TABLE R301.2(1) CLIMATIC & GEOGRAPHIC DESIGN CRITERIA - CLIMATE ZONE 7 GROUND WIND DESIGN SEISMIC DAMAGE FROM WINTER ICE SNOW SPEED TOPO DESIGN WEATH FROST DESIGN LOAD (MPH) EFFECT CATEG ERING DEPTH TERMITE TEMP REQD AIR MEAN Pg=110 115 NO C SEVERE 48" SLIGHT -15" YES 4FEB05 2239 40-45 F MANUAL J DESIGN CRITERIA ELEVATION 7325 ALTITUDE CORRECTION 07740° NORTH ATITUDE WINTER DESIGN TMPERATURE (-15°-70°) DIFFERENCE85° F SUMMER DSIGN TEMPERATURE (85° - 75°) DIFFERENCE 1*0*° F LIVE LOADS USED IN DESIGN 80 PSF ROOF UNINHABITABLE ATTICS ... 20 PSF ATTICS ... 30 PSF FLOORS.40 PS FLOOR @ SLEEPING ROOMS 30 PSF PASSENGER VEHICLE GARAGE FLOOR ... 50 PSF80 PSF DECK PORCH. ...EXPOSURE B

MAXIMUM SOIL BEARING PRESSURE 4 000 PSF MINIMUM DEAD LOAD PRESSURE 1.000 PSF EQUIVALENT FLUID PRESSURE (EFP)

REFER TO SOILS REPOT 21-12096 BY NWCC INC. ALL ALL RECOMMENDATIONS REFERENCED IN THE SOILS REPORT SHALL BE ADHERED TO, UNLESS OTHERWISE NOTED (UON). AS NOTED IN THE SOILS REPORT, EXPANSIVE SOILS WERE ENCOUNTERED AT THIS SITE. THE OWNER IS AWARE OF THE RISKS ASSOCIATED WITH SWELLING SOILS AND HAS APPROVED THE USE OF THE "ALTERNATE FOUNDATION RECOMMENDATION" IN THE DESIGN OF THIS FOUNDATION. REGULATORY REQUIREMENTS

ALL CONSTRUCTION SHALL CONFORM TO THE 2018 INTERNATIONAL RESIDENTIAL CODE INCLUDING APPENDIX CHAPTERS E & Q) AND STANDARDS AS ADOPTED AND/OR AMENDED BY THE ROUTT COUNTY REGIONAL BUILDING DEPARTMENT AND THE FOLLOWING: 2020 NATIONAL ELECTRICAL CODE (NEC) (2018 IRC SPECIFICATIONS ARE NOTED) 2015 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)

LOCAL UTILITY REGULATIONS ALL COUNTY CODES AND ORDINANCES APPLICABLE PROTECTIVE COVENANTS OF THE SUBDIVISION

ALL WORK EXECUTED IN ANY PUBLIC RIGHT-OF-WAY OR ON PUBLIC PROPERTY SHALL BE COMPLETED ACCORDING TO THE SPECIFICATIONS AND REQUIREMENTS OF THAT GOVERNING

O. SPECIAL NOTICE

THESE SPECIFICATIONS ARE GENERIC IN NATURE, SOME SECTIONS OR DIVISIONS MAY NOT BE APPLICABLE. SEE SPECIAL CONDITIONS FOR ADDITIONAL INFORMATION. SECTIONS NOTED MAY HAVE BEEN WORDSMITHED TO COMPLY WITH LOCAL CODE

AMMENDMENTS. CONTRACTOR OR OWNER PREFERENCES OR BY JDS, INC. REFER TO CODE SECTIONS NOTED FOR ALTERNATIVES AND/OR SPECIFIC REQUIREMENTS. THESE PLANS AND SPECIFICATIONS DEPICT THE WORK REQUIRED TO CONSTRUCT A NEW

SINGLE FAMILY RESIDENCE W/ ATTACHED GARAGE OVER A WALK OUT BASEMENT. SPECIAL INSPECTIONS REQUIRED

1. GENERAL REQUIREMENTS

EVERY PERMIT ISSUED SHALL BECOME INVALID UNLESS THE WORK ON THE SITE AUTHORIZED IS COMMENCED WITHIN 180 DAYS AFTER ISSUANCE OR IF THE WORK AUTHORIZED IS SUSPENDED OR ABANDONED FOR A PERIOD OF 180 DAYS, ALL BUILDING PERMITS SHALL AUTOMATICALLY EXPIRE THREE YEARS FROM THE DATE OF ISSUANCE.

EVERY ATTEMPT HAS BEEN TAKEN TO AVOID OR ELIMINATE ERRORS DURING THE PREPARATION OF THESE PLANS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL

DIMENSIONS AND CONDITIONS SHOWN ON THESE PLANS WITH ACTUAL FIELD CONDITIONS. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO COORDINATE THE INTERFACE BETWEEN ALL TRADES AND SUBCONTRACTORS, SO AS TO PRESENT A COMPLETE AND FINISHED PRODUCT

ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODES AND ORDINANCES, AS AMENDED, AND SHALL BE DONE TO THE HIGHEST STANDARDS OF CRAFTSMANSHIP BY JOURNEYMEN OF THEIR RESPECTIVE TRADES.

THESE DOCUMENTS DO NOT INCLUDE PROVISIONS FOR JOB SITE SAFETY. JOB SITE SAFETY AND PROTECTION OF ADJACENT PROPERTIES DURING CONSTRUCTION SHALL BE CONTRACTORS RESPONSIBILITY

ALL CONTRACTORS SHALL CARRY WORKMAN'S COMPENSATION, CONTRACTORS LIABILITY, PERSONAL INJURY AND COMPREHENSIVE AUTOMOBILE AND PROPERTY DAMAGE INSURANCE. GENERAL CONTRACTOR TO CARRY "BUILDERS RISK" INSURANCE. OWNER TO CARRY FIRE INSURANCE ON THE COMPLETED STRUCTURE

THE GENERAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL BUILDING PERMITS, USE TAX, SALES TAX, AND INSPECTION FEES. SPECIAL INSPECTORS WHEN REQUIRED, SHALL BE EMPLOYED BY THE OWNER, ENGINEER RESPONSIBLE FOR THE DESIGN OR AN AGENT OF THE OWNER, BUT NOT BY THE CONTRACTOR OR ANY OTHER PERSON RESPONSIBLE FOR THE WORK.

ALL MATERIALS, EQUIPMENT AND WORKMANSHIP SHALL BE SUBJECT TO A ONE YEAR

PROVIDED.

BUILDING

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, ADDRESS IDENTIFICATION CHARACTERS SHALL CONTRAST WITH THEIR BACKGROUND ADDRESS NUMBERS SHALL BE ARABIC NUMBERS OR ALPHABETICAL LETTERS. NUMBERS SHALL NOT BE SPELLED OUT. EACH CHARACTER SHALL BE NOT LESS THAN 4 INCHES (102 MM) IN HEIGHT WITH A STROKE WIDTH OF NOT LESS THAN 0.5 INCH (12.7 MM). WHERE REQUIRED BY THE FIRE CODE OFFICIAL, ADDRESS IDENTIFICATION SHALL BE PROVIDED IN ADDITIONAL APPROVED LOCATIONS TO FACILITATE EMERGENCY RESPONSE. WHERE ACCESS IS BY MEANS OF A PRIVATE ROAD AND THE BUILDING ADDRESS CANNOT BE VIEWED FROM THE PUBLIC WAY, A MONUMENT, POLE OR OTHER SIGN OR MEANS SHALL BE USED TO IDENTIFY THE STRUCTURE. ADDRESS IDENTIFICATION SHALL BE MAINTAINED. (IRC R319.1)

GENERAL CONTRACTOR IS TO PROVIDE THE OWNER WITH A BOUND COPY OF ALL INSPECTION REPORTS, BUILDING DEPARTMENT CORRESPONDENCE; EQUIPMENT MANUALS, DATED WARRANTIES AND INSTALLATION & MAINTENANCE INSTRUCTIONS: CERTIFICATE OF OCCUPANCY, AND LIEN WAIVERS OR RELEASES FROM ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS PRIOR TO FINAL PAYMENT. THE GENERAL CONTRACTOR SHALL FAMILIARIZE THE OWNER WITH THE OPERATION OF ALL EQUIPMENT AND APPLIANCES AND CLEARLY LABEL ALL SAFETY VALVES AND CONTROLS FOR THE MAJOR HOUSE SYSTEMS.

MATERIAL SIZES NOTED ON THE PLANS ARE THE MINIMUM ACCEPTABLE. THE USE OF LARGER SIZE, OR STRONGER MATERIALS IS ACCEPTABLE FOR EASE OF CONSTRUCTION OR AESTHETICS. VERIFY THE USE OF ALL SUBSTITUTED MATERIALS WITH THE ENGINEER OF RECORD AND JAKE'S DRAFTING SERVICE, INC.

ALL MATERIALS, FIXTURES & EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND LOCAL CODES. 2. SITE CONSTRUCTION

CONTRACTOR SHALL PROVIDE NECESSARY LABOR, MATERIALS AND EQUIPMENT TO PERFORM ALL SITE WORK SHOWN OR SPECIFIED IN THESE DOCUMENTS. FIELD LOCATE ALL UTILITY LINES PRIOR TO ANY CONSTRUCTION ACTIVITY.

STRIP SITE OF EXISTING TOPSOIL AND STOCKPILE FOR RE-USE IN LANDSCAPING. REFER TO SITE PLAN FOR EXTENT OF STRIPPING AND PROPOSED STOCKPILE LOCATION.

THE SLOPE OF CUT OR FILL SURFACES SHALL BE NO STEEPER THAN 2:1 (50% SLOPE). UON

ALL FOOTINGS ARE TO BE PLACED ON FIRM, UNDISTURBED NATURAL SOIL. TOPSOIL, LOOSE NATURAL SOILS, ALL EXISTING FILL MATERIALS WITHIN THE FOUNDATION EXCAVATIONS SHALL BE REMOVED AND THE FOOTINGS EXTENDED DOWN TO MORE COMPETENT EXISTING SOILS. NOTIFY THE SOIL ENGINEER WHEN EXCAVATION IS COMPLETED SO THAT CONDITIONS MAY BE INSPECTED PRIOR TO PLACEMENT OF ANY FILL OR CONCRETE.

MASHED ROCK OR EARTHEN FILL USED TO SUPPORT THE FOUNDATIONS OF ANY BUILDING SHALL BE PLACED IN ACCORDANCE WITH THE SOIL INVESTIGATION REPORT AND ACCEPTED ENGINEERING PRACTICE. A REPORT OF SATISFACTORY PLACEMENT OF FILL, PREPARED BY A QUALIFIED SOIL ENGINEER, SHALL BE REQUIRED. THIS REPORT SHOULD BE PROVIDED TO THE BUILDING INSPECTOR AT THE TIME OF FOOTING INSPECTION.

ALL FOOTING BEARING ELEVATIONS SHOWN ARE ASSUMED. EXACT BEARING ELEVATIONS SHALL BE VERIFIED IN THE FIELD WITH ACTUAL CONDITIONS BY THE CONTRACTOR AND WITH THE APPROVAL OF THE ENGINEER AND THE OWNER.

CONCRETE AND MASONRY FOUNDATION WALLS SHALL EXTEND ABOVE THE FINISHED GRADE ADJACENT TO THE FOUNDATION AT ALL POINTS A MINIMUM OF 4" WHERE MASONRY VENEER IS USED AND A MINIMUM OF 6" ELSEWHERE. (IRC R404.1.6) PROVIDE FOUNDATION PERIMETER DRAINAGE SYSTEM PER IRC SECTION R405 AND DETAILS

THESE PLANS SPECIFY THAT IMPORTED GRANULAR BACKFILL MATERIAL IS REQUIRED FOR BACKFILLING FOUNDATION AND/OR RETAINING WALLS BECAUSE THEIR USE RESULTS IN LOWER LATERAL EARTH PRESSURES. A LETTER DOCUMENTING PLACEMENT OF THE GRANULAR BACKFILL MATERIAL SHALL BE FILED WITH THE BUILDING DEPARTMENT. THE LETTER OF 20CUMENTATION SHALL BE TYPEWRITTEN AND SIGNED BY THE HOMEOWNER OR GENERAL CONTRACTOR AND THE EXCAVATION CONTRACTOR RESPONSIBLE FOR PLACEMENT OF THE BACKFILL MATERIAL.

BACKFILL SHALL NOT BE PLACED AGAINST FOUNDATION WALLS UNTIL FLOOR SLABS HAVE BEEN PLACED AND THE WALL HAS SUFFICIENT STRENGTH AND HAS BEEN ANCHORED TO THE FLOOR ABOVE OR HAS BEEN SUFFICIENTLY BRACED TO PREVENT DAMAGE BY THE BACKFILL. (IRC R404.1.7)

EXCEPTION: BRACING IS NOT REQUIRED FOR WALL SUPPORTING LESS THEN 4 FEET OF UNBALANCED BACKFILL.

LOTS SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS. THE GRADE SHALL FALL A MINIMUM OF 6 INCHES WITHIN THE FIRST 10 FEET (IRC R401.3). EXCEPTION: IMPERVIOUS SURFACES SHALL BE SLOPED A MINIMUM OF 2% AWAY FROM THE

ALL UTILITY LINES SHALL BE EXTENDED FROM THE BUILDING TO THE UTILITY CONNECTION AS REQUIRED. CO-ORDINATE WITH THE APPROPRIATE UTILITY COMPANY AND BURIED CABLE LOCATION SERVICE AT 800.922.1987 OR 811

ELECTRIC - FROM METER PANEL TO TRANSFORMER OR SERVICE PANEL TO 200 AMP METER PEDESTAL, CO-ORDINATE WITH YAMPA VALLEY ELECTRIC ASSOCIATION, 970.879.1160. SEWER - FROM 5 FEET OUTSIDE THE FOUNDATION TO SEPTIC TANK TO LEACH FIELD. SEE DESIGN BY NWCC, INC..

WATER - FROM 5 FEET OUTSIDE THE FOUNDATION TO 2,500 GALLON BURIED STORAGE TANK TO WELL HEAD, SEE DESIGN BY OTHERS.

TELEPHONE - FROM TELEPHONE BOX TO PEDESTAL, CO-ORDINATE WITH CENTURYLINK, 800.244.1111. MAINTAIN 18" MINIMUM COVER. GAS - FROM POINT OF CONNECTION TO BURIED 1,000 GALLON LPG TANK, SEE SITE PLAN.

CABLE TELEVISION - FROM TELEVISION SERVICE PANEL TO DISH ANTENNA, CO-ORDINATE WITH SERVICE PROVIDER.

