PLUMBING SPECIFICATION.

1. SCOPE OF WORK

A. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.
B. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE INTERNATIONAL PLUMBING CODE (LATEST EDITION), ALL LOCAL CODES AND ALL OTHER REGULATION GOVERNING WORK OF THIS NATURE.
C. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY AFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
D. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.

2. PERMITS

A. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES.

3. SHOP DRAWINGS

A. SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ACHITECT/ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT FIVE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.

4. STORM DRAINAGE PIPING.
A. ABOVE GRADE:
–3" AND ABOVE: SERVICE WT. CAST IRON WITH NO–HUB OR BELL AND SPIGOT JOINTS.
B. BELOW GRADE: SERVICE WT. CAST IRON WITH NO–HUB OR BELL AND SPIGOT JOINTS; OR SCH 40 PVC WITH SOLVENT JOINTS.
C. DRAINAGE PIPING SHALL BE RUN AS STRAIGHT AS POSSIBLE AND SHALL HAVE LONG TURN FITTINGS.
D. DRAINAGE PIPING 3" SIZE AND SMALLER SHALL RUN AT A UNIFORM GRADE OF AT LEAST ¼" PER FOOT. AND PIPING LARGER THAN 3" SHALL BE RUN AT A GRADE OF NO LESS THAN 1/8" PER FOOT.
E. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FLASHING OF THE VENT PIPING RUN THROUGH THE ROOF.

5. ALL STUB–INS AND/OR SLAB OR WALL PENETRATION TO BE PER INTERNATIONAL PLUMBING CODE (LATEST EDITION).ALL PIPING PENETRATIONS OF BUILDING FOUNDATIONS OR FOOTINGS SHALL BE SLEEVED.

6. PIPE SUPPORTS

A. ABOVE GRADE
ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE AND PERFORATED METAL TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL BE AS SPECIFIED IN INTERNATIONAL PLUMBING CODE (LATEST EDITION).

7. MISCELLANEOUS

A. COORDINATE INSTALLATION OF ALL ROOFS FLASHING AT ROOF PENETRATION.
B. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS AND DIMENSIONS AT THE JOB SITE.
C. THE PLUMBING PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURE'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION. THE EXACT DIMENSIONS OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT THE AVAILABLE SPACE.

8. TESTING

A. PLUMBING SYSTEM SHALL BE FLOW AND PRESSURE TESTED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE (LATEST EDITION).

9. GUARANTEE

A. MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THIS CONTRACTOR'S EXPENSE.
B. FOR THE SAME PERIOD. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY HIM.

Bighorn Consulting Engineers, INC.

