")

HOME

NORTH CAROLINA 40' SERIES

кв номе 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: 07/31/18 ■ PROJECT No.: 1350999:56 ■ DIVISION MGR.: MCP

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DIVISION REVISION NC19055NCP- 07/31/19 FAE

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3.C5



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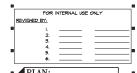
CODES

ISSUE DATE: 07/31/18 ■ PROJECT No.: 1350999:56 ■ DIVISION MGR.: MCP

07/31/19 2018 CODE UPDATE NCI9015NCP- 01/23/19 MCP

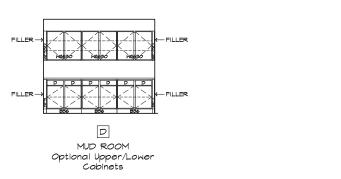
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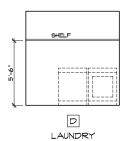
DIVISION REVISION
NCI9055NCP- 07/31/19 FAE



240.3174-R

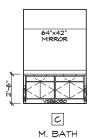
SPEC. LEVEL 1 RALEIGH-DURHAM 40' SERIES

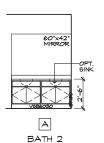




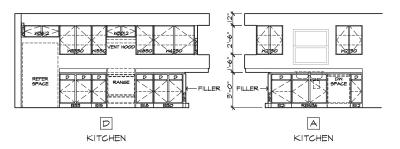
MISCELLANEOUS ELEVATIONS







BATH ELEVATIONS





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

Vanity w/ Dual Sinks BATH ELEVATIONS

D

LAUNDRY

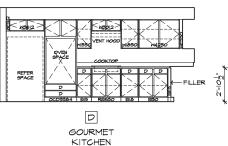
Opt. Upper/Lower

Cabinets

Α

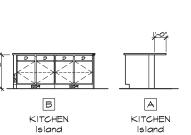
BATH 2

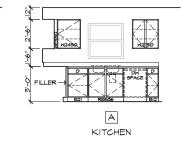
INTERIOR ELEVATIONS



Α

BATH 3







KITCHEN ELEVATIONS

OPTIONAL INTERIOR ELEVATIONS

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

36" METAL FIREPLACE - MANTLE

FREPLACE

В

FAMILY

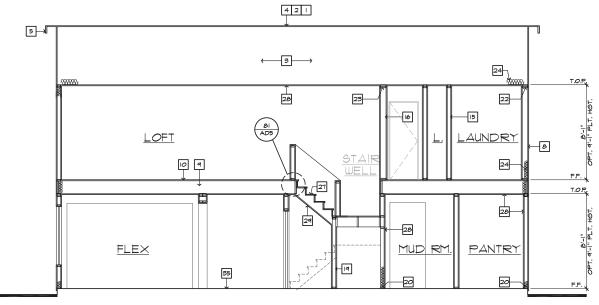
Fireplace

94"x42" MIRROR

C

SUPER/DELUXE

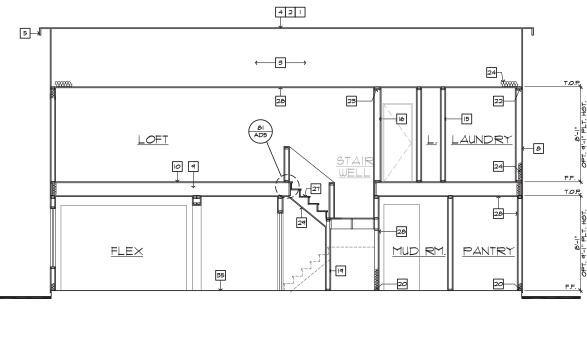
M. BATH



SECTION "A"

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

AT SI AB-ON-GRADE



4 1 5 — E 2 31 **←**[3] - 24 w 1 24 36 22 23 15 28 8 BATH 2 28-21-BDRM. 4 HALL M. BORM. 7 [O] [q] T.O.P. 30 42 41 GARAGE MUD RM. <u>NOOK</u> 35

NOTE: NOT ALL KEY NOTES APPLY. ROOF MATERIAL - REFER TO ROOF NOTES ROOF PITCH - REFER TO ROOF NOTES

PRE-MANUFACTURED WOOD ROOF TRUSS SYSTEM - SEE STRUCTURAL & TRUSS CALCS

SECTION NOTES

ROOF SHEATHING PER STRUCTURAL 5. 2x FASCIA/BARGE BOARD

CONT. SOFFITED EAVE W/ VENTING G.I. FLASHING - ROOF TO WALL

EXTERIOR FINISH PER ELEVATIONS FLOOR FRAMING PER STRUCTURAL IO. FLOOR SHEATHING PER STRUCTURAL

HEADER PER STRUCTURAL FLUSH BEAM PER STRUCTURAL

13. DROPPED BEAM PER STRUCTURAL FLAT/ ARCHED SOFFIT PER PLAN

15. 2x4 STUD WALL 16. 2x6 STUD WALL

17. 2x6 BALLOON FRAMED WALL PER STRUCTURAL

19. 2x CRIPPLES @ 16" O.C.

20. 2x PRESSURE TREATED SILL PLATE

2I. 2x SOLE PLATE

22. DBL. 2x TOP PLATE @ EXTERIOR & BEARING WALLS 23. IX OVER 2X TOP PLATE @ INTERIOR & NON-BEARING WALLS

24. INSULATION MATERIAL PER ENERGY CALCULATIONS 25. MIN. 36" HIGH GUARD - SEE PLAN FOR HEIGHT

26. LOW WALL - SEE PLAN FOR HEIGHT

27. STAIR TREADS AND RISERS PER PLAN: - MIN. IO" TREAD \$ MAX. 7 3/4" RISER

26. INTERIOR FINISH: - MIN. 1/2" GYP. BD. @ WALLS & SAG RESISTANT OR 5/8" DRYWALL @ CEILING

29. MIN. I/2" GYP. BD. ON CEILING & WALLS @ USEABLE SPACE UNDER STAIRS.

50. GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA BY NOT LESS THAT 1/2" GYP. BD. ● GARAGE SIDE WALLS & 5/8" UNDER LIVING AREA U.N.O.

31. MATERIAL TO UNDERSIDE OF ROOF SHEATHING 32. INTERIOR SHELF - MIN. I/2" GYP. BD. OVER 3/8" PLY WD.

33. CONCRETE PATIO/ PORCH SLAB PER STRUCTURAL - SLOPE $1/4^\circ$ PER FT. MIN.

54. CONCRETE GARAGE SLAB PER STRUCTURAL - SLOPE 2" MIN. 55. CONCRETE FOUNDATION PER STRUCTURAL

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

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

40. 8" BLOCK WALL

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

CEILING

22. HIEN THERE IS USABLE SPACE ABOVE AND BELOW THE
CONCEALED SPACE OF A FLOOR-CEILING ASSEMBLY IN A
SINGLE-PAMILY DINGLING DRAFT STOPS SHALL BE INSTALLET
SO THAT THE AREA OF THE CONCEALED SPACE DOES NOT
EXCEED JOOD SOURCE FIET. DRAFTSTOPPING SHALL DIVIDE
THE CONCEALED SPACE INTO APPROXIMATELY EQUAL AREAS.

HOME

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NORTH CAROLINA 40' 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: 07/31/18 PROJECT No.: 1350999:56 DIVISION MGR.: MCP

07/31/19

2018 CODE UPDATE NC19015NCP- 01/23/19 MCP

DIVISION REVISION
NC19055NCP- 07/31/19 FAE

FOR INTERNAL USE ONLY

240.3174-R

SPEC. LEVEL 1 RALEIGH-DURHAM 40' SERIES

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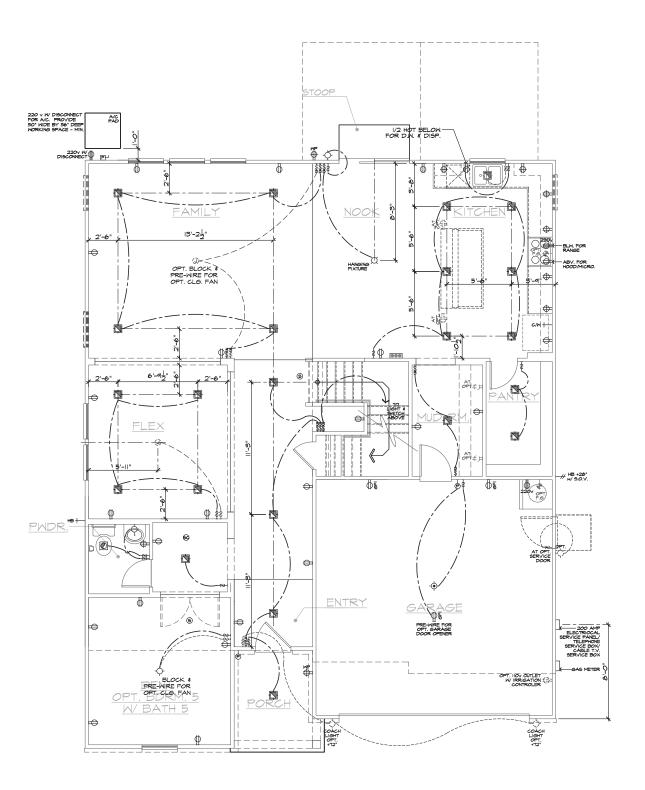
28

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PANTRY

8

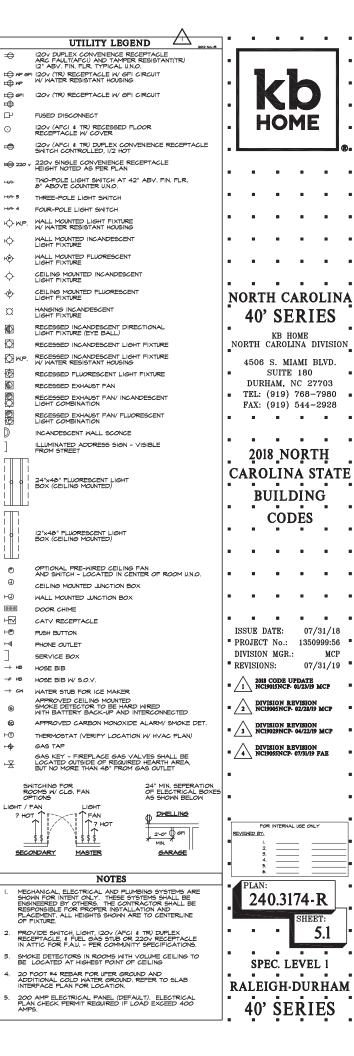
T.O.P.

