



**Pend Oreille County**

**Community Development Department**

P. O. Box 5066 Newport,

Washington 99156-5066

Phone: 509-447-4821

Fax: 509-447-5890

Mike Lithgow

Rick J Cruse

Community Development Director

Building Inspector/ Fire Marshal

**MECHANICAL AND VENTILATION**

2012 WSEC SECTION R403.5, 2012 AMENDED IRC SECTION R303.4,  
2012 AMENDED IMC SECTION 403.8.5, WAC 51-51-1507, IRC SECTION M1507

JOB ADDRESS: \_\_\_\_\_

FURNACE BRAND: \_\_\_\_\_

FURNACE MODEL #: \_\_\_\_\_

ECM OR VARIABLE SPEED BLOWER? YES  NO

TOTAL CONDITIONED FLOOR AREA \_\_\_\_\_ SF

# OF BEDROOMS \_\_\_\_\_

REQ AIR FLOW \_\_\_\_\_ CFM

\*TABLE 403.8.1 \*TABLE 2A \*TABLE M1507.3.3 (1)

CONTINUOUS VENTILATION

INTERMITTENT VENTILATION

\* REFER TO TABLE 403.8.5.1 OR M1507.3.3 (2)

EFFICACY RATING \_\_\_\_\_ CFM / WATT

\* REFER TO TABLE R403.51

RUN % \_\_\_\_\_

FACTOR \_\_\_\_\_

INSTALLED AIR FLOW \_\_\_\_\_ CFM

**METHOD**

WHOLE HOUSE SUPPLY FAN

VOLUME \_\_\_\_\_ DUCT SIZE \_\_\_\_\_

WA ST AMENDED IMC 403.8.5.2  
WAC 51-51-1507 IRC SECTION M1507.3.4

\*REFER TO TABLE: IMC 403.8.5.2 OR IRC M1507.3.6.2 FOR SIZING  
\*PROVIDE SUBMITTAL FOR VERIFICATION

WHOLE HOUSE EXHAUST FAN WITH OUTDOOR AIR INLETS

MAKE \_\_\_\_\_

MODEL \_\_\_\_\_

VENTILATION RATE AT .25 W.G. \_\_\_\_\_

SONE RATING AT .1 W.G. \_\_\_\_\_

WA ST AMENDED IMC 403.8.6  
WAC 51-51-1507 IRC SECTION M1507.3.4

\*PROVIDE SUBMITTAL FOR VERIFICATION

INTEGRATED FORCED AIR SYSTEM

VOLUME \_\_\_\_\_ CFM

DUCT SIZE \_\_\_\_\_

WA ST AMENDED IMC 403.8.7  
WAC 51-51-1507 IRC SECTION M1507.3.5  
WA STATE AMENDED IMC R403.5.1 \*EXCEPTION\*

FLEX DUCT

RIGID DUCT

\*PROVIDE SUBMITTAL FOR VERIFICATION

HEAT RECOVERY VENTILATOR (HRV / ERV)

MAKE \_\_\_\_\_

MODEL \_\_\_\_\_

VENTILATION RATE AT .25 W.G. \_\_\_\_\_

SONE RATING AT .1 W.G. \_\_\_\_\_

WA ST AMENDED IMC 403.8.6  
WAC 51-51-1507 IRC SECTION M1507.3.7

\*PROVIDE SUBMITTAL FOR VERIFICATION

ALTERNATE SYSTEM DESIGN

MAKE \_\_\_\_\_

MODEL \_\_\_\_\_

VENTILATION RATE AT .25 W.G. \_\_\_\_\_

SONE RATING AT .1 W.G. \_\_\_\_\_

WA ST AMENDED IMC 403.8.11  
ASHRAE 62.2-2010

\*PROVIDE SUBMITTAL FOR VERIFICATION  
\*REFER TO TABLE 2A

TABLE M1507.3.3(1), 403.8.1, 2A					
(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	90	105	120	135	150
>7,501	105	120	135	150	165

**TABLE R403.5.1  
MECHANICAL VENTILATION SYSTEM FAN EFFICACY**

FAN LOCATION	AIR FLOW RATE MINIMUM (CFM)	MINIMUM EFFICACY (CFM / WATT)	AIR FLOW RATE MAXIMUM (CFM)
Range Hood	Any	2.8 cfm/watt	Any
In-line fan	Any	2.8 cfm/watt	Any
Bathroom, utility room	10	1.4 cfm/watt	<90
Bathroom, utility room	90	2.8 cfm/watt	Any

**TABLE 403.8.5.2  
PRESCRIPTIVE SUPPLY FAN DUCT SIZING**

Specified Volume from Table 403.8.1	Minimum Smooth Duct Diameter	Minimum Flexible Duct Diameter
50-90 cfm	4 inch	5 inch
90-150 cfm	5 inch	6 inch
150-120 cfm	6 inch	7 inch
250-400 cfm	7 inch	8 inch

**TABLE M1507.3.3(2)  
INTERMITTENT WHOLE-HOUSE MECHANICAL VENTILATION RATE FACTORS<sup>a,b</sup>**

Run-Time Percentage in Each	25%	33%	50%	66%	75%	100%
Factor	4	3	2	1.5	1.3	1

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