Whole-House Mechanical Ventilation Worksheet

And Other Important Compliance Information for
Single Family Residences/Townhouses
2015 MRC effective February 8th 2016

To facilitate Permit issuance and Energy Code Compliance in accordance with the 2015 Michigan Residential Code, please complete this form and keep a copy posted on the jobsite kitchen window. By signing below (**required**), you are certifying that this system is installed and tested to meet the checklist as completed. The ventilation details are required to be on the heat plan.

Project address: _____ Signature of the Permit Holder: _____

1. Mechanical Ventilation- Section M-1507

a. **System design-M-1507.3.1** The whole-house ventilation system shall consist of one or more of the following:
   i. One or more supply fans
   ii. Or one or more exhaust fans
   iii. Or a combination of such, and associated ducts and controls.
   iv. Local exhaust or supply fans are permitted to serve as such a system.
   v. Outdoor air ducts connected to the return side of an air handler (ECM Motor required) shall be considered as providing supply ventilation.

b. **System controls-M-1507.3.2** The whole-house mechanical ventilation system shall be provided with controls that enable manual override. Please specify on the heat plan.

c. **Mechanical ventilation rate-M-1507.3.3** The whole-house mechanical ventilation system shall provide outdoor air at a continuous rate of not less than that determined in accordance with **Table M1507.3.3 (1).**
***Exception:** The whole-house mechanical ventilation system is permitted to operate intermittently where the system has controls that enable operation for not less than 25 percent of each 4-hour segment and the ventilation rate prescribed in Table M1507.3.3 (1), (see below) is multiplied by the factor determined in accordance with Table M1507.3.3 (2) (see below).

Table M1507.3.3 (1)
CONTINUOUS WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE REQUIREMENTS

DWELLING UNIT FLOOR AREA (square feet)	NUMBER OF BEDROOMS				
	0-1	2-3	4-5	6-7	>7
	Airflow in CFM				
>1,500	30	45	60	75	90
1,501-3,000	45	60	75	90	105
3,001-4,500	60	75	90	105	120
4,501-6,000	75	90	105	120	135
6,001-7,500	60	105	120	135	150
>7,500	105	120	135	150	165

Table M1057.3.3 (2)
INTERMITTENT WHOLE-HOUSE MECHANICAL VENTILATION RATE FACTORS a,b

RUN TIME PERCENTAGE IN EACH 4 hour SEGMENT	25%	33%	60%	66%	75%	100%
FACTOR*a*	4	3	2	1.5	1.3	1.0

a. For ventilation system run time values between those given, the factors are permitted to be determined by interpolation
b. Extrapolation beyond the table is prohibited

Please provide the following information:

- Number of Floors _____
- Square Footage (including basement) _____SF
- What is the required continuous airflow rate for this house per Table M1507.3.3 (1)? _____CFM
- Is the system designed to be (Check one) _____Continuous or _____Intermittent?
- If this is an intermittent system what is the run time factor? _____
- If this is an intermittent system, how is this automatically controlled? _____
- If this is an intermittent system, what date was this set or programmed? _____
- How do you propose to meet the required CFM for this system (Check one)?
  _____ Outdoor air duct connected to the return duct with an ECM motor.
  _____ Exhaust fans with outdoor air duct connected to the return duct.
  _____ Any combination of the above.
  _____ ERV/HRV or air exchanger.
  _____ Other (Please specify) _____Please specify all data above on the heat plan.

EXAMPLES: A 75 CFM fan running continuous, can meet the requirements for up to a 3,000 sq. ft. and 5 bedrooms
OR: 120 CFM can meet the requirements for up to 6,000 sq. ft. and 7 bedrooms

2. **Refrigerant Piping- M-1411.6/R-403.3.1** AC piping to be a minimum of R-4 with surface permeance not exceeding .05 perm and protected from sun and weather with approved materials. Please provide details on the heat plan.

3. **Duct Sealing-R-403.2.2/R-1601.4.1** Joints seams and connections shall be sealed with welds, gaskets, mastics (adhesives), mastic-plus embedded-fabric systems, liquid sealants or approved tapes. Please note: SILICONE CAULK IS NOT ALOWED, All sealants shall meet UL-181 with the appropriate letter suffix. Please specify on the heat plan.

4. **Duct Leakage Testing-Chapter 11:** Duct leakage testing shall be done for all ducts or portions thereof that are outside the thermal envelope. This shall be performed by a certified duct leakage-testing firm in accordance with the prescribed procedures within this section. This test shall be scheduled with the department so they are afforded the opportunity to witness said testing.

5. **Fan Efficiency-R-403.4.1** Mechanical ventilation system fan efficacy shall meet table N-1103.5.1 or be energy star labeled. Please provide details on the heat plan.

6. **Nail Plates-M-1308.2.1** are now required to extend 2 inches beyond framing members in all directions.

7. **Condensate Drain** and Pumps-Chapter 14
   a. **Drains-M-14.11.3.3** Drains shall be configured to permit the clearing of blockage without requiring the line to be cut.
   b. **Pumps-M-1411.4** Condensate pumps located in uninhabitable crawlspace and attics shall be connected to the appliance served to prevent the equipment from operating, if the pump fails.

8. **Exhaust-Chapter 15**
   a. **Dryers**-Table-M-1502.4.5.1 duct lengths for dryer exhaust
   b. **Other exhaust**-Table-M-1506.2 applies to other exhaust duct lengths

   Example: 4-inch flex with 80 CFM fan can only run 4 ft. of flex duct; 5 inch can run 81 ft.
   Example: 4-inch smooth sheet metal with 80 CFM can run 31 ft., 100 CFM can run 10 ft.

9. **Outdoor combustion Air is Required** or Meet: G-2407.5.2 Requires the use of equations 24-1 or 24-2 to demonstrate compliance with indoor air CALCULATIONS WILL BE EXPECTED TO BE SHOWN WHEN ATTEMPTING TO USE INDOOR AIR FOR COMBUSTION AIR. Please provide on the heat plan.