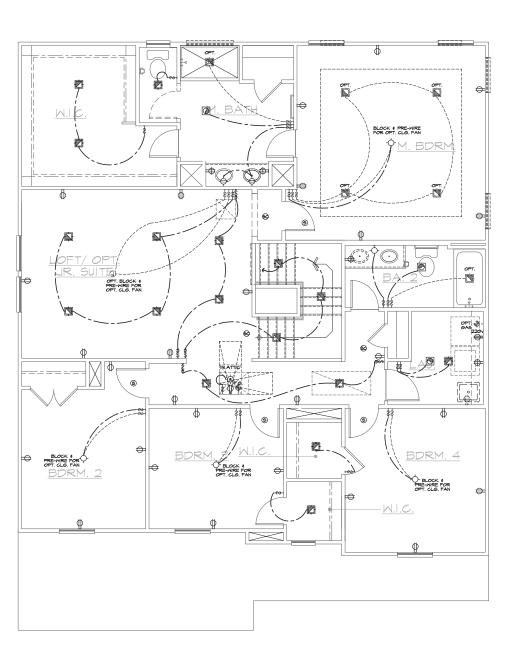


FIRST FLOOR UTILITY PLAN

SCALE I/4"=1'-0" (22"X34") - I/6"=1'-0" (II"XI7")

BASIC PLAN

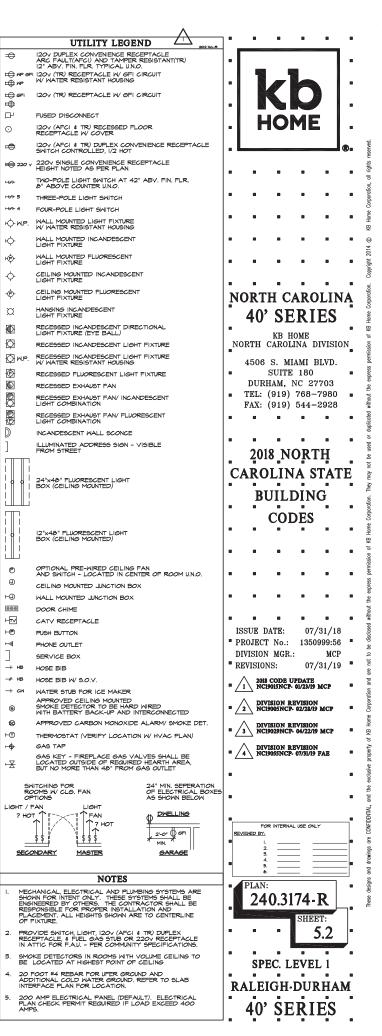


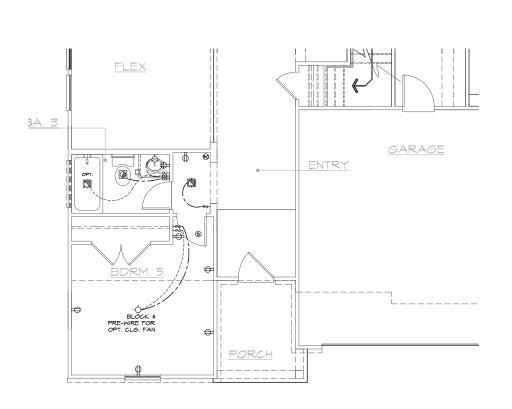


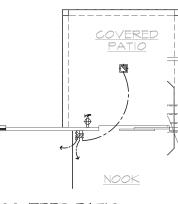
SECOND FLOOR UTILITY PLAN

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

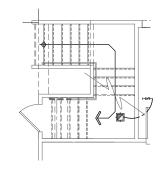
BASIC PLAN





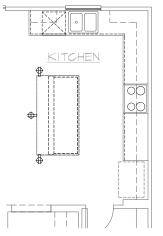


COVERED PATIO



FULL STORAGE

BASIC PLAN



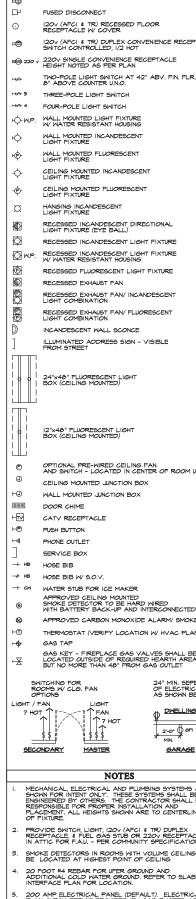
BEDROOM 5 AND BATH 3

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

AT OPTIONAL DEN AND STORAGE

FIRST FLOOR UTILITY PLAN OPTIONS





HOME

•

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

THE MP 6FI 120V (TR) RECEPTACLE W 6FI CIRCUIT
THE MP W WATER RESISTANT HOUSING

NORTH CAROLINA 40' SERIES

NORTH CAROLINA DIVISION 4506 S. MIAMI BLVD.

> BUILDING CODES

> > 07/31/18

ISSUE DATE:

DIVISION MGR.:

PROJECT No.: 1350999:56

REVISIONS: 07/31/19

2018 CODE UPDATE NC19015NCP- 01/23/19 MCP

DIVISION REVISION
NCI9055NCP- 07/31/19 FAE

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2018 NORTH **CAROLINA STATE**

CEILING MOUNTED JUNCTION BOX WALL MOUNTED JUNCTION BOX

WATER STUB FOR ICE MAKER

APPROVED CARBON MONOXIDE ALARM/ SMOKE DET.

DWELLING



NOTES

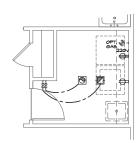
MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS ARE SHOWN FOR INTENT ONLY. THESE SYSTEMS SHALL BE ENGINEERED BY OTHERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND PLACEMENT, ALL HEIGHTS SHOWN ARE TO CENTERLINE OF FIXTURE.

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.

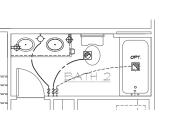
200 AMP ELECTRICAL PANEL (DEFAULT). ELECTRICAL PLAN CHECK PERMIT REQUIRED IF LOAD EXCEED 400 AMPS.

240.3174-R

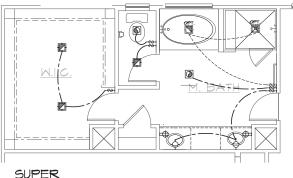
5.3



LAUNDRY TUB



VANITY W/ DUAL SINKS



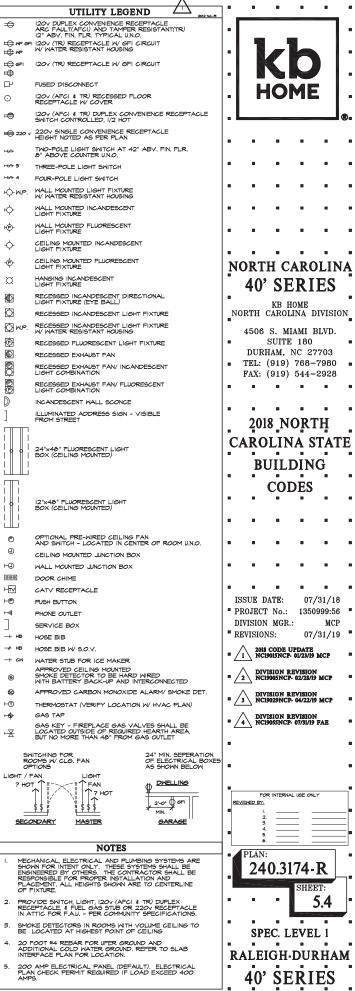
SUPER M. BATH

SECOND FLOOR UTILITY PLAN OPTIONS

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

BASIC PLAN

AT M. BATH



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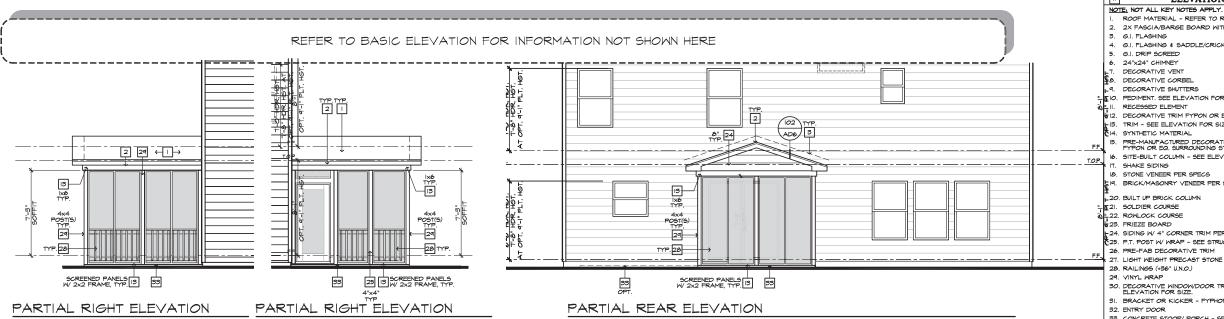
HOME

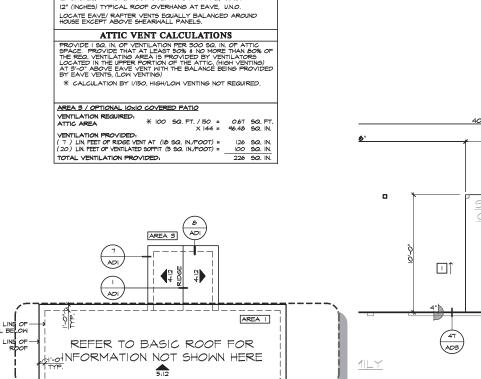
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CODES

07/31/18

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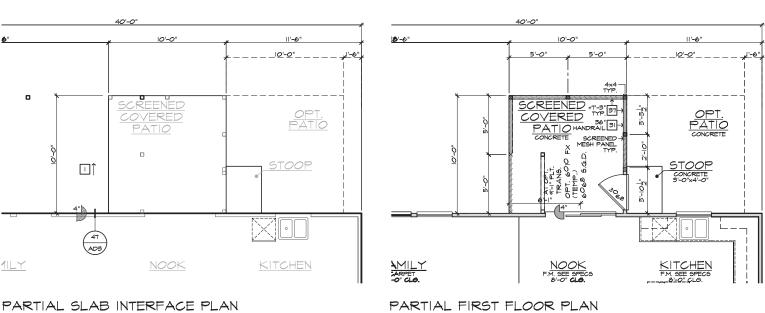


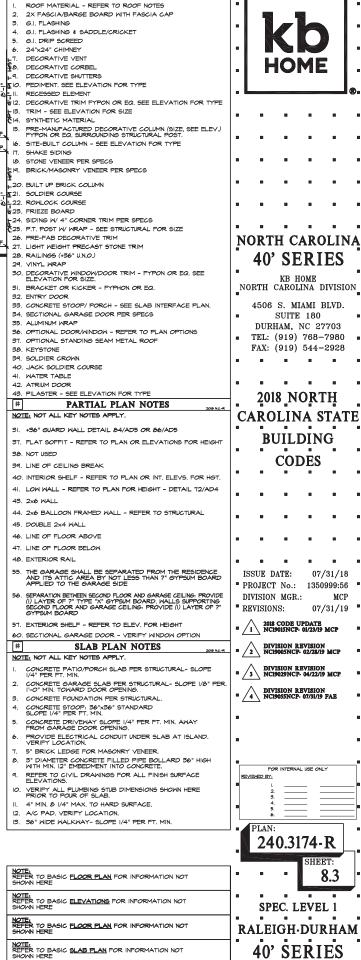
ROOF PLAN NOTES

ROOF MATERIAL: COMPOSITION SHINGLE

12" (INCHES) TYPICAL ROOF OVERHANG AT RAKE, U.N.O.

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





ELEVATION NOTES

PARTIAL ROOF PLAN

All I-Joist and Versa-Lam Beams Must be Installed per The Boise Cascade Installation Guide!

