

**Prescriptive Approach - Simple Form  
For the Washington State Energy Code (2006 Edition)  
Climate Zone 1**

**SITE INFORMATION**

**Lot:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**City:** \_\_\_\_\_

**State:** \_\_\_\_\_ **Zip:** \_\_\_\_\_

**Contact:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

**Phone 2:** \_\_\_\_\_

**Fax:** \_\_\_\_\_

**BUILDING DEPARTMENT USE ONLY**

**Permit #** \_\_\_\_\_

**Notes:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

**Climate Zone 1**

| Option     | Glazing Area <sup>10</sup> :<br>% of Floor               | Glazing U-Factor |                       | Door <sup>9</sup><br>U-Factor | Ceiling <sup>2</sup> | Vaulted<br>Ceiling <sup>3</sup> | Wall <sup>12</sup><br>Above<br>Grade | Wall•<br>int <sup>4</sup><br>Below<br>Grade | Wall•<br>ext <sup>4</sup><br>Below<br>Grade | Floor <sup>5</sup> | Slab <sup>6</sup> on<br>Grade |
|------------|--|------------------|-----------------------|-------------------------------|----------------------|---------------------------------|--------------------------------------|---|---|--------------------|-------------------------------|
|            |  | Vertical         | Overhead <sup>1</sup> |                               |                      |                                 |                                      |   |   |                    |                               |
| <b>IV.</b> | Unlimited<br>Group R-3<br>and R-4<br>Occupancies<br>Only | <b>0.35</b>      | 0.58                  | 0.20                          | R-38                 | R-30                            | R-21                                 | R-21  | R-10  | R-30               | R-10                          |

**This project complies with the following:**

- ✓ The project is a single family residence or duplex.
- ✓ The project is wood frame OR all of the insulation is interior or exterior of the framing.
- ✓ All building components meet the requirements listed in Table 6-1, Option IV.
- ✓ The project will meet all other provisions of the WSEC and VIAQ.

**The project will take advantage of the following exceptions to the prescriptive option:**

- 602.6 Exception 1. One door, that is 24 ft.<sup>2</sup> or less, that does not meet the standards is allowed.

Location of the door taking this exception \_\_\_\_\_

- 602.6 Exception 2. Doors with a U-factor of 0.40 allowed without calculations, Option IV only.

Location of the door(s) taking this exception \_\_\_\_\_



City of Bainbridge Island ♦ Building Division  
**2006 WASHINGTON STATE VENTILATION & INDOOR AIR  
QUALITY  
RESIDENTIAL WHOLE HOUSE VENTILATION  
OPTIONS**

Prescriptive Methods of Compliance

**OPTION 1. Intermittent Whole House Ventilation Using Exhaust Fans (WSVIAQ 303.4.1)**

- \_\_\_\_\_ CFM Exhaust Fan Flow Rating Per Table 3-2 (*attached*). Show location of Whole House Fan on plans.
- Whole House Fans located 4 feet or less from the interior grill shall have a sone rating of 1.5 or less.
- Fan Controls: 24 hour timer with capability of continuous operation, manual and automatic control; readily accessible.
- Outdoor Air shall be distributed to each habitable room by individual Outdoor Air Inlets: (Choose one)

Window Ports

Wall Ports

**Exception: Exhaust only ventilation systems do not require outdoor air inlets if the home has a ducted forced air heating system that communicates with all habitable rooms and the interior doors are undercut to a minimum of ½- inch above the surface of the finish floor covering.**

**OPTION 2. Intermittent Whole House Ventilation Integrated with a Forced-Air Heating System (WSVIAQ 303.4.2).**

- \_\_\_\_\_ inch Fresh Air Duct, connected to the furnace return plenum, sized per Table 3-5 (*attached*).
- FRESH AIR INLET DUCT DAMPER SELECTION: (Choose one)

Motorized Damper: *no testing of ventilation flow rates as long as the prescriptive sizing per Table 3-5 are met.*

Manual Damper meeting Table 3-2 flow rates: \_\_\_\_\_ CFM.

Automatic Flow-Regulated Device per WSVIAQ 030.4.2.1#3 (Requires field testing or calculation).

- Outdoor Air Inlets shall be screened or otherwise protected from entry by leaves or other material and located per WSVIAQ 303.4.2.4.
- All ventilation supply ducts in the conditioned space shall be insulated to a minimum of R-4.

**TABLE 3-1  
MINIMUM SOURCE SPECIFIC VENTILATION CAPACITY REQUIREMENTS**

|                          | Bathrooms | Kitchens |
|--------------------------|-----------|----------|
| Intermittently operating | 50 cfm    | 100 cfm  |
| Continuous operation     | 20 cfm    | 25 cfm   |

