



# Northwest ENERGY STAR® Homes Multifamily Sampling Protocol Agreement

## I. Introduction

This agreement specifies the sampling protocol that applies to verification of Northwest ENERGY STAR Homes Multifamily buildings. This document aligns with the sampling protocol outlined in Chapter 6 of the RESNET Standards found at:

[www.resnet.us/standards/RESNET\\_Mortgage\\_Industry\\_National\\_HERS\\_Standards.pdf](http://www.resnet.us/standards/RESNET_Mortgage_Industry_National_HERS_Standards.pdf).

The protocol is intended for builders who demonstrate consistency in their specifications and production processes. It is intended to minimize production interruptions and verification costs, while ensuring that buildings still meet or exceed the Northwest ENERGY STAR Homes Multifamily certification guidelines.

The following minimum requirements must be met for Northwest ENERGY STAR Checklists\* in Multifamily projects:

- One (1) Northwest HVAC Contractor Checklist and one (1) Northwest HVAC Verifier Checklist shall be completed for each heating/cooling system that is verified
- One (1) Northwest Thermal Enclosure Checklist shall be completed per floor
- One (1) Northwest Water Management Checklist shall be completed per building

*\*The HVAC Checklist testing requirements may qualify for sampling as per the Performance Testing Addendum on Page 4.*

*Note that sampling applies only to the **Verification** of buildings (Builder Option Package and Northwest HVAC System Quality Installation Checklists). All performance testing requirements outlined in the specifications for the appropriate BOP must be completed prior to certification. For information about when sampling can be applied to performance testing, see the Performance Testing Addendum on page 4. For additional technical specifications, please refer to the [Northwest ENERGY STAR Partner Resources](#) webpage.*

## II. Sampling Protocol

### **Rater Qualifications**

Raters shall be in good standing with the Northwest ENERGY STAR Homes program and shall only offer sampling services when **in partnership with an approved Sampling Provider**. Raters should contact their Provider to inquire about both parties' qualification for sampling. The Sampling Provider may determine the percentage of units to be tested, which shall be no less than the rate identified [in Chapter 6 of the RESNET Standards](#) and the Technical Requirements below.

### **Builder Qualifications\***

In order to participate in the Northwest ENERGY STAR Homes program, the builder must follow the steps for enrollment outlined on the [Builder Enrollment webpage](#), including signing a Builder Partnership Agreement with the EPA.

To be eligible for sampling, the builder must work with your Rater to sign and submit this Sampling Protocol Agreement to your Sampling Provider for approval **AND**:

:

- Complete ten (10) consecutive townhomes without failure in that metropolitan area **or**
- Build a multifamily building with 25 units or more **or**
- Have successfully completed a Multifamily project within the past year

\*For more information on builder qualifications, refer to the Performance Testing Addendum on page 4

## **Technical Requirements**

### **Unit Eligibility**

- Sampling can only be conducted for units that have the same general size and layout, and use the same envelope systems:
  - At least 1 unit shall be verified for every 7 units that share the same **size** (square footage differing by no more than 10%), and **type** (same number of bedrooms, end unit vs. central unit, top floor vs. bottom floor, ADA accessible units, etc.)
  - At least one unit shall be verified for every unit type in the building

### **Labeling of Building**

- Once the Multifamily building has been certified, the Rater shall generate a certification label from the Northwest ENERGY STAR Homes database, Axis, and place the label on the electrical panel.

### **Testing Requirements**

The following conditions apply to building tightness testing, for which requirements are listed in the Northwest ENERGY STAR Multifamily BOPs:

- Where infiltration testing is not required by code, this standard can be met through verified compliance with the Northwest Thermal Enclosure System Checklist and ventilation system requirements.
- Where the authority having jurisdiction requires testing to a published standard or methodology, this requirement shall be met in accordance with code accepted standards and methodologies. Where no such methodology is provided, the following is considered acceptable by Northwest ENERGY STAR Homes:

Compliance with this requirement shall be determined according to the following means:

