

Indoor AirPlus Version 2: Are You Ready for It?

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Visit us: www.epa.gov/indoorairplus



What We'll Cover

- New Indoor AirPlus Website www.epa.gov/indoorairplus
- 7 Key Changes in Version 2
- 13 Upgrades for Gold
- Case Study – v1, v2, v2 Gold



What We'll Cover



Indoor airPLUS
Version 1, Rev.04



Indoor AirPlus
Version 2



www.epa.gov/indoorairplus



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- New Indoor AirPlus Website www.epa.gov/indoorairplus
- 7 Key Changes in Version 2
- 13 Upgrades for Gold
- Case Study – v1, v2, v2 Gold
- Program Framework and Landscape
 - ZERH and 45L Tax Credit
- Questions & Answers



Quick Poll: Raise your hand if any apply...

1. You are a current Indoor AirPlus Builder or Rater Partner
2. You attended (or watched later) the IAP V2 Launch webinar (Sept 5)
3. You attended the IAP V2 session at EEBA in 2022 or 2023

Website Tour

Indoor AirPlus

Protecting Your Indoor Air from Wildfire Smoke

Learn how Indoor AirPlus homes protect
against the harmful effects of wildfire smoke.

1

2

3

4

Indoor AirPlus is a voluntary partnership and labeling program that helps new home builders improve [Indoor Air Quality](#) by requiring construction practices and product specifications that minimize exposure to airborne pollutants and contaminants. Clean air is good for everyone's health, but it can be especially important to those who have chronic respiratory conditions.



About Indoor AirPlus

Learn how you can breathe easy with the Indoor AirPlus program

[Learn About Indoor AirPlus](#)



Indoor AirPlus Partnership

Discover the benefits of participating in Indoor AirPlus and how to get started

[Become an Indoor AirPlus Partner](#)



Your Indoor AirPlus Home

Access resources for occupants and owners of Indoor AirPlus homes

[Breathe Easy in Your Indoor AirPlus Home](#)

www.epa.gov/indoorairplus/indoor-airplus-program-documents



Program Documents

Access various tools that are key to participating in the Indoor AirPlus program

[Review Key Indoor AirPlus Program Documents](#)



Marketing and Outreach

Strategies for talking about Indoor AirPlus

[Discover Tools for Client Outreach](#)



Indoor AirPlus Leader Awards

See how Indoor AirPlus can amplify stakeholders' commitment to improved indoor air quality

[See the Indoor AirPlus Leader Award Winners](#)

Indoor AirPlus Version 2 – Program Documents

Indoor AirPlus

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Indoor AirPlus Program Documents

Indoor AirPlus continues to update many of its program documents based on stakeholder feedback, revised industry standards, and evolving best practices in building science and home performance. The latest updates in Indoor AirPlus Version 2 are now available for use.

The Indoor AirPlus Version 2 framework includes substantive updates to the certification protocols and verification requirements, as well as new logos and branding resources. IAP Version 2 is available for homes and multifamily buildings permitted on or after August 1, 2024. However, the Version 1 specifications and program framework can also continue to be used for homes and multifamily buildings permitted before January 2026 (eligibility dates subject to change). The latest Indoor AirPlus program requirements and companion guidance for both Versions, including the most current Version 1 Policy Record, can be found below.

For additional background on the Indoor AirPlus Version 2 development process, the EPA's response to public comments, and a [summary of updates](#) of notable changes, please see the [Indoor AirPlus Version 2 Development](#) webpage.

Indoor AirPlus Version 2 – Development & Highlights

Indoor AirPlus

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Indoor AirPlus Version 2 Development

In February 2023, the EPA proposed updates to the Indoor AirPlus program including a two-tiered certification program and other changes to strengthen and update program specifications and requirements. Additionally, the EPA proposed changes to the training requirements for partners, and a Home Certification Organization model to improve quality assurance. The public comment period is now closed. Thank you to those who reviewed and provided input.

The final Indoor AirPlus Version 2 Certification Protocol, National Program Requirements, Verification Requirements, and supporting resources can be found on the [Program Documents webpage](#). *The EPA will be making additional revisions to the proposed IAP V2 Certification System and HCO Application for Recognition, anticipated for release in late 2024.*

The EPA reviewed and responded to this feedback in a comment response document and summary of updates featured below. See also the Executive Summary and archived documents below for additional background information.

- [Indoor AirPlus Version 2 Response to Public Comment](#) (PDF) (44pp, 256 KB, July 2024, EPA-402-K-24/004)
- [Indoor AirPlus Version 2 Highlights – Summary of Updates](#) (PDF) (4pp, 174 KB, July 2024, EPA-402-K-24/009)



Indoor AirPlus Version 2 Archive

Indoor AirPlus Version 2, 2023 Public Comment Documents

Public comment is now closed on the draft documents below.

[Executive Summary and Highlights](#)

Indoor AirPlus Version 2 Highlights

Summary of Updates



The following is a summarized list of changes in "Version 2" of the Indoor AirPlus program requirements following Version 1. The list below is not exhaustive but intends to capture the most notable changes. Please refer to the referenced documents to review specific text changes along with EPA's responses to public comment for additional background.

General Updates to Eligibility and Certification System

- EPA has developed a tiered certification system with specifications for Indoor AirPlus CERTIFIED and Indoor AirPlus GOLD labels.
 - Residential buildings of all heights are included in the program scope.
 - Homes/buildings are eligible for the Indoor AirPlus (IAP) CERTIFIED label with no other certification pre-requisites.
 - To be eligible for Indoor AirPlus GOLD, homes/buildings must be certified using the ENERGY STAR Single-Family New Homes or Multifamily New Construction (MFNC) programs.
- EPA will introduce a Home Certification Organization (HCO) model aligned with ENERGY STAR and WaterSense Labeled Homes.
- EPA will introduce required trainings for IAP partners and quality assurance guidelines for HCOs to enhance consistency in application of the program requirements.

General Updates to Specifications Format

- Specification sections and items have been re-numbered for ease of reference.
- Terminology is updated in some cases (e.g., Section 4 uses the term "HAC" rather than "HVAC" in many instances, underscoring the importance of ventilation, often as a separate system from heating/cooling).
- Requirements for newly installed features are differentiated from existing features in some instances, improving options and specificity for gut-rehabs.
- For Multifamily buildings, various requirements apply to common space where noted.

Specification Updates

GOLD and **CERTIFIED** are noted below where the item only applies to that specific certification tier. Otherwise, the change is applicable to both certifications.

1. Moisture Control

Verification Process and Documentation

EPA recognizes that builders are already highly motivated to address basic moisture management protections and that various IAP provisions have been included in model codes for many years. EPA intends for IAP requirements to help guide and enhance these measures, improving consistency in application in jurisdictions which may not have adopted such measures in their local code, while also not adding unnecessary burden for participants where these measures are common building practice. Rather than requiring potentially unnecessary inspections by the IAP Verifier at numerous points in the construction process, EPA has designated twenty-two of the thirty-four items in Section 1 as a "Builder Responsibility" (rather than "rater verified"), reducing verification costs and improving overall affordability of certified homes. To address consistency and enforcement of those basic

epa.gov/iap

July 2024

Indoor AirPlus Version 2 – Development & Highlights

Indoor AirPlus

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Indoor AirPlus Version 2

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The Indoor AirPlus Verification Requirements (Version 2) includes the design, construction, and verification requirements for both Indoor AirPlus Certified and Indoor AirPlus Gold Certified homes.



[Indoor AirPlus Version 2 Builder Responsibilities \(PDF\)](#)

(3pp, 220 KB, July 2024, EPA-402-K-24/003)

The Indoor AirPlus Version 2 Builder Responsibilities include specifications that are the exclusive responsibility of the builder to implement for each certified home/building. See the full Indoor AirPlus Verification Requirements for more detail.

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(8pp, 1 MB, July 2024, EPA-402-K-24/002)

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Indoor AirPlus Version 2 National Program Requirements



Eligibility Requirements

The building types listed below, including newly constructed buildings or those undergoing gut rehabilitation, are eligible to earn Indoor AirPlus certification after verification of compliance with the program specifications. For multifamily buildings, the Indoor AirPlus requirements apply to all dwelling units, sleeping units, and common spaces in the building. They do not apply to commercial or retail space. EPA recognizes that some prescriptive program requirements present unique challenges for homes and buildings undergoing gut rehabilitation. To help mitigate these challenges, EPA has developed alternative compliance options that have been incorporated directly into the program specifications. EPA acknowledges that increased flexibility and alternative assessment protocols for existing buildings are important to promote adoption of broader indoor air quality protections through professional inspection of newly installed features, along with the performance outcomes of existing assemblies and systems. EPA is committed to including alternatives that demonstrate and promote sustained indoor air quality improvements, consistent with the intent of the respective certification.

The following building types (either new construction or undergoing a gut rehabilitation) are eligible to participate in the Indoor AirPlus certification program:

- Site built or modular² dwellings³ (e.g., single-family homes, duplexes);
- Townhouses⁴;
- Multifamily or mixed-use buildings with dwelling or sleeping units⁵.