KB Homes 3174 Elev C Lot 39 Mason Pointe



BC FRAMER II

Plan Date: 07312018

Structural Date: 07062018 By: KOG

Sheet: 2/4

TO BE REVIEWED AND APPROVED BY BOTH THE CONTRACTOR AND THE ENGINEER OF RECORD PRIOR TO INSTALLATION

ALL DIMENSIONS AND CONDITIONS

Start Framing Here at 19.2" oc	9	Rr	m-1 10	2051/16 20 21731/16
6 6			9 9 9 8	
	도 일 전 일 전 일 전 일 전 일 전 I2 DJ		로 보고 보고 Rm-1	
	5 DJ	H1 		
	4	H2	16	
	4	H2 H2	~	
	4 DJ	H1	17 Bk1 Bk1	Bk1 Bk1 Bk1 Bk1 Bk1 Bk1 Bk1
	5	BK1	1	
		BK1	2 DJ	
Rm-1		BK1	1	
~		BK1 BK1	1	
		BK1	1	
		K1	1	
	7	₩ Rm-1	15 5 1 7	
	13	다. Rm-1	15 Flush Top Roo	f Truss To Carry Floor Above
	Cantilever Beam 44" Per Engineer	14	Cantilever Beam	
	of Record			

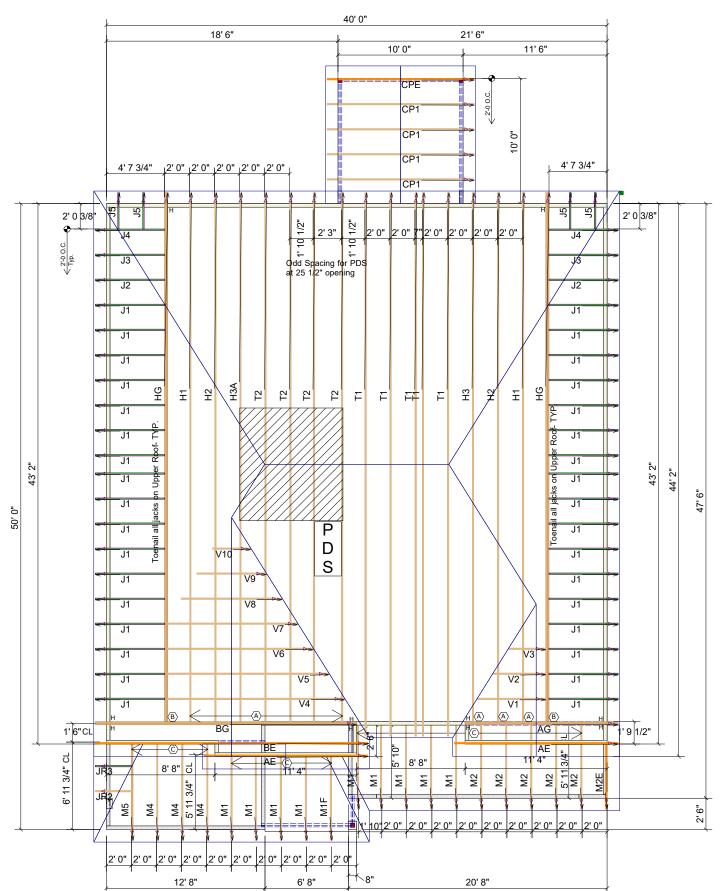
		Products		
PlotID	Net Qty	Product	Length	Plies
1	10	14" BCI® 5000s-1.8	40' 0"	1
2	2	14" BCI® 5000s-1.8	40' 0"	2
3	9	14" BCI® 5000s-1.8	28' 0"	1
4	3	14" BCI® 5000s-1.8	20' 0"	1
5	6	14" BCI® 5000s-1.8	20' 0"	2
6	18	14" BCI® 5000s-1.8	17' 0"	1
7	1	14" BCI® 5000s-1.8	13' 0"	1
8	1	14" BCI® 5000s-1.8	11' 0"	1
9	2	1-3/4" x 9-1/4" VERSA-LAM® 2.0 3100 SP	12' 0"	2
10	2	1-3/4" x 9-1/4" VERSA-LAM® 2.0 3100 SP	8' 0"	2
11	2	1-3/4" x 11-7/8" VERSA-LAM® 2.0 3100 SP	22' 0"	2
12	2	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	26' 0"	2
13	2	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	14' 0"	2
14	2	1-3/4" x 14" VERSA-LAM® 2.0 3100 SP	12' 0"	2
15	2	1-3/4" x 24" VERSA-LAM® 2.0 3100 SP	22' 0"	2
16	2	14" BCI® 5000s-1.8	11' 0"	2
17	1	14" BCI® 5000s-1.8	8' 0"	1
Rm-1	12	1" x 14" BC RIM BOARD OSB	12' 0"	1
Bk1	12	14" BCI® 5000s-1.8	2' 0"	1

	Connector Summary			
tID	Qty	Manuf	Product	
	4	Simpson	HU4.12/11	
	19	Simpson	IUS2.06/14	

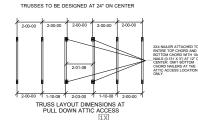
Squash Blocks Required Under The Ends Of All LVL And Point Loads For Load Transfer - See Details

Second Floor Layout

THIS LAYOUT IS INTENDED FOR THE PURPOSE OF TRUSS LOCATION AND PLACEMENT ONLY. REFER TO THE BUILDING PLANS FOR ACTUAL BUILDING CONSTRUCTION.







Hardware List:

Α	10	HUS26	
В	2	HHUS26-2	
С	19	LUS24	
	•		
~	110	H2.5A- not supplied	
Н	10	HTS20	
	-		



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

inte		0 CP GR	ORDER: 21916	SHIР DATE: 2019
Lot 39 @ Mason Pointe	KB HOME	Plan 240.3174 "C" 10 x 10 CP GR	P.O. NUMBER: PO #	REV: XXXXXX
ot 39 @	KB	240.3174	SCALE	PRINT DATE: 8/28/19
	CUSTOMER:	MODEL: Plan	SCALE: NOT TO SCALE	DRAWN BY: MWM

TOP LIVE: 20 PSF

TOP DEAD: 10 PSF

BOTM DEAD: 10 PSF

WIND SPD: 130 MPH

GENERAL NOTES:

DO NOT CUT OR MODIFY TRUSSES.

TRUSSES ARE SPACED 24" ON CENTER UNLESS NOTED OTHERWISE.

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

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

STRUCTURAL PLANS FOR:



240.3174 - RH GARAGE

REV DATE	ARCH PLAN VERSION	REVISION DESCRIPTION	DRFT
08/26/2019	240.3174 RH 2019.02.28	INITIAL SETUP OF LAYOUT	CAR
08/26/2019	240.3174 RH 2019.02.28	CREATED LOT-SPECIFIC STRUCTURAL LAYOUT FROM MASTER PLAN AND EWP LAYOUT	CAR

NOTES

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

CODE

ALL CONSTRUCTION, WORKMANSHIP, AND MATERIAL QUALITY AND SELECTION SHALL BE PER:

2018 NORTH CAROLINA STATE BUILDING CODE: RESIDENTIAL CODE

ENGINEER OF RECORD

JDS CONSULTING & DESIGN, PLLC
ENGINEERING, BUILDING DESIGN, & CONSTRUCTION
CONSULTING SERVICES
8600 'D' JERSEY COURT
RALEIGH, NC 27617
PROJECT REFERENCE: 19901771



KB HOME
NORTH CAROLINA DIVISION

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

FAX: (919) 472-0582



P-0961



INFO@JDSDESIGNONLINE.COM WWW.JDSDESIGNONLINE.COM

DATE: 8/26/20

240.3174

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 JDS CONSULTING & DESIGN, PLLC IMMEDIATELY IF DISCREPANCIES ON PLAN EXIST.
- BRACED-WALL DESIGN IS BASED ON <u>SECTION R602.10 WALL</u> <u>BRACING. PRIMARY PRESCRIPTIVE METHOD TO BE CS-WSP. SEE</u> 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 EXPOSIBE B.

	ABBR	EVIATIONS	KS	KING STUD COLUMN
	710011		LVL	LAMINATED VENEER
	ABV	ABOVE		LUMBER
		ABOVE FINISHED FLOOR	MAX	MAXIMUM
	ALT	ALTERNATE	MECH	MECHANICAL
	BRG	BEARING	MFTR	MANUFACTURER
	BCMT	BASEMENT	MIN	MINIMUM
		CANTILEVER	NTS	NOT TO SCALE
	CAN	CEILING JOIST	OA	OVERALL
		CEILING	OC	ON CENTER
		CONCRETE MASONRY UNIT	PT	PRESSURE TREATED
		CASED OPENING	R	RISER
		COLUMN	REF	REFRIGERATOR
		CONCRETE	RFG	ROOFING
		CONTINUOUS	RO	ROUGH OPENING
ı	D	CLOTHES DRYER	RS	ROOF SUPPORT
ı	DBL	DOUBLE	SC	STUD COLUMN
ı			SF	SQUARE FOOT (FEET)
ı	DIAM DJ	DOUBLE JOIST	SH	SHELF / SHELVES
ı	DN	DOWN	SHTG	SHEATHING
	DP	DEEP	SHW	SHOWER
ı		DOUBLE RAFTER	SIM	SIMILAR
ı		DOUBLE STUD POCKET	SJ	SINGLE JOIST
ı	EA.	EACH	SP	STUD POCKET
ı		EACH END	SPEC'D	SPECIFIED
ı		EQUAL	SQ	SQUARE
ı		EXTERIOR	T	TREAD
ı	FAU		TEMP	TEMPERED GLASS
ı	FDN	FOUNDATION	THK	THICK(NESS)
ı	FF	FINISHED FLOOR	TJ	TRIPLE JOIST
ı	FLR	FLOOR(ING)	TOC	TOP OF CURB / CONCRETE
ı	FP	FIREPLACE	TR	TRIPLE RAFTER
ı	FTG	FOOTING	TYP	TYPICAL
	НВ	HOSE BIBB	UNO	UNLESS NOTED OTHERWISE
	HDR	HEADER	W	CLOTHES WASHER
	HGR	HANGER	WH	WATER HEATER
	JS	JACK STUD COLUMN	WWF	
			XJ	EXTRA JOIST

MATERIALS

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

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

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

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

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

Fb = 2600 PSI Fv = 285 PSI E = 1.9E6 PSI

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

Fb = 2900 PSI Fv = 290 PSI E = 2.0E6 PSI

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

- STRUCTURAL STEEL WIDE-FLANGE BEAMS SHALL CONFORM TO ASTM A992. Fy = 50 KSI
- 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 C1157.
- 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
- 11. MORTAR SHALL COMPLY WITH ASTM INTERNATIONAL STANDARD C270.
- 12. INDICATED MODEL NUMBERS FOR ALL METAL HANGERS, STRAPS, FRAMING CONNECTORS, AND HOLD-DOWNS ARE SIMPSON STRONG-TIE BRAND. EQUIVALENT USP BRAND PRODUCTS ARE ACCEPTABLE.
- 13. REFER TO I-JOIST EQUIVALENCE CHART ON I-JOIST DETAIL SHEET FOR SUBSTITUTION OF MANUFACTURER SERIES.