3. CONCRETE

......55 PSF

CONTRACTOR SHALL PROVIDE ALL NECESSARY LABOR, MATERIALS AND EQUIPMENT TO COMPLETE ALL CONCRETE SHOWN OR NOTED IN THESE DOCUMENTS.

AS NOTED IN THE SOILS REPORT, EXPANSIVE SOILS WERE ENCOUNTERED AT THIS SITE. REFER TO THE SOILS REPORT FOR SPECIAL PRECAUTIONS AND CONSTRUCTION DETAILS. FORMS SHALL RESULT IN A FINAL STRUCTURE THAT CONFORMS TO SHAPES, LINES, AND DIMENSIONS OF THE MEMBERS AS REQUIRED BY THE DESIGN DRAWINGS, AND SPECIFICATIONS.

CENTER ALL FOOTINGS UNDER WALLS OR COLUMNS UNLESS OTHERWISE NOTED ON PLANS.

ALL CONCRETE WORK AND REINFORCEMENT DETAILING SHALL BE IN ACCORDANCE WITH ACI BUILDING CODE 318. ALL EXPOSED EDGES OF CONCRETE SHALL HAVE A 3/4" CHAMFER. ALL REINFORCING SHALL BE HIGH STRENGTH DEFORMED BARS CONFORMING TO ASTM A615 AND SHALL BE GRADE 40 MINIMUM OR AS SHOWN ON THE PLANS. ALL REINFORCEMENT SHALL BE COLD BENT UNLESS OTHERWISE PERMITTED BY THE BUILDING OFFICIAL.

PROVIDE CONCRETE ENCASED ELECTRODE (UFER GROUND) PER SECTION E3608.1.2. CO-ORDINATE EXACT REQUIREMENTS WITH ELECTRICAL CONTRACTOR. WELDED WIRE FABRIC SHALL CONFORM TO ASTM 185 AND SHALL BE LAPPED (1) FULL

MESH AT SPLICES AND BE TIED TOGETHER. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT, CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3" CONCRETE EXPOSED TO EARTH OR WEATHER = 1-1/2

CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND SLABS, WALLS, JOISTS = 3/4" BEAMS, COLUMNS = 1-1/2" DEPTH OF FOOTING ABOVE BOTTOM REINFORCEMENT SHALL BE 6" MINIMUM.

NO SPLICES OF REINFORCEMENT SHALL BE MADE EXCEPT AS DETAILED OR AUTHORIZED BY THE ENGINEER. LAP SPLICES, WHERE PERMITTED, SHALL BE A MINIMUM OF (30) BAR DIAMETERS FOR #4 BAR GRADE 60 AND (25) BAR DIAMETERS FOR #5 BAR GRADE 40 PER TABLE R608 5 4(1) MAKE ALL BARS CONTINUOUS AROUND CORNERS PLACE (2) #5 BARS WITH 2'-O" PROJECTION AROUND ALL OPENINGS IN CONCRETE WALLS, SLABS AND BEAMS.

CONTINUOUS TOP AND BOTTOM BARS IN WALLS SHALL BE SPLICED AS FOLLOWS: TOP BARS AT MIDSPAN, BOTTOM BARS AT SUPPORTS.

PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING AT POSITIONS SHOWN ON THE PLANS AND IN ACCORDANCE WITH ACI 318. WHERE PROVIDED IN SLABS ON GROUND, REINFORCEMENT SHALL BE SUPPORTED TO REMAIN IN PLACE FROM THE CENTER TO THE UPPER 1/3 OF THE SLAB FOR THE DURATION OF THE CONCRETE PLACEMENT. (R506.2.4) ALL CAST-IN-PLACE CONCRETE SHALL BE MADE WITH TYPE II A PORTLAND CEMENT. FIVE SACK MIX WITH 5% MINIMUM TO 7% MAXIMUM ENTRAINED AIR AND 3/4" MAXIMUM STONE AGGREGATE SIZE. CONCRETE SHALL DEVELOP 2,500 PSI COMPRESSIVE STRENGTH IN 28 DAYS FOR BASEMENT SLABS AND WALLS, 3,000 PSI FOR WALLS EXPOSED TO WEATHER AND 3 500 PSI FOR PATIOS STEPS GARAGE SLAB AND WEATHER EXPOSED CONCRETE. MATERIALS USED TO PRODUCE CONCRETE AND TESTING THEREOF SHALL COMPLY WITH THE APPLICABLE STANDARDS LISTED IN CHAPTER 3 OF ACI 318 OR ACI 332. CONCRETE SHALL BE PLACED WITH A 4" MAXIMUM SLUM, SHALL NOT BE PLACED ON FROZEN, MUDDY OR

CONCRETE (OTHER THAN HIGH-EARLY-STRENGTH) SHALL BE MAINTAINED ABOVE 50 DEGREES FAHRENHEIT AND IN A MOIST CONDITION FOR AT LEAST THE FIRST SEVEN DAYS AFTER PLACEMENT, HIGH-EARLY STRENGTH CONCRETE SHALL BE MAINTAINED ABOVE 50 DEGREES FAHRENHEIT AND IN A MOIST CONDITION FOR AT LEAST THE FIRST THREE DAYS. FROZEN MATERIALS OR MATERIALS CONTAINING ICE SHALL NOT BE USED. DURING HOT WEATHER, PROPER ATTENTION SHALL BE GIVEN TO INGREDIENTS, PRODUCTION METHODS, HANDLING, PLACING, PROTECTION AND CURING TO PREVENT EXCESSIVE CONCRETE TEMPERATURES OR WATER EVAPORATION THAT MAY IMPAIR REQUIRED STRENGTH OR SERVICE ABILITY OF THE MEMBER OR STRUCTURE.

SATURATED SOIL AND SHALL BE PROTECTED FROM FREEZING FOR 7 DAYS.

NO ADMIXTURES SHALL BE USED WITHOUT APPROVAL BY THE FOUNDATION ENGINEER. WHEN CALCIUM CHLORIDE IS USED AS AN ADMIXTURE. NO GALVANIZED STEEL SHALL BE PLACED INTO CONCRETE AS REINFORCEMENT, INSERTS OR DUCT OR PIPE PENETRATIONS.

DURING COLD WEATHER. PROVIDE TEMPORARY HEAT AS REQUIRED TO PREVENT "FROST DAMAGE" TO ALL FOOTINGS, WALLS, SLABS AND PIERS. CONDUITS AND PIPES OF ALUMINUM SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE

UNLESS SUFFICIENTLY COATED TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL

CONCRETE SHALL BE THOROUGHLY CONSOLIDATED DURING PLACEMENT AND BE THOROUGHLY WORKED AROUND REINFORCEMENT AND EMBEDDED FIXTURES AND INTO CORNERS OF FORMS.

SLABS, FOOTINGS AND WALLS SHALL NOT HAVE JOINTS IN A HORIZONTAL PLANE, ANY STOP IN CONCRETE WORK MUST BE MADE AT A THIRD POINT OF SPAN WITH VERTICAL BULKHEADS, DOWELS AND SHEAR KEYS, UNLESS OTHERWISE SHOWN. ALL CONSTRUCTION JOINTS SHALL BE AS DETAILED OR REVIEWED BY THE ENGINEER.

FLOOR SLABS SHALL BE POURED IN WHOLE OR IN CHECKER PATTERN AVOIDING RE-ENTRANT CORNERS, WITH CONSTRUCTION JOINTS LOCATED UNDER PARTITIONS WHERE PRACTICAL AND WITH NO DIMENSION EXCEEDING THE RECOMMENDATION IN THE SOIL REPORT OF 12 FEET , AND AS SHOWN ON THE PLANS.

CONCRETE FINISH SHALL BE STEEL TROWELED FOR INTERIOR FLOOR SLABS AND BROOM FINISH FOR EXTERIOR WALKS. VERIFY WITH OWNER LOCATION AREA AND EXTENTS OF OPTIONAL 3/8" EXPOSED AGGREGATE SURFACE. 6X6 - 10X10 - (2.9 X 2.9) WOVEN WIRE FABRIC (WWF) IS RECOMMENDED FOR INSLAB RADIANT HEAT AND ALL EXTERIOR SLABS. FIBROUS MESH REINFORCEMENT IS ACCEPTABLE FOR INTERIOR SLABS ONLY, WITHOUT APPROVAL OF THE ENGINEER

FOUNDATION WALLS THAT RETAIN EARTH AND ENCLOSE INTERIOR SPACES AND FLOORS BELOW GRADE SHALL BE DAMPPROOFED FROM THE TOP OF THE FOOTING TO THE FINISHED GRADE. (R406.1)

1. BITUMINOUS COATING. 2. SIXTY-MIL (1.5 MM) SOLVENT-FREE LIQUID-APPLIED SYNTHETIC RUBBER.

EXCEPTION: ORGANIC-SOLVENT-BASED PRODUCTS SUCH AS HYDROCARBONS, CHLORINATED HYDROCARBONS, KETONES AND ESTERS SHALL NOT BE USED FOR ICF WALLS WITH EXPANDED POLYSTYRENE FORM MATERIAL. USE OF PLASTIC ROOFING CEMENTS, ACRYLIC COATINGS, LATEX COATINGS, MORTARS AND PARGINGS TO SEAL ICF WALLS IS PERMITTED. COLD-SETTING ASPHALT OR HOT ASPHALT SHALL CONFORM TO TYPE C OF ASTM D 449. HOT ASPHALT SHALL BE APPLIED AT A TEMPERATURE OF LESS THAN 200°F

ALL JOINTS IN MEMBRANE WATERPROOFING SHALL BE LAPPED AND SEALED WITH AN ADHESIVE COMPATIBLE WITH THE MEMBRANE. 4. MASONRY

CONTRACTOR SHALL PROVIDE NECESSARY LABOR, MATERIALS AND EQUIPMENT TO LAY UP MASONRY AS SHOWN OR SPECIFIED IN THESE DOCUMENTS. ALL WORK SHALL BE PLUMB, SQUARE AND TRUE WITH FILLED JOINTS.

PROVIDE MASONRY ROCK VENEER WITH SAND STONE CAP AT LOCATIONS NOTED ON PLANS. ADHERED, LIGHT WEIGHT, SYNTHETIC VENEER SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS. ANCHORED STONE OR MASONRY VENEER SHALL BE INSTALLED PER IRC SECTION R703.8: TABLE R703.8 AND FIGURE R703.8. FLOOR FRAMING SYSTEM IS DESIGNED PER IRC SECTION R703.8.1 TO SUPPORT THE ADDITIONAL LOAD OF THE INTERIOR VENEER AND LIMIT DEFLECTION AND SHRINKAGE TO 1/600 OF THE SPAN. MORTAR FOR USE IN MASONRY CONSTRUCTION SHALL COMPLY WITH ASTM C270. THE TYPE OF MORTAR SHALL BE IN ACCORDANCE WITH SECTIONS R606.2.8 OR R606.2.11 AND SHALL

MEET THE PROPORTION SPECIFICATIONS OF TABLE R606.2.8. MASONRY CEMENT SHALL NOT UNLESS OTHERWISE NOTED, PROVIDE LOOSE LINTELS AS FOLLOWS: (ONE ANGLE FOR EACH 4" OF WALL THICKNESS WITH 4" MIN. BEARING ON EACH END)

OPENINGS TO 4'-6" - ANGLE 4" X 3" X 1/4" THICK OPENINGS FROM 4'-6" TO 6'-0" - ANGLE 5" X 3-1/2" X 5/16" THICK DPENINGS FROM 6'-0" TO 7'-0" - ANGLE 6" X 3-1/2" X 5/16" THICK

THE LONG LEG OF THE ANGLE SHALL BE VERTICAL

MAXIMUM OF 2 STORIES OF MASONRY VENEER ABOVE. SEE IRC R703.8.3.2 STEEL LINTELS SHALL BE SHOP COATED W/ RUSS INHIBITIVE PAINT.

5. METALS

ALL STRUCTURAL STEEL AND MISCELLANEOUS EMBEDDED ITEMS SHALL CONFORM TO ALL BOLTS (INCLUDING ANCHOR BOLTS) SHALL CONFORM TO ASTM A307. PIPE COLUMNS SHALL CONFORM TO ASTM A53 GRADE B.

TUBE SHAPES SHALL CONFORM TO ASTM 500, GRADE B, 46 KSI YIELD.

STRUCTURAL STEEL SHALL BE DETAILED AND FABRICATED IN ACCORDANCE WITH LATEST PROVISIONS OF AISC "MANUAL OF STEEL CONSTRUCTION".

ALL SURFACES (INSIDE & OUTSIDE) OF STEEL COLUMNS SHALL BE GIVEN A SHOP COAT OF RUST INHIBITIVE PAINT. EXCEPT FOR CORROSION RESISTANT STEEL (R407.2) STEEL LINTELS SHALL BE SHOP COATED WITH A RUST INHIBITIVE PAINT OR CORROSION RESISTANT COATING NOT EXCEED 1/4 OF THE MEMBER DEPTH. THE TENSION SIDE OF MEMBERS 4" OR GREATER (R703.8.3)

WELDING OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH "STRUCTURAL WELDING CODE-STEEL", ANSI/AWS D1.1-90.

MINIMUM WELDS TO BE PER AISC AND/OR AWS, BUT NOT LESS THAN 3/16" CONTINUOUS FILLET UNLESS OTHERWISE NOTED. QUALITY CONTROL SHALL BE PER AMS. USE E70XX ELECTRODES. ALL WELDING TO BE PERFORMED BY CERTIFIED WELDERS, IN AN APPROVED FABRICATOR'S SHOP.

WHEN REQUIRED A QUALIFIED SPECIAL INSPECTOR SHALL OBSERVE ALL FIELD WELDING OF STRUCTURAL MEMBERS OR CONNECTIONS FOR CONFORMANCE WITH THE APPROVED STRUCTURAL DESIGN. THE SPECIAL INSPECTOR SHALL SUBMIT A SIGNED REPORT, STATING CONFORMANCE WITH THE APPROVED DESIGN DRAWINGS AND SPECIFICATIONS. THE REPORT TRIMMER JOISTS AND SHALL BE DOUBLED OR OF EQUIVALENT CROSS SECTION WHEN THE SHALL BE SUBMITTED TO THE BUILDING DEPARTMENT PRIOR TO REQUESTING ROUGH FRAMING SPAN OF THE HEADER EXCEEDS 4'. THE ENDS OF HEADER JOISTS MORE THAN 6' LONG SHALL INSPECTIONS, OR THE REPORT MAY BE MADE AVAILABLE TO A FIELD INSPECTOR AT THE TIME BE SUPPORTED BY FRAMING ANCHORS OR JOIST HANGERS, UNLESS BEARING ON A BEAM, THE ROUGH FRAMING INSPECTION. SPECIAL INSPECTIONS IF REQUIRED SHALL BE AT THE PARTITION OR WALL. (IRC R502.10 & R802.9) OWNER'S EXPENSE.

