

# VERIFICATION



|  |          | <b>AIR SEALING INSTALLATION</b>  |  | <b>GOOD</b> | <b>BAD</b> |
|--|----------|--|--|-------------|------------|
|  |          | <b>Critical Details</b>  |  | ✓           | ✗          |
|  |          | Items in <b>bold</b> are a requirement of the ENERGY STAR Homes Northwest Program  |  |             |            |
| <b>PRE-CHECK</b>   | <b>1</b> | All shafts/chases are capped   |  |             |            |
|  | <b>2</b> | All penetrating holes were cleanly cut using a saw and/or drill and are not more than 1" larger than the penetrating object to allow for proper air sealing                  |  |             |            |
|  | <b>3</b> | Work site is broom cleaned and all safety precautions are taken prior to beginning work  |  |             |            |
|  | <b>*</b> | Installer's Name _____ Date _____<br><small>print name signature</small>   |  |             |            |
| <b>SELF-CHECK</b>  | <b>1</b> | Plumbing/electrical/HVAC penetrations to exterior/unconditioned space are air sealed with foam, caulk, or mastic. <b>NO</b> fibrous insulation is used to fill holes         |  |             |            |
|  | <b>2</b> | All shafts/chases, cantilevers, and blocking are air sealed with a compressible sealant, caulk, foam, or mastic  |  |             |            |
|  | <b>3</b> | Fire-rated caulking along with flashing or UL-rated collars must be installed continuous around all combustion flues and maintain proper clearance from combustion materials |  |             |            |
|  | <b>4</b> | Access doors to knee wall or crawlspace areas, attic hatches, and drop down stairs are weather stripped and insulated  |  |             |            |
|  | <b>5</b> | Recessed lighting fixtures installed in insulated assemblies are air tight and IC-rated and sealed to drywall with caulk, foam, or gasket                                    |  |             |            |
|  | <b>6</b> | Backer rod or low expansion foam is used to seal around windows and doors  |  |             |            |
|  | <b>7</b> | Work site is broom cleaned after work is complete  |  |             |            |
| Installer Name _____ Date _____<br><small>print name signature</small>   |          |  |  |             |            |
| Builder Name _____   |          | Builder's Job #: _____   |  |             |            |
| <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p>This Verification form should be signed and filled out by the Installer. Signing this form certifies that all Critical Details are correct and are as designated.</p> </div> |          |  |  |             |            |



# ENERGY STAR® HOMES

## NORTHWEST

### CERTIFICATION REQUIREMENTS

#### Single Family Homes

Builder Option Packages (BOP's) are a prescriptive method for labeling new homes ENERGY STAR. All requirements of the NWBOP shall be met in order to qualify a home for ENERGY STAR Homes Northwest certification and verification by an ENERGY STAR Homes Northwest Verifier. **HIGHLIGHTED** sections pertain to the Critical Details on the opposite side of this sheet.