FOUNDATION

- MINIMUM ALLOWABLE SOIL BEARING CAPACITY IS ASSUMED TO BE 2,000 PSF. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY SOIL BEARING CAPACITY IF UNSATISFACTORY CONDITIONS EVIST
- CONCRETE FOUNDATION WALLS TO BE SELECTED AND
 CONSTRUCTED PER SECTION R404 OR AMERICAN CONCRETE
 INSTITUTE STANDARD ACI 348.
- 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
- 4. CONCRETE WALL HORIZONTAL REINFORCEMENT TO BE PER TABLE R404.1.2(1) OR AS NOTED OR DETAILED. CONCRETE WALL VERTICAL REINFORCEMENT TO BE PER TABLES R404.1.2(3 AND 4) OR AS NOTED OR DETAILED. ALL CONCRETE WALLS SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 6.
 - A. TABLES ASSUME THAT WALLS HAVE PERMANENT LATERAL SUPPORT AT THE TOP AND BOTTOM.
 - B. FOUNDATION DRAINS ARE ASSUMED AT ALL WALLS PER SECTION R405.
- 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).
 - C. FOUNDATION DRAINS ARE ASSUMED AT ALL WALLS PER SECTION R405.
- 6. 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.
- CENTERS OF PIERS TO BEAR IN THE MIDDLE THIRD OF THE FOOTINGS, AND GIRDERS SHALL CENTER IN THE MIDDLE THIRD OF THE PIERS.
-). 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.
- 2. ALL NON-BEARING HEADERS TO BE (2) 2x4, UNO.
- 3. 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 CONSTRUCTION.
- 6. 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.
 - B. ATTACH PORCH COLUMNS TO PORCH BEAMS USING AC OR BC SIMPSON POST CAPS TO FIT COLUMN SIZES NOTED ON PLAN -OR- ANY OTHER COLUMN CONNECTION WITH 500# UPLIFT CAPACITY.
 - C. TRIM OUT COLUMN(S) AND BEAM(S) PER BUILDER AND DETAILS.
- 3. ALL ENGINEERED WOOD PRODUCTS (LVL, PSL, LSL, ETC.) SHALL BE INSTALLED WITH CONNECTIONS PER MANUFACTURER SPECIFICATIONS.
- 9. ENGINEERED WOOD FLOOR SYSTEMS AND ROOF TRUSS SYSTEMS:
 - A. SHOP DRAWINGS FOR THE SYSTEMS SHALL BE PROVIDED TO THE ENGINEER OF RECORD FOR REVIEW AND COORDINATION BEFORE CONSTRUCTION.
 - B. TRUSS PROFILES SHALL BE SEALED BY THE TRUSS MANUFACTURER.
 - C. 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 DRAWINGS.
- 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.
- I3. WHEN A 4-PLY LVL BEAM IS USED, ATTACH WITH (1) 1/2" DIAMETER BOLT, 12" OC, STAGGERED TOP AND BOTTOM, 1 1/2" MIN FROM ENDS. ALTERNATE EQUIVALENT ATTACHMENT METHOD MAY BE USED, SUCH AS SDS, SDW, OR TRUSSLOK SCREWS (SEE MANUFACTURER SPECIFICATIONS).
- 14. FOR STUD COLUMNS OF 4-OR-MORE STUDS, INSTALL SIMPSON STRONG-TIE CS16 STRAPS ACROSS STUDS @ 30" OC, 6" MAX FROM PLATES, ON INSIDE FACE OF COLUMN (EXTERIOR WALL), ON BOTH FACES OF COLUMN (INTERIOR WALL).
- 15. FLOOR JOISTS ADJACENT AND PARALLEL TO THE EXTERIOR FOUNDATION WALL SHALL BE PROVIDED WITH FULL-DEPTH SOLID BLOCKING, NOT LESS THAN TWO (2) INCHES NOMINAL IN THICKNESS, PLACED PERPENDICULAR TO THE JOIST AT SPACING NOT MORE THAN FOUR (4) FEET. THE BLOCKING SHALL BE NAILED TO THE FLOOR SHEATHING, THE SILL PLATE, THE JOIST, AND THE EXTERIOR RIM JOIST / BOARD.
- 16. BRACED WALL PANELS SHALL BE FASTENED TO MEET THE UPLIFT-RESISTANCE REQUIREMENTS IN CHAPTERS 6 AND 8 OF THE APPLICABLE CODE (SEE TITLE SHEET). REQUIREMENTS OF THE STRUCTURAL DRAWINGS THAT EXCEED THE CODE MINIMUM SHALL BE MET.



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PLAN: **240.3174**

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GENERAL NOTES

GN1.0

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

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

DETAILS AND NOTES ON DRAWINGS GOVERN.

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

FRAMING MEMBER SIZE	MAX HEIGHT (PLATE TO PLATE) 115 MPH ULTIMATE DESIGN WIND SPEED
TO THE MEDITORIE	THO INIT TO DETINIATE DEGICAL WIND OF EEE
2x4 @ 16" OC	10'-0"
2x4 @ 12" OC	12'-0"
2x6 @ 16" OC	15'-0"
2x6 @ 12" OC	17'-9"
2x8 @ 16" OC	19'-0"
2x8 @ 12" OC	22'-0"
(2) 2x4 @ 16" OC	14'-6"
(2) 2x4 @ 12" OC	17'-0"
(=) = @ .=	** *
(2) 2x6 @ 16" OC	21'-6"
(2) 2x6 @ 12" OC	25'-0"
(2) 2x0 @ 12 OO	20-0
(2) 2x8 @ 16" OC	27'-0"
	31'-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.
- 2.

DENOTES OVER-FRAMED AREA

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

STICK-FRAMED ROOF - STRUCTURAL NOTES

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



DENOTES OVER-FRAMED AREA

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



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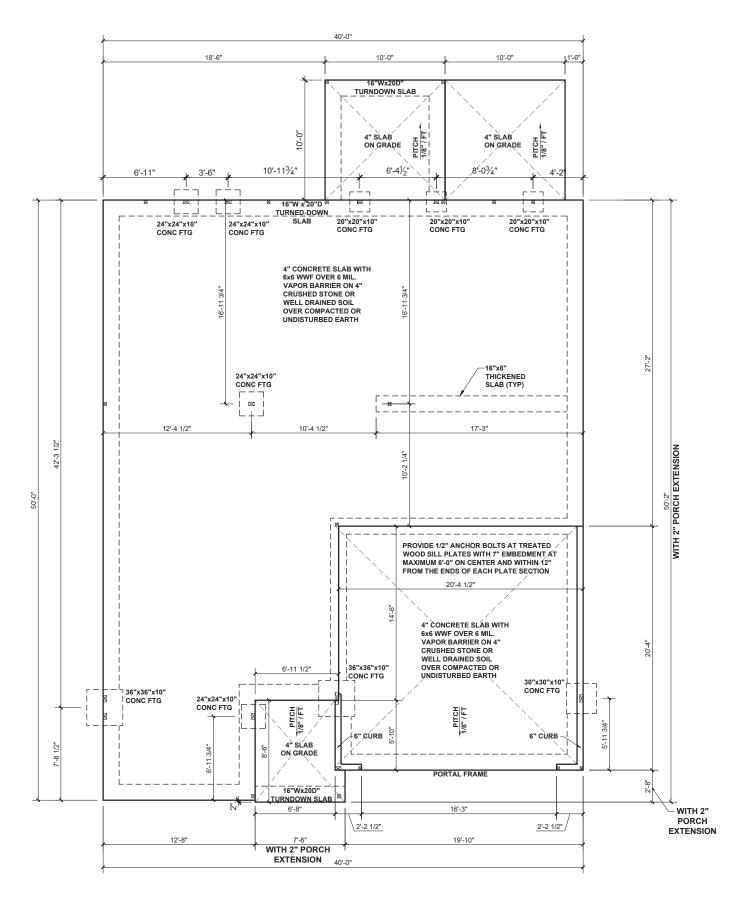
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GENERAL NOTES

GN1.1



INTERIOR LOAD BEARING WALL

- ROOF RAFTER / TRUSS SUPPORT

DOUBLE RAFTER / DOUBLE JOIST STRUCTURAL BEAM / GIRDER

POINT LOAD TRANSFER

POINT LOAD FROM ABOVE BEARING ON BEAM / GIRDER

(1) #5 REBAR @ CENTER OFF ALL PERIMETER AND INTERNAL LOAD BEARING FOOTINGS. (2" C.C. MIN)

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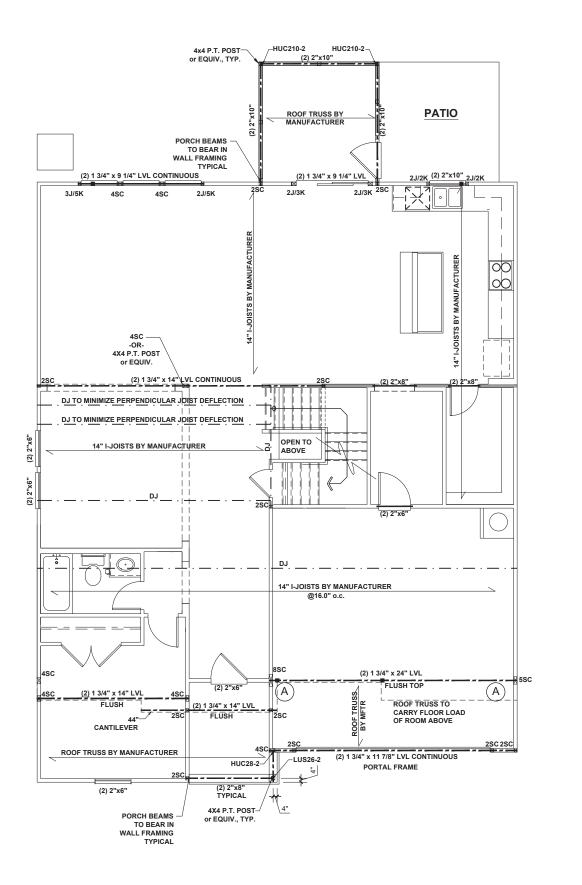
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SLAB FOUNDATION PLAN

SLAB FOUNDATION PLAN - 'C'



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.)

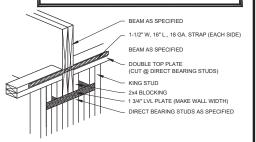
- ALL FRAMING TO BE #2 SPF MINIMUM.
- 2. ALL BEARING HEADERS TO BE (2) 2x6 SUPPORTED W/ MIN (1) JACK AND (1) KING EACH END, UNO.
- . EXTERIOR WALL OPENINGS OVER 3' TO HAVE MULTIPLE KING STUDS AS NOTED ON PLAN.
- ALL NON-BEARING HEADERS TO BE (2) 2x4 (1) J / (1) K, UNO.
- PROVIDE CONTINUOUS BLOCKING THROUGH STRUCTURE FOR ALL POINT LOADS.
- ALL HANGERS AND CONNECTORS SPECIFIED ARE TO BE SIMPSON STRONG-TIE OR EQUIVALENT.
- ALL BEAMS SPECIFIED ARE MINIMUM SIZES ONLY. LARGER MEMBERS MAY SUBSTITUTED AS NEEDED FOR EASE OF CONSTRUCTION. MINIMUM BEAM SUPPORT IS (1) 2x4 STUD.
- ALL EXTERIOR WALLS TO BE FULLY SHEATHED
 WITH 7/16" OSB
- FRONT PORCH COLUMNS TO BE MIN 4x4 PT
 ATTACHED AT TOP AND BOTTOM USING SIMPSON
 (OR EQUIV) COLUMN BASE OR SST A24
 BRACKETS. TRIM OUT PER BUILDER.
- 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.
- . 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 CS16 STRAPS @ 30" OC, 6" MAX FROM PLATES, ON INSTALE 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, U.N.O.