MISCELLANEOUS CLIPS, ANCHORS AND CONNECTORS SHALL BE SIMPSON "STRONG TIE" OR WHERE THE HEADER JOIST SPAN DOES NOT EXCEED 4 FEET (1219 MM). THE HEADER JOIST ICBO APPROVED EQUAL, UNLESS OTHERWISE NOTED. REFER TO SIMPSON CATALOG FOR APPROPRIATE NAILING WHEN NOT SPECIFIED ON PLANS, PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

RAMSET PLATES TO BE ATTACHED TO STEEL WITH POWDER ACTUATED 1/8" DRIVEPINS, 1/4" Ø THREADED STUDS WELDED TO STEEL OR 1/4" Ø LAG BOLTS @ 16" OC, STAGGERED. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR POWDER ACTUATED ANCHOR INSTALLATION

EXPANSION BOLTS SHALL BE "WEG-IT", "REDHEAD" OR APPROVED EQUAL. MINIMUM EMBEDMENT SHALL BE 1-1/2" FOR 1/2" DIAMETER BOLTS AND 2" FOR 5/8" DIAMETER BOLTS, EPOXY GROUTED REBAR OR ANCHOR BOLT CONNECTIONS SHALL BE MADE WITH SIMPSON "EPOXY-TIE" AND PER MANUFACTURER'S INSTRUCTIONS.

ANCHOR BOLTS SHALL BE 1/2" DIAMETER WITH 7" MINIMUM EMBEDMENT AND SUFFICIENT EXPOSED LENGTH FOR CONNECTION OF PLATE OR SILLS PLUS FULL NUT PENETRATION WITH WASHER. ANCHOR BOLTS SHALL BE PLACED AT 4' OC (UON) AND BETWEEN 4"-12" OF PLATE ENDS AND CORNERS. PROVIDE (2) ANCHOR BOLTS (MIN) PER PLATE OR SILL. BOLT SHALL BE LOCATED IN THE MIDDLE 1/3 OF THE WIDTH OF THE PLATE. (IRC R403.1.6)

OR LARCH (DF-L) 545, # 1 OR BETTER.

CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO FRAME UP,

SHEATH AND TRIM OUT BUILDING AS SHOWN OR SPECIFIED IN THESE DOCUMENTS. AS NOTED IN THE SOILS REPORT, EXPANSIVE SOILS WERE ENCOUNTERED AT THIS SITE. ALL

INTERIOR NON-BEARING PARTITIONS RESTING ON CONCRETE FLOOR SLABS SHOULD BE

PROVIDED WITH A SLIP JOINT AT THE BOTTOM PER FIGURE #_ IN THE SOILS REPORT OR SLIP

JOINT DETAIL PROVIDED WITH THESE PLANS. ALL 2" FRAMING LUMBER SHALL BE STRESS RATED, S-DRY DOUGLAS FIR OR LARCH (DF-L) 545, #2 OR BETTER. ALL SOLID TIMBER BEAMS AND POSTS SHALL BE S-DRY DOUGLAS FIR

GLUE LAMINATED BEAMS (GL) SHALL BE AITC STRESS RATED TO COMBINATION SYMBOL 24F-V4 FOR SIMPLE SPANS AND 24F-V8 FOR MULTI SPANS AND CANTILEVERS. ARCHITECTURAL APPEARANCE GRADE. THE PORTIONS OF GLU-LAMINATED TIMBERS EXPOSED TO WEATHER AND NOT PROPERLY PROTECTED BY A ROOF EVE OR SIMILAR COVERING SHALL BE PRESSURE TREATED WITH PRESERVATIVE. (IRC R317.1.5)

PREFABRICATED WOOD MEMBERS SHALL BE OF THE TYPE NOTED ON THE PLANS AND SHALL BE MICRO-LAM (LVL), TIMBERSTRAND (LSL), PARALLAM (PSL), OR TJI AS MANUFACTURED BY TRUS-JOIST MACMILLAN OR APPROVED EQUAL I-JOISTS AND LAMINATED LUMBER SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.

WOOD TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH APPROVED ENGINEERING

PRACTICE. THE DESIGN & MANUFACTURE OF METAL PLATE CONNECTED WOOD TRUSSES SHALL COMPLY WITH ANSI/TPI 1. THE DESIGN DRAWINGS SHALL BE PREPARED BY A COLORADO REGISTERED PROFESSIONAL ENGINEER TRUSS DESIGN DRAWINGS SHALL BE PREPARED IN COMPLIANCE WITH IRC SECTION R502.11.1 & R802.10.1 AND SHALL BE PROVIDED TO THE BUILDING OFFICIAL AND APPROVED PRIOR TO INSTALLATION. TRUSS DESIGN DRAWINGS SHAL BE PROVIDED WITH THE SHIPMENT OF TRUSSES DELIVERED TO THE JOB SITE. SEE IRC SECTION R502.11.4 FOR MINIMUM DESIGN REQUIREMENTS AND SPECIFIED INFORMATION, LOAD DURATION FACTOR SHALL BE 1.00. IT IS RECOMMENDED THAT JDS, INC. OR THE ENGINEER OF RECORD REVIEW TRUSS SCHEMATICS PRIOR TO ACCEPTANCE OF THE FABRICATOR'S ORDER.

CUTS NOTCHES AND HOLES BORED IN TRUSSES STRUCTURAL COMPOSITE LUMBER STRUCTURAL GLUE-LAMINATED MEMBERS CROSS LAMINATED TIMBER MEMBERS OR I-JOISTS ARE PROHIBITED EXCEPT WHERE PERMITTED BY THE MANUFACTURER'S RECOMMENDATIONS OR WHERE THE EFFECTS OF SUCH ALTERATIONS ARE SPECIFICALLY CONSIDERED IN THE DESIGN OF THE MEMBER BY A REGISTERED DESIGN PROFESSIONAL. (R502.8.2)

PLYWOOD SHEATHING SHALL BE STRUCTURAL 1. C-D. EXT-APA FOR ALL USES, MEETING THE MINIMUM APA RATING OR THICKNESS NOTED ON THE PLANS. ROOF AND FLOOR SHEATHING SHALL BE PLACED WITH THE &'-O" DIMENSION PERPENDICULAR TO THE FRAMING STAGGER END JOINTS PLYWOOD FLOOR SHALL BE TONGUE AND GROOVED, AND GLUED AND NAILED AT SUPPORTS, WALL SHEATHING MAY BE PLACED VERTICAL OR HORIZONTALLY WITH ALL HORIZONTAL JOINTS BLOCKED AND EDGE NAILED, NAIL ROOF SHEATHING WITH 8D (PENNY NAILS AT 6" OC AT THE EDGES AND 12" OC IN THE FIELD. NAIL FLOOR SHEATHING WITH 10D RING SHANKS AT 6" OC AT THE EDGES AND 12" OC IN THE FIELD. HIGH FOOT TRAFFIC AREAS SHALL BE SCREWED AT 6" OC. NAIL WALL SHEATHING WITH 8D (PENNY) NAILS AT 6" OC AT THE EDGES AND 12" OC IN THE FIELD.

STRUCTURAL INSULATED SHEATHING (SIS) SHALL BE ZIP SYSTEM R-SHEATHING R-6 AS MANUFACTURED BY HUBER ENGINEERED WOODS. SHEATHING PANELS SHALL BE INSTALLED VERTICALLY W/ ALL JOINTS AND EDGES BACKED BY FRAMING, PER MANUFACTURER'S PUBLISHED INSTALLATION MANUAL AND 1CC-ESR-3373 (SEE ATTACHED). NAILING FOR 16" OC FRAMING TO BE 0.131" ϕ SHANKS W/ 1-1/2" MINIMUM PENETRATION INTO STUD, 3" OC @ EDGES & 12" OC FIELD. THIS NAILING PROVIDES 255 PLF ALLOWABLE SHEAR. COUNTERSINKING OF FASTENERS IS ACCEPTABLE. ALL SEAMS & JOINTS BETWEEN BOARDS SHALL BE COVERED W/ 71P SYSTEM CONSTRUCTION TAPE OR ZIP SYSTEM LIQUID FLASH, REFER TO ZIP SYSTEM INSTALLATION MANUAL FOR DETAILS NOT PROVIDED ON THESE PLANS.

PROVIDE 1X4 CROSS BRIDGING OR 2X_BLOCKING AT NOT OVER 8' ON CENTER FOR ALL SOLID WOOD JOISTS UNLESS BOTH EDGES OF THE MEMBER ARE HELD IN LINE. PROVIDE SOLID BLOCKING BETWEEN JOISTS AT ALL SUPPORTS, BEAMS OR BEARING WALLS, PROVIDE SOLID BLOCKING AT 24" OC UNDER ALL PARTITIONS RUNNING PARALLEL TO JOISTS AND AT CENTERLINE OF WALLS RUNNING PERPENDICULAR TO JOISTS. SOLID BLOCKING IN ROOF SYSTEMS SHALL NOT INTERFERE WITH COLD ROOF VENTILATION.

ALL SOLID WOOD OR STEEL COLUMN SUPPORTS SHALL BE CONTINUOUS THROUGH FRAMING AND SHALL BEAR DIRECTLY ON ANOTHER COLUMN OR BEAM OR OTHERWISE TRANSFERRED TO THE FOUNDATION. MULTIPLE STUD COLUMNS MAY BEAR DIRECTLY ON A WALL PLATE IF PROVIDED WITH FULL WIDTH BLOCKING THROUGH FRAMING SYSTEM.

DRAFTSTOPPING MATERIALS SHALL BE NOT LESS THAN 1/2 INCH GYPSUM BOARD, 3/8" MOOD STRUCTURAL PANELS OR OTHER APPROVED MATERIALS ADEQUATELY SUPPORTED. DRAFTSTOPPING SHALL BE INSTALLED PARALLEL TO THE FLOOR FRAMING MEMBERS. (IRC R502.12.1 AND R302.12)

IN COMBUSTIBLE CONSTRUCTION, FIREBLOCKING SHALL BE PROVIDED TO CUT OFF BOTH VERTICAL AND HORIZONTAL CONCEALED DRAFT OPENINGS AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE. (R302.11) FIREBLOCKING SHALL BE PROVIDED IN WOOD-FRAMED CONSTRUCTION IN THE FOLLOWING

. IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS: 1.1. VERTICALLY AT THE CEILING AND FLOOR LEVELS. 1.2. HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET (3048 MM)

LOCATIONS:

EXCEPTION

EXCEPTIONS

1. TWO-INCH (51 MM) NOMINAL LUMBER.

2. AT INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVE CEILINGS. 3. IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7. 4. AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION. THE MATERIAL FILLING THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E 136 REQUIREMENTS. 5. FOR THE FIREBLOCKING OF CHIMNEYS AND FIREPLACES, SEE SECTION R 1003.19.

EXCEPT AS PROVIDED IN SECTION R302.11, ITEM 4, FIREBLOCKING SHALL CONSIST OF THE FOLLOWING MATERIALS. (R302.11.1)

2. TWO THICKNESSES OF 1-INCH (25.4 MM) NOMINAL LUMBER WITH BROKEN LAP JOINTS. 3. ONE THICKNESS OF 23/32-INCH (18.3 MM) WOOD STRUCTURAL PANELS WITH JOINTS BACKED BY 23/32-INCH (18.3 MM) WOOD STRUCTURAL PANELS. 4. ONE THICKNESS OF 3/4-INCH (19.1 MM) PARTICLEBOARD WITH JOINTS BACKED BY 3/4-INCH (19.1 MM) PARTICLEBOARD. 5. ONE-HALF-INCH (12.7 MM) GYPSUM BOARD

6. ONE-QUARTER-INCH (6.4 MM) CEMENT-BASED MILLBOARD. 7. 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. 8. CELLULOSE INSULATION INSTALLED AS TESTED IN ACCORDANCE WITH ASTM E 119 OR UL 263, FOR THE SPECIFIC APPLICATION.

MOOD COLUMNS SHALL BE APPROVED MOOD OF NATURAL DECAY RESISTANCE OR APPROVED PRESSURE PRESERVATIVE TREATED WOOD.

1. COLUMNS EXPOSED TO THE WEATHER OR IN BASEMENTS WHERE SUPPORTED BY CONCRETE PIERS OR METAL PEDESTALS PROJECTING 1 INCH (25 MM) ABOVE A CONCRETE COOR OR 6 INCHES (152 MM) ABOVE EXPOSED EARTH AND THE EARTH IS COVERED BY AN APPROVED IMPERVIOUS MOISTURE BARRIER 2. COLUMNS IN ENCLOSED CRAWL SPACES OR UNEXCAVATED AREAS LOCATED WITHIN THE PERIPHERY OF THE BUILDING WHEN SUPPORTED BY A CONCRETE PIER OR METAL PEDESTAL AT A HEIGHT MORE THAN & INCHES (203 MM) FROM EXPOSED EARTH AND THE EARTH IS COVERED BY AN IMPERVIOUS MOISTURE BARRIER. 3. DECK POSTS SUPPORTED BY CONCRETE PIERS OR METAL PEDESTALS PROJECTING NOT LESS THAN 1 INCH (25 MM) ABOVE A CONCRETE FLOOR OR 6 INCHES (152 MM) ABOVE

EXPOSED EARTH. (IRC R317.1.4) SILLS AND SLEEPERS ON A CONCRETE OR MASONRY SLAB WHICH IS IN DIRECT CONTACT WITH THE GROUND UNLESS SEPARATED FROM SUCH SLAB BY AN IMPERVIOUS MOISTURE BARRIER SHALL BE PRESSURE-PRESERVATIVE TREATED WOOD IN ACCORDANCE WITH AMPA U1 OR FOUNDATION REDWOOD. (IRC R317.1)

FASTENERS INCLUDING NUTS AND WASHERS IN PRESSURE PRESERVATIVE & FIRE RETARDANT TREATED WOOD ABOVE GRADE SHALL BE HOT DIPPED ZINC COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.. STAPLES SHALL BE STAINLESS STEEL. (IRC R317.3.1)

1. 1/2" DIAMETER OR GREATER STEEL BOLTS 3. PLAIN CARBON STEEL FASTENERS IN SBX/DOT AND ZINC BORATE PRESERVATIVE-TREATED WOOD IN AN INTERIOR, DRY ENVIRONMENT SHALL BE PERMITTED.