International Energy Conservation Code (IECC) Climate Regions

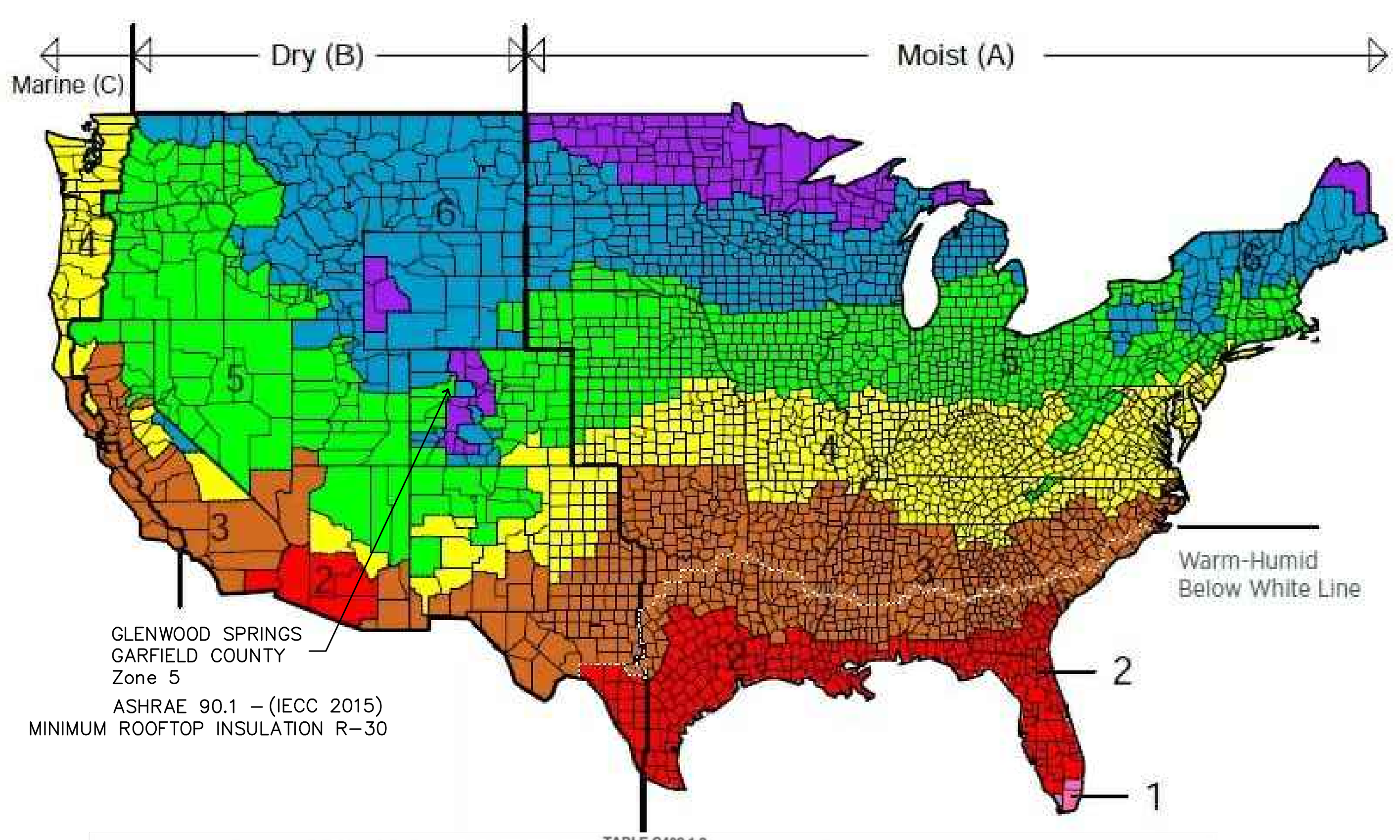


TABLE C402.1.3
OPAQUE THERMAL ENVELOPE INSULATION COMPONENT MINIMUM REQUIREMENTS, R-VALUE METHOD[a]

CLIMATE ZONE	1		2		3		4 EXCEPT MARINE		5 AND MARINE 4		6		7		8	
	All other	Group R	All other	Group R	All other	Group R	All other	Group R	All other	Group R	All other	Group R	All other	Group R	All other	Group R
Roofs																
Insulation entirely above roof deck	R-20ci	R-25ci	R-25ci	R-25ci	R-25ci	R-25ci	R-30ci	R-30ci	R-30ci	R-30ci	R-30ci	R-30ci	R-35ci	R-35ci	R-35ci	R-35ci
Metal buildings[a,b]	R-19 + R-11 LS	R-19 + R-11 LS	R-19 + R11 LS	R-19 + R-11 LS	R-19 + R-11 LS	R-19 + R-11 LS	R-19 + R-11 LS	R-19 + R-11 LS	R-19 + R-11 LS	R-19 + R-11 LS	R-25 + R-11 LS	R-25 + R-11 LS	R-30 + R-11 LS	R-30 + R-11 LS	R-30 + R-11 LS	R-30 + R-11 LS
Attic and other	R-38	R-38	R-38	R-38	R-38	R-38	R-38	R-38	R-38	R-49	R-49	R-49	R-49	R-49	R-49	R-49