**TABLE 3-2  
VENTILATION RATES FOR ALL GROUP R OCCUPANCIES FOUR STORIES AND LESS  
Minimum and Maximum Ventilation Rates: Cubic Feet Per Minute (CFM)**

| Floor Area, ft <sup>2</sup> | Bedrooms  |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------------------------|-----------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|                             | 2 or less |      | 3    |      | 4    |      | 5    |      | 6    |      | 7    |      | 8    |      |
|                             | Min.      | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. |
| <500                        | 50        | 75   | 65   | 98   | 80   | 120  | 95   | 143  | 110  | 165  | 125  | 188  | 140  | 210  |
| 501-1000                    | 55        | 83   | 70   | 105  | 85   | 128  | 100  | 150  | 115  | 173  | 130  | 195  | 145  | 218  |
| 1001-1500                   | 60        | 90   | 75   | 113  | 90   | 135  | 105  | 158  | 120  | 180  | 135  | 203  | 150  | 225  |
| 1501-2000                   | 65        | 98   | 80   | 120  | 95   | 143  | 110  | 165  | 125  | 188  | 140  | 210  | 155  | 233  |
| 2001-2500                   | 70        | 105  | 85   | 128  | 100  | 150  | 115  | 173  | 130  | 195  | 145  | 218  | 160  | 240  |
| 2501-3000                   | 75        | 113  | 90   | 135  | 105  | 158  | 120  | 180  | 135  | 203  | 150  | 225  | 165  | 248  |
| 3001-3500                   | 80        | 120  | 95   | 143  | 110  | 165  | 125  | 188  | 140  | 210  | 155  | 233  | 170  | 255  |
| 3501-4000                   | 85        | 128  | 100  | 150  | 115  | 173  | 130  | 195  | 145  | 218  | 160  | 240  | 175  | 263  |
| 4001-5000                   | 95        | 143  | 110  | 165  | 125  | 188  | 140  | 210  | 155  | 233  | 170  | 255  | 185  | 278  |
| 5001-6000                   | 105       | 158  | 120  | 180  | 135  | 203  | 150  | 225  | 165  | 248  | 180  | 270  | 195  | 293  |
| 6001-7000                   | 115       | 173  | 130  | 195  | 145  | 218  | 160  | 240  | 175  | 263  | 190  | 285  | 205  | 308  |
| 7001-8000                   | 125       | 188  | 140  | 210  | 155  | 233  | 170  | 255  | 185  | 278  | 200  | 300  | 215  | 323  |
| 8001-9000                   | 135       | 203  | 150  | 225  | 165  | 248  | 180  | 270  | 195  | 293  | 210  | 315  | 225  | 338  |
| >9000                       | 145       | 218  | 160  | 240  | 175  | 263  | 190  | 285  | 205  | 308  | 220  | 330  | 235  | 353  |

\*For residences that exceed 8 bedrooms, increase the minimum requirement listed for 8 bedrooms by an additional 15 CFM per bedroom. The maximum CFM is equal to 1.5 times the minimum.

**TABLE 3-3  
PRESCRIPTIVE EXHAUST DUCT SIZING**

| Fan Tested CFM @ 0.25" W.G. | Minimum Flex Diameter | Maximum Length Feet | Minimum Smooth Diameter | Maximum Length Feet | Maximum Elbows <sup>1</sup> |
|-----------------------------|-----------------------|---------------------|-------------------------|---------------------|-----------------------------|
| 50                          | 4 inch                | 25                  | 4 inch                  | 70                  | 3                           |
| 50                          | 5 inch                | 90                  | 5 inch                  | 100                 | 3                           |
| 50                          | 6 inch                | No Limit            | 6 inch                  | No Limit            | 3                           |
| 80                          | 4 inch <sup>2</sup>   | NA                  | 4 inch                  | 20                  | 3                           |
| 80                          | 5 inch                | 15                  | 5 inch                  | 100                 | 3                           |
| 80                          | 6 inch                | 90                  | 6 inch                  | No Limit            | 3                           |
| 100                         | 5 inch <sup>2</sup>   | NA                  | 5 inch                  | 50                  | 3                           |
| 100                         | 6 inch                | 45                  | 6 inch                  | No Limit            | 3                           |
| 125                         | 6 inch                | 15                  | 6 inch                  | No Limit            | 3                           |
| 125                         | 7 inch                | 70                  | 7 inch                  | No Limit            | 3                           |

1. For each additional elbow subtract 10 feet from length.
2. Flex ducts of this diameter are not permitted with fans of this size.

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**TABLE 3-5**  
**PRESCRIPTIVE INTEGRATED FORCED AIR SUPPLY DUCT SIZING**

| Required Flow (CFM) Per Table 3-2 | Minimum Smooth Duct Diameter | Minimum Flexible Duct Diameter | Maximum Length <sup>1</sup> | Maximum Number of Elbows <sup>2</sup> |
|-----------------------------------|------------------------------|--------------------------------|-----------------------------|---------------------------------------|
| 50 - 80                           | 6"                           | 7"                             | 20'                         | 3                                     |
| 80 - 125                          | 7"                           | 8"                             | 20'                         | 3                                     |
| 115 - 175                         | 8"                           | 10"                            | 20'                         | 3                                     |
| 170 - 240                         | 9"                           | 11"                            | 20'                         | 3                                     |

1. For lengths over 20 feet increase duct diameter 1 inch.
2. For elbows numbering more than 3 increase duct diameter 1 inch.

**TABLE 3-6**  
**PRESCRIPTIVE SUPPLY FAN DUCT SIZING**

| Supply Fan Tested CFM at 0.40" WG |                              |                                |
|-----------------------------------|------------------------------|--------------------------------|
| Specified Volume from Table 3-2   | Minimum Smooth Duct Diameter | Minimum Flexible Duct Diameter |
| 50 – 90 CFM                       | 4 inch                       | 5 inch                         |
| 90 - 150 CFM                      | 5 inch                       | 6 inch                         |
| 150 - 250 CFM                     | 6 inch                       | 7 inch                         |
| 250 - 400 CFM                     | 7 inch                       | 8 inch                         |

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<http://www.energy.wsu.edu/code/>