THE ENDS OF EACH JOIST, BEAM OR GIRDER SHALL HAVE NOT LESS THAN 1-1/2 INCHES BEARING ON WOOD OR METAL AND NOT LESS THAN 3 INCHES ON MASONRY OR CONCRETE OR TO BE SUPPORTED BY APPROVED JOIST HANGERS. JOISTS FRAMING FROM OPPOSITE SIDES OVER A BEARING SUPPORT SHALL LAP A MINIMUM OF 3 INCHES AND BE NAILED TOGETHER W/ A MINIMUM OF (3) 10d FACE NAILS. JOISTS FRAMING INTO THE SIDE OF A BEAM OR GIRDER, SHALL BE SUPPORTED BY APPROVED FRAMING ANCHORS OF THE APPROPRIATE SIZE AND CAPACITY. (IRC R502.6.)

NOTCHES IN SOLID LUMBER JOISTS, RAFTERS OR BEAMS SHALL NOT EXCEED 1/6 OF THE MEMBER DEPTH, SHALL NOT BE LONGER THAN 1/3 OF THE MEMBER DEPTH AND SHALL NOT BE LOCATED IN THE MIDDLE 1/3 OF THE SPAN. NOTCHES AT THE ENDS OF THE MEMBER SHALL SHALL NOT BE NOTCHED EXCEPT AT THE ENDS OF THE MEMBERS. THE DIAMETER OF HOLES BORED OR CUT INTO MEMBERS SHALL NOT EXCEED 1/3 THE DEPTH OF THE MEMBER. HOLES SHALL NOT BE CLOSER THAN 2 INCHES TO THE TOP OR BOTTOM OF THE MEMBER OR TO ANY OTHER HOLE OR NOTCH LOCATED IN THE MEMBER. (IRC R502.8) SEE FIGURE R502.8.

CUTS, NOTCHES AND HOLES BORED IN TRUSSES, STRUCTURAL COMPOSITE LUMBER, STRUCTURAL GLUE LAMINATED MEMBERS, CROSS LAMINATED TIMBER MEMBERS OR I-JOISTS ARE PROHIBITED EXCEPT WHERE PERMITTED BY THE MANUFACTURER'S RECOMMENDATIONS OR WHERE THE EFFECTS OF SUCH ALTERATIONS ARE SPECIFICALLY CONSIDERED IN THE DESIGN OF THE MEMBER BY A REGISTERED PROFESSIONAL ENGINEER. (IRC R502.8.2) (IRC

OPENINGS IN FLOOR CEILING AND ROOF FRAMING SHALL BE FRAMED WITH A HEADER AND

OPENINGS IN FLOOR FRAMING SHALL BE FRAMED WITH A HEADER AND TRIMMER JOISTS. SHALL BE A SINGLE MEMBER THE SAME SIZE AS THE FLOOR JOIST. SINGLE TRIMMER JOISTS SHALL BE USED TO CARRY A SINGLE HEADER JOIST THAT IS LOCATED WITHIN 3 FEET (914 MM) OF THE TRIMMER JOIST BEARING. WHERE THE HEADER JOIST SPAN EXCEEDS 4 FEET (1219 MM), THE TRIMMER JOISTS AND THE HEADER JOIST SHALL BE DOUBLED AND OF SUFFICIENT CROSS SECTION TO SUPPORT THE FLOOR JOISTS FRAMING INTO THE HEADER. (R502.10) GIRDERS AND BEAMS SHALL HAVE 3" MINIMUM BEARING OR WHEN FRAMED INTO THE SIDE OF A BEAM OR GIRDER, SHALL BE SUPPORTED BY FRAMING ANCHORS OF THE APPROPRIATE SIZE AND CAPACITY, GIRDER AND BEAM END JOINTS SHALL OCCUR OVER SUPPORTS, WHEN A

ENDS OF WOOD GIRDERS OR BEAMS ENTERING EXTERIOR MASONRY OR CONCRETE WALLS SHALL BE PROVIDED WITH A 1/2" AIR SPACE ON TOP, SIDES AND END UNLESS APPROVED WOOD OF NATURAL RESISTANCE TO DECAY OR PRESSURE PRESERVATIVE TREATED WOOD IS USED. (IRC R317.1)

GIRDER OR BEAM IS SPLICED OVER A SUPPORT, AN ADEQUATE TIE SHALL BE PROVIDED.

FIELD CUT ENDS, NOTCHES AND DRILLED HOLES OF PRESSURE PRESERVATIVE TREATED WOOD SHALL BE TREATED IN THE FIELD IN ACCORDANCE WITH AMPA M4. (R317.1.1)

6. CARPENTRY - CONTINUED

JOISTS UNDER PARALLEL BEARING PARTITIONS SHALL BE OF ADEQUATE SIZE TO SUPPORT THE LOAD. DOUBLED JOISTS THAT ARE SEPARATED TO PERMIT THE INSTALLATION OF PIPING OR VENTS SHALL BE FULL DEPTH SOLID BLOCKED WITH 2X_ DIMENSIONAL LUMBER SPACED 4' 0C.(IRC R502.4)

EACH END OF A HEADER SHALL HAVE A MINIMUM BEARING LENGTH OF 1-1/2" FOR THE FULL WIDTH OF THE HEADER. LVL HEADERS SHALL HAVE A MINIMUM BEARING LENGTH OF 3" FOR THE FULL WIDTH OF THE HEADER. PROVIDE DOUBLED "KING STUDS" AT ALL OPENINGS OVER 10

HEADERS SHALL BE SUPPORTED ON EACH END WITH ONE OR MORE JACK STUDS OR WITH APPROVED FRAMING ANCHORS IN ACCORDANCE WITH TABLE R602.7(1) OR R602.7(2). THE FULL-HEIGHT STUD ADJACENT TO EACH END OF THE HEADER SHALL BE END NAILED TO EACH END OF THE HEADER WITH FOUR-16D NAILS (3.5 INCHES × 0.135 INCHES). THE MINIMUM NUMBER OF FULL-HEIGHT STUDS AT EACH END OF A HEADER SHALL BE IN ACCORDANCE WITH TABLE R602.7.5.(R602.7.5)

ROOF TRUSSES SHALL STACK DIRECTLY OVER WALL STUDS AND FLOOR JOISTS BELOW. (UON) ADDITIONAL STUDS. TRIPLED TOP PLATES OR 2X6 BLOCKING MAY BE REQUIRED IF NOT STACKED OVER WALL STUDS, WHEN PLANS SPECIFY ON "COMMON LAYOUT".

MOOD FRAMED EXTERIOR DECKS SHALL BE IN ACCORDANCE WITH SECTION R507, FOR DECKS USING MATERIALS AND CONDITIONS NOT PRESCRIBED IN THIS SECTION REFER TO SECTION R301, WOOD MATERIALS SHALL BE #2 OR BETTER LUMBER, PRESERVATIVE-TREATED OR APPROVED NATURALLY DURABLE LUMBER. ENGINEERED WOOD PRODUCTS SHALL BE IN ACCORDANCE WITH SECTION R502. PLASTIC COMPOSITE EXTERIOR DECK BOARDS, STAIR TREADS, GUARDS AND HANDRAILS SHALL COMPLY WITH ASTM D7032 AND THIS SECTION.

DECK LEDGER SHALL BE CONNECTED TO BAND JOIST PER FIGURE R507.9.1.3(1), "PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGERS" AND R507.9.1.3(2) "PLACEMENT OF LAG SCREWS AND BOLTS IN BAND JOISTS" FASTENERS SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL, R507,9,1,3(2)

DECK ATTACHMENT FOR PLATERAL LOADS SHALL BE PER FIGURE R507.9.2(1) OR R507.9.2(2). SEE ATTACHED.

UON, STAIR SECTIONS DEPICT THE MATHEMATICAL DIFFERENCE FROM SUB FLOOR TO SUB FLOOR, CONTRACTOR TO ALLOW FOR FINAL FINISHES PROVIDING EQUAL RISERS. STAIRS TO COMPLY WITH IRC SECTION R-311.

UON, PROVIDE STURDI-STEP TREADS FOR CARPETED STAIRS OR LSL TREADS FOR OTHER FINISHES, STAIRS AT MAIN ENTRY TO BE 4X12 STRINGERS AND TREADS TREADS TO BE HOUSED 1/2" MINIMUM INTO STRINGERS AND BOLTED WITH 1/2" X 6" LAGS WITH MALLEABLE

MINIMUM NAILING SHALL BE AS SPECIFIED IN TABLE R602.3(1) SEE SHEET G2

7. THERMAL AND MOISTURE PROTECTION

CONTRACTOR SHALL PROVIDE ALL LABOR MATERIALS AND EQUIPMENT TO INSTALL INSULATION, VAPOR BARRIERS & RETARDERS, FLASHINGS, WATERPROOFING AND ROOF COVERING AS DETAILED OR SPECIFIED IN THESE DOCUMENTS.

PROVIDE (2) LAYERS OF "BARRIER X5" A COMBINATION UNDERSLAB INSULATION (R-5 X 2) \pounds VAPOR RETARDER INSTALLED PER MANUFACTURER'S INSTRUCTIONS OR OPTIONALY PROVIDE R-10 RIGID FOAM OVER "TU-TUF #4" VAPOR RETARDER INSTALLED PER MANUFACTURER'S INSTRUCTIONS OR 1-1/2" DEMILEC "HEATLOC HFO" INSTALLED PER MANUFACTURER'S INSTRUCTIONS AND ESR-4073 ATTACHED.

PROVIDE FOAM SILL SEALER BETWEEN TOP OF FOUNDATION WALL AND RIM JOIST AND BETWEEN FLOOR SHEATHING & SILL PLATES AT ALL EXTERIOR WALLS.

CLASS I OR II VAPOR RETARDERS ARE REQUIRED ON INTERIOR SIDE OF FRAMED WALLS IN CLIMATE ZONES 5, 6, 7, 8 AND MARINE 4. (IRC R702.7)

EXCEPTIONS. 1. BASEMENT WALLS 2. BELOW GRADE PORTION OF ANY WALL.

CLASS III: LATEX OR ENAMEL PAINT.

EXCEPTIONS

THE VAPOR RETARDER CLASS SHALL BE BASED ON THE MANUFACTURER'S CERTIFIED TESTING OR A TESTED ASSEMBLY. THE FOLLOWING SHALL BE DEEMED TO MEET THE CLASS SPECIFIED: (R702.7.2.)

CLASS I: SHEET POLYETHYLENE, UNPERFORATED ALUMINUM FOIL. CLASS II: KRAFT-FACED FIBERGLASS BATTS.

THE WALL AND CEILING ASSEMBLIES ARE INTENDED TO DRY TO THE INTERIOR. DO NOT INSTALL VAPOR BARRIERS SUCH AS POLYETHYLENE (VISQUENE) FOIL FACED BATT INSULATION OR REFLECTIVE RADIANT BARRIER FOIL INSULATION IN EXTERIOR WALLS AND CEILINGS, KRAFT PAPER FACED BATT INSULATION IS AN ACCEPTABLE VAPOR PERMEABLE RETARDER WHEN SEAMS ARE LAPPED AND TAPED CERTAINTEED "MEMBRAIN" IS RECOMMENDED AS A "SMART" VAPOR PERMEABLE RETARDER WHEN APPLIED OVER UNFACED BATT INSULATION AND PER MANUFACTURER'S RECOMMENDATIONS..

INSULATION MATERIALS, INCLUDING FACINGS SUCH AS VAPOR RETARDERS, VAPOR PERMEABLE MEMBRANES AND SIMILAR COVERINS SHALL EXHIBIT A FLAME SPREAD RATING NOT TO EXCEED 25 AND A SMOKE DENSITY NOT TO EXCEED 450. (IRC R302.10)

1. WHERE SUCH MATERIALS ARE INSTALLED IN CONCEALED SPACES, THE FLAME SPREAD INDEX AND SMOKE-DEVELOPED INDEX LIMITATIONS DO NOT APPLY TO THE FACINGS, PROVIDED THAT THE FACING IS INSTALLED IN SUBSTANTIAL CONTACT WITH THE UNEXPOSED SURFACE OF THE CEILING, FLOOR OR WALL FINISH.

2. CELLULOSE FIBER LOOSE-FILL INSULATION, THAT IS NOT SPRAY APPLIED, COMPLYING WITH THE REQUIREMENTS OF SECTION R302 10.3 SHALL NOT BE REQUIRED TO MEET THE SMOKE-DEVELOPED INDEX BUT SHALL BE REQUIRED TO MEET A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 450 WHERE TESTED IN ACCORDANCE WITH CAN/ULC \$102.2.

3. FOAM PLASTIC INSULATION SHALL COMPLY WITH SECTION R316.

FOAM PLASTIC INSULATION SHALL COMPLY WITH IRC R316.1 UNLESS OTHERWISE ALLOWED IN SECTION R316.5 OR R316.6 FOAM PLASTIC SHALL BE SEPARATED FROM THE INTERIOR OF THE BUILDING BY AN APPROVED THERMAL BARRIER OF NOT LESS THAN 1/2 INCH GYPSUM MALLBOARD 23/32", MOOD STRUCTURAL PANEL OR AN APPROVED THERMAL BARRIER. (IRC R316.4)

THE THERMAL BARRIER IS NOT REQUIRED WHERE THE FOAM PLASTIC IS IN A ROOF ASSEMBLY OR UNDER A ROOF COVERING AND SEPARATED FROM THE INTERIOR BY T&G WOOD PLANKS OR WOOD STRUCTURAL PANEL SHEATHING. (IRC R316.5.2)

THE THERMAL BARRIER IS NOT REQUIRED IN ATTICS OR CRAWL SPACES WHEN EACH OF THE FOLLOWING APPLIES: 1. ACCESS IS REQUIRED BY SECTION R807.1 (ATTIC) OR R408.4 (CRAWL SPACE) 2. THE SPACE IS ENTERED ONLY FOR PURPOSES OF REPAIR OR MAINTENANCE.

3. THE FOAM PLASTIC INSULATION HAS BEEN TESTED IN ACCORDANCE WITH SECTION R3 16.6 OR WHEN THE FOAM PLASTIC INSULATION IS PROTECTED FROM IGNITION USING ONE OF THE FOLLOWING IGNITION BARRIER MATERIALS; 1-1/2" THICK MINERAL FIBER INSULATION; 1/4" THICK WOOD STRUCTURAL PANELS; 3/8" PARTICLE BOARD; 1/4" HARDBOARD, 3/8" GYPSUM WALLBOARD, CORROSION RESISTANT SHEET METAL HAVING A BASE METAL THICKNESS OF NOT LESS THAN .0160, 1-1/2" THICK CELLULOSE INSULATION; 1/4" FIBER CEMENT PANEL, SOFFIT OR BACKER BOARD (IRC R316.5.3 & .4)

THE ABOVE IGNITION BARRIER IS NOT REQUIRED WHERE THE FOAM PLASTIC INSULATION HAS BEEN TESTED IN ACCORDANCE WITH SECTION R316.6

THE THERMAL BARRIER IS REQUIRED ON THE INTERIOR OF HABITABLE SPACES OF INSULATED CONCRETE FORMS (ICF) PER SECTION R316.4. (IRC R702.3.4)

FIBER-CEMENT, FIBER MAT REINFORCED CEMENT, GLASS MAT GYPSUM BACKERS OR FIBER REINFORCED GYPSUM BACKERS INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS' RECOMMENDATIONS SHALL BE USED AS BACKERS FOR WALL TILE IN TUB AND SHOWER AREAS AND WALL PANELS IN SHOWER AREAS.