**REFER TO I-JOIST EQUIVALENCE CHART ON I-JOIST DETAIL SHEET FOR SUBSTITUTION OF MANUFACTURER SERIES



A DIRECT STUD BEARING
DROPPED SINGLE LVL PLATE NTS

FIRST FLOOR CEILING FRAMING PLAN - 'C'

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



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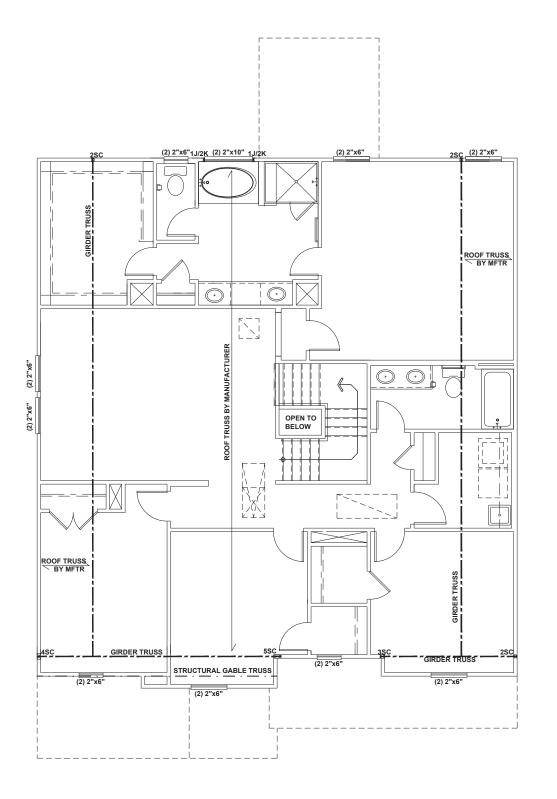
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FIRST FLOOR CEILING FRAMING PLAN

S1.0C



BEAM & POINT LOAD LEGEND

INTERIOR LOAD BEARING WALL - - ROOF RAFTER / TRUSS SUPPORT

--- DOUBLE RAFTER / DOUBLE JOIST

STRUCTURAL BEAM / GIRDER WINDOW / DOOR HEADER

POINT LOAD TRANSFER

POINT LOAD FROM ABOVE BEARING ON BEAM / GIRDER

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

- ALL FRAMING TO BE #2 SPF MINIMUM.
- ALL BEARING HEADERS TO BE (2) 2x6 SUPPORTED w/ MIN (1) JACK AND (1) KING EACH END, UNO.
- 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.
- 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
- 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.
- 10. 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.
- WHEN A 4-PLY LVL IS USED. ATTACH WITH (1) 1/2" Ø BOLT 12" OC STAGGERED, TOP AND BOTTOM, 1-1/2" MIN FROM ENDS. ALTERNATE ATTACHMENT EQUIVALENT METHOD MAY BE USED, SUCH AS SDW OR TRUSSLOK SCREWS (SEE MANUFACTURER'S SPECIFICATIONS).
- 2. FOR STUD COLUMNS OF 4 OR MORE, INSTALL SST CS16 STRAPS @ 30" OC, 6" MAX FROM PLATES, ON INSIDE FACE OF COLUMN (EXTERIOR WALL), ON BOTH FACES OF COLUMN (INTERIOR WALL).

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



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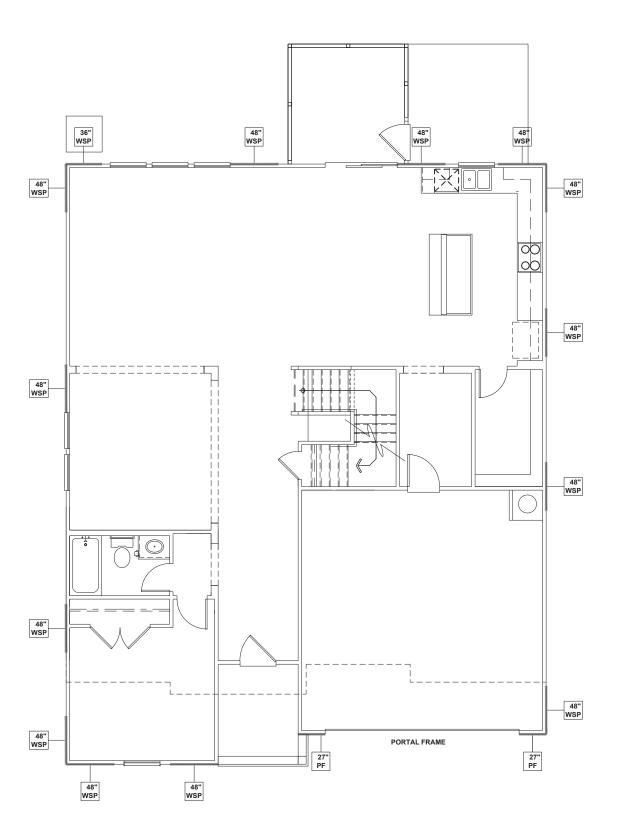
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SECOND FLOOR CEILING FRAMING PLAN

SECOND FLOOR CEILING FRAMING PLAN - 'C'



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) 100 MAILS. 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

OF PANEL
PANEL TYPE

WALL BRACING NOTE:

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

WALL BRACING: RECTANGLE 1

SIDE	REQUIRED LENGTH	PROVIDED LENGTH
FRONT	13.5 FT.	14.75 FT.
LEFT	11.0 FT.	16.0 FT.
REAR	13.5 FT.	15.0 FT.
RIGHT	11.0 FT.	16.0 FT.
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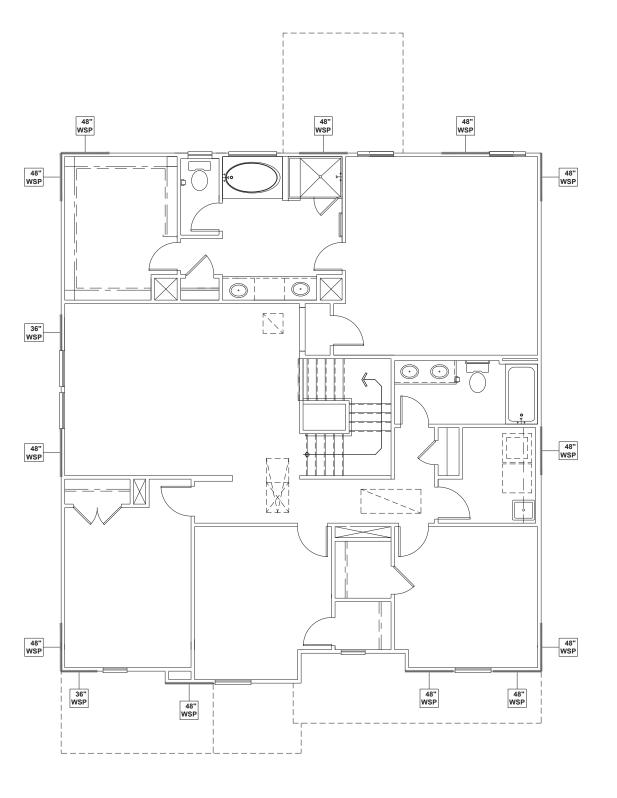
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PLAN:
240.3174

FIRST FLOOR WALL BRACING PLAN

S4.0C

FIRST FLOOR WALL BRACING PLAN - 'C'



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"
UNIMERICAL
LOCATION
PANEL
PANEL TYPE

WALL BRACING NOTE:

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

WALL BRACING: RECTANGLE 1

WALL	WALL BRACING, RECTANGLE I							
SIDE	REQUIRED LENGTH	PROVIDED LENGTH						
FRONT	9.0 FT.	15.0 FT.						
LEFT	9.0 FT.	15.0 FT.						
REAR	9.0 FT.	12.0 FT.						
RIGHT	9.0 FT.	12.0 FT.						



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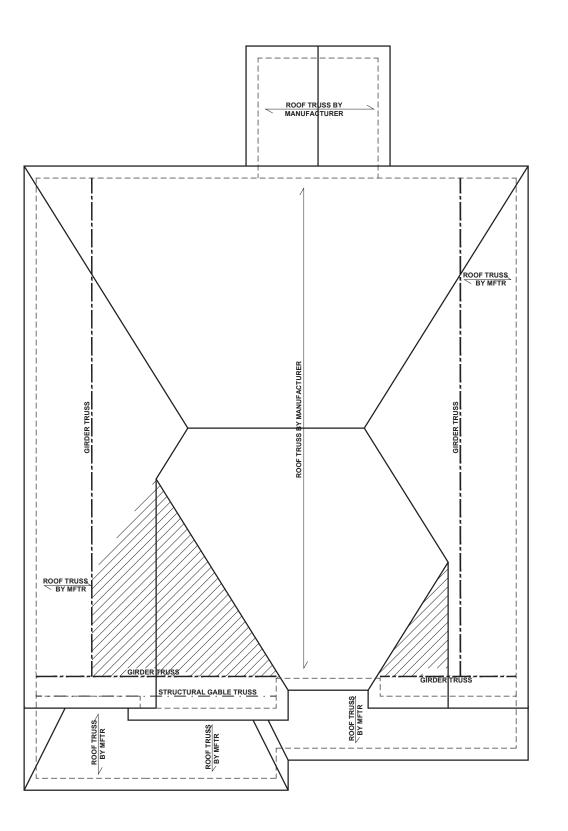
PROJECT NO.: 19901771
DATE: 8/26/2019

PLAN:
240.3174

SECOND FLOOR WALL BRACING PLAN

S5.0C

SECOND FLOOR WALL BRACING PLAN - 'C'



BEAM & POINT LOAD LEGEND

INTERIOR LOAD BEARING WALL

ROOF RAFTER / TRUSS SUPPORT

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.

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.

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

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

ROOF SPAN IS MEASURED HORIZONTALLY BETWEEN FURTHEST SUPPORT POINTS.