Partnership, Training, and Credentialing Requirements

The following requirements must be met prior to certifying buildings:

- The Builder or Developer for the building is required to sign an Indoor AirPlus Partnership Agreement⁶ which can be found at <https://www.epa.gov/indoorairplus/indoor-air-plus-partnership-terms-and-commitments-homebuilders>. At least one representative of the partnering organization is required to complete the online "Indoor AirPlus Version 2 Training" and communicate or otherwise distribute the training content discretionally to the appropriate staff within the organization responsible for implementation of the program requirements (e.g., construction supervisors, purchasing managers, et al.). Deadlines for training completion and documentation will be forthcoming (pending EPA release, estimated in early 2025).
- Verification Companies are required to sign an Indoor AirPlus Partnership Agreement, which can be found at <https://www.epa.gov/indoorairplus/indoor-air-plus-partnership-terms-and-commitments-cating-companies> and operate under a Home Certification Organization (HCO).⁷ HCO requirements, including the oversight of certification and quality assurance, will be outlined in the forthcoming revisions to the [Indoor AirPlus Certification System](#) (estimated in late 2024).
- Verifiers⁸ are required to complete EPA-recognized "Indoor AirPlus Version 2 Training", (pending EPA release, estimated in early 2025) and be credentialed by a Home Certification Organization (HCO) prior to completing inspections (pending EPA approval of an IAP HCO application).

Indoor AirPlus Certification Process

1. Per the IAP V2 Implementation Timeline in Exhibit 1, IAP Verifier partners can continue using the Indoor AirPlus Version 1 certification process with either the Indoor airPLUS Version 1 (Rev. 4) Construction Specifications or the Indoor AirPlus Version 2 Verification Requirements. All new homes and apartments with building permits on or after January 1, 2026 will need to be certified under an EPA-recognized IAP HCO.
2. The Indoor AirPlus Version 2 certification process offers two tiers to earn Indoor AirPlus certification:
 - a. **Certified.** The dwelling units (and multifamily common spaces⁹, where applicable) are designed and constructed to meet or exceed all the applicable items in the Indoor AirPlus Verification Requirements¹⁰.
 - b. **Gold.** The dwelling units (and multifamily common spaces⁹, where applicable) are designed and constructed to meet or exceed all the applicable items in the Indoor AirPlus Verification Requirements¹⁰, including the applicable requirements marked "Gold", in addition to achieving ENERGY STAR certification (either Single Family New Homes or Multifamily New Construction).
3. For multifamily buildings, Indoor AirPlus certification can only be achieved where all requirements are met in all dwelling units, sleeping units, and common spaces in the building.
4. During construction and upon building completion, an Indoor AirPlus Verifier⁸ confirms that all requirements have been met, using the referenced inspection and testing procedures including all Addenda and Normative Appendices, with new versions and Addenda implemented according to the schedule defined by the HCO. For modular² buildings, a Verifier must confirm any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment.

July 2024

1

Indoor AirPlus Version 2 – Verification Requirements

Indoor AirPlus Version 2

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Indoor AirPlus Version 2 – Verification Requirements



Builder Responsibilities:

- It is the exclusive responsibility of builders to ensure that each certified home is constructed to meet the Indoor AirPlus requirements identified as “Builder Responsibility”.
- While builders are not required to maintain documentation demonstrating compliance for each individual certified home, builders are required to develop a process to ensure compliance for each certified home (e.g., incorporate these requirements into the Scope of Work for sub-contractors, require a site supervisor to inspect each home for these requirements, and/or sub-contract the verification of these requirements to a Verifier).
- Builders are required to review these Items with a representative of the Verification Organization and attest to their compliance at least once per development/community using the IAP Builder Responsibilities form.
- In the event that the EPA determines that a certified home was constructed without meeting these requirements, the home may be decertified.



Verifier has received signed Builder Responsibilities document from Builder

| Section 1 – Moisture Control | | Must Correct | Verified | N/A |
|-----------------------------------|-------|---|--------------------------|--------------------------|
| Water-Managed Site and Foundation | | | | |
| 1.1 | 1.1.1 | Impermeable surfaces sloped \geq 0.25 in. per ft. away from the building. | | |
| | 1.1.2 | Newly installed backfill tamped and final grade sloped \geq 0.5 in. per ft. Exception: ■ Swales/drains ■ Professional verified soils ■ Graded after settling | | |
| 1.2 | 1.2.1 | Newly installed foundations, drain tile or CFDS is installed to discharge outside. Exceptions: ■ Professional verified Group I soils | | |
| | 1.2.2 | Sump cover is mechanically attached. | | |
| | 1.2.3 | Sump drainage discharges \geq 5 ft. from the foundation or into approved stormwater system. Exception: ■ Discharge professionally designed or verified Group I Soils | | |
| 1.3 | 1.3.1 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | In lowest area of basement or crawlspace, install floor drain with trap seal OR moisture monitoring system with audible alarm. | | |



Indoor AirPlus Version 2 – Builder Responsibilities

Indoor AirPlus Version 2

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| Section 7 – Occupant Education | |
|--------------------------------|--|
| 7.1 | 7.1.1 Instruction manuals provided for the following <u>newly installed</u> appliances and systems: <ul style="list-style-type: none">■ HVAC systems and accessories■ Local and dwelling-unit ventilation systems■ Kitchen and bath exhaust systems■ Air cleaners■ Dehumidifiers■ Moisture and/or IAQ monitors■ Combustion appliances■ Sump pumps■ Radon systems |
| | 7.1.2 Owner-occupied units: OSM recommendations and filter change schedule provided. |
| Builder Organization | |
| Builder Representative | |
| Builder Signature | Date |

This collection of information is approved by OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. (OMB Control No. 2093-0066). Responses to this collection of information are voluntary (Section 103(a) of the Clean Air Act). An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The public reporting burden for this collection of information is estimated to average 5 hours per response. Send comments on this Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to the Regulatory Support Division Director, U.S. Environmental Protection Agency (2021), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

EPA Form No. 5300-668

Office of Air and Radiation
EPA 402/B-24/005

Indoor AirPlus Version 2 Builder Responsibilities



Indoor AirPlus Version 2 – How to Find Compliant Materials

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6.3 Adhesives and Sealants

Requirement:

6.3.1 Site-applied interior adhesives and sealants shall not exceed maximum VOC emission levels in accordance with and determined by [CDPH Standard Method V1.2.3017](#).

Labels Below Meet the Requirements for Item 6.3:



Clean Air GOLD, by Intertek.

Find Clean Air GOLD certified products at: [Intertek Sustainability Certification Directory](#).



ClearChem, by Berkeley Analytical.

Find ClearChem certified products at: [ClearChem directory](#).



FloorScore, by Scientific Certification Systems.

Find FloorScore certified products at: [Certified Green Products Guide | SCS Global Services](#).



GREENGUARD GOLD.

Find GREENGUARD GOLD certified paint and coating products at: [UL search](#).



Indoor Advantage Gold, by Scientific Certification Systems.

Find Indoor Advantage Gold certified products at: [Certified Green Products Guide | SCS Global Services](#).



Indoor Air Comfort USA, By Eurofins.

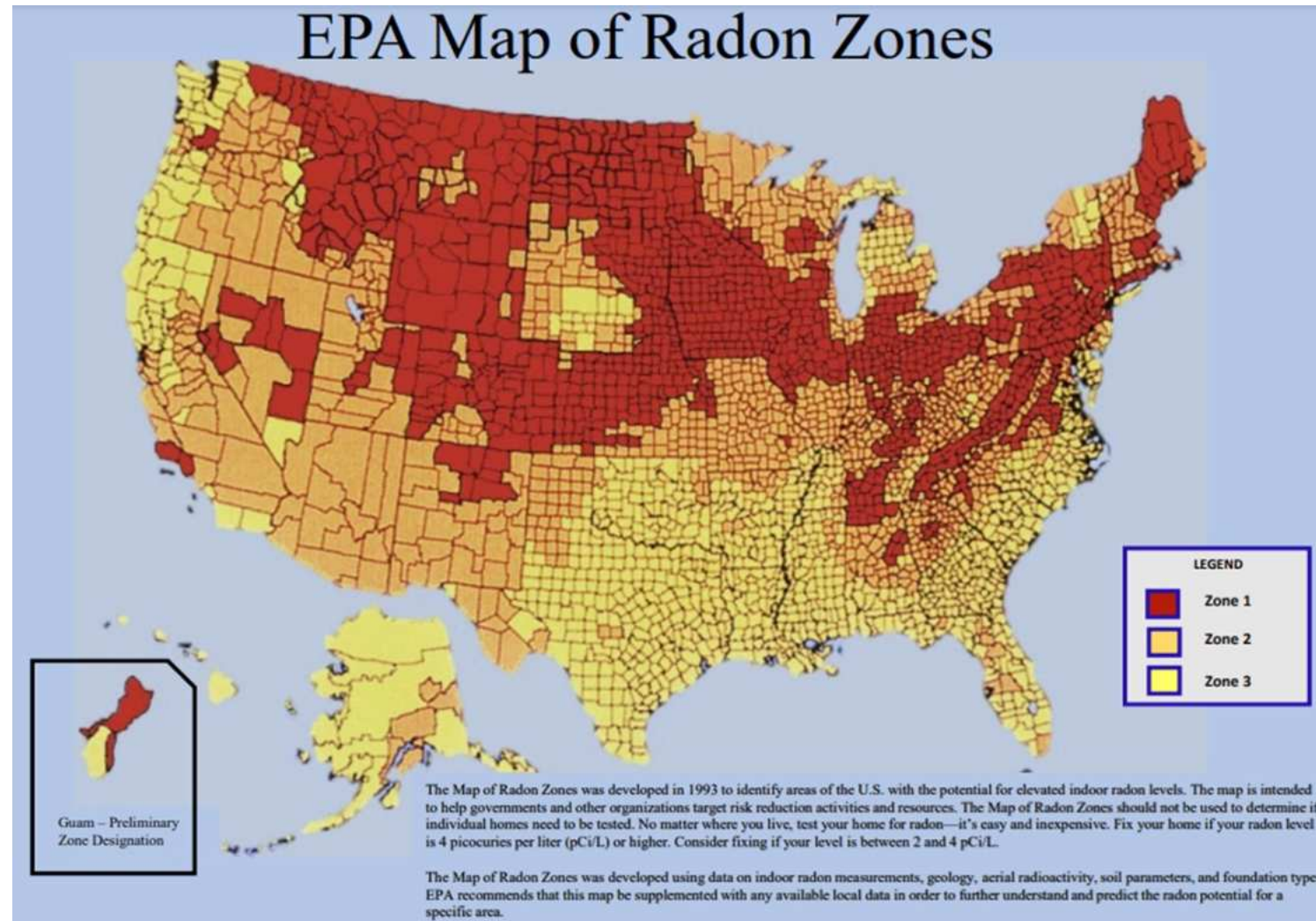
Find Indoor Air Comfort USA certified products at: [www.eurofins.com/Indoor-Air-Comfort-USA](#).