- In areas where the authority having jurisdiction requires testing to a published standard or methodology, this requirement shall be met in accordance with code accepted standards and methodologies.
- RESNET, the EPA and Northwest ENERGY STAR Homes recommend unit by unit testing, as opposed to whole building testing.
- Where no such methodology is provided, the following will be considered acceptable by Northwest ENERGY STAR Homes:
  - ENERGY STAR MF HIGH RISE testing standards
  - ASHRAE 62,2 2013 testing on a 15% sample of each dwelling unit type and floor plan
  - LEED NC Environmental Tobacco Smoke Control Testing on a 15% sample of each dwelling unit type and floor plan
  - In the event that local codes require whole building testing: *Follow whole building leakage testing in accordance with protocols published by Retrotec or The Energy Conservatory*

Where infiltration testing is not required by code, this standard may be assumed to be met through verified compliance with the Thermal Enclosure System Checklist and ventilation system requirements.

\* The sample will total 15% or a minimum of one for each unit sharing both the same size and type, whichever is greater.

### **Sampling Controls**

“Sampling controls” are the tests and inspections required of the Rater to confirm that the specifications have been met.

- Sampling controls must be completed at a minimum ratio of one (1) test or inspection per seven (7) units
- A qualified Northwest ENERGY STAR Verifier/Rater must oversee the sampling process
- Sampling controls may be completed on an individual Multifamily unit or several units within a given

### Creating a Sample Set

A “sample set” is the specific group of seven (7) units from which one or more individual units are randomly selected for sampling controls.

- Units to be sampled must be selected within the same building or complex
- Each sample set is made up of units at the same stage of construction, though sample sets do not have to consist of the same seven units throughout all stages of construction (i.e. a different set of units in the same building may be used in the drywall stage than were used in the pre-drywall stage)
- All sampling controls (i.e. tests and inspections) for a sample set at a particular stage of construction must be completed within a 30-day time period
- Sampled buildings and complexes must be subject to sampling controls at least once every 90 days with at least one unit starting construction every 90 days.

### Failed Sampled Buildings

- When an initial failure occurs, the failed item(s) shall be tested or inspected in two (2) additional units in the sample set
- When a second failure occurs in one (1) or more of the two (2) additional units, the failed item(s) shall be tested or inspected in the remaining four (4) units in the sample set
- If three (3) additional failures occur within a ninety (90) day period on the same item, the failed item must pass in seven (7) consecutive units before it can be sampled again
- If three (3) additional failures occur within a ninety (90) day period on various items, the builder must re-qualify for sampling by completing seven (7) consecutive units without failure or The builder can submit a “Root Cause Analysis” to the Sampling Provider

### III. Effective Date

This agreement shall be in effect from the date it is signed by all parties and remain in effect until terminated by one or more parties.

#### AGREED:

Print

\_\_\_\_\_  
Verifier/Rater Company

Signature

\_\_\_\_\_  
Name

\_\_\_\_\_  
Date

Print

\_\_\_\_\_  
Homebuilder Company

*Signature* \_\_\_\_\_  
Name Date

*Print* \_\_\_\_\_  
Sampling Provider

*Signature* \_\_\_\_\_  
Name Date

## Performance Testing Addendum

Washington, Idaho and Oregon have adopted an addendum to the Multifamily Sampling Protocol Agreement which allows the application of sampling to performance testing. Under this addendum, qualified builders can apply performance testing sampling if they either:

- Commit to building 100% of their single family homes or one or more multifamily buildings to Northwest ENERGY STAR Homes specifications, **or**
- Build a subdivision of 20 or more townhomes all to Northwest ENERGY STAR Homes specifications

Ten initial townhomes (aka units) must consecutively pass both prescriptive and performance requirements for ductwork. In addition, three units must successfully pass the quality assurance process, with a special emphasis placed on the duct and fan flow requirements.

This addendum is intended to reduce performance testing costs for builders who are willing to substantially commit to the Northwest ENERGY STAR Homes program. However, given that improved performance of forced air distribution systems is a cornerstone of the program, increased QA will be provided on buildings built under the scope of this addendum. Failures of the duct system in QA will result in suspension from performance testing sampling until additional testing is undertaken, a report detailing the cause(s) of failure are provided to the Sampling Provider, and subsequent QA visits indicate no recurrence of the problems.

For more information on the details of this sampling protocol addendum, contact [info@northwestenergystar.com](mailto:info@northwestenergystar.com)