STRUCTURAL ROOF SLOPE TAPERED COUNTER SLOPE NOTES

ROOF DRAINS ON 1990 ADDITION IS SET BACK FROM THE PARAPET AND THE STRUCTURAL LOW POINT BETWEEN TWO AND FOUR FEET COUNTER–SLOPE THE AREA BETWEEN THE PARAPET AND THE ROOF DRAIN WITH A PRE–FABRICATED EIGHT FOOT SQUARE POLYISOCYANURATE INSULATION PANEL SLOPING 1/2" PER FOOT FROM 2–1/2" AT ALL FOUR EDGES TO A 1/2" THICKNESS AT THE MID–POINT OF THE PANEL, FOR THE CENTER OF THE DRAIN TRANSITION ROOF PITCHES FROM PLANE TO PLANE TO PREVENT UNDUE STRESS ON THE MEMBRANE FIELD SHEET THE CONTRACTOR MAY USE PREFORMED VALLEY PANELS, BUT FIELD CUT Q PANELS ARE NOT ACCEPTABLE

INSULATION SUBSTRATE NOTES

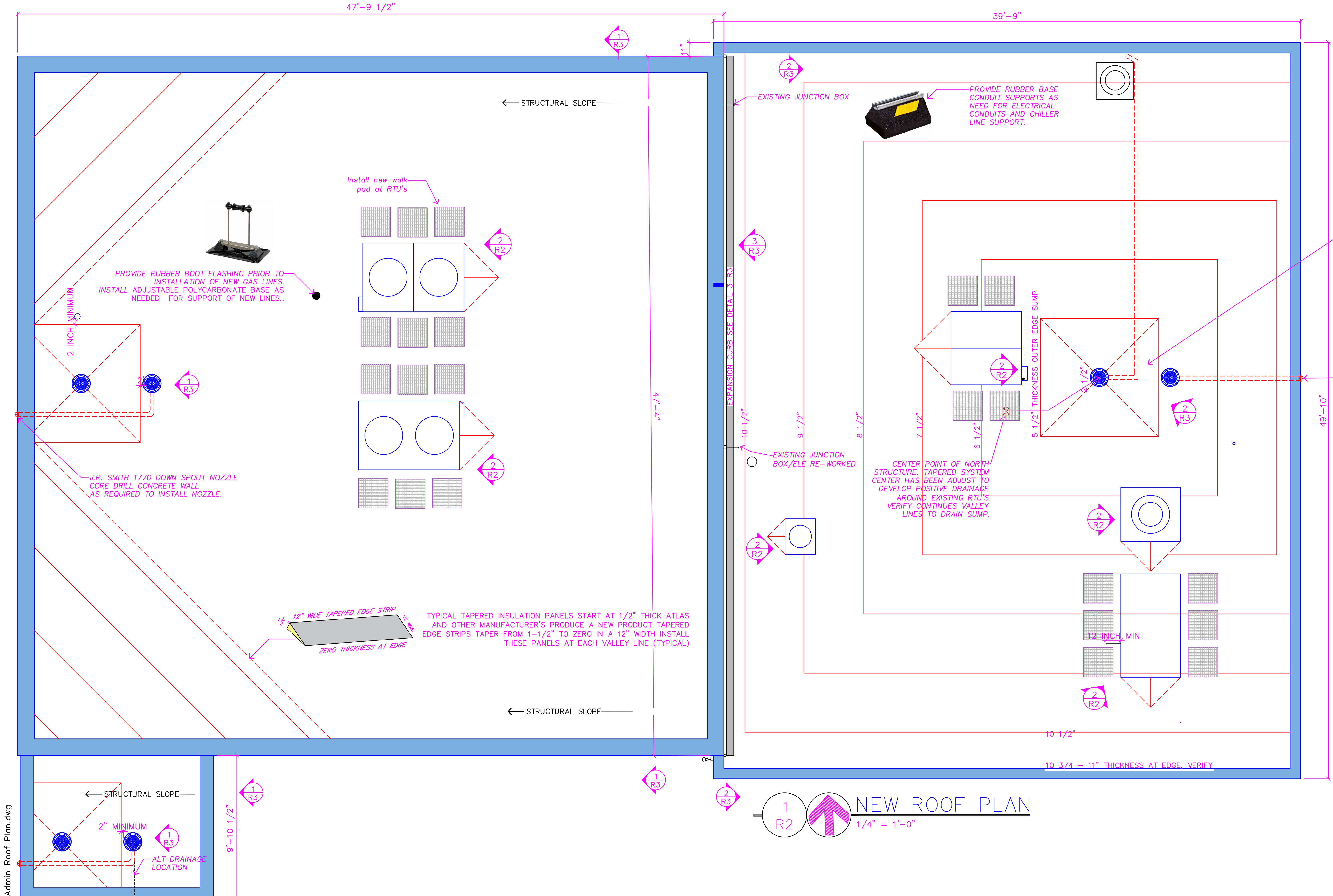
SEE DEMOLITION NOTES FOR EXISTING INSULATION. ADD A 5 INCH LAYER OF POLYISOCYANURATE INSULATION OVER EXISTING STEEL DECK, (UPPER WEST 1990 ADDITION). ADD A 1 