How to Find Indoor AirPlus Compliant Building Products

7 Key Changes in Version 2

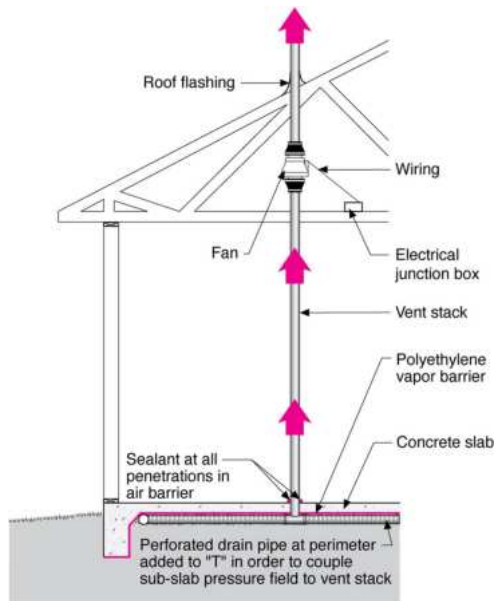
Section 2 Changes – Radon (#1)



Section 2 Changes – Radon (#1)

EPA Radon **Zone 1**:

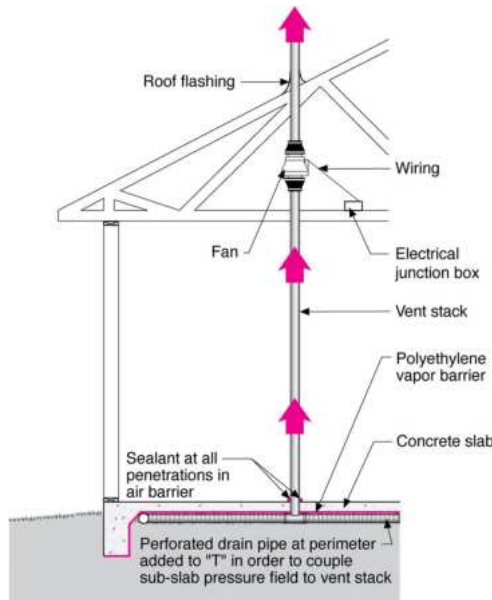
- *In IAP Version 1, only a passive system was required (no test)*
- Option 1: Install active system (without a test);



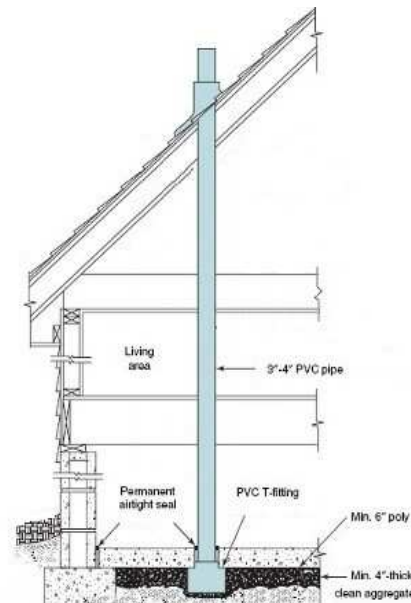
Section 2 Changes – Radon (#1)

EPA Radon **Zone 1**:

- *In IAP Version 1, only a passive system was required (no test)*
- Option 1: Install active system (without test); OR
- Option 2: Install a passive system with a test (< 4 pCi/L);



OR



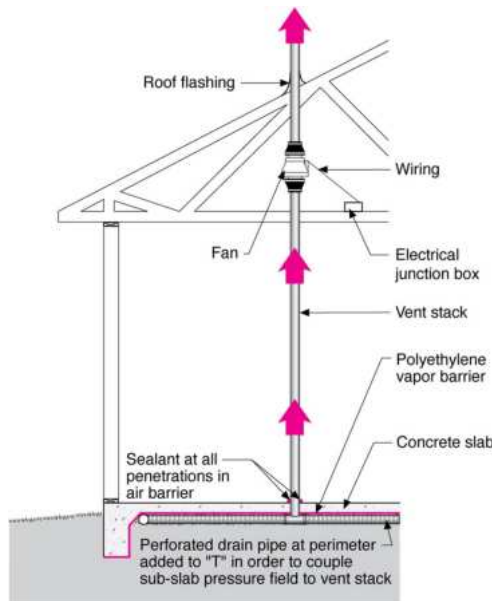
+



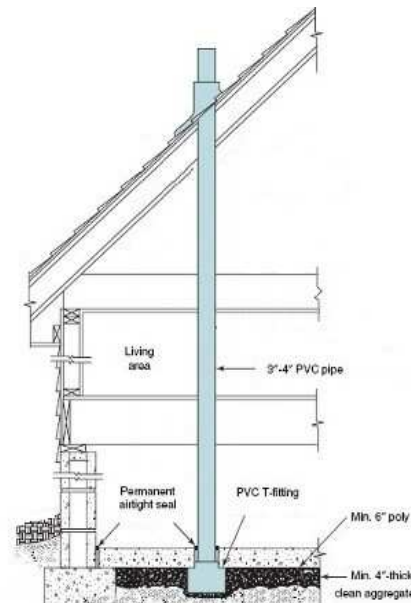
Section 2 Changes – Radon (#1)

EPA Radon **Zone 2**:

- Option 1: Install active or passive system without a test; OR
- Option 2: No system, but test for radon (< 4 pCi/L)



OR

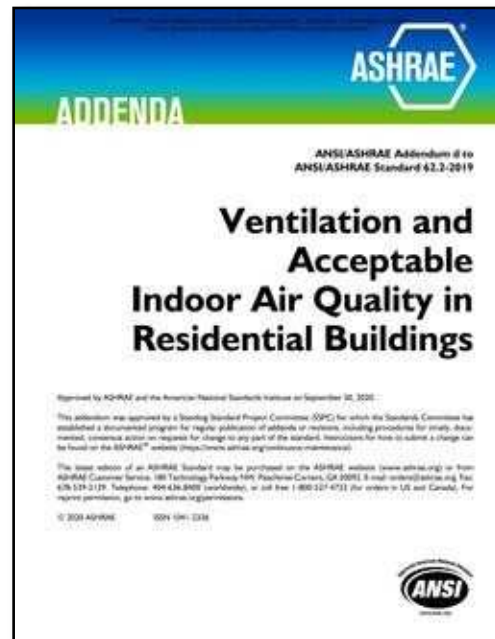
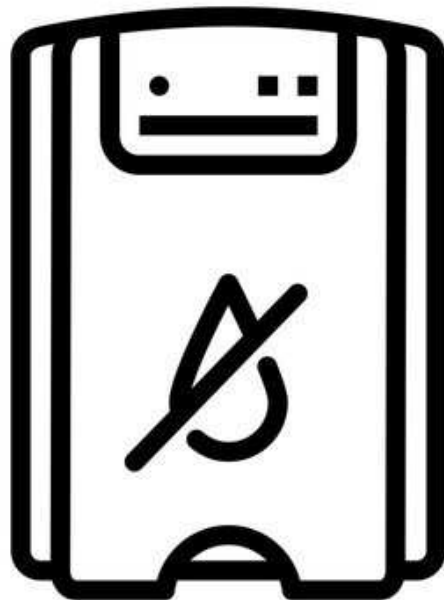


OR



Section 4 Changes – HVAC Systems (#2 - #3)

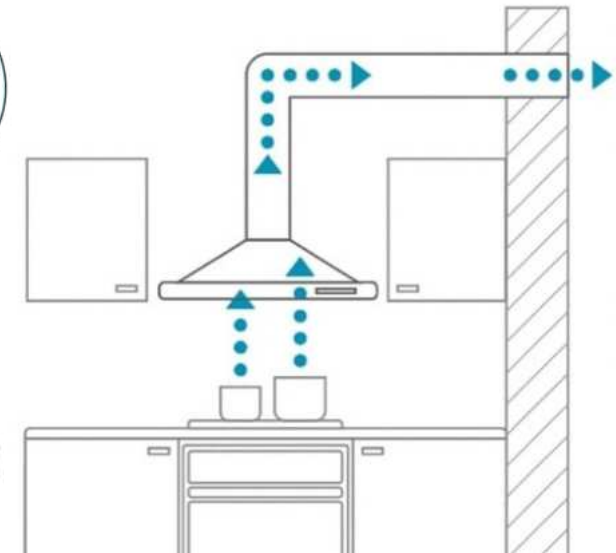
- Expanded dehumidification requirements into Climate Zone 4A
- Increased dwelling-unit ventilation rates to ASHRAE 62.2-2019...
- ...& kitchen exhaust in one & two-family and townhouses



200 cfm



300 cfm



Section 4 Changes - HVAC Systems (#4 - #5)