P TO 28'

CONNECTOR NAILING PER TABLE 602.3(1)

OVER 28'

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

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



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PROJECT NO.: 19901771 DATE: 8/26/2019

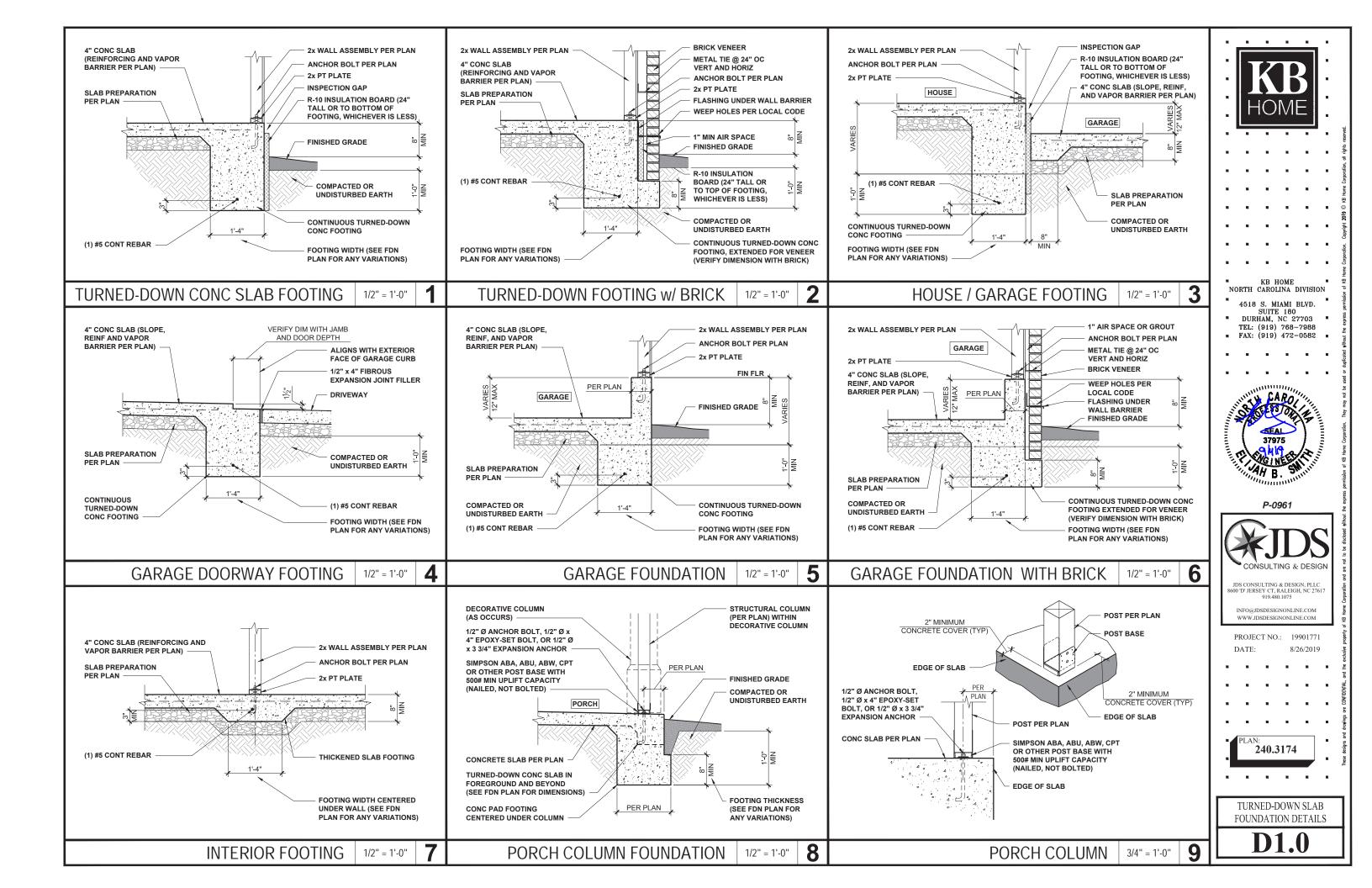
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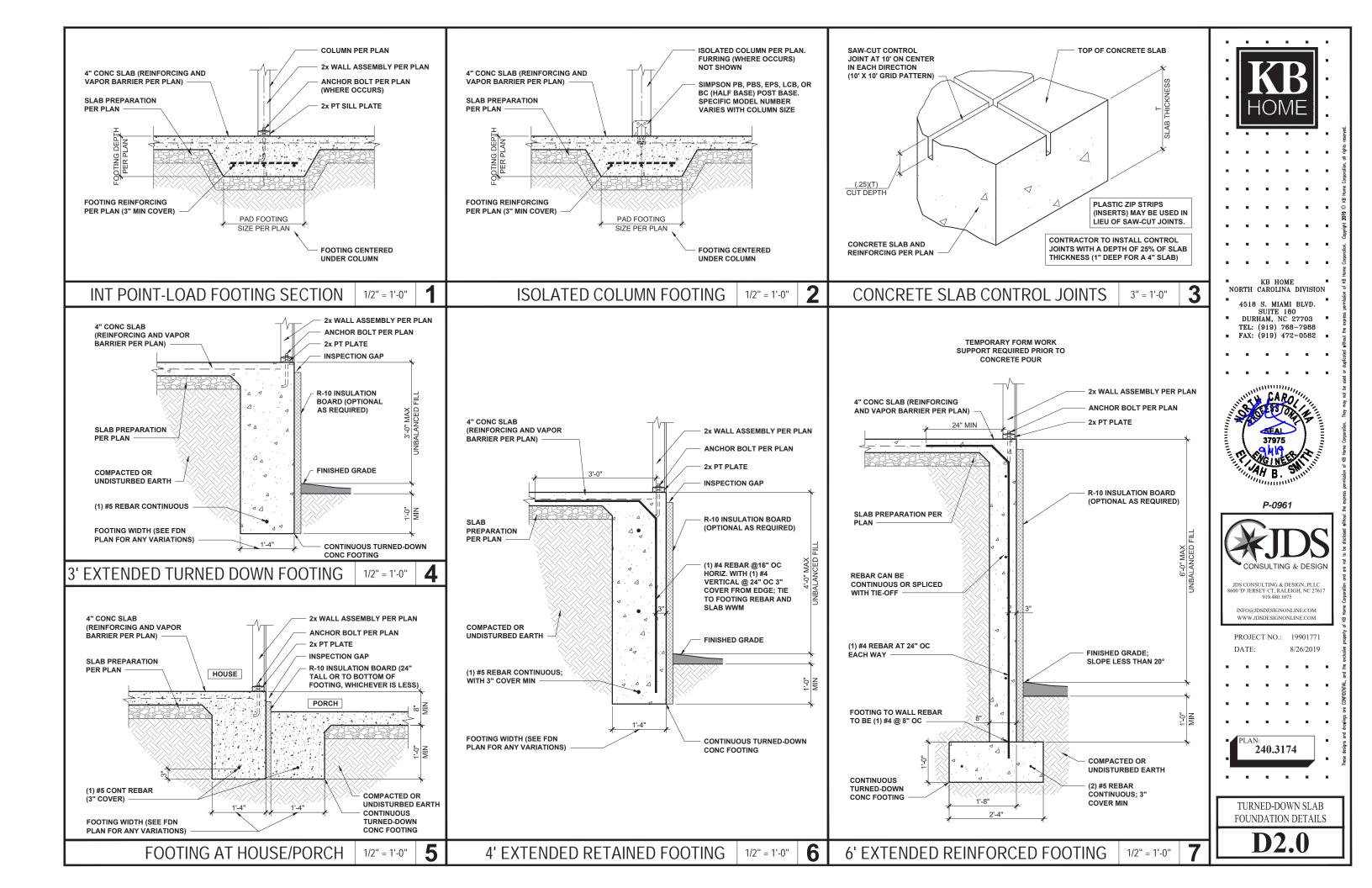
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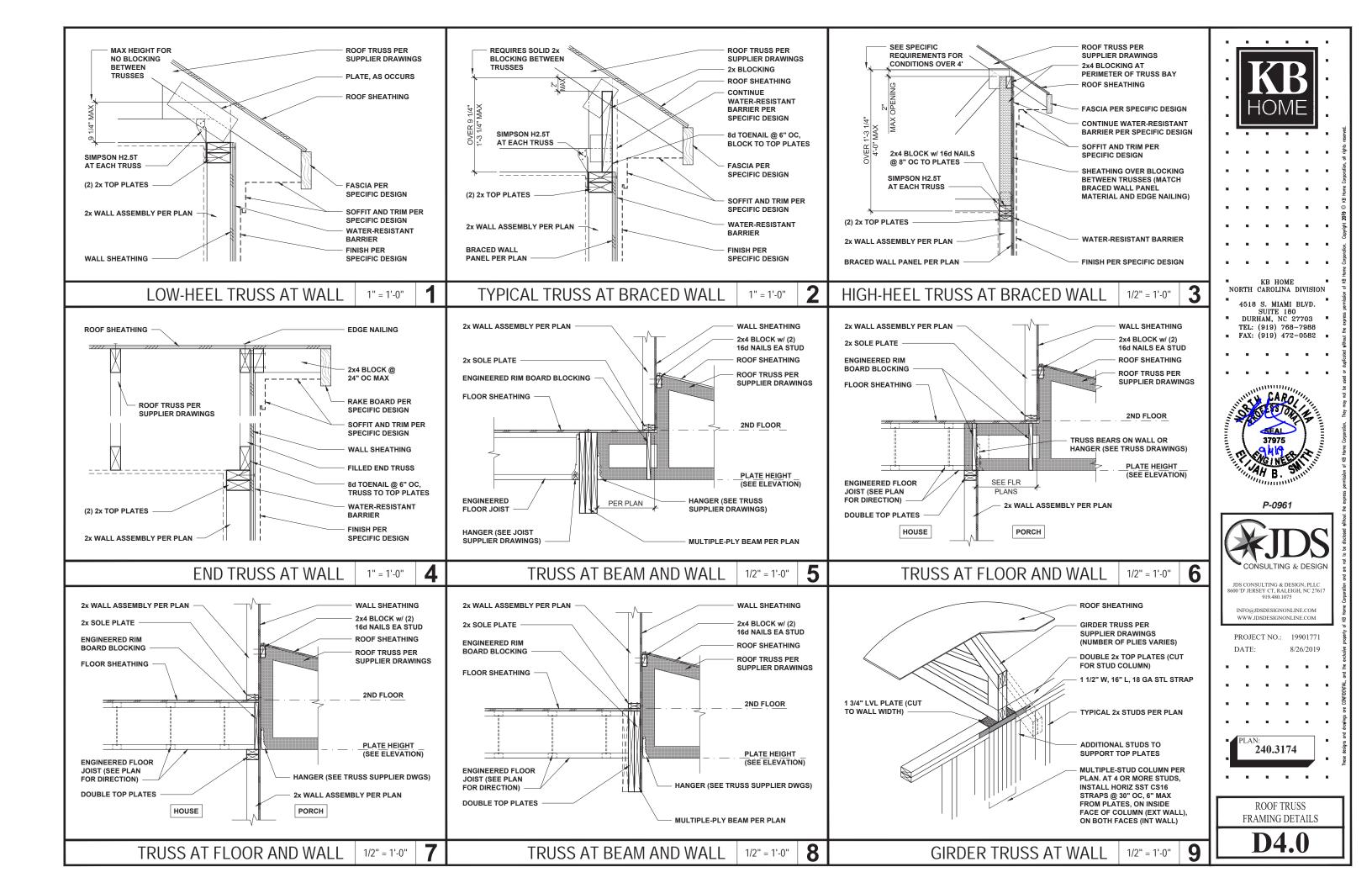
ROOF FRAMING PLAN

