Residential Plans Examiner Review Form for HVAC System Design (Loads, Equipment, Ducts)

Form RPER 1.01 8 Mar 10

King and Queen County, VA

Contractor _____

Mechanical License # _____

Building Plan # _____

Home Address (Street or Lot#, Block, Subdivision) _____

REQUIRED ATTACHMENTS[1]	ATTACHED	
Manual J1 Form (and supporting worksheets):	Yes ☐	No ☐
or MJ1AE Form[2] (and supporting worksheets):	Yes ☐	No ☐
OEM performance data (heating, cooling, blower):	Yes ☐	No ☐
Manual D Friction Rate Worksheet:	Yes ☐	No ☐
Duct distribution system sketch:	Yes ☐	No ☐

HVAC LOAD CALCULATION (IRC M1401.3)

Design Conditions

Winter Design Conditions

Outdoor temperature _____ °F

Indoor temperature _____ °F

Total heat loss _____ Btu

Summer Design Conditions

Outdoor temperature _____ °F

Indoor temperature _____ °F

Grains difference _____ Δ Gr @ _____ % Rh

Sensible heat gain _____ Btu

Latent heat gain _____ Btu

Total heat gain _____ Btu

Building Construction Information

Building

Orientation (Front door faces) _____

North, East, West, South, Northeast, Northwest, Southeast, Southwest

Number of bedrooms _____

Conditioned floor area _____ Sq Ft

Number of occupants _____

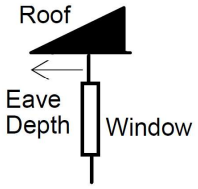
Windows

Eave overhang depth _____ Ft

Internal shade _____

Blinds, drapes, etc

Number of skylights _____



HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment Data

Equipment type _____

Furnace, Heat pump, Boiler, etc.

Model _____

Heating output capacity _____ Btu

Heat pumps - capacity at winter design outdoor conditions

Auxiliary heat output capacity _____ Btu

Cooling Equipment Data

Equipment type _____

Air Conditioner, Heat pump, etc

Model _____

Sensible cooling capacity _____ Btu

Latent cooling capacity _____ Btu

Total cooling capacity _____ Btu

Blower Data

Heating CFM _____ CFM

Cooling CFM _____ CFM

HVAC DUCT DISTRIBUTION SYSTEM DESIGN (IRC M1601.1)

Design airflow _____ CFM

External Static Pressure (ESP) _____ IWC

Component Pressure Losses (CPL) _____ IWC

Available Static Pressure (ASP) _____ IWC

ASP = ESP - CPL

Longest supply duct: _____ Ft

Longest return duct: _____ Ft

Total Effective Length (TEL) _____ Ft

Friction Rate: _____ IWC

Friction Rate = (ASP × 100) ÷ TEL

Duct Materials Used (circle)

Trunk Duct: Duct board, Flex, Sheet metal, Lined sheet metal, Other (specify)

_____

Branch Duct: Duct board, Flex, Sheet metal, Lined sheet metal, Other (specify)

_____

I declare the load calculation, equipment selection, and duct system design were rigorously performed based on the building plan listed above, I understand the claims made on these forms will be subject to review and verification.

Contractor's Printed Name _____ Date _____

Contractor's Signature _____

Reserved for use by County, Town, Municipality, or Authority having jurisdiction.

[1] The AHJ shall have the discretion to accept Required Attachments printed from approved ACCA software vendors, see list on page 2 of instructions.

[2] If abridged version of Manual J is used for load calculation, then verify residence meets requirements, see Abridged Edition Checklist on page 13 of instructions.