- Outdoor air (OA) requires filtration
- Increased MERV filtration on ducted Heating & Cooling (HAC)



MERV 11

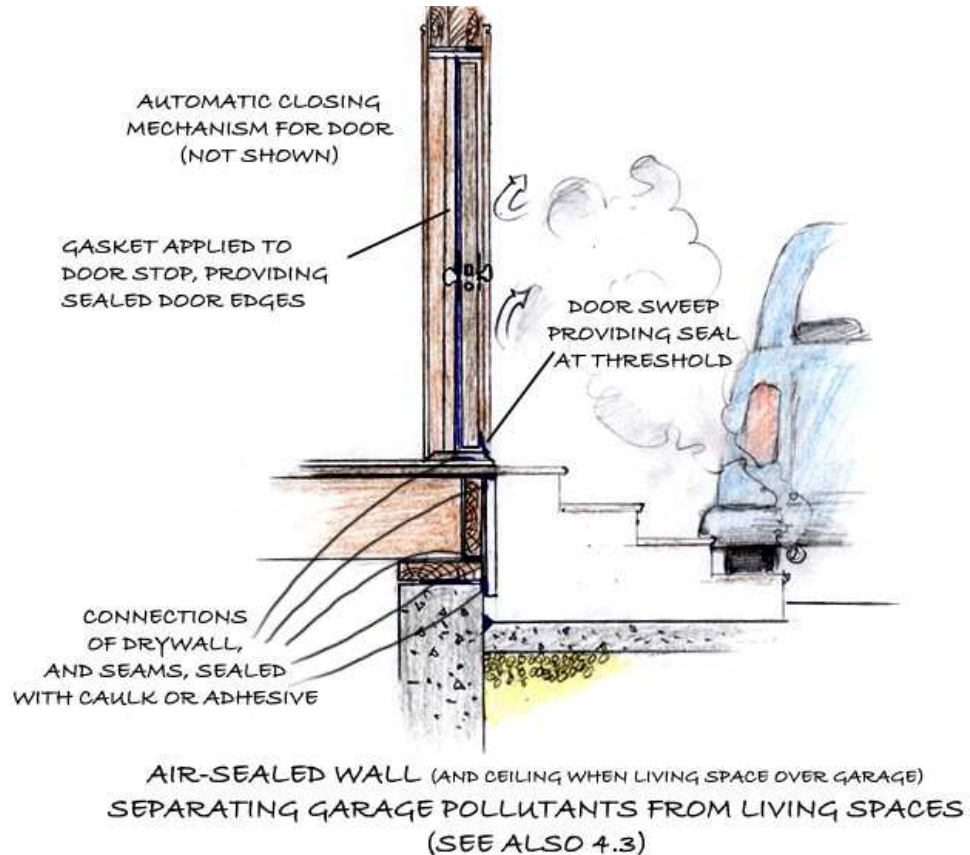


MERV 13



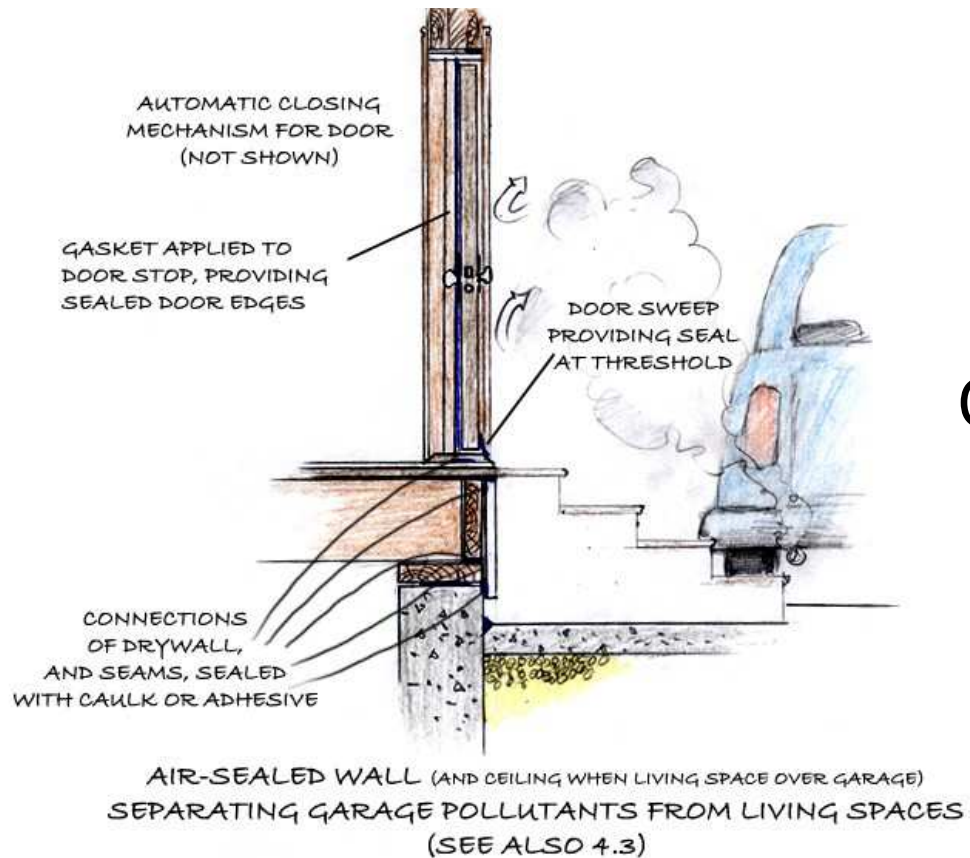
Section 5 Changes - Garage Pollutants (#6)

In V2, required to address regardless of ventilation system.
Garage to house pressure test; OR....



Section 5 Changes - Garage Pollutants (#6)

In V2, required to address regardless of ventilation system.
Garage to house pressure test; OR install 100 cfm exhaust fan.



OR





Section 6 Changes – Building Materials (#7)

Additional products require verification of VOC emission limits:

- Adhesives and sealants
- Hard surface flooring
- Interior gypsum board and joint compound



Section 6 Changes – Building Materials (#7)



Indoor AirPlus: How to Find Compliant Building Materials

July 2024

Office of Air and Radiation
EPA 402/K-24/002 | July 2024

6.3 Adhesives and Sealants

Requirement:

6.3.1 Site-applied interior adhesives and sealants shall not exceed maximum VOC emission levels in accordance with and determined by [COPH Standard Method V1.2-2017](#).

Labels Below Meet the Requirements for Item 6.3:

| | |
|---|---|
|  | Clean Air GOLD, by Intertek. Find Clean Air GOLD certified products at: Intertek Sustainability Certification Directory . |
|  | ClearChem, by Berkeley Analytical. Find ClearChem certified products at: ClearChem directory . |
|  | FloorScore, by Scientific Certification Systems. Find FloorScore certified products at: Certified Green Products Guide SCS Global Services . |
|  | GREENGUARD GOLD. Find GREENGUARD GOLD certified paint and coating products at: UL search . |
|  | Indoor Advantage Gold, by Scientific Certification Systems. Find Indoor Advantage Gold certified products at: Certified Green Products Guide SCS Global Services . |
|  | Indoor Air Comfort USA, By Eurofins. Find Indoor Air Comfort USA certified products at: www.eurofins.com/Indoor-Air-Comfort-USA . |