WATER RESISTANT GYPSUM BACKING BOARD MAY AS THE BASE OR BACKER FOR

ADHEASIVE APPLICATIONS OF CERAMIC TILE OR OTHER REQUIRED NONABSORBENT FINISH MATERIAL SHALL BE PERMITTED ON CEILINGS. WATER RESISTANT GYPSIM BOARD SHALL NOT BE INSTALLED OVER A CLASS I OR II VAPOR RETARDER. WATER RESISTANT GYPSUM BACKING BOARD SHALL NOT BE USED WHERE THERE WILL BE DIRECT EXPOSURE TO WATER OR IN AREAS SUBJECT TO CONTINUOUS HIGH HUMIDITY. REGULAR GYPSUM WALLBOARD IS PERMITTED UNDER TILE OR WALL PANELS IN OTHER WALL AND CEILING AREAS WHEN INSTALLED IN ACCORDANCE WITH TABLE R702.3.5.

EXTERIOR WALLS SHALL PROVIDE THE BUILDING WITH A WEATHER-RESISTANT EXTERIOR MALL ENVELOPE. THE EXTERIOR WALL ENVELOPE SHALL INCLUDE FLASHING AS DESCRIBED IN SECTION R703.4

THE EXTERIOR WALL ENVELOPE SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT PREVENTS THE ACCUMULATION OF WATER WITHIN THE WALL ASSEMBLY BY PROVIDING A WATER-RESISTANT BARRIER BEHIND THE EXTERIOR VENEER AS REQUIRED BY SECTION R703.2 AND A MEANS OF DRAINING TO THE EXTERIOR WATER THAT ENTERS THE ASSEMBLY. PROTECTION AGAINST CONDENSATION IN THE EXTERIOR WALL ASSEMBLY SHALL BE PROVIDED IN ACCORDANCE WITH SECTION R702.7 OF THIS CODE. (R703.1.1)

APPROVED CORROSION-RESISTANT FLASHING SHALL BE APPLIED SHINGLE-FASHION IN A MANNER TO PREVENT ENTRY OF WATER INTO THE WALL CAVITY OR PENETRATION OF WATER TO THE BUILDING STRUCTURAL FRAMING COMPONENTS, SELF-ADHERED MEMBRANES USED AS FLASHING SHALL COMPLY WITH AAMA 711. FLUID-APPLIED MEMBRANES USED AS FLASHING IN EXTERIOR WALLS SHALL COMPLY WITH AAMA 714. THE FLASHING SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL FINISH. APPROVED CORROSION-RESISTANT FLASHINGS SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS: (R703.4)

1. EXTERIOR WINDOW AND DOOR OPENINGS, FLASHING AT EXTERIOR WINDOW AND DOOR OPENINGS SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL FINISH OR TO THE WATER-RESISTIVE BARRIER COMPLYING WITH SECTION 703.2 FOR SUBSEQUENT DRAINAGE. MECHANICALLY ATTACHED FLEXIBLE FLASHINGS SHALL COMPLY WITH AAMA 712. FLASHING AT EXTERIOR WINDOW AND DOOR OPENINGS SHALL BE INSTALLED IN ACCORDANCE WITH ONE OR MORE OF THE FOLLOWING:

1.1. THE FENESTRATION MANUFACTURER'S INSTALLATION AND FLASHING INSTRUCTIONS. OR FOR APPLICATIONS NOT ADDRESSED IN THE FENESTRATION MANUFACTURER'S INSTRUCTIONS. IN ACCORDANCE WITH THE FLASHING MANUFACTURER'S INSTRUCTIONS. WHERE FLASHING INSTRUCTIONS OR DETAILS ARE NOT PROVIDED, PAN FLASHING SHALL BE INSTALLED AT THE SILL OF EXTERIOR WINDOW AND DOOR OPENINGS, PAN FLASHING SHALL BE SEALED OR SLOPED IN SUCH A MANNER AS TO DIRECT WATER TO THE SURFACE OF THE EXTERIOR WALL FINISH OR TO THE WATER-RESISTIVE BARRIER FOR SUBSEQUENT DRAINAGE. OPENINGS USING PAN FLASHING SHALL INCORPORATE FLASHING OR PROTECTION AT THE HEAD AND SIDES 1.2. IN ACCORDANCE WITH THE FLASHING DESIGN OR METHOD OF A REGISTERED DESIGN PROFESSIONAL

1.3. IN ACCORDANCE WITH OTHER APPROVED METHODS. 2. AT THE INTERSECTION OF CHIMNEYS OR OTHER MASONRY CONSTRUCTION WITH FRAME OR STUCCO WALLS, WITH PROJECTING LIPS ON BOTH SIDES UNDER STUCCO COPINGS.

3. UNDER AND AT THE ENDS OF MASONRY, WOOD OR METAL COPINGS AND SILLS. 4. CONTINUOUSLY ABOVE ALL PROJECTING WOOD TRIM.

5. WHERE EXTERIOR PORCHES, DECKS OR STAIRS ATTACH TO A WALL OR FLOOR ASSEMBLY OF WOOD-FRAME CONSTRUCTION.

6. AT WALL AND ROOF INTERSECTIONS. 7. AT BUILT-IN GUTTERS.

PROVIDE BASE AND CAP, SIDEWALL AND OTHER FLASHINGS AT ALL ROOF AND VERTICAL SURFACE INTERSECTIONS PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. (R905.2.8) SEE SECTION R905.2.8.3 FOR SPECIFIC SIDEWALL FLASHING REQUIRMENTS.

A DRIP EDGE SHALL BE PROVIDED AT EAVES AND RAKE EDGES OF SHINGLE ROOFS. ADJACENT SEGMENTS OF DRIP EDGE SHALL BE OVERLAPPED NOT LESS THAN 2 INCHES (51 MM), DRIP EDGES SHALL EXTEND NOT LESS THAN 1/4 INCH (6.4 MM) BELOW THE ROOF SHEATHING AND EXTEND UP BACK ONTO THE ROOF DECK NOT LESS THAN 2 INCHES (51 MM). DRIP EDGES SHALL BE MECHANICALLY FASTENED TO THE ROOF DECK AT NOT MORE THAN 12 INCHES (305 MM) O.C. WITH FASTENERS AS SPECIFIED IN SECTION R905.2.5. UNDERLAYMENT SHALL BE INSTALLED OVER THE DRIP EDGE ALONG EAVES AND UNDER THE DRIP EDGE ALONG RAKE EDGES. (R905.2.8.5)

ROOF VALLEY LININGS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS OPEN VALLEY LININGS (EXPOSED) SHALL CONSIST OF NOT LESS THAN 26 GAGE GALVANIZED STEEL 28 GAGE STAINLESS STEEL OR 0.0216 NOMINAL COLD ROLLED COPPER. LININGS SHALL BE 24" WIDE MINIMUM AND PLACED OVER 36" WIDE LAYER OF ICE AND WATER SHIELD. CLOSED VALLEY LININGS (ASPHALT SHINGLES) SHALL BE A 36" WIDE LAYER OF ICE AND WATER SHIELD. (IRC R905.2.8.2)

7. THERMAL & MOISTURE PROTECTION - CONTINUED IN AREAS WHERE THERE HAS BEEN A HISTORY OF ICE FORMING ALONG THE EAVES CAUSING

(914 MM) MEASURED ALONG THE ROOF SLOPE FROM THE EAVE EDGE OF THE BUILDING.

(R905.1.2)

PROVIDE GRACE "ULTRA" UNDERLAYMENT. (IRC 905.2.7.1) IT IS RECOMMENDED THAT THE ENTIRE ROOF BE COVERED

NATURAL VENTILATION OF ALL HABITABLE ROOMS SHALL BE PROVIDED. THE MINIMUM OPENABLE AREA TO THE OUTDOORS SHALL BE 4 PERCENT OF THE FLOOR AREA BEING VENTILATED (IRC SECTION R303.1) EXCEPTION 1. AN APPROVED MECHANICAL VENTILATION SYSTEM IS PROVIDED CAPABLE OF PRODUCING 0.35 AIR CHANGES PER HOUR IN THE ROOM OR A WHOLE MECHANICAL VENTILATION SYSTEM IS INSTALLED CAPABLE OF SUPPLYING OUTDOOR VENTILATION AIR PER TABLE M1505.4.3 (1). (R303.1)

CLIMATE ZONES 3-8 ARE REQUIRED TO BE TESTED & VERIFIED AS HAVING AN AIR LEAKAGE RATE NOT EXCEEDING 3 AIRCHANGES PER HOUR. THEREFOR, A WHOLE HOUSE MECHANICAL VENTILATION SYSTEM IS REQUIRED IN ACCORDANCE W/ M1507.3

VENTILATION OF BATHROOMS, WATER CLOSET COMPARTMENTS AND SIMILAR ROOMS WITHOUT OPERABLE WINDOW PROVIDING 1.5 SQUARE FEET OPENING, SHALL BE PROVIDED BY A LOCAL EXHAUST SYSTEM CAPABLE OF PRODUCING 50 CFM FOR INTERMITTENT USE OR 20 CFM CONTINUOUS VENTILATION. VENTILATION AIR FROM THE SPACE SHALL BE DIRECTLY EXHAUSTED TO THE OUTSIDE. (IRC R303.3) PROVIDE ENERGY-STAR QUALIFIED BATHROOM FANS WITH A RATING OF 1.5 SONES OR LESS WITH TIMER OR HUMIDISTAT CONTROL. SEE PLAN VIEW FOR REQUIRED CFM RATING.

ENCLOSED ATTICS AND ENCLOSED RAFTER SPACES FORMED WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS SHALL HAVE CROSS VENTILATION FOR EACH SEPARATE SPACE BY VENTILATING OPENINGS PROTECTED AGAINST THE ENTRANCE OF RAIN OR SNOW, VENTILATION OPENINGS SHALL HAVE A LEAST DIMENSION OF 1/16 INCH (1.6 MM) MINIMUM AND 1/4 INCH (6.4 MM) MAXIMUM. VENTILATION OPENINGS HAVING A LEAST DIMENSION LARGER THAN 1/4 INCH (6.4 MM) SHALL BE PROVIDED WITH CORROSION-RESISTANT WIRE CLOTH SCREENING HARDWARE CLOTH OR SIMILAR MATERIAL WITH OPENINGS HAVING A LEAST DIMENSION OF 1/16 INCH (1.6 MM) MINIMUM AND 1/4 INCH (6.4 MM) MAXIMUM. OPENINGS IN ROOF FRAMING MEMBERS SHALL CONFORM TO THE REQUIREMENTS OF SECTION R802.7. REQUIRED VENTILATION OPENINGS SHALL OPEN DIRECTLY TO THE OUTSIDE AIR. AND SHALL BE PROTECCTED TO PERVENT THE ENTRY OF BIRDS, RODENTS, SNAKES AND OTHER SIMILAR CREATURES (IRC R806.1) WHERE EVE OR CORNICE VENTS ARE INSTALLED. BLOCKING, BRIDGING AND INSULATION SHALL NOT BLOCK THE AIR FLOW. NOT LESS THAN A 1" SPACE SHALL BE PROVIDED BETWEEN THE INSULATION AND ROOF SHEATHING. (R806.3)

THE MINIMUM NET FREE VENTILATING AREA SHALL BE 1/150 OF THE AREA OF THE VENTED SPACE.

EXCEPTION: THE MINIMUM NET FREE VENTILATION AREA SHALL BE 1/300 OF THE VENTED SPACE PROVIDED A CLASS I OR II VAPOR RETARDER IS INSTALLED ON THE WARM IN WINTER SIDE OF THE CEILING AND 40-50% OF THE REQUIRED VENTING AREA IS PROVIDED BY VENTILATORS IN THE UPPER PORTION OR THE ATTIC OR RAFTER SPACE.. (R806.2) 8. DOORS AND WINDOWS

CONTRACTOR SHALL SUPPLY AND INSTALL ALL DOORS, WINDOWS AND GLAZING AS DETAILED, SCHEDULED AND/OR SPECIFIED IN THESE DOCUMENTS. WINDOWS AND DOORS TO BE LINCOLN WOOD PRODUCTS OR APPROVED EQUAL. GLAZING TO BE INSULATED GLASS WITH DUAL LOE2 (189/272 COATING). UNIT U VALUE TO BE 0.30 MAXIMUM, ALL OPERABLE UNITS TO BE PROVIDED WITH SCREENS, CLAD COLOR AS NOTED ON THE PLANS OR PER OWNER, WINDOWS AND DOORS SHALL BE INSTALLED AND FLASHED IN ACCORDANCE WITH THE FENESTRATION MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, WHICH SHALL BE PROVIDED BY THE MANUFACTURER FOR EACH WINDOW OR DOOR AND SECTION R703.4. (R609.1) OPTIONALLY DUAL LOE3 (189/366 COATING) IS

PREFERED. WHERE THE OPENING OF AN OPERABLE WINDOW IS LOCATED LESS THAN 24" ABOVE THE FINISHED FLOOR AND GREATER THAN 72" ABOVE THE FINISHED GRADE OR SURFACE BELOW, THE OPERABLE WINDOW SHALL COMPLY WITH ONE OF THE FOLLOWING:

1. OPENING WILL NOT ALLOW A 4"Φ SPHERE TO PASS. 2. PROVIDED WITH FALL PRVENTION DEVICES THAT COMPLY WITH ASTM F 2090. 3. PROVIDED WITH OPENING CONTROL DEVICES THAT COMPLY WITH SECTION R3 12.2.2 OPENINGS FROM A PRIVATE GARAGE DIRECTLY INTO A ROOM USED FOR SLEEPING PURPOSES SHALL NOT BE PERMITTED. OTHER OPENINGS BETWEEN THE GARAGE AND RESIDENCE SHALL BE FOURPED WITH SOLID WOOD DOORS NOT LESS THAN 1-3/8 INCHES (35 MM) IN THICKNESS, SOLID OR HONEYCOMB-CORE STEEL DOORS NOT LESS THAN 1-3/8 NCHES (35 MM) THICK, OR 20-MINUTE FIRE-RATED DOORS, EQUIPPED WITH A SELF-CLOSING

DEVICE (R302.5.1) WIDTH PER PLANS X 6'10" OR 8'-0" TALL.

