Residential Plan Review High Impact Checklist

Residential Plan Review is the stage in the code compliance process that establishes the working relationship between the building department and the builder. Complete and accurate documentation of the project at this stage will make all of the following interactions easier for everyone involved.

The first critical aspect of the plan review process is establishing which compliance path a project is following and confirming the construction documents submitted for plan review contain all the necessary information for the proposed compliance path.

Item	Code Requirement	What to look for:
Prescriptive Compliance	Projects using Prescriptive Path compliance must document all insulation or window trade-offs.	• Compliance Report generated - REScheck, IC3 or other code compliance software indicating U-factor Alternative or Total UA Alternative compliance. Compliance report must indicate that the project as submitted complies with code. • Projects not submitting compliance reports must follow full prescriptive and meet all applicable requirements.
Simulated Performance Alternative N1105/R405 compliance	Projects using Performance Path must submit Compliance Report for Permit Application. N1105.4.2.1/R405.5.2.1	• Compliance Report generated by software - REScheck, IC3, REMRate, ECOTrope or Energy Gauge must indicate that the project complies with the correct code and must include an inspection/plan review checklist for the proposed design
Energy Rating Index (ERI) N1106/R406	Projects using Energy Rating Index must submit a Compliance Report for plan review. N1106.6.2/R406.6.2	• Compliance Report generated by software - IC3, REMRate, ECOTrope or Energy Gauge must indicate that the project complies with the ERI maximum score and all mandatory measures. • Must include an inspection/plan review checklist for the proposed design
Insulation Materials and R-values Section N1102/R402	Insulation types and R-values must be indicated on construction docs.	• A note on plans that insulation materials shall meet code <u>is not acceptable</u>. • All insulation materials and values must be indicated and meet the requirements of Table N1102.2/R402.2, or match the values in the inspection/plan review checklists for Performance Path or Energy Rating Index, or the U-factor Alternative/Total UA Alternative reports for Prescriptive Compliance.

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Fenestration SHGC and U-Factor	Fenestration SHGC and U-factors must be indicated on construction documents.	• Window schedule is required with SHGC and U-factors that comply with Table N1102.2/R402.2, • or equal or better than the fenestration SHGC and U-factor on the Performance Path or Energy Rating Index inspection checklists submitted, • or area weighted U-factor and SHGC calculations on prescriptive compliance reports (RESCheck or IC3).
Air Sealing Details	Air sealing details shall be included on construction documents. Table N1102.4.1.1/R402.4.1.1	• Details to show sealing of gaps, cracks, penetrations in the air barrier, also showing taping of sheathing joints on house wraps if manufacturer recommends taping.
Thermal Envelope	N1103.2.1 The building's thermal envelope shall be represented on the construction documents	• Floor plan and at least 1 elevation showing a complete, unbroken thermal envelope separating conditioned and unconditioned spaces.
Mechanical System	Mechanical and water heating systems equipment types, sizes and efficiencies. N1103.7/R403.7	• For HVAC systems Manual J and S Summary Report and documentation of HVAC system size, type, and efficiency stated in SEER and HSPF or AFUE and location (make sure duct location matches Compliance Report). • HVAC system size should be same as specified on Manual S. • Minimum cooling efficiency of 14 SEER. • Minimum heating efficiency – split system heat pumps of 8.2 HSPF, single package heat pumps of 8.0 HSPF. Furnace AFUE of .80 or higher is required. • For water heaters, capacity in gallons or gallons per minute, type, fuel and efficiency must be documented.
Ducts and SHW Piping	Duct sealing details, types and R-value of duct and SHW pipe insulation and location. N11003.3.2 – N1103.5 R403.3.2 – R403.5	• Details that document duct sealing material used (mastic is highly preferred, tapes will not seal well enough to pass test). • Required duct R-value is R-8 for the outside thermal envelope, R-6 for all other areas. • SHW pipe must be insulated to R-3, if ¾" nominal diameter or larger, or other applications listed in N1103.5.3/R403.5.3
Mechanical Ventilation	Must meet rates required in IRC and motor efficacy in table R403.6.1. If using air handler must be ECM motor.	• Details that show mechanical ventilation strategy and compliance with N1103.6/R403.6