| Insulation                      |                   | NWBOP 1   | NWBOP 2  |  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
|---------------------------------|-------------------|---|--|--|-------|-------|-------|-------|-------|-------|------|------------------|-----|-----|-----|------|------|------|------|--|
| Ceiling                         |                   | R-38  | R-38   | Flat or vaulted.   |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Wall                            |                   | R-21  | R-21 + 2.5 sheath  | BOP 1: R-19 is optional with advanced framing techniques.<br>BOP 2: R-21 is optional with advanced framing techniques.   |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Floors Over Unconditioned Space |                   | R-30  | R-30   | Insulation in floor joist cavity. Perimeter insulation is not allowed.   |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Slab Floors                     | Unheated          | R-10 Perimeter  | R-10 Perimeter   | Applies to all concrete slab floors above or below grade. R-5 thermal breaks at slab edge. Perimeter insulation shall be installed for a distance of 2 feet vertical, horizontal, or combined distance. In areas east of the Cascade mountains, 4 feet is recommended. |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
|                                 | Heated Radiant    | R-10 Full Slab  | R-10 Full Slab   |  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Basement Wall                   |                   | R-19  | R-19   | Below grade walls can extend up to 24 inches above grade.  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Windows & Doors                 |                   |   |  |  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Glazing                         | Windows           | U-0.35  | U-0.30   | NFRC rated.  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
|                                 | Skylights         | U-0.50  | U-0.50   | Skylight area shall not exceed 5% of heated floor area.  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
|                                 | Max. Glazing Area | 21% of Heated Floor Area  | 21% of Heated Floor Area   | Combined window and skylight area. Up to 1% of heated floor area exempt.   |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Doors                           |                   | R-5   | R-5  | One door up to 28 ft <sup>2</sup> exempt.  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Ducts                           |                   |   |  |  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Insulation                      |                   | R-8   | R-8  | Ducts inside the heated space exempt.  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Sealing                         |                   | Mastic  | Mastic   | Tapes not allowed.   |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Max. Leakage                    |                   | <0.06 CFM per ft <sup>2</sup><br>1.1.3. <b>OR</b><br>75 CFM Total @ 50 Pa   | <0.06 CFM per ft <sup>2</sup><br><b>OR</b><br>75 CFM Total @50Pa | All forced air heating and cooling system ducts shall be installed according to ENERGY STAR Homes Northwest Specifications for sizing and leakage. Performance testing is required.  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Ventilation & Air sealing       |                   |   |  |  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Ventilation System              |                   | Exhaust Ventilation   | Central ventilation with 70% heat recovery                       | BOP 1 ONLY: Local code requirements are deemed to satisfy this requirement.  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Envelope tightness              |                   | 7.0 ACH @ 50 Pa   | 2.5 ACH @ 50 Pa  | BOP 1: Local code requirements for air sealing are deemed to satisfy this requirement.<br>BOP 2: Air tightness in this path must be verified by blower door test before certification is granted.  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Heating & Cooling Equipment     |                   |   |  |  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Gas Furnace                     |                   | 90 AFUE   |  | Installed according to ENERGY STAR Homes Northwest Specifications for sizing, controls, airflow and refrigerant charge (if applicable). Performance testing is required.   |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Heat Pump                       |                   | 8.5 HSPF / SEER 13  |  |  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Air Conditioner                 |                   | SEER 13   |  |  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Propane or Oil Furnace          |                   |   | ≥ 80 AFUE  |  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Water Heating                   |                   |   |  |  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Natural Gas                     | ≤ 60 gal          | EF ≥ 0.61   | EF ≥ 0.61  | BOP 1 ONLY: Gas commercial tank water heaters may be used if they have standby losses that do not exceed the following (btu/hr):   |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
|                                 | > 60 gal          | EF ≥ 0.60   | EF ≥ 0.60  |  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Electric                        | ≤ 70 gal          | EF ≥ 0.93   | EF ≥ 0.93  |  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
|                                 | > 70 gal          | EF ≥ 0.92   |  |  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
|                                 |                   | <table border="1"> <tr> <td>Gallons</td> <td>70-74</td> <td>75-79</td> <td>80-84</td> <td>85-89</td> <td>90-94</td> <td>95-99</td> <td>100+</td> </tr> <tr> <td>Max Standby Loss</td> <td>930</td> <td>960</td> <td>980</td> <td>1010</td> <td>1030</td> <td>1060</td> <td>1080</td> </tr> </table> |  | Gallons  | 70-74 | 75-79 | 80-84 | 85-89 | 90-94 | 95-99 | 100+ | Max Standby Loss | 930 | 960 | 980 | 1010 | 1030 | 1060 | 1080 |  |
| Gallons                         | 70-74             | 75-79   | 80-84  | 85-89  | 90-94 | 95-99 | 100+  |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Max Standby Loss                | 930               | 960   | 980  | 1010   | 1030  | 1060  | 1080  |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Appliances & Lighting           |                   |   |  |  |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Appliances                      |                   | ENERGY STAR Qualified   | ENERGY STAR Qualified  | Applies to built-in appliances only.   |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |
| Lighting                        |                   | ENERGY STAR Qualified   | ENERGY STAR Qualified  | A minimum of 50% of sockets to be either ENERGY STAR bulbs, fixtures, or both.   |       |       |       |       |       |       |      |                  |     |     |     |      |      |      |      |  |