INCH BASE LAYER BELOW NEW ROOF DRAIN (LOWER EAST 1967 SECTION) BELOW NEW Q AND X PANELS INSTALLED TO PLANE OUT WITH THE CLAMPING RING OF NEW ROOF DRAIN. SECURE INSULATION TO THE EXISTING STEEL AND WOOD DECKS WITH PLATE WASHERS AND SELF–DRILLING–TAPPING SCREWS. THE NEW ROOFING ASSEMBLY SHALL MEET THE MANUFACTURER'S ENHANCEMENTS FOR 70 MPH WIND WARRANTY WIND DESIGN PER ASCE 7–05 3 SECOND 90, MPH GUST SPACE FASTENERS PER FM–1–60 TESTED PATTERN PROVIDE ADDITIONAL FASTENERS AND OR ADHESIVES IN CORNERS AND ALONG EDGES PER FM–1–29 ENHANCEMENT STANDARD. SINGLE PLY MEMBRANE COVER BOARD SHALL BE A MINIMUM 1/2" THICKNESS OF HIGH DENSITY "FR" POLYISOCYANURATE SECURE TO THE RIGID INSULATION SUBSTRATE WITH LOW RISE URETHANE FOAM ADHESIVE PER MANUFACTURER'S RECOMMENDATION SPACE RIBBONS AS REQUIRED FOR 1–60 WITH ENHANCEMENT FOR EDGES AND CORNERS.