How to Find Indoor AirPlus Compliant Building Products



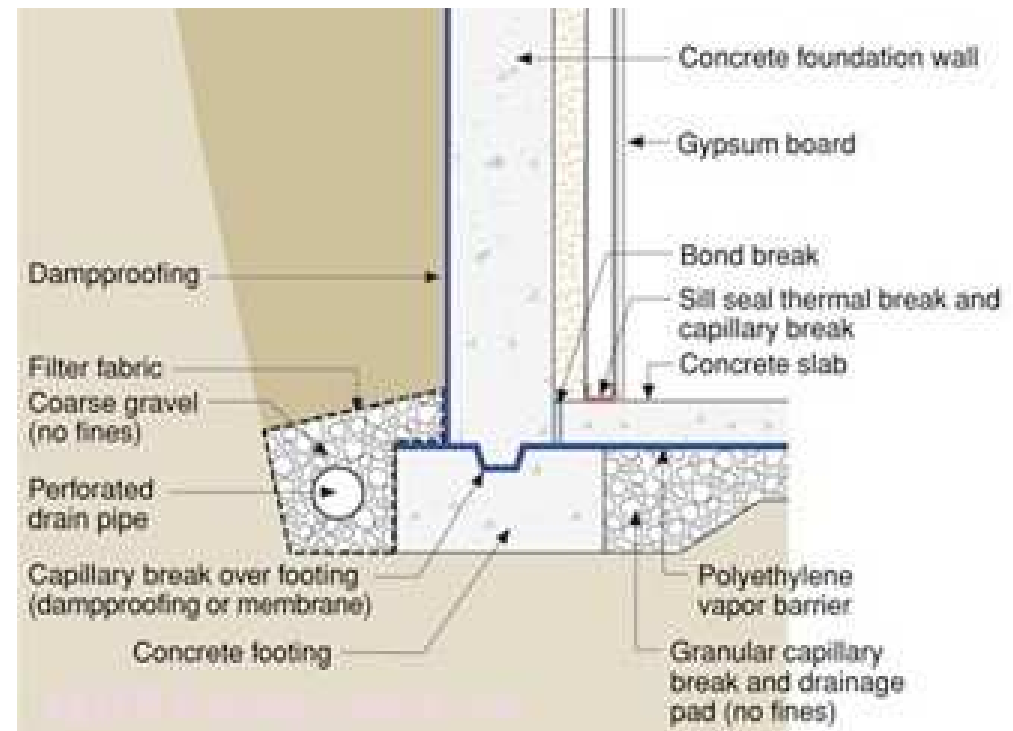
Getting to Gold

Getting to Gold (#1) – ENERGY STAR



Getting to Gold (#2) – Moisture Control

Capillary break installed under or on top of newly installed footers



Getting to Gold (#3 & 4) – Pest Prevention

Screens provided for all operable windows

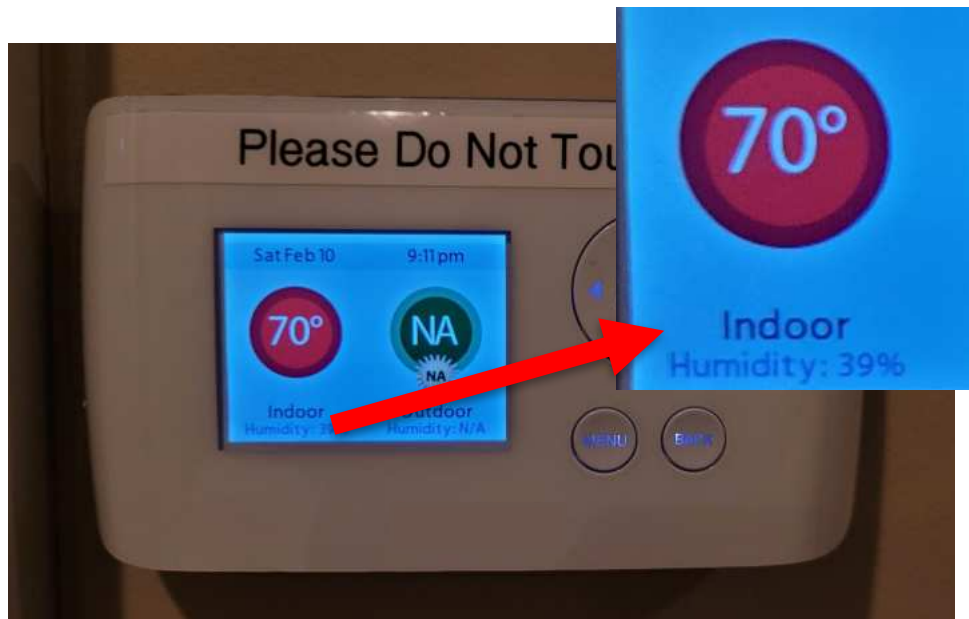


Sanitary floor drains installed in common trash/recycle rooms in Multifamily



Getting to Gold (#5 & 6) – HVAC

Humidity monitoring in each dwelling unit



Bathroom exhaust fan w/manual timer or occupancy/humidity sensor



Getting to Gold (#7 & 8) – HVAC

Heating & cooling ductwork & AHU inside the thermal & pressure boundary



Balanced ventilation:
ERV, HRV or supply + exhaust

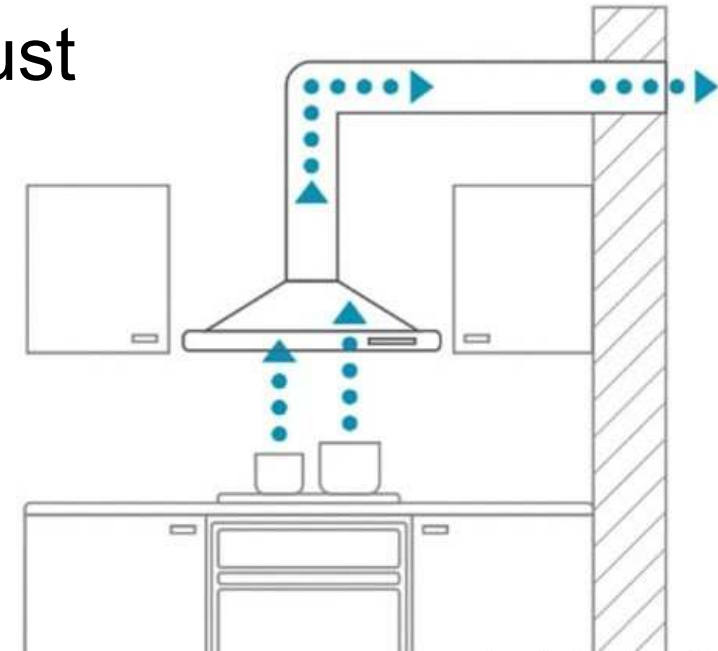


Getting to Gold (#9 & 10) – HVAC

MERV 13 filter on outdoor air & recirculating air;
ducted & ductless



For one- & two-family homes & townhomes, 300 cfm intermittent kitchen exhaust



Getting to Gold (#11 & 12) – Pollutant Control

Air Tightness:

- Detached homes < 3 ACH50
- Attached units < 0.25 cfm50/ft2



Furnaces, boilers, & water heaters mechanically drafted or direct-vented



Getting to Gold (#13) – Building Materials

Insulation products meet CDPH VOC emission limits.

Exceptions:

- Pipe insulation
- Board insulation installed outside exterior sheathing

6.6 Insulation

Requirement:

6.6.1 GOLD: Insulation materials installed in wall, floor, or ceiling cavities, as well as on the interior surface of foundation walls shall not exceed maximum VOC emission levels in accordance with and determined by [CDPH Standard Method V1.2-2017](#).

NOTE: Compliance with this Item is only required to achieve Indoor AirPlus Gold certification.

Labels Below Meet the Requirements for Item 6.6:



Benchmark VOC Green Certification.

Find Benchmark VOC Green Certified products at: [VOC Green Certification](#).



GREENGUARD GOLD.

Find GREENGUARD GOLD certified paint and coating products at: [UL search](#).



Indoor Advantage Gold, by Scientific Certification Systems.

Find Indoor Advantage Gold certified products at: [Certified Green Products Guide | SCS Global Services](#).



Indoor Air Comfort USA, By Eurofins.

Find Indoor Air Comfort USA certified products at: www.eurofins.com/Indoor-Air-Comfort-USA.

Additional Requirements for Gold label

1. ENERGY STAR Certification
2. Capillary break installed under or on top of newly installed footers
3. Screens provided for all operable windows
4. For Multifamily, sanitary floor drains installed in common trash/recycle rooms
5. Humidity monitoring provided in the dwelling units
6. Dwelling-unit bathroom exhaust fans include manual timer or occupancy/humidity sensor if not run continuously
7. Air handler and ducts brought inside the thermal/pressure boundary
8. Balanced ventilation installed (ERV, HRV or supply + exhaust)
9. MERV 13 filter installed on outdoor and recirculating air (for ducted and ductless systems)
10. Kitchens in single-family and townhouses installed with 300 cfm intermittent kitchen exhaust
11. Air tightness < 3 ACH50 for single-family detached homes & < 0.25 cfm50/ft² for attached units
12. Combustion furnaces, boilers, & water heaters are mechanically drafted or direct-vented
13. Insulation products meet CDPH VOC emission limits: exceptions for pipe insulation & some board insulation