MODEL PER OWNER OR AS APPROVED BY THE OWNER. PERCENT OF THE FLOOR AREA OF SUCH ROOMS. (IRC R303.1)

HEIGHT OF 30" ABOVE THE FLOOR.

BASEMENTS AND EVERY SLEEPING ROOM SHALL HAVE NOT LESS THAN ONE OPERABLE MERGENCY ESCAPE AND RESCUE OPENING WHERE BASEMENTS CONTAIN ONE OR MORE SLEEPING ROOMS, AN EMERGENCY ESCAPE AND RESCUE OPENING SHALL BE REQUIRED IN EACH SLEEPING ROOM. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL OPEN DIRECTLY INTO A PUBLIC WAY, OR TO A YARD OR COURT THAT OPENS TO A PUBLIC WAY. (R310.1)

EXCEPTION: STORM SHELTERS AND BASEMENTS USED ONLY TO HOUSE MECHANICAL EQUIPMENT NOT EXCEEDING A TOTAL FLOOR AREA OF 200 SQUARE FEET. (R310.1, EXC 1) EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE OPERATIONAL FROM THE INSIDE OF THE ROOM WITHOUT THE USE OF KEYS, TOOLS OR SPECIAL KNOWLEDGE. WINDOW OPENING CONTROL DEVICES ON WINDOWS SERVING AS A REQUIRED EMERGENCY ESCAPE AND RESCUE

OPENING SHALL COMPLY WITH ASTM F 2090. (R310.1.1) EMERGENCY AND ESCAPE RESCUE OPENINGS SHALL HAVE A NET CLEAR OPENING OF NOT LESS THAN 5.7 SQUARE FEET (0.530 M2). THE NET CLEAR OPENING DIMENSIONS REQUIRED BY THIS SECTION SHALL BE OBTAINED BY THE NORMAL OPERATION OF THE EMERGENCY ESCAPE AND RESCUE OPENING FROM THE INSIDE. THE NET CLEAR HEIGHT OPENING SHALL BE NOT LESS THAN 24 INCHES (610 MM) AND THE NET CLEAR WIDTH SHALL BE NOT LESS THAN 20 INCHES (508 MM) (R310.2.1).

EXCEPTION: GRADE FLOOR OR BELOW GRADE OPENINGS SHALL HAVE A NET CLEAR OPENING OF NOT LESS THAN 5 SQUARE FEET (0.465 M2). WHERE A WINDOW IS PROVIDED AS THE EMERGENCY ESCAPE AND RESCUE OPENING, IT

SPECIAL KNOWLEDGE OR FORCE GREATER THAN THAT REQUIRED FOR THE NORMAL OPERATION OF THE ESCAPE AND RESCUE OPENING. (R310.4)

REQUIRED.

BUILDINGS WITH COMBUSTIBLE CEILING OR ROOF CONSTRUCTION SHALL HAVE AN ATTIC UNDERSIDE OF THE ROOF FRAMING MEMBERS.

MECHANICAL EQUIPMENT. (IRC M1305.1.3) 9. FINISHES

WRITTEN INSTRUCTIONS.

WALL (R302.6)

R302.11 ITEM 4)

BY SECTION R302.5. (IRC R302.6)

A BACKUP OF WATER AS DESIGNATED IN TABLE R301.2(1). AN ICE BARRIER SHALL BE INSTALLED FOR ASPHALT SHINGLES OR METAL SHEET ROOFING THE ICE BARRIER SHALL CONSIST OF A SELF-ADHERING POLYMER-MODIFIED BITUMEN SHEET AND SHALL BE USED IN PLACE OF NORMAL UNDERLAYMENT AND EXTEND FROM THE LOWEST EDGES OF ALL ROOF SURFACES TO A POINT NOT LESS THAN 24 INCHES (610 MM) INSIDE THE EXTERIOR WALL LINE OF THE BUILDING. ON ROOFS WITH SLOPE EQUAL TO OR GREATER THAN 8 UNITS VERTICAL IN 12 UNITS HORIZONTAL, THE ICE BARRIER SHALL ALSO BE APPLIED NOT LESS THAN 36 INCHES

UON INTERIOR DOORS TO BE AS NOTED ON THE PLANS OR AS APPROVED BY THE OWNER, UON EXTERIOR DOORS TO BE AS NOTED ON THE PLANS, THERMA TRU "FIBER CLASSIC",

HABITABLE ROOMS SHALL HAVE AN AGGREGATE GLAZING AREA OF NOT LESS THAN &

EXCEPTION: THE GLAZED AREAS NEED NOT BE INSTALLED IN ROOMS WHERE ARTIFICIAL LIGHT IS PROVIDED CAPABLE OF PRODUCING AN AVERAGE ILLUMINATION OF 6 FOOT CANDLES AT A

SHALL HAVE A SILL HEIGHT OF NOT MORE THAN 44 INCHES (1118 MM) ABOVE THE FLOOR; EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE PERMITTED TO BE INSTALLED UNDER DECKS AND PORCHES PROVIDED THAT THE LOCATION OF THE DECK ALLOWS THE EMERGENCY ESCAPE AND RESCUE OPENINGS TO BE FULLY OPENED AND PROVIDES A PATH NOT LESS THAN 36 INCHES (914 MM) IN HEIGHT TO A YARD OR COURT. (R310.2.4)

WHERE A DOOR IS PROVIDED AS THE REQUIRED EMERGENCY ESCAPE AND RESCUE OPENING, IT SHALL BE A SIDE-HINGED DOOR OR A SLIDER. (R3 10.3)

THE MINIMUM NET CLEAR HEIGHT OPENING FOR ANY DOOR THAT SERVES AS AN EMERGENCY AND ESCAPE RESCUE OPENING SHALL BE IN ACCORDANCE WITH SECTION R310.2.1. (R310.3.1) WHERE BARS, GRILLES, COVERS, SCREENS OR SIMILAR DEVICES ARE PLACED OVER EMERGENCY ESCAPE AND RESCUE OPENINGS, AREA WELLS, OR WINDOW WELLS, THE MINIMUM NET CLEAR OPENING SIZE COMPLY WITH SECTIONS R3 10.2.1 TO R3 10.2.3, AND SUCH DEVICES SHALL BE RELEASABLE OR REMOVABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, TOOL,

SEE IRC SECTION R308.4 FOR HAZARDOUS LOCATIONS WHERE SAFETY GLAZING IS

ACCESS OPENING TO ATTIC AREAS THAT HAVE A VERTICAL HEIGHT OF 30 INCHES (762 MM) OR GREATER OVER AN AREA OF NOT LESS THAN 30 SQUARE FEET (2.8 M2). THE VERTICAL HEIGHT SHALL BE MEASURED FROM THE TOP OF THE CEILING FRAMING MEMBERS TO THE

THE ROUGH-FRAMED OPENING SHALL BE NOT LESS THAN 22 INCHES BY 30 INCHES (559 MM BY 762 MM) AND SHALL BE LOCATED IN A HALLWAY OR OTHER READILY ACCESSIBLE LOCATION. WHERE LOCATED IN A WALL, THE OPENING SHALL BE NOT LESS THAN 22 INCHES WIDE BY 30 INCHES HIGH (559 MM WIDE BY 762 MM HIGH), WHERE THE ACCESS IS LOCATED IN A CEILING, MINIMUM UNOBSTRUCTED HEADROOM IN THE ATTIC SPACE SHALL BE 30 INCHES (762 MM) AT SOME POINT ABOVE THE ACCESS MEASURED VERTICALLY FROM THE BOTTOM OF CEILING FRAMING MEMBERS, SEE SECTION M 1305, 1,3 FOR ACCESS REQUIREMENTS WHERE MECHANICAL EQUIPMENT IS LOCATED IN ATTICS. (IRC R807). ACCESS PANELS SHALL BE 30" H X 22" W MINIMUM OR AS REQUIRED TO REMOVE EQUIPMENT WHEN USED TO ACCESS

CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS TO FINISH ROOMS AND BUILDING EXTERIOR AS DETAILED, SCHEDULED AND / OR SPECIFIED IN THESE DOCUMENTS.

ALL CONSTRUCTION ADHESIVES AND CAULK SHOULD BE LOW VOC (<70 G/L). ROOFING MATERIAL TO BE 29 GAUGE STEEL, PRO-PANEL II, COLOR "COLONIAL RED" OR PER OWNER. SIDING TO BE 3/4" SHIP LAP SIDING 8" WIDE WESTERN RED CEDAR. STAIN COLOR PER OWNER OR SYNTHETIC STUCCO, COLOR AND TEXTURE PER OWNER, INSTALLED PER MANUFACTURER'S INSTRUCTIONS AND LOCAL CODES, WITH WEEP SCREED AT BOTTOM. TRIM O BE 1X WESTERN RED CEDAR STAIN COLOR "DARK BROWN" OR PER OWNER STONE TO BE ADHERED SYNTHETIC OR ANCHORED MASONRY STONE VENEER WITH SAND STONE CAP MATERIAL PER OWNER. METAL WAINSCOT TO BE 29 GAUGE STEEL, PRO-PANEL II, COLOR "SANDSTONE" OR PER OWNER. ALL FINISHES SHALL BE INSTALLED PER MANUFACTURER'S

VERIFY WITH THE OWNER, EXACT FINISHES NOT NOTED OR SPECIFIED HEREIN.

THE GARAGE SHALL BE SEPARATED AS REQUIRED BY TABLE R302.6. OPENINGS IN GARAGE WALLS SHALL COMPLY WITH SECTION R302.5. ATTACHMENT OF GYPSUM BOARD SHALL COMPLY WITH TABLE R 702.3.5. THE WALL SEPARATION PROVISIONS OF TABLE R 302.6 SHALL NOT APPLY TO GARAGE WALLS THAT ARE PERPENDICULAR TO THE ADJACENT DWELLING UNIT

THE GARAGE SHALL BE SEPARATED FROM THE RESIDENCE AND ITS ATTIC AREA BY NOT LESS THAN 1/2 INCH GYPSUM BOARD OR ITS EQUIVALENT APPLIED TO THE GARAGE SIDE. GARAGES LOCATED LESS THAN 3 FEET FROM A DWELLING UNIT ON THE SAME LOT SHALL BE PROTECTED WITH NO LESS THAN 1/2 INCH GYPSUM BOARD APPLIED TO THE INTERIOR SIDE OF EXTERIOR WALLS THAT ARE WITHIN THIS AREA. OPENINGS IN THESE WALL ARE REGULATED

THE GARAGE WALL SEPARATION PROVISIONS REQUIRED BY R302.6 SHALL NOT APPLY TO GARAGE WALLS THAT ARE PERPENDICULAR TO THE DWELLING UNIT WALLS. PENETRATIONS THROUGH THE SEPARATION REQUIRED BY SECTION R302.6 SHALL BE PROTECTED BY FILLING THE OPENING AROUND THE PENETRATING ITEM WITH APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME OR PRODUCTS OF COMBUSTION. (IRC

9. FINISHES - CONTINUED

FLOOR ASSEMBLIES THAT ARE NOT REQUIRED ELSEWHERE IN THIS CODE TO BE FIRE-RESISTANCE RATED, SHALL BE PROVIDED WITH A 1/2-INCH (12.7 MM) GYPSUM WALLBOARD MEMBRANE 5/8-INCH (16 MM) WOOD STRUCTURAL PANEL MEMBRANE OR EQUIVALENT ON THE UNDERSIDE OF THE FLOOR FRAMING MEMBER. PENETRATIONS OR OPENINGS FOR DUCTS VENTS, ELECTRICAL OUTLETS, LIGHTING, DEVICES, LUMINAIRES, WIRES, SPEAKERS, DRAINAGE, PIPING AND SIMILAR OPENINGS OR PENETRATIONS SHALL BE PERMITTED. (R302.13)

UON, PROVIDE HARDWOOD SKIRT BOARDS AT ALL INTERIOR STAIRWAYS PERMITS ARE REQUIRED FOR ANY FUTURE FINISHING OF AREAS THAT ARE INCLUDED IN THIS

PERMIT AS "UNFINISHED". UNFINISHED AREAS MUST INCLUDE (1) ELECTRICAL OUTLET AND (1) LIGHT ONLY. NO ROUGH-IN PLUMBING IS ALLOWED. ALL PAINTS AND STAINS SHALL/SHOULD BE LOW VOC (<100 G/L FOR NON-FLAT, <50 G/L

FOR FLAT FINISHES) OR ZERO VOC (<5 G/L). UNLESS OTHERWISE NOTED EXCESS FINISH MATERIALS, PAINT, TRIM, TILE, CARPET, ETC. ARE

TO REMAIN ONSITE. WINE CELLAR TO BE UNHEATED. DO NOT PROVIDE RADIANT FLOOR IN THIS ROOM, COMMON

WALL WITH STORAGE AND STUDIO TO BE INSULATED TO R-27, 2" SPROAY FOAM (R-14) + R-13 BATT 10. SPECIALTIES

CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS TO INSTALL THE SPECIALTY ITEMS SHOWN, NOTED OR SPECIFIED IN THESE DOCUMENTS. FIREPLACES AND STOVES - SEE DIVISION 15 MECHANICAL

CLOSET SPECIALTIES - PROVIDE CLOSET SYSTEMS PER OWNER. PROVIDE WINE STORAGE RACKS PER OWNER 1.1. EQUIPMENT

CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS TO INSTALL EQUIPMENT SHOWN, NOTED OR SPECIFIED IN THESE DOCUMENTS.

