Department of Licenses and Inspections
CITY OF PHILADELPHIA

RESIDENTIAL ENERGY - ARCHITECTURAL PLAN REVIEW CHECKLIST

Information on Construction Documents

☐	A continuous building thermal envelope is represented on the construction drawings
☐	Typical cross sections clearly indicate insulation R-value, type, and material for each unique assembly type
☐	Compliance path is clearly noted on the plans or accompanying documentation. Otherwise, assume prescriptive.
☐	Notes indicate the *Air Barrier and Insulation Installation Checklist* will be completed by an approved party
☐	Notes indicate the *Duct and Envelope Testing Certificate* will be completed by an approved party

Indicate the compliance path selected by the applicant and complete the appropriate section below

☐ **Prescriptive**	☐ **Total UA (REScheck)**	☐ **Performance**	☐ **Energy Rating Index**	☐ **Above Code Program**

Prescriptive Path (with no tradeoffs)

☐	R-values and U-factors on plans meet Table 402.1.2 for Climate Zone 4 for each assembly
☐	IRC R-Value computation method thermal envelope requirements (R-N1102.1.3/ EC-402.1.3)
☐	IRC U-factor assembly alternative thermal envelope requirements (R-N1102.1.4EC-402.1.4)
☐	IRC Total UA Alternative UA computation requirements (R-N1102.1.5/EC-402.1.5)
☐	IRC R-Value computation ceiling with attic spaces requirements (R-N1102.2.1/EC-402.2.1)
☐	IRC R-Value computation ceiling without attic spaces requirements (R-N1102.2.2/EC-402.2.2)
☐	Access hatches and doors (R-N1102.2.4/EC-402.2.3)
☐	Basement Wall insulation (R-N1102.2.9/EC-402.2.7)
☐	Slab-on-grade floors (R-N1102.2.10/EC-402.2.8)
☐	Crawl space wall insulation (R-N1102.2.11/EC-402.2.9)
☐	Thermally Isolated sunroom insulation and fenestration (R-N1102.2.13/EC-402.2.11)
☐	Fireplace doors (R-N1102.4.2/EC-402.4.3)
☐	Maximum fenestration U-factor (EC-402.5)
☐	Duct insulation (R-N1103.3.1/EC-403.2.1)
☐	Building framing cavities (R-N1103.3.5/EC-403.2.3)

Total UA Alternative: *REScheck* Reports

☐	Compliance field says "PASSES"
☐	Verify correct code edition
☐	Address matches the plans
☐	REScheck version 4.6.5 or higher
☐	Each unique assembly type is listed (including cantilevered floors, floors over garages, and bump-out ceilings)
☐	Listed R-values and U-factors match plans
☐	Cavity insulation R-values are not listed in the Continuous R-value column
☐	Signed by the person completing the report

Simulated Performance Alternative Reports

☐	For IRC-scope buildings, 2018 IECC Performance Report is present (R405.2)
☐	For IBC/IECC [RE] buildings, 2018 IECC Performance Report is present
☐	Annual Energy Cost of Design Home < or = IECC Home in the "SubTotal - Used to Determine Compliance" line (Note: Report may fail, provided the only non-compliant item is the Home Infiltration Check and the design infiltration value is < or = 5.0 ACH50)
☐	Energy Code Inspection Checklist is present

☐	Report contains the name of the individual completing the report
☐	Report contains the name and version of the software tool (REM/Rate or Ekotrope)
☐	Address matches the plans
☐	Each unique assembly type is listed (including cantilevered floors, floors over garages, and bump-out ceilings)
☐	Conditioned floor area matches plans
☐	Listed R-values and U-factors match plans
☐	IECC Simulated Performance alternative computation requirements (EC-405.3)

Energy Rating Index Reports	
☐	For IRC-scope buildings, 2018 IECC Energy Rating Index Report is present
☐	For IBC-scope residential buildings, 2018 IECC Energy Rating Index Report is present
☐	infiltration value is < or = to 5.0 ACH50, and (2) the ERI score provided it is < or = 62)
☐	Energy Code Inspection Checklist is present
☐	Report contains the name of the individual completing the report
☐	Report contains the name and version of the software tool (REM/Rate or Ekotrope)
☐	Address matches the plans
☐	Each unique assembly type is listed (including cantilevered floors, floors over garages, and bump-out ceilings)
☐	Conditioned floor area matches plans
☐	Listed R-values and U-factors match plans

Above Code Program	
☐	Preliminary HERS report and statement indicating project will receive ENERGY STAR certification or PECO New Home Rebates report andstatement indicating project will meet all program requirements

PLUMBING ENERGY CODE REQUIREMENTS

R-3 pipe insulation is required if any of the following conditions exist (excludes Simulated Performance and ERI path):
Piping ¾" or greater in nominal diameter (piping>" for IBC buildings)
Piping serves more than one dwelling unit
Piping is located outside the conditioned space
There is piping from a water heater to a distribution manifold
Piping is buried or located under a floor slab
Circulation systems (where present):
System is provided with a pump (no gravity or thermosyphon systems)
Controls installed to start and stop the pump based on demand for hot water within the occupancy

RESIDENTIAL ENERGY - ELECTRICAL
PLAN REVIEW CHECKLIST

☐	< or = 75% of lamps in permanently installed fixtures are high-efficacy (CFL, LED, or T-8 or lower fluorescent tube), or > or = 75% of permanently installed lighting fixtures contain only high-efficacy lamps
☐	Fuel gas lighting systems do not have continuously burning pilot lights

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RESIDENTIAL ENERGY - MECHANICAL
PLAN REVIEW CHECKLIST

HVAC Equipment Design Form
HVAC System Sizing and Selection (Page 1)

☐	Address matches construction documents
☐	Design heating and cooling loads match the Manual J report
☐	Cooling system make and model match specs
☐	Cooling system output capacity is <or= 1.15X (1.25X for heat pumps) the design cooling load or next nom. size
☐	Heating system make and model match specs
☐	Heating system output capacity is < or = 1.40X the design heating load or next nominal size
☐	Air handler specs contain manufacturer's designation of < or = 2% air leakage (ASHRAE 193)

Whole-House Mechanical Ventilation Design Worksheet (Page 2)

☐	Address matches construction documents
☐	Conditioned floor area and number of bedrooms match plans
☐	The correct ventilation rate has been circled based on the floor area and number of bedrooms
☐	Intermittent fans only - Required ventilation airflow has been multiplied by the appropriate factor
☐	Rated fan airflow meets or exceed required air flow
☐	HVI-rated fan efficacy is > or = 1.4 cfm/watt for fans with < 90 cfm maximum airflow
☐	HVI-rated fan efficacy is > or = 2.8 cfm/watt for fans with > or = 90 cfm maximum airflow
☐	Rated fan airflow and HVI-rated fan efficacy match specs

Additional Information on Construction Documents

☐	Construction documents indicate whether any portion of the HVAC system will be outside the building thermal envelope. If yes, notes indicate that:
☐	Duct leakage testing will be performed and DET form will be submitted to the inspector
☐	Ducts > or = 3" diameter will be insulated to > or = R-8 in attics and > or = R-6 elsewhere
☐	Ducts< 3" diameter will be insulated to > or = R-6 in attics and > or = R-4.2 elsewhere
☐	Programmable thermostat is specified
☐	Building cavities are not used as ducts (IBC-scope buildings only)
☐	Notes indicate HVAC pipe insulation is specified, R-3 minimum (e.g. hydronic systems, refrigerant lines)