Case Study

Eagleville Green
Mansfield, CT

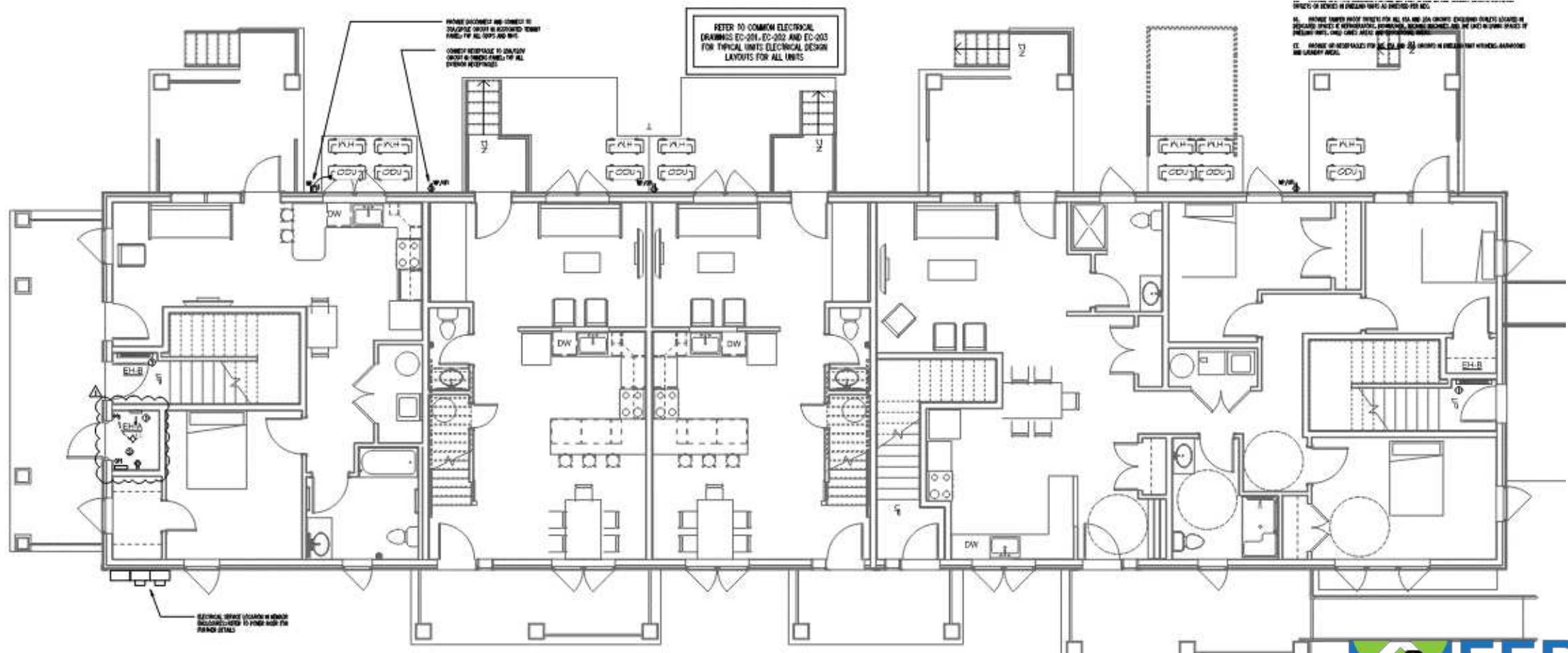
7 buildings
42 affordable units



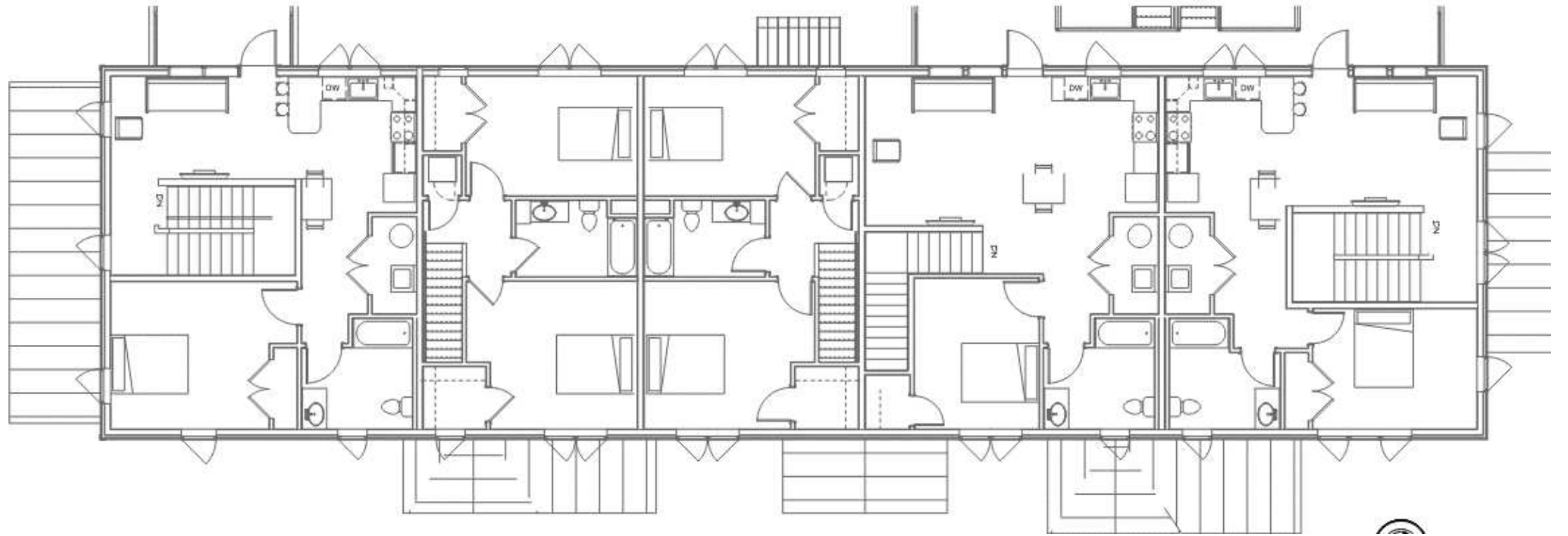
Eagleville Green



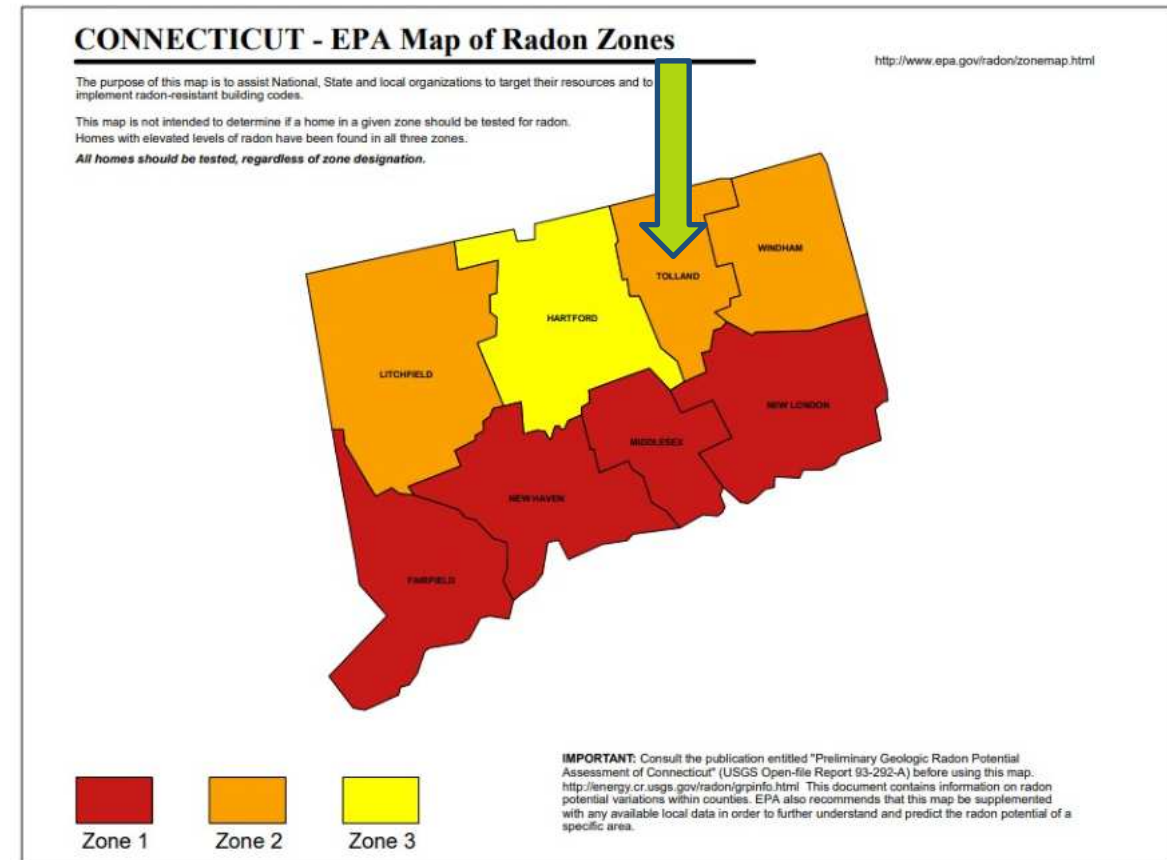
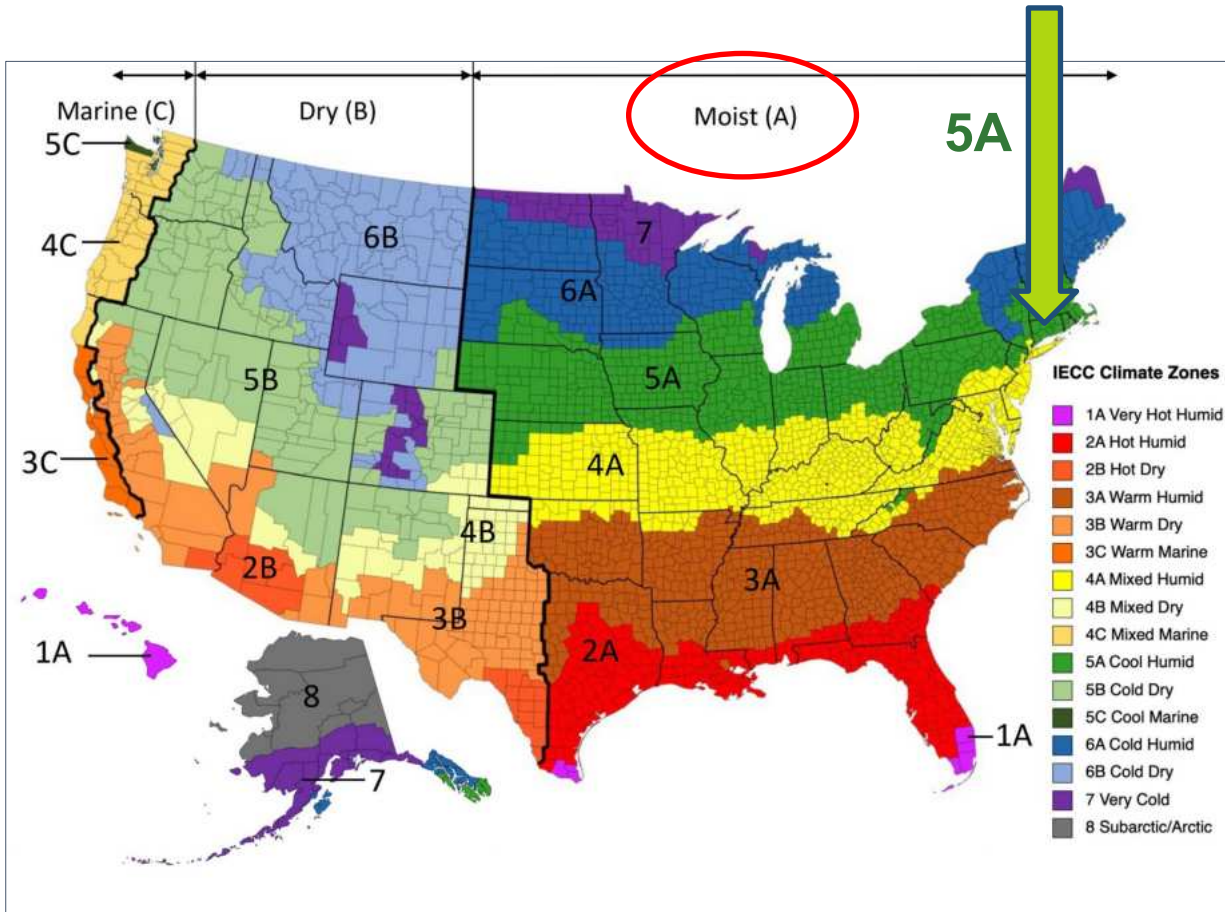
Eagleville Green