12. DEFENSIBLE SPACE BASED ON "WILDFIRE PROTECTION IN THE WILDLAND URBAN INTERFACE" COLORADO STATE FOREST SERVICE #143-691

- REMOVE TREE BRANCHES HANGING WITHIN 15 FEET OF CHIMNEYS - CLEAR WEEDS AND OTHER DEBRIS TO A MINIMUM DISTANCE OF 10 FROM THE BASE OF THE STRUCTURE, USE ONLY LIMITED FOUNDATION PLANTINGS WITHIN THIS 10 FOOT STRIP. - STACK FIREWOOD UPHILL, OR ON CONTOUR WITH AND AT LEAST 15 FEET AWAY FROM BUILDINGS. REMOVE FINE FUELS FROM THE VICINITY OF THE FIREWOOD. DO NOT STACK FIREMOOD ON OR BELOW DECKS AND PORCHES. - PLACE (1) 10 POUND ABC CLASS FIRE EXTINGUISHER IN EACH BUILDING. IT IS

RECOMMENDED TO HAVE A 50 GARDEN HOSE CONNECTED TO THE WATER HEATER DRAIN IN THE EVENT OF A FIRE EMERGENCY INSIDE THE HOME. - THIN OUT CONTINUOUS BRUSH AND TREES WITHIN 30 FEET (LEVEL) OF ALL STRUCTURES. 40 FEET ON SIDE AND UPHILL SLOPES AND 50 FEET ON DOWN HILL SLOPES (20%) OF ALL STRUCTURES, ADEQUATE THINNING IS REACHED IN THIS "DEFENSIBLE SPACE" WHEN TREE CROWNS ARE AT LEAST 10 FEET DISTANT ON ALL SIDES. ISOLATED CLUMPS MAY BE

PERMITTED IF THE 10 FOOT MINIMUM DISTANCE IS INCREASED. REMOVE ALL DEAD VEGETATION, BRUSH AND TREES FROM THIS AREA. - PRUNE DEAD LIMBS TO A HEIGHT OF 10 FEET FROM THOSE TREES REMAINING WITHIN(2) TREE HEIGHTS OF ALL STRUCTURES. IN THIS SAME AREA, PRUNE LIVE BRANCHES TO 10 FEET FROM AT LEAST 1/2 OF THOSE TREES REMAINING. - TREES SHOULD BE THINNED HEAVILY IN THE "DEFENSIBLE SPACE", MODERATELY IN THE

TRANSITION ZONE AND CONTINUE NORMAL FOREST THINNING IN THE SURROUNDING FOREST IF THINNING IN THE SURROUNDING FOREST IS NOT PLANNED, OR POSSIBLE, THE "DEFENSIBLE SPACE" AREA SHOULD BE DOUBLED - INCORPORATE "DEFENSIBLE SPACE" THINNING ALONG DRIVEWAYS. - CONTACT THE COLORADO STATE FOREST SERVICE, 879.0475, FOR REQUIRED

"DEFENSIBLE SPACE" INSPECTIONS. - POTABLE WATER SYSTEM HOLDING TANKS, WHEN PROVIDED, SHOULD BE PROVIDED WITH A 6" STANDPIPE WITH 90 DEGREE ELBOW WITH 6" NST MALE FITTING AND CAP. PERMANENTLY MARK STANDPIPE - FIRE PROTECTION CISTERNS MAY BE REQUIRED, VERIFY WITH LOCAL FIRE PROTECTION DISTRICT.

13. ENERGY EFFICIENCY

N1102.1.5.

THE ROUTT COUNTY REGIONAL BUILDING DEPARTMENT HAS ADOPTED THE 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) AND IRC CHAPTER 11. EITHER CODE MAY BE USED.

PROJECTS SHALL COMPLY WITH ONE OF THE FOLLOWING:

1. SECTIONS N1101.14 THROUGH N1104. PRESCRIPTIVE / UA ALTERNATIVE 2. SECTION N 1105 AND THE PROVISIONS OF SECTIONS N 1101 14 THROUGH N 1104 LABELED "MANDATORY," SIMULATED PERFORMANCE ALTERNATIV 3. AN ENERGY RATING INDEX (ERI) (HERS) APPROACH IN SECTION N 1 106.

| TABLES N1 102.1.2 \$ N1 102.1.4 FOR CLIMATIC ZONE 7 | | | | | | | | |
|---|-------------------------|----------|----------------------------|---------------|--------|---------------------|-------------------|---------------|
| FENESTRATION | SKYLIGHT U FACTOR | CEILINGS | FRAMED WALLS | MASS WALLS | FLOORS | BASEMENT WALLS c | SLAB DEPTH | MALLS C |
| FACTOR | | R-49 | R-20+5 R-13+10 R27+0 | R-19/ R-21 | R-38g | R-15/ R-19 | R-1 <i>0</i> , 4' | R-15/ R-19 |
| 0.30 | 0.55 | 0.026 | 0.045 | 0.057 | 0.028 | 0.050 | | V-0.055 |
| | | | | | | | | |

THERE ARE NO REQUIREMENTS FOR SOLAR HEAT GLAZING COEFFICIENTS A. R-VALUES SHOWN ARE MINIMUMS, U-FACTORS SHOWN ARE MAXIMUMS

C. THE FIRST R-VALUE IS FOR CONTINUOUS INSULATION, THE SECOND R-VALUE IS FOR CAVITY INSULATION, EITHER SYSTEM MEETS THE REQUIREMENT d. R-5 SHALL BE PROVIDED UNDER THE FULL SLAB AREA OF A HEATED SLAB IN ADDITION TO THE REQUIRED SLAB EDGE R-VALUE. THE SLAB EDGE INSULATION FOR HEATED SLABS SHALL NOT BE REQUIRED TO EXTEND BELOW THE SLAB. 9. OR INSULATION SUFFICIENT TO FILL THE FRAMING CAVITY, R-19 MINIMUM h. THE FIRST VALUE IS CAVITY INSULATION, THE SECOND VALUE IS CONTINUOUS INSULATION

THIS BUILDING IS DESIGNEDTO MEET THE PRESCRIPTIVE REQUIREMENTS, THE BUILDING THERMAL ENVELOPE SHALL MEET THE REQUIREMENTS OF SECTIONS N 1 1 02.1.1 THROUGH

FOR THIS HOUSE THE PRESCRIBED METHOD USING TABLE 305.3.1(1) U-FACTOR OR THE CALCULATION METHOD IN SECTION 305.3.3 WAS USED.

TO MEET THE TOTAL UA ALTERNATIVE REQUIREMENTS, THE TOTAL BUILDING THERMAL ENVELOPE UA, SUM OF U-FACTOR TIMES ASSEMBLY AREA, IS LESS THAN OR EQUAL TO THE TOTAL UA RESULTING FROM MULTIPLYING THE U-FACTORS IN TABLE N1 102.1.4 BY THE SAME ASSEMBLY AREA AS IN THE PROPOSED BUILDING, THE BUILDING SHALL BE CONSIDERED IN COMPLIANCE WITH TABLE N 1 102.1.2. THE UA CALCULATION SHALL BE PEROFRMED USING A METHOD CONSISTENT WITH THE ASHRAE HANDBOOK OF FUNDAMENTALS AND SHALL INCLUDE THE THERMAL BRIDGING EFFECTS OF FRAMING MATERIALS. THE SHGC REQUIREMENTS SHALL BE MET. SEE ATTACHED RESCHECK COMPLIANCE REPORT.

THE BUILDING THERMAL ENVELOPE IS REPRESENTED ON THE CONSTRUCTION DRAWINGS IN

INTERIOR DESIGN TEMPERATURES ARE 72° F MAX FOR HEATING AND 75° F FOR COOLING. THE THICKNESS OF BLOWN IN OR SPRAYED (FIBERGLASS OR CELLULOSE) SHALL BE WRITTEN IN INCHES ON MARKERS WITH NUMBERS 1" TALL. MARKERS SHALL FACE THE ATTIC ACCESS OPENING AND BE PROVIDED FOR EACH 300 SF OF ATTIC AREA. (N1110.1.1) A PERMANENT CERTIFICATE SHALL BE COMPLETED BY THE BUILDER OR OTHER APPROVED PARTY AND POSTED ON A WALL IN THE SPACE WHERE THE FURNACE IS LOCATED, A UTILITY ROOM OR AN APPROVED LOCATION INSIDE THE BUILDING. WHERE LOCATED ON AN ELECTRICAL PANEL, THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL, SERVICE DISCONNECT LABEL OR OTHER REQUIRED LABELS. THE CERTIFICATE SHALL LIST THE PREDOMINANT R-VALUES OF INSULATION INSTALLED IN OR

ON CEILING/ROOF, WALLS, FOUNDATION (SLAB, BASEMENT WALL AND/OR FLOOR) AND DUCTS OUTSIDE CONDITIONED SPACES; U-FACTORS FOR FENESTRATION AND THE RESULTS FROM ANY REQUIRED DUCT SYSTEM AND BUILDING ENVELOPE AIR LEAKAGE TESTING DONE ON THE BUILDING. WHERE THERE IS MORE THAN ONE VALUE FOR EACH COMPONENT, THE CERTIFICATE SHALL LIST THE VALUE COVERING THE LARGEST AREA. THE CERTIFICATE SHALL LIST THE TYPES AND EFFICIENCIES OF HEATING, COOLING AND SERVICE WATER HEATING EQUIPMENT WHERE A GAS-FIRED UNVENTED ROOM HEATER, ELECTRIC FURNACE, OR BASEBOARD ELECTRIC HEATER IS INSTALLED IN THE RESIDENCE. THE CERTIFICATE SHALL LIST "GAS-FIRED UNVENTED ROOM HEATER," "ELECTRIC FURNACE" OR "BASEBOARD ELECTRIC HEATER," AS APPROPRIATE. AN EFFICIENCY SHALL NOT BE LISTED FOR GAS-FIRED UNVENTED ROOM HEATERS, ELECTRIC FURNACES OR ELECTRIC BASEBOARD HEATERS. (N1101.14 (R401.3))

CEILINGS WITH ATTIC SPACES, WHERE SECTION N1102.1.2 WOULD REQUIRE R-49 INSULATION IN THE CEILING, INSTALLING R-38 OVER 100 PERCENT OF THE CEILING AREA REQUIRING INSULATION SHALL BE DEEMED TO SATISFY THE REQUIREMENT FOR R-49 INSULATION WHEREVER THE FULL HEIGHT OF UNCOMPRESSED R-38 INSULATION EXTENDS OVER THE WALL TOP PLATE AT THE EAVES. THIS REDUCTION SHALL NOT APPLY TO THE U FACTOR ALTERNATIVE APPROACH IN SECTION N1102.1.4 AND THE TOTAL UA ALTERNATIVE IN SECTION N1102.1.5. (N1102.2.1)(R402.2.1))

CEILINGS WITHOUT ATTIC SPACES. WHERE SECTION N 1 102.1.2 WOULD REQUIRE INSULATION VALUES GREATER THAN R-30 AND THE DESIGN OF THE ROOF/CEILING ASSEMBLY DOES NOT ALLOW SUFFICIENT SPACE FOR THE REQUIRED INSULATION, THE MINIMUM REQUIRED INSULATION FOR SUCH ROOF/CEILING ASSEMBLIES SHALL BE R-30. THIS REDUCTION OF INSULATION FROM THE REQUIREMENTS OF SECTION N 1 102.1.2 SHALL BE LIMITED TO 500 SQUARE FEET (46 M2) OR 20 PERCENT OF THE TOTAL INSULATED CEILING AREA, WHICHEVER IS LESS. THIS REDUCTION SHALL NOT APPLY TO THE U-FACTOR ALTERNATIVE APPROACH IN SECTION N1102.1.4 AND THE TOTAL UA ALTERNATIVE IN SECTION N1102.1.5. (N1102.2.2(R402.2.2),

ACCESS DOORS FROM CONDITIONED SPACES TO UNCONDITIONED SPACES SUCH AS ATTICS AND CRAWL SPACES SHALL BE WEATHERSTRIPPED AND INSULATED TO A LEVEL EQUIVALENT TO THE INSULATION ON THE SURROUNDING SURFACES. ACCESS THAT PREVENTS DAMAGING OR COMPRESSING THE INSULATION SHALL BE PROVIDED TO ALL EQUIPMENT . WHERE LOOSE FILL INSULATION IS INSTALLED, A WOOD-FRAMED OR EQUIVALENT BAFFLE OR RETAINER SHALL BE REQUIRED TO BE PROVIDED WTHE PURPOSE OF WHICH IS TO PREVENT THE LOOSE FILL INSTALLED TO PREVENT THE INSULATION FROM SPILLING INTO THE LIVING SPACE WHEN THE ATTIC ACCESS IS OPENED, THE BAFFLE OR RETAINER SHALL PROVIDE A PERMANENT MEANS OF MAINTAINING THE INSTALLED R-VALUE OF THE LOOSE-FILL INSULATION. (N 1 102.2.4 (R402.2.4))

EXCEPTION: VERTICAL DOORS PROVIDING ACCESS FROM CONDITIONED TO UNCONDITIONED SPACES THAT COMPLY WITH THE FENESTRATION REQUIREMENTS OF TABLE N1102.1.2 BASED ON THE APPLICABLE CLIMATE ZONE SPECIFIED IN SECTION N1101.7. FOR ZONE 7 THE U-VALUE IS 0.30 = R-VALUE OF 3.33.

PROVIDE ATTIC DOOR "EZ HATCH ATTIC ACCESS SCUTTLE DOOR" R-42 FOR 22" X 30" OPENING OR "ATTIC PULL DOWN STAIR LADDER COVER" R-50 FOR 22" X 54" LADDERS. INSTALL PER MANUFACTURER'S INSTRUCTIONS.

FLOOR FRAMING-CAVITY INSULATION SHALL BE INSTALLED TO MAINTAIN PERMANENT CONTACT WITH THE UNDERSIDE OF THE SUBFLOOR DECKING. (N1102.2.8 (R402.2.8)) EXCEPTION: THE FLOOR FRAMING-CAVITY INSULATION SHALL BE IN CONTACT WITH THE TOPSIDE OF SHEATHING OR CONTINUOUS INSULATION INSTALLED ON THE BOTTOM SIDE OF FLOOR FRAMING WHERE COMBINED WITH INSULATION THAT MEETS OR EXCEEDS THE MINIMUM WOOD FRAME WALL R-VALUE IN TABLE 1102.1.2 AND THAT EXTENDS FROM THE BOTTOM TO

THE TOP OF ALL PERIMETER FLOOR FRAMING MEMBERS.