EPDM SINGLE PLY ROOF NOTES

BASE BID ROOFING SYSTEM FIELD SHEETS SHALL BE A SINGLE PLY 90 MIL THICK SINGLE PLY MEMBRANE MANUFACTURED BY A COMPANY LISTED IN THE SPECIFICATIONS OR APPROVED EQUAL. ALL AREAS SHALL BE FULLY ADHERED TO MFG'S HIGH DENSITY POLYISOCYANURATE PROPRIETARY COVER BOARD. INSTALL LAPPED SPLICES WITH 6" WIDE SEAM TAPE. ADD PEEL & STICK 6" WIDE CURED EPDM COVER STRIP AS REDUNDANT SEAL OVER ALL 90 MIL LAPPED SPLICES ROOF ASSEMBLY SHALL BE UNDERWRITERS LABORATORY RATED "CLASS A" WARRANTY 30 YEARS NET ROOF AREA 4340 SQ. FT. VERIFY

HYDRAULIC FLOW TEST NOTES

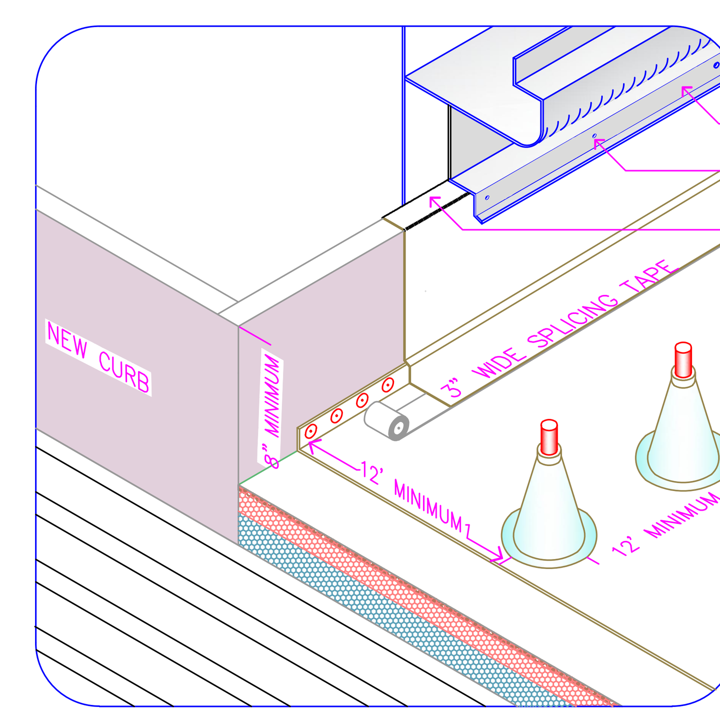
PROTECT OCCUPIED SPACE AND EQUIPMENT BELOW LEADERS TO INSURE AGAINST DAMAGE IF TESTS INDICATE A LEAK IN THE DRAINS OR LEADER SYSTEM. DO NOT EXCEED UPC RECOMMENDED HEAD PRESSURE. CERTIFY EACH INTERNAL DRAIN & LEADER HAS PASSED FLOW TEST. PLUG EACH ROOF DRAIN. FLOOD DRAIN SUMP TO OVER FLOW DRAIN/SCUPPER FLOOD HT. WITH PLUMBER AND ROOFER PRESENT, PULL PLUG, ALLOW PONDED WATER TO FLOW INTO ROOF DRAIN LEADER AT MAXIMUM FLOW RATE. OBSERVE ROOF DRAINS AND LEADER REPORT ANY LEAKS. IF REQUIRED DEVELOP REMEDIAL ACTION PLAN TO CORRECT PROBLEM.



1 R2 NEW ROOF PLAN
1/4" = 1'–0"

INSTALL UL FIRE RATED 24X24 INCH UNINSULATED ASSESS DOOR ACCORDING TO MANUFACTURERS INSTALLATION INSTRUCTIONS FOR ACCESS TO INSTALL NEW ROOF DRAIN BOWLS. EXTEND NEW DRAIN LEADER TO NEW ROOF DRAIN LOCATION. SEE NEW ROOF PLAN. REMOVE AND REPLACE DAMAGED 12X12 ACOUSTICAL CEILING TILE.

9 1/4"



SELF FLASHING BASE

SECURE COUNTER FLASHING TO CURB WITH STAINLESS STEEL SCREWS

WRAP 60 MIL EPDM FLASHING OVER THE TOP OF THE CURB INSTALL CONTINUOUS TERMINATION BAR ON THE INSIDE FACE

UTILIZE PRE–FORMED BOOTS WHEREVER POSSIBLE FIELD WRAP FLASHINGS WHENEVER THE CONDUITOR CONTROL CONDUIT WILL NOT PERMIT THE BREAK NEEDED FOR A PRE–FORMED BOOT. RELOCATE CONDUIT AN FLUID PIPING AS NEEDED TO PROVIDE PROPER SPACING OF THE NEW EPDM MEMBRANE FLASHING

EXTEND POWER AND CONTROL CONDUIT TO EACH ROOFTOP UNIT EXTEND WATER SUPPLY LINES AS REQUIRED. BRACE BELOW THE DECK TO PREVENT DISPLACEMENT OR MOVEMENT. RESTORE POWER, CONTROL AND FLUIDS TO THE ROOFTOP UNIT. VERIFY OPERATION MET ORIGINAL FUNCTION. ALL PLUMBING AND ELECTRICAL WORK BY LICENSED CONTRACTOR UNDER SEPARATE STATE PERMIT THAT MUST BE OBTAINED BY THE PLUMBER AND ELECTRICIAN.

VERIFY OPERATION AND FUNCTION OF EACH UNIT BEFORE AND AFTER MODIFICATION

2 R2 RAISED CURB FLASHING DETAILS

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