Eagleville Green



Eagleville Green



Eagleville Green

Indoor airPLUS Version 1





Applying Version 1

DESIGN PHASE

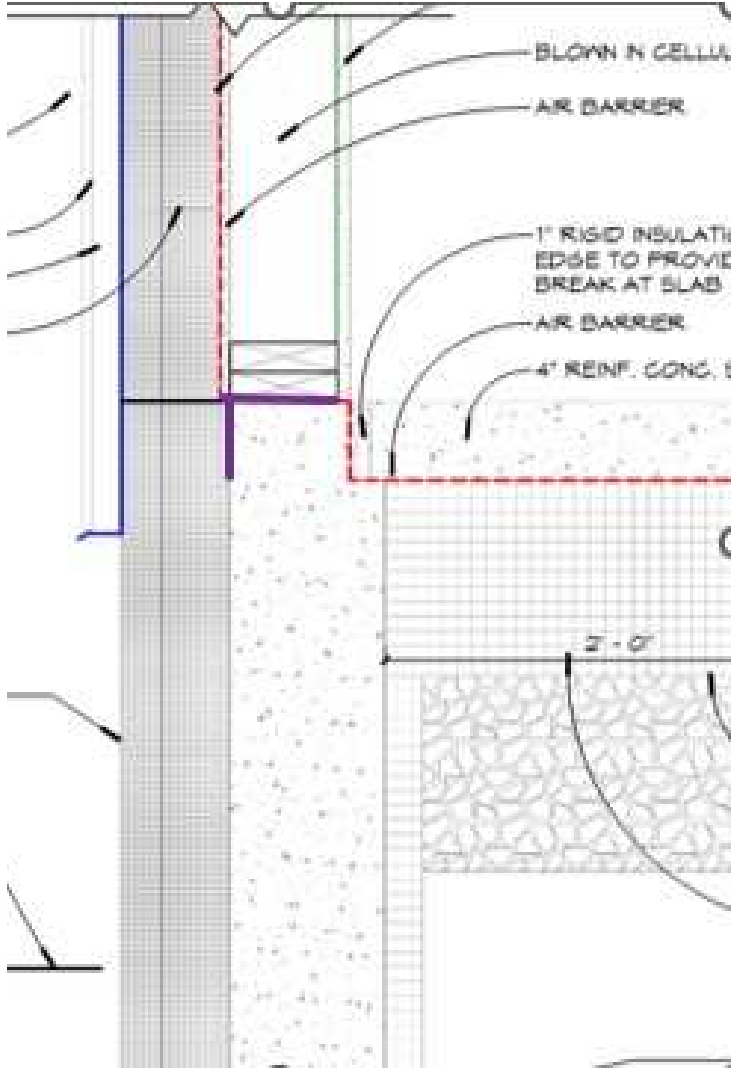
- ❑ Download latest Specifications and Checklist
- ❑ Verify program partnerships and applicable ENERGY STAR Version
- ❑ Conduct a Design Meeting
- ❑ Review plans and specs for IAP requirements
- ❑ Review for ENERGY STAR requirements

CONSTRUCTION PHASE

- ❑ Review submittals
- ❑ Verify in field



Version 1 Below Grade





Version 1 Open Wall



1.11 Supply piping in exterior walls



4.2 Ducts protected during construction *non-ducted HAC, ducted ERV*



6.1 Composite wood certified low emitting



2.1 Radon resistant features



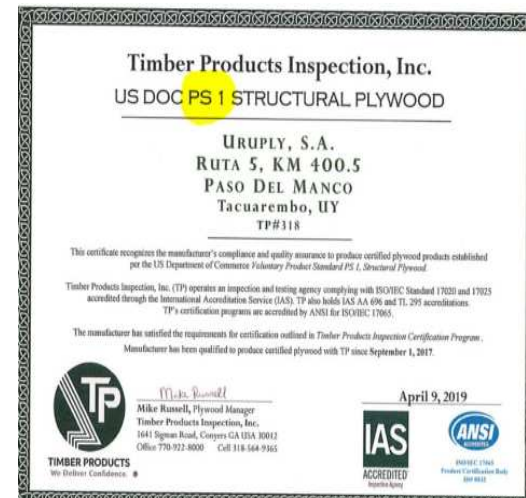
4.3 No HVAC in garages (Eagleville has no garages)



5.1 Fuel burning appliances (Eagleville all electric)



4.1 RH < 60% CZ 5 exception applied



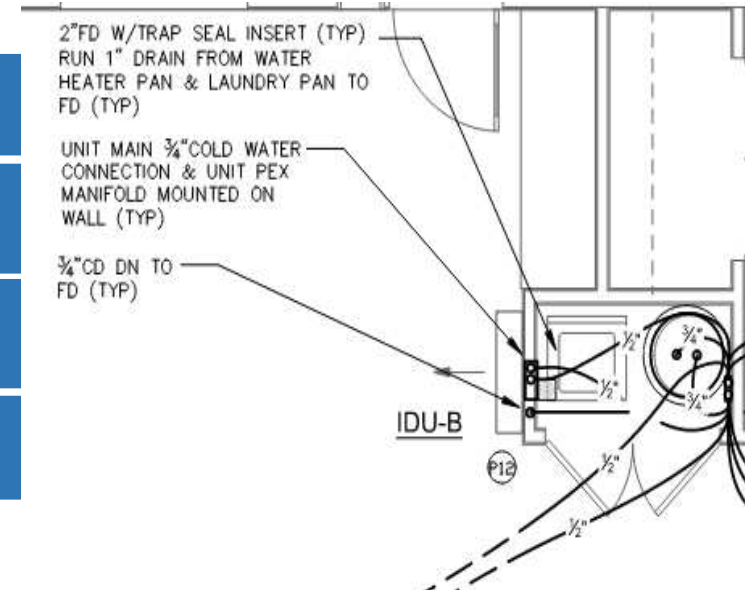
Version 1 Verification



- ✓ 1.14 Hard-surface floors in wet rooms
- ✓ 1.7 Gutters installed
- ✓ 3.2 Rodent/bird screens
- ✓ 4.6 HP (non vented) dryer to drain

N/A 2.1 Radon mitigation


N/A 4.7 MERV 8 filters (non ducted system)



Version 1 Verification



- ✓ 5.2 CO Alarms installed
- ✓ 5.3 No smoking policy/signs in place (25' from entries, etc.)
- ✓ 6.2 Paints low emitting
- ✓ 7.1 HVAC systems are dry, clean, new filter
- ✓ 7.2 Home ventilated before occupancy
- ✓ 7.3 Manuals, labels provided for owner/occupant



Benjamin Moore's Green Promise® designation is our company's assurance that this product meets – and often exceeds – rigorous environmental and performance criteria regarding VOCs, emissions, application, washability, scrubability and packaging, while also delivering the premium levels of performance you expect from Benjamin Moore.

| Eligible for LEED® v4 Credit | CDPH v1 Emissions Certified | Qualifies for CHPS low emitting credit (Collaborative for High Performance Schools) | VOC (in any color) |
|---------------------------------|--------------------------------|--|-----------------------|
| YES | YES | YES | < 50 g/L |

This Benjamin Moore product has been tested by independent third parties and meets or exceeds the published chemical restriction and performance criteria of the **Green Seal™ GS-11 2015 standard**

Eagleville Green

Indoor AirPlus Version 2 Certified





Applying Version 2

DESIGN PHASE

- ❑ Download latest Verification Requirements
- ❑ Verify program partnerships & training completed (Verifier & Builder)
- ❑ Conduct a Design Meeting
- ❑ Review plans and specs for IAP v2 requirements
 - 2.1 Radon strategy, installed system and/or testing
 - 3.2.1, 3.2.2 IPM plan
 - 4.1.1 HAC design & sizing met
- ❑ Ask how Builder Responsibility items will be met

Load Short Form
Entire House

This example has two zones (1st and 2nd floor).
This is the entire house summary.

| Project Information | | | |
|-----------------------------|-----|-----|----------------------|
| Design Information | | | |
| | Htg | Clg | Infiltration |
| Outside db (°F) | 15 | 85 | Method |
| Inside db (°F) | 70 | 75 | Construction quality |
| Design TD (°F) | 55 | 10 | Fireplaces |
| Daily range | - | L | |
| Inside humidity (%) | 50 | 50 | |
| Moisture difference (gr/lb) | 45 | 31 | |

For
Must be 75°F and 70°F indoor temperature for cooling and heating, respectively.

Must be the 99% and 1% outdoor cooling temperature, respectively, as published in Fundamentals (tables begin at the end of Fundamentals). NOT necessarily 85°F. (Checklist Item 1.2.1)

Infiltration rate shall reflect value used in confirm rating. If unsure, the infiltration rate shall be set equivalent term. This will be a judgement call b performance testing of the builder practice.