WALLS ASSOCIATED WITH CONDITIONED BASEMENTS SHALL BE INSULATED FROM THE TOP OF THE BASEMENT WALL DOWN TO THE TOP OF FOOTER (TOF) OR TO THE BASEMENT FLOOR, WHICHEVER IS LESS. (N 1 102.2.9 (R 402.2.9))

SLAB-ON-GRADE FLOORS WITH A FLOOR SURFACE LESS THAN 12 INCHES (305 MM) BELOW GRADE SHALL BE INSULATED IN ACCORDANCE WITH TABLE N 1 102.1.2. THE INSULATION SHALL EXTEND DOWNWARD FROM THE TOP OF THE SLAB ON THE OUTSIDE OR INSIDE OF THE FOUNDATION MALL. INSULATION LOCATED BELOW GRADE SHALL BE EXTENDED THE DISTANCE PROVIDED IN TABLE N110212 BY ANY COMBINATION OF VERTICAL INSULATION INSULATION EXTENDING UNDER THE SLAB OR INSULATION EXTENDING OUT FROM THE BUILDING. INSULATION EXTENDING AWAY FROM THE BUILDING SHALL BE PROTECTED BY PAVEMENT OR BY NOT LESS THAN 10 INCHES (254 MM) OF SOIL. THE TOP EDGE OF THE INSULATION INSTALLED BETWEEN THE EXTERIOR WALL AND THE EDGE OF THE INTERIOR SLAB SHALL BE PERMITTED TO BE CUT AT A 45-DEGREE (0.79 RAD) ANGLE AWAY EROM THE EXTERIOR WALL SLAB-EDGE INSULATION IS NOT REQUIRED IN JURISDICTIONS DESIGNATED BY THE BUILDING OFFICIAL

AS HAVING A VERY HEAVY TERMITE INFESTATION. (N1102.2.10 (R402.2.10))

INSULATION SHALL NOT BE REQUIRED ON THE HORIZONTAL PORTION OF A FOUNDATION THAT SUPPORTS A MASONRY VENEER. (N1102.2.12(R402.2.12))

AREA WEIGHTED AVERAGE OF FENESTRATION PRODUCTS SHALL BE PERMITTED TO SATISFY THE U-FACTOR REQUIREMENTS. (N1102.3.1 (R402.3.1)) NOT GREATER THAN 15 SQUARE FEET (1.4M2) OF GLAZED FENESTRATION SHALL BE EXEMPT

FROM THE U-FACTOR (AND SHGC) REQUIREMENT IN SECTION N1102.1.2. (N1102.3.3 (R402.3.3)) ONE SIDE-HINGED OPAQUE DOOR ASSEMBLY UP TO 24 SQUARE FEET (2.22 M2) IN AREA IS EXEMPTED FROM THE U-FACTOR REQUIREMENT IN SECTION N1102.1.2. THIS EXEMPTION SHALL NOT APPLY TO THE U-FACTOR ALTERNATIVE APPROACH IN SECTION N1102.1.4 AND THE

TOTAL UA ALTERNATIVE IN SECTION N 1 102.1.5. (N 1 102.3.4 (R 402.3.4)) (MANDATORY). THE BUILDING THERMAL ENVELOPE SHALL BE CONSTRUCTED TO LIMIT AIR LEAKAGE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS N1102.4.1 THROUGH N1102.4.5. (N1102.4 (R402.4))

THE BUILDING THERMAL ENVELOPE SHALL COMPLY WITH SECTIONS N1102.4.1.1 AND N 1 1 0 2.4.1.2. THE SEALING METHODS BETWEEN DISSIMILAR MATERIALS SHALL ALLOW FOR DIFFERENTIAL EXPANSION AND CONTRACTION. (N1102.4.1 (R402.4.1))

THE COMPONENTS OF THE BUILDING THERMAL ENVELOPE AS LISTED IN TABLE N1102.4.1.1 SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE CRITERIA LISTED IN TABLE N 1 102.4.1.1, AS APPLICABLE TO THE METHOD OF CONSTRUCTION. WHERE REQUIRED BY THE BUILDING OFFICIAL, AN APPROVED THIRD PARTY SHALL INSPECT AL COMPONENTS AND VERIFY COMPLIANCE. (N1102.4.1.1 (R402.4.1.1))

THIS BUILDING SHALL BE TESTED AND VERIFIED AS HAVING AN AIR LEAKAGE RATE OF NOT EXCEEDING FIVE AIR CHANGES PER HOUR IN CLIMATE ZONES 1 AND 2, AND THREE AIR CHANGES PER HOUR IN CLIMATE ZONES 3 THROUGH & TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RESNET/ICC 380, ASTM E 779 OR ASTM E 1827 AND REPORTED AT A PRESSURE OF 0.2 INCHES W.G. (50 PASCALS). WHERE REQUIRED BY THE CODE OFFICIAL, TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE BULDING OFFICIAL. TESTING SHALL BE PERFORMED AT ANY TIME AFTER CREATION OF ALL PENETRATIONS OF THE BUILDING THERMAL ENVELOPE. (N 1 102.4.1.2 (R 402.4.1.2))

DURING TESTING: 1. EXTERIOR WINDOWS AND DOORS, FIREPLACE AND STOVE DOORS SHALL BE CLOSED, BUT NOT SEALED, BEYOND THE INTENDED WEATHERSTRIPPING OR OTHER INFILTRATION CONTROL MEASURES 2. DAMPERS INCLUDING EXHAUST, INTAKE, MAKEUP AIR, BACKDRAFT AND FLUE DAMPERS

SHALL BE CLOSED, BUT NOT SEALED BEYOND INTENDED INFILTRATION CONTROL MEASURES. 3. INTERIOR DOORS, WHERE INSTALLED AT THE TIME OF THE TEST, SHALL BE OPEN. 4. EXTERIOR OR INTERIOR TERMINATIONS FOR CONTINUOUS VENTILATION SYSTEMS SHALL BE SEALED. 5. HEATING AND COOLING SYSTEMS, WHERE INSTALLED AT THE TIME OF THE TEST, SHALL BE TURNED OFF 6. SUPPLY AND RETURN REGISTERS, WHERE INSTALLED AT THE TIME OF THE TEST, SHALL BE

FULLY OPEN. TESTING BY SPECIAL INSPECTION BY AN APPROVED PARTY. NOTIFY COMPLETE HOME INSPECTION SERVICES, GREG POLMAN, 970.846.4712.

NEW MOOD-BURNING FIREPLACES SHALL HAVE TIGHT-FITTING FLUE DAMPERS OR DOORS, AND OUTDOOR COMBUSTION AIR. WHERE USING TIGHT-FITTING DOORS ON FACTORY-BUILT FIREPLACES LISTED AND LABELED IN ACCORDANCE WITH UL 127, THE DOORS SHALL BE TESTED AND LISTED FOR THE FIREPLACE. (N1102.4.1.2 (R402.4.1.2))

WINDOWS, SKYLIGHTS AND SLIDING GLASS DOORS SHALL HAVE AN AIR INFILTRATION RATE OF NOT GREATER THAN 0.3 CFM PER SQUARE FOOT (1.5 L/S/M2), AND SWINGING DOORS NOT GREATER THAN 0.5 CFM PER SQUARE FOOT (2.6 L/S/M2), WHEN TESTED ACCORDING TO NFRC 400 OR AAMA/WDMA/CSA 101/LS.2/A440 BY AN ACCREDITED, INDEPENDENT LABORATORY AND LISTED AND LABELED BY THE MANUFACTURER. (N 1 102.4.3 (R 402.4.3)) EXCEPTION: SITE-BUILT WINDOWS, SKYLIGHTS AND DOORS.

IN CLIMATE ZONES 3 THROUGH & WHERE OPEN COMBUSTION AIR DUCTS PROVIDE COMBUSTION AIR TO OPEN COMBUSTION FUEL-BURNING APPLIANCES THE APPLIANCES AND COMBUSTION AIR OPENING SHALL BE LOCATED OUTSIDE THE BUILDING THERMAL ENVELOPE OF ENCLOSED IN A ROOM, ISOLATED FROM INSIDE THE THERMAL ENVELOPE. SUCH ROOMS SHAL BE SEALED AND INSULATED IN ACCORDANCE WITH THE ENVELOPE REQUIREMENTS OF TABLE N 1 1 0 2. 1. 2, WHERE THE WALLS, FLOORS AND CEILINGS SHALL MEET A MINIMUM OF THE BASEMENT WALL R-VALUE REQUIREMENT. THE DOOR INTO THE ROOM SHALL BE FULLY GASKETED AND ANY WATER LINES AND DUCTS IN THE ROOM INSULATED IN ACCORDANCE WITH SECTION N1103. THE COMBUSTION AIR DUCT SHALL BE INSULATED WHERE IT PASSES THROUGH CONDITIONED SPACE TO NOT LESS THAN R-8. (N1102.4.4 (R402.4.4))

FXCEPTIONS 1. DIRECT VENT APPLIANCES WITH BOTH INTAKE AND EXHAUST PIPES INSTALLED CONTINUOUS TO THE OUTSIDE 2. FIREPLACES AND STOVES COMPLYING WITH SECTIONS N1 102.4.2 AND R1006.

RECESSED LUMINAIRES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE SEALED TO LIMIT AIR LEAKAGE BETWEEN CONDITIONED AND UNCONDITIONED SPACES. ALL RECESSED I UMINAIRES SHALL BE IC-RATED AND LABELED AS HAVING AN AIR LEAKAGE RATE NO GREATER THAN 20 CEM (09441/5) WHEN TESTED IN ACCORDANCE WITH ASTME 283 AT A PRESSURE DIFFENTIAL OF 1.57 PSF (75 PA). RECESSED LUMINAIRES SHALL BE SEALED WITH A GASKET OR CAULK BETWEEN THE HOUSING AND THE INTERIOR WALL OR CEILING COVERING. (N1102.4.5 (R402.4.5))

(MANDATORY). THE AREA-WEIGHTED AVERAGE MAXIMUM FENESTRATION U-FACTOR PERMITTED USING TRADEOFFS FROM SECTION N 1 102.1.5 OR N 1 105 SHALL BE 0.48 IN CLIMATE ZONES 4 AND 5 AND 0.40 IN CLIMATE ZONES 6 THROUGH 8 FOR VERTICAL FENESTRATION AND 0.75 IN CLIMATE ZONES 4 THROUGH & FOR SKYLIGHTS THE AREA-WEIGHTED AVERAGE MAXIMUM FENESTRATION SHGC PERMITTED USING TRADEOFFS FROM SECTION N1105 IN CLIMATE ZONES 1 THROUGH 3 SHALL BE 0.50. (N1102.5 (R402.5))

NOT LESS THAN ONE THERMOSTAT SHALL BE PROVIDED FOR EACH SEPARATE HEATING AND COOLING SYSTEM (N1103.1 (R403.1)) DUCTS AND AIR HANDLERS SHALL BE INSTALLED IN ACCORDANCE WITH SECTIONS N 1 103.3.1 THROUGH N 1 103.3.8. (N 1 103.3 (R 403.3))

(PRESCRIPTIVE). SUPPLY AND RETURN DUCTS IN ATTICS SHALL BE INSULATED TO AN R-VALUE OF NOT LESS THAN R-8 FOR DUCTS 3 INCHES (76.2 MM) IN DIAMETER AND LARGER AND NOT LESS THAN R-6 FOR DUCTS SMALLER THAN 3 INCHES (76.2 MM) IN DIAMETER. SUPPLY AND RETURN DUCTS IN OTHER PORTIONS OF THE BUILDING SHALL BE INSULATED TO NOT LESS THAN R-6 FOR DUCTS 3 INCHES (76.2 MM) IN DIAMETER NOT LESS THAN R-4.2 FOR DUCTS LESS THAN 3 INCHES (76.2 MM) IN DIAMETER. (N 1 1 0 3.3.1 (R 4 0 3.3.1))

EXCEPTION: DUCTS OR PORTIONS THEREOF LOCATED COMPLETELY INSIDE THE BUILDING THERMAL ENVELOPE. (MANDATORY). DUCTS, AIR HANDLERS AND FILTER BOXES SHALL BE SEALED. JOINTS AND

SEAMS SHALL COMPLY WITH SECTION M1601.4.1. (N1103.3.2 (R403.3.2)) 1. AIR-IMPERMEABLE SPRAY FOAM PRODUCTS SHALL BE PERMITTED TO BE APPLIED WITHOUT

ADDITIONAL JOINT SEALS. 2. FOR DUCTS HAVING A STATIC PRESSURE CLASSIFICATION OF LESS THAN 2 INCHES OF WATER COLUMN (500 PA), ADDITIONAL CLOSURE SYSTEMS SHALL NOT BE REQUIRED FOR CONTINUOUSLY WELDED JOINTS AND SEAMS, AND LOCKING-TYPE JOINTS AND SEAMS OF OTHER THAN THE SNAP-LOCK AND BUTTON-LOCK TYPES.

AIR HANDLERS SHALL HAVE A MANUFACTURER'S DESIGNATION FOR AN AIR LEAKAGE OF NO MORE THAN 2 PERCENT OF THE DESIGN AIR FLOW RATE WHEN TESTED IN ACCORDANCE WITH ASHRAE 193. (N1103.3.2.1 (R403.3.2.1)) MANDATORY). DUCTS SHALL BE PRESSURE TESTED TO DETERMINE AIR LEAKAGE BY ONE OF

THE FOLLOWING METHODS: (N 1 103.3.3 (R 403.3.3)) 1. ROUGH-IN TEST: TOTAL LEAKAGE SHALL BE MEASURED WITH A PRESSURE DIFFERENTIAL OF 0.1 INCH W.G. (25 PA) ACROSS THE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE IF INSTALLED AT THE TIME OF THE TEST. REGISTERS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST.

2. POSTCONSTRUCTION TEST: TOTAL LEAKAGE SHALL BE MEASURED WITH A PRESSURE DIFFERENTIAL OF 0.1 INCH W.G. (25 PA) ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. REGISTERS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST.

EXCEPTION: 1. A DUCT AIR LEAKAGE TEST SHALL NOT BE REQUIRED WHERE THE DUCTS AND AIR HANDLERS ARE LOCATED ENTIRELY WITHIN THE BUILDING THERMAL ENVELOPE. 2. A DUCT AIR LEAKAGE TEST SHALL NOT BE REQUIRED FOR DUCTS SERVING HEAT OR ENERGY RECOVERY VENTILATORS THAT ARE NOT INTEGRATED WITH DUCTS SERVING HEATING AND COOLIN SYSTEMS.

A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE BUILDING OFFICIAL. (PRESCRIPTIVE). THE TOTAL LEAKAGE OF THE DUCTS, WHERE MEASURED IN ACCORDANCE WITH SECTION R403.3.3, SHALL BE AS FOLLOWS: (N1103.3.4 (R403.3.4))

1. ROUGH-IN TEST: THE TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CUBIC FEET PER MINUTE (113.3 L/MIN) PER 100 SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR AREA WHERE THE AIR HANDLER IS INSTALLED AT THE TIME OF THE TEST. WHERE THE AIR HANDLER IS NOT INSTALLED AT THE TIME OF THE TEST, THE TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 3 CUBIC FEET PER MINUTE (85 L/MIN) PER 100 SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR AREA. 2. POSTCONSTRUCTION TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CUBIC FEET PER MINUTE (113.3 L/MIN) PER 100 SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR

(MANDATORY). BUILDING FRAMING CAVITIES SHALL NOT BE USED AS DUCTS OR PLENUMS. (N1103.3.5 (R403.3.5))

SEE SECTION N1103.3.6 (R403.3.6) WHEN SUPPLY AND RETURN DUCTS ARE PARTIALLY OR COMPLETELY BURIED IN CEILING INSUALTION.

SEE SECTION N 1 103.3.7 (R403.3.7) FOR DUCTS TO BE CONSIDERED INSIDE A CONDITIONED SPACE. (N1103.3.7(R403.3.7) MECHANICAL SYSTEM PIPING CAPABLE OF CARRYING FLUIDS ABOVE 105 DEGREES F OR

(N1103.4 (IECC 403.3)

(N1103.5.1 (R403.5.1))

PIPING TO 104°F (40°C).

(R403511))