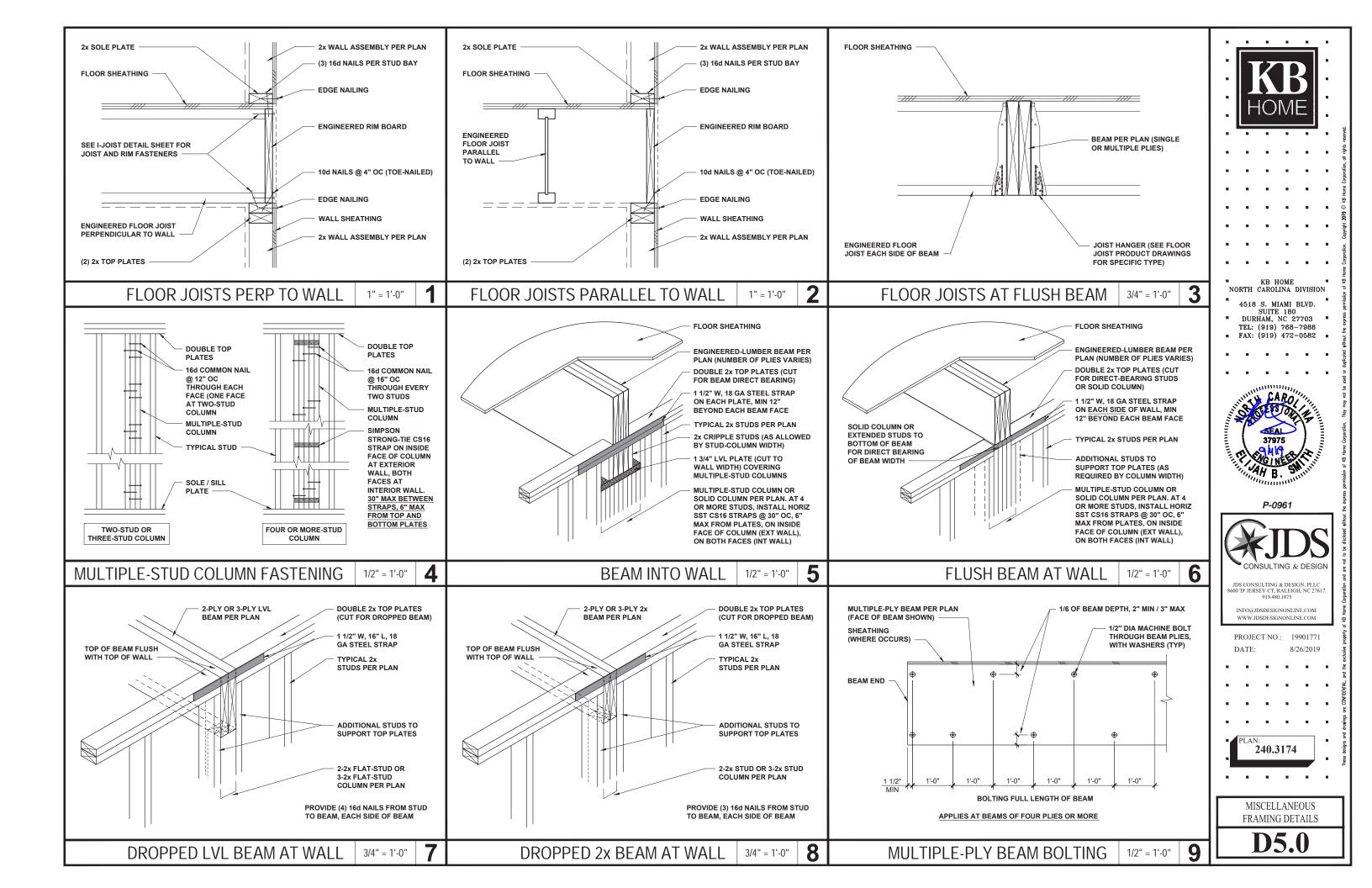
S7.0C

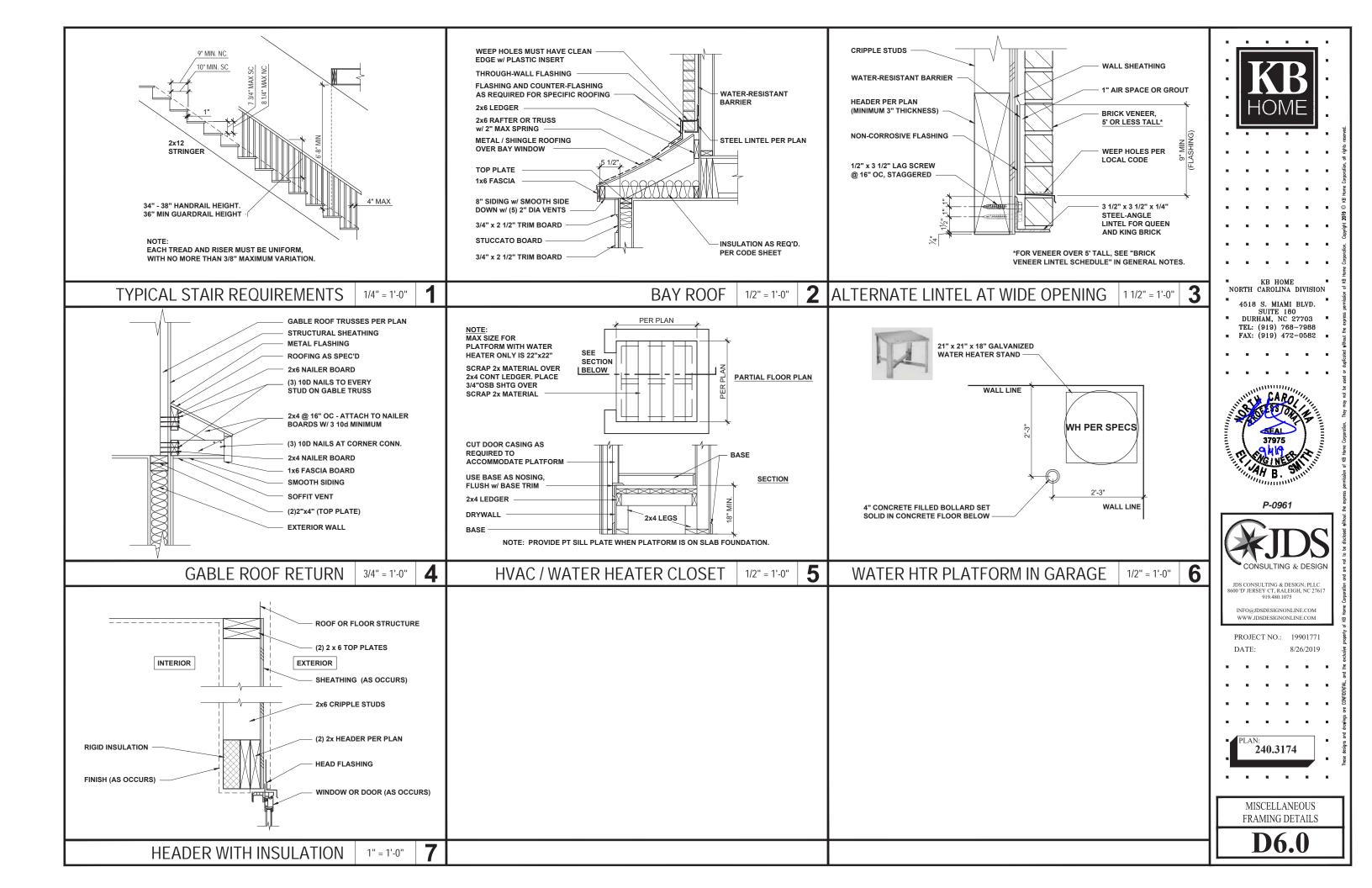
ROOF FRAMING PLAN - 'C'

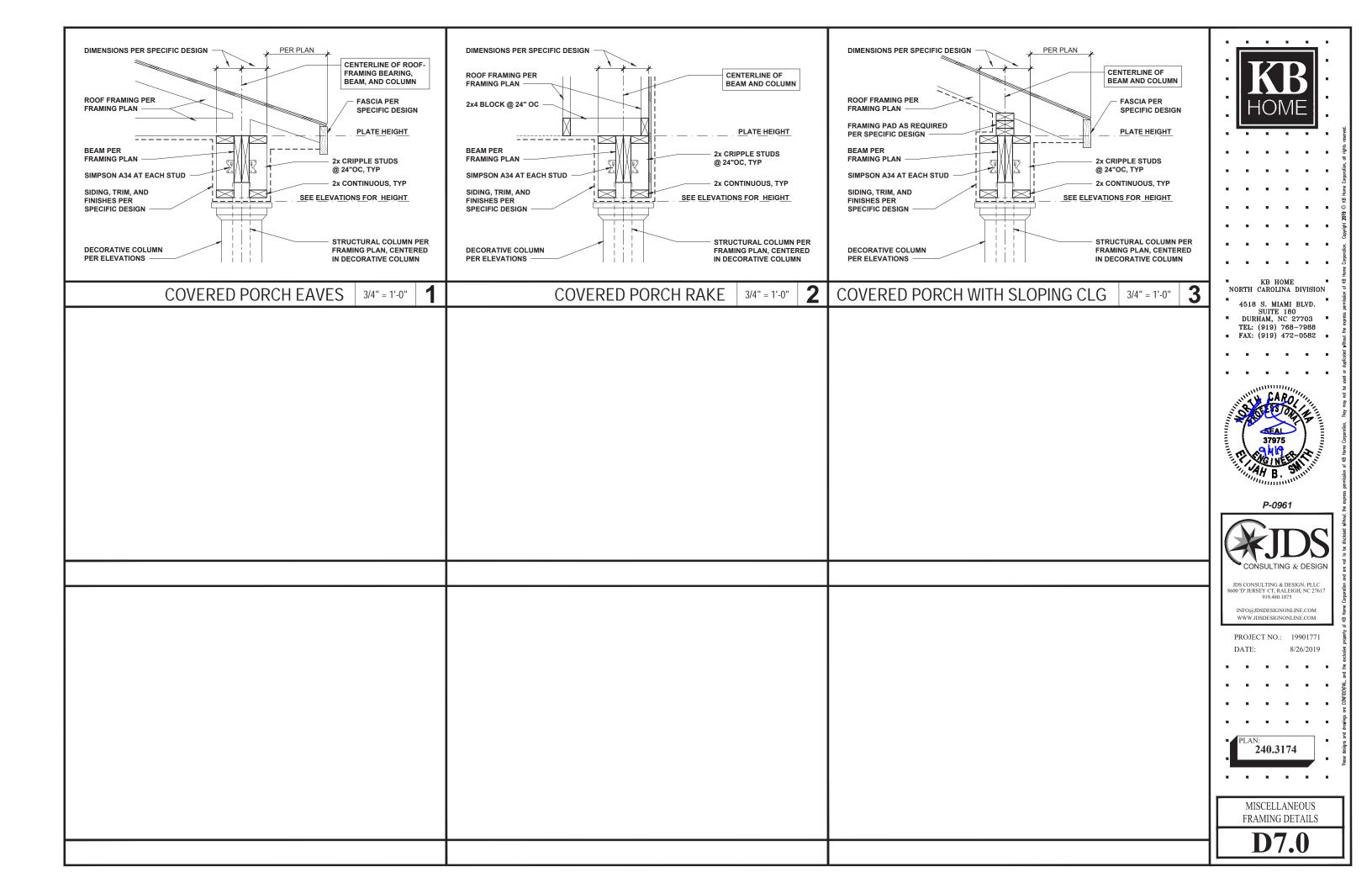


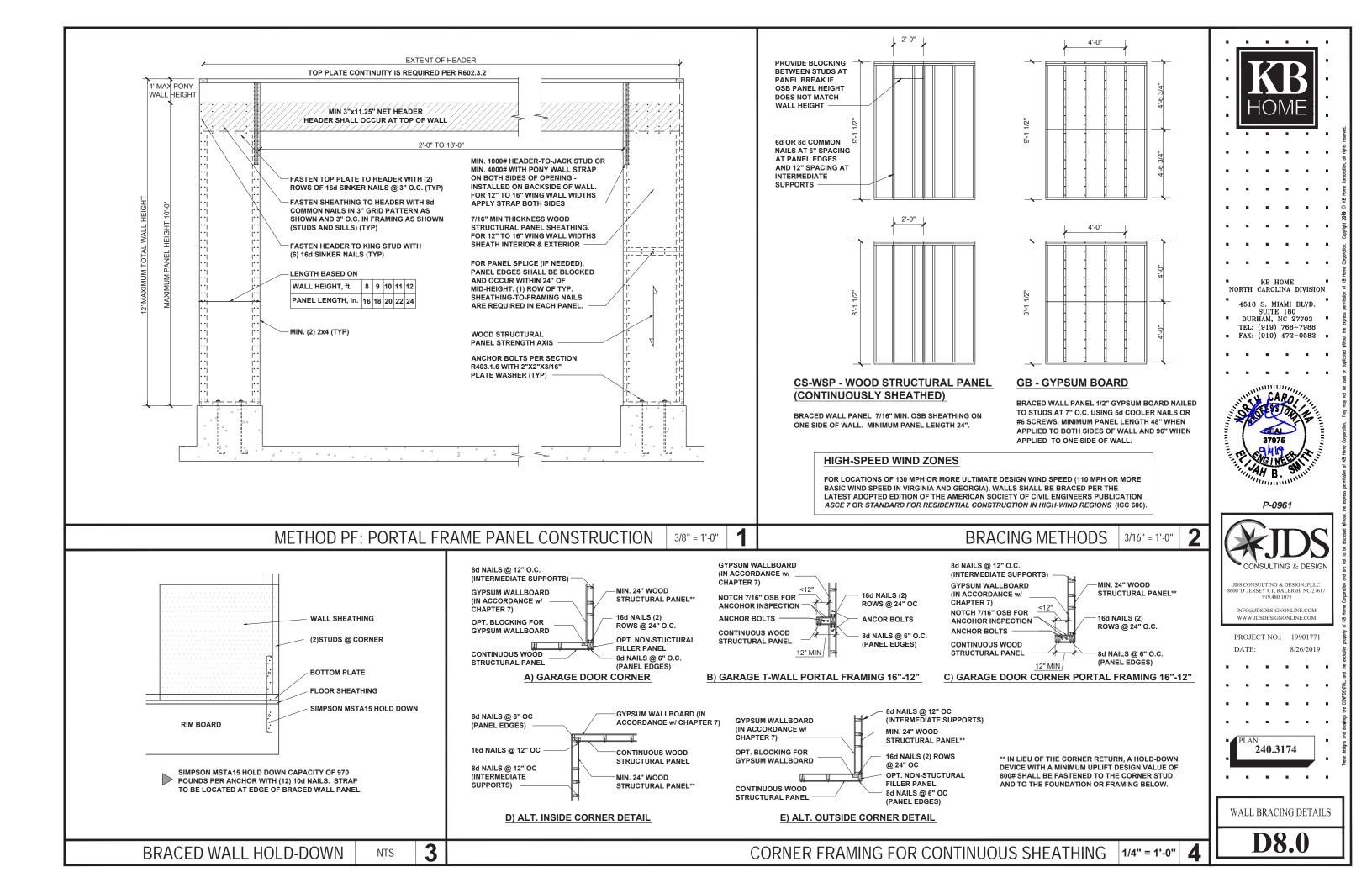












JOIST DETAILS (A3) A2 A2W Must have 13/4" minimum joist bearing at ends. Attach rim joist per A3 detail A3W INTERMEDIATE BEARING Load bearing or shear wall NO LOAD BEARING WALL ABOVE above (must stack over wall Web stiffeners required Blocking panel required on each side of both iois Blocking panels may be of support B3 B3W B4 B4W above or below (See detail B1) **FASTENING of FLOOR PANELS** * SEE I-JOIST EQUIVALENCE CHART Guidelines for Closest On-Center Spacing per Row Rim Board Nail Size 360 and nd 230 EQ. 560 FQ 8d (0.131" x 2½") 4" 10d (0.148"x 3"), 12d (0.148"x 31/4") 4" 16d (0.162"x 3½") 6" 6" 6"(2) (1) One row of fasteners permitted (two at abutting panel edges) for diaphragms. Stagger nails when using 4" on-center spacing and maintain 3/8" joist and panel edge distance. For other applications, multiple rows of fasteners are permitted if the rows are offset at least ½" and staggered. (2) Can be reduced to 4" on-center if nail penetration into the narrow edge is no more than 1 3/8" (to avoid splitting). • Recommended nailing is 12" on-center in field and 6" on-center along panel edge. Fastening requirements on engineered drawings supersede recommendations listed above. • Recommended use of a non-polyurethane subfloor adhesive on all contact points between panels and floor framing. ullet Nailing rows must be offset at least 1/2" and staggered. • 14 ga. staples may be substituted for 8d (0.113" x 21/2") nails if minimum penetration of 1" into the joist or rim board is achieved. • Maximum spacing of nails is 18" on-center for joists. Rim jois $\widehat{A2}$ (L5) P End of joists at

When sheathing thickness exceeds 7/8", Load bearing or shear wall above IRC 502-7 requires lateral (must stack over wall below) restraint (blocking) at all Plate nail - 16d (0.135" x intermediate supports in Floor panel nail - 8d (0.131" x 2½") at 6" on-center* D0, D1, and D2 to strengthen the floor diaphragm. Web Stiffeners required B1 B1W $1\frac{1}{4}$ " LSL or $1\frac{1}{8}$ " rim board.* Toe nail - 10d (0.131" x 3") required each side For rim board thicker than 1 3/4" at B1W and B2W - Attach Joist to rim board with one 10d (0.128"x3") nail. B2 B2W Top nail from joist into rim board. required with shear wa Connect corner with four 10d (0.128"x3") nails. Toe nail from side of parallel closure into rim board above or below - see detail B1

Load from abov

Use 2x4 minimum squash blocks

[CS] to transfer load around joist

PSI

4"

6"

LVL

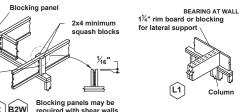
4"

8"

face of wall or bean

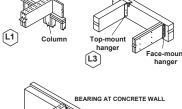
LSL or wide

6"(2)

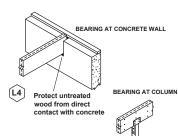


60% of joist dept

of hanger do not laterally suppor



BEAM and COLUMN DETAILS



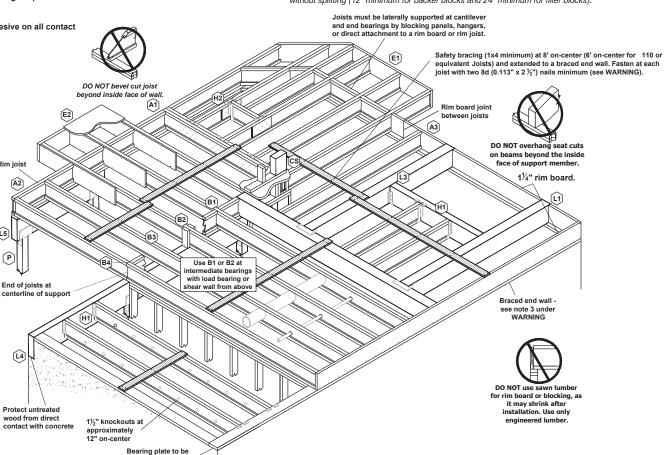
Verify column capacity

BEAM TO BEAM CONNECTION

FILLER and BACKER BLOCK SIZES * SEE I-JOIST EQUIVALENCE CHART

I-Joists	110 E	EQ. *	210 I	EQ. *	2	230 or 360	EQ. *	5	60 EQ.	*
	9½" or 11½"		9½" or 11½"	14" or 16"	9½" or 11½"	14" or 16"	18" or 20"	117/8"	14" or 16"	18" or 20"
Filler Block (1) (Detail H2)		2x8	2x6 + 3/8" sheathing	2x8 + 3/8" sheathing	2x6 + ½" sheathing	2x8 + ½" sheathing	2x12 + ½" sheathing	Two 2x6	Two 2x8	Two 2x12
Cantilever Filler (Detail E4)	2x6 4'-0" long	2x10 6'-0" long	2x6 + 3/8" sheathing 4'-0" long	2x10 + 3/8" sheathing 6'-0" long		2x10 + ½" sheathing 6'-0" long	Not applicable	ap	Not oplicat	ole
Backer Block (1) (Detail F1 or H2)	5%" o	r ¾"	³⁄4" c	or 7/8"		1" Net		2x6	2x8	2x12

(1) If necessary, increase filler and backer block height for face mount hangers and maintain $\frac{V_8}{8}$ gap at top of joist; see detail W. Filler and backer block lengths should accomodate required nailing without splitting (12" minimum for backer blocks and 24" minimum for filler blocks).



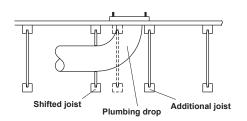
INSTALLATION TIPS

Subfloor adhesive will improve floor performance, but may not be required.

Squash blocks and blocking panels carry stacked vertical loads (details B1 and B2). Packing out the web of a joist (with web stiffeners) is not a substitute for squash blocks or blocking panels.

When joists are doubled at non-load bearing parallel partitions, space joists apart the width of the wall for plumbing or HVAC.

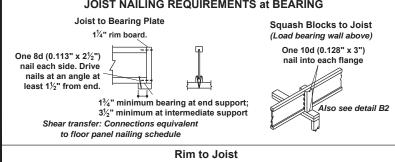
Additional joist at plumbing drop (see detail).



* I-JOIST EQUIVALENCY CHART

	EQUIVALENT IN SPAN AND SPACING						
Depth	Pepth Mftr & Series Mftr & Series Mftr & Series						
	TJI - 110	BCI 4500					
9 ½"	TJI - 210	BCI 5000					
-	TJI - 230	BCI 6000	EverEdge 20				
		BCI 6500					
	TJI - 110	BCI 4500					
	TJI - 210	BCI 5000					
11 ⁷ "	TJI - 230	BCI 6000	EverEdge 20				
- 8		BCI 6500					
	TJI - 360	BCI 60'S	EverEdge 30				
	TJI - 560	BCI 90'S	EverEdge 50/60				
	TJI - 110	BCI 4500					
	TJI - 210	BCI 5000					
14"	TJI - 230	BCI 6000	EverEdge 20				
		BCI 6500					
	TJI - 360	BCI 60'S	EverEdge 30				
	TJI - 560	BCI 90'S	EverEdge 50/60				
	TJI - 110	BCI 4500					
	TJI - 210	BCI 5000					
16"	TJI - 230	BCI 6000	EverEdge 20				
		BCI 6500					
	TJI - 360	BCI 60'S	EverEdge 30				
	TJI - 560	BCI 90'S	EverEdge 50/60				

JOIST NAILING REQUIREMENTS at BEARING





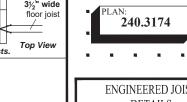


angle to minimize

splitting of plate

member at bearing, 11/2"

minimum from end



Guide for minimum end and

intermediate bearing lengths

ENGINEERED JOIST DETAILS

кв номе NORTH CAROLINA DIVISION 4518 S. MIAMI BLVD.

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