CONSTRUCTION PHASE

- ❑ Review submittals
- ❑ Verify in field

| HEATING EQUIPMENT | | COOLING EQUIPMENT | |
|-------------------|------------|-------------------|-----|
| Make | n/a | Make | n/a |
| Trade | n/a | Trade | n/a |
| Model | n/a | Cond | n/a |
| AHRI ref no. | n/a | Coil | n/a |
| | | AHRI ref no. | n/a |
| Efficiency | n/a | Efficiency | |
| Heating input | | Sensible cooling | |
| Heating output | 0 Btuh | Latent cooling | |
| Temperature rise | 0 °F | Total cooling | |
| Actual air flow | 0 cfm | Actual air flow | |
| Air flow factor | 0 cfm/Btuh | Air flow factor | |

Version 2 Below Grade



Builder Responsibilities:

- It is the exclusive responsibility of builders to ensure that each certified home is constructed to meet the Indoor AirPlus requirements.

demonstrating compliance for each individual certified home, builders are required to demonstrate compliance for each individual certified home (e.g., incorporate these requirements into the Scope of Work for sub-contractors, and/or sub-contract the verification of these requirements to a third party).

- Builders are required to review these items with a representative of the Verification Organization and attest to their compliance at least once per year on the annual compliance form.

If a home was constructed without meeting these requirements, the home may be decertified.

Document from Builder

| Must Correct | Verified | N/A |
|--------------|----------|-----|
|--------------|----------|-----|

| Water-Managed Site and Foundation | | | |
|-----------------------------------|-------|--|--|
| 1.1 | 1.1.1 | Impermeable surfaces sloped ≥ 0.25 in. per ft. away from the building. | Builder Responsibility |
| | 1.1.2 | Newly installed backfill tamped and final grade sloped ≥ 0.5 in. per ft. Exception: ■ Swales/drains ■ Professional verified soils ■ Graded after settling | Builder Responsibility |
| 1.2 | 1.2.1 | Newly installed foundations, drain tile or CFDS is installed to discharge outside. Exceptions: ■ Professional verified Group I soils | Builder Responsibility |
| | 1.2.2 | Sump cover is mechanically attached. | Builder Responsibility |
| | 1.2.3 | Sump drainage discharges ≥ 5 ft. from the foundation or into approved stormwater system. Exception: ■ Discharge professionally designed or verified Group I Soils | Builder Responsibility |
| 1.3 | 1.3.1 | In lowest area of basement or crawlspace, install floor drain with trap seal OR moisture monitoring system with audible alarm. | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 1.4 | 1.4.1 | Under newly installed slabs, aggregate OR sand with geotextile matting is installed. Exceptions: ■ Professional verified Group I Soils | Builder Responsibility |
| | 1.4.2 | Under newly installed slabs, Class A or Class B vapor retarder is installed. | Builder Responsibility |
| | 1.4.3 | Crawlspace without slabs, Class A vapor retarder installed with penetrations/seams/edges overlapped and sealed. | Builder Responsibility |
| | 1.4.4 | Existing slabs in <u>Moist (A) Zones</u> where Items 1.4.1 and 1.4.2 cannot be confirmed, a continuous/sealed Class I vapor retarder installed on top of slab. For occupiable spaces, vapor retarder is either a durable floor surface or covered by one. | Builder Responsibility |
| | 1.4.5 | Capillary break installed between the foundation wall (or slab) and newly installed sill plates. | Builder Responsibility |
| | 1.4.6 | GOLD: Capillary break installed under or on top of all newly installed concrete footers. | <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
| 1.5 | 1.5.1 | Newly installed below-grade concrete/masonry walls damp-proofed; wood framed walls waterproofed. | Builder Responsibility |
| Water-Managed Wall Assemblies | | | |
| 1.6 | 1.6.1 | Continuous water-resistive barrier installed behind cladding and a bond-break drainage plane for non-structural masonry assemblies. | Builder Responsibility |
| | 1.6.2 | Flashing/drainage system at all horizontal interruptions and bottom of exterior walls. | Builder Responsibility |
| | 1.6.3 | Weep holes for masonry veneer and/or weep screed for stucco cladding. | Builder Responsibility |
| 1.7 | 1.7.1 | Newly installed windows and doors fully flashed. | Builder Responsibility |
| Water-Managed Roof Assemblies | | | |
| 1.8 | 1.8.1 | Gutter system discharges ≥ 5 ft. from foundation, into underground catchment, or sewer/rainwater management system. Exceptions: ■ Slab-on-grade ■ Dry (B) Climates ■ Professional verified soils ■ Rock bed w/liner ■ Rainwater harvesting system ■ Continuous rubber membrane ■ Waterproofed foundation walls | Builder Responsibility |



2.1.1 Radon Zone 2 – Verify system or testing



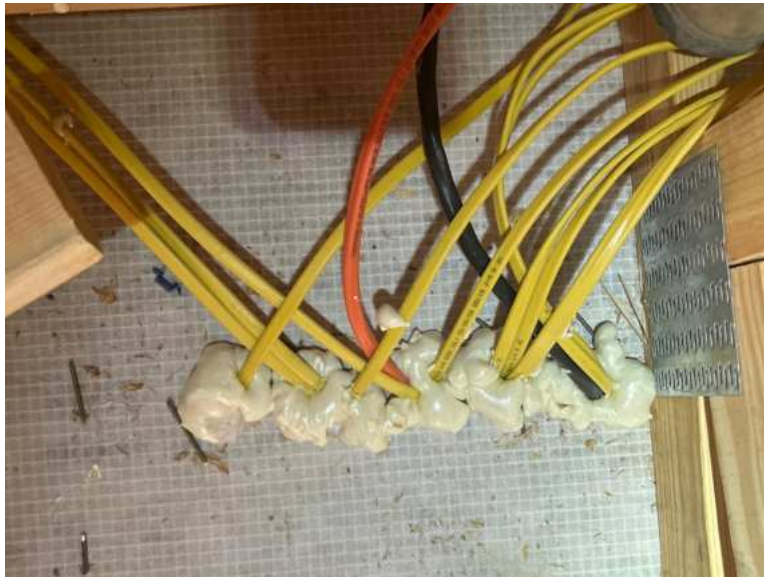
3.1.1 Verify penetrations sealed (slab)



Version 2 Open Wall



- ✓ 1.14.1 Supply pipes in exterior cavities insulated min R4
- ✓ 1.16.1 No Class I VR on interior side if vapor permeable insulation
- ✓ 1.17.2 Exterior envelope inspection
- ✓ 3.1.1 Exterior Penetrations sealed





Version 2 Open Wall – Existing Farmhouse

1.14.1 Supply pipes insulated min R4

1.16.1 No Class I VR on interior side if vapor permeable insulation

1.17.2 Exterior envelope inspection

3.1.1 Exterior Penetrations sealed



Version 2 Verification

- ✓ 4.1.3 Collect HAC documentation/start up
- ✓ 4.6 ERV inlet locations, flows measured, filters min MERV 8
- ✓ 4.8 Kitchen exhaust through ERV with MERV 3 filter
- ✓ 5.3 No smoking/vaping (within 25' of entries, etc.)
- ✓ 5.4 Compartmentalization testing < 0.30 cfm50/sf encl





Version 2 Verification

- ✓ 6.1 Paints/finishes/coatings meet VOC limits in CDPH
- ✓ 6.2 Carpets/carpet cushions meet VOC limits in CDPH
- ✓ 6.3 Adhesives/sealants meet VOC limits in CDPH
- ✓ 6.4 Hard surface flooring meets VOC limits in CDPH
- ✓ 6.5 Gypsum meets VOC limits in CDPH
- ✓ 7.1 Instruction manuals and O&M provided to owner/occupant

[How to Find Indoor AirPlus Compliant Low Emission Products](#)









6.3 Adhesives and Sealants

Requirement:

6.3.1 Site-applied interior adhesives and sealants shall not exceed maximum VOC emission levels in accordance with and determined by [CDPH Standard Method V1.2-2017](#).

Labels Below Meet the Requirements for Item 6.3:

-  **Clean Air GOLD, by Intertek.**
Find Clean Air GOLD certified products at: [Intertek Sustainability Certification Directory](#).
-  **ClearChem, by Berkeley Analytical.**
Find ClearChem certified products at: [ClearChem directory](#).
-  **FloorScore, by Scientific Certification Systems.**
Find FloorScore certified products at: [Certified Green Products Guide | SCS Global Services](#).
-  **GREENGUARD GOLD.**
Find GREENGUARD GOLD certified paint and coating products at: [UL search](#).
-  **Indoor Advantage Gold, by Scientific Certification Systems.**
Find Indoor Advantage Gold certified products at: [Certified Green Products Guide | SCS Global Services](#).
-  **Indoor Air Comfort USA, By Eurofins.**
Find Indoor Air Comfort USA certified products at: [www.eurofins.com/Indoor-Air-Comfort-USA](#).

Eagleville Green

Indoor AirPlus Version 2 **Gold**



Applying Version 2 Gold



DESIGN PHASE & PRECONSTRUCTION

- ❑ Download latest Verification Requirements
- ❑ Verify program partnerships & training completed (Verifier & Builder)
- ❑ Conduct a Design Meeting
- ❑ Review plans and specs for IAP v2 Gold requirements (Certified+13)
- ❑ Review for ENERGY STAR Requirements
- ❑ Ask how Builder Responsibility items will be met

CONSTRUCTION PHASE

- ❑ Review submittals
- ❑ Verify in field



Version 2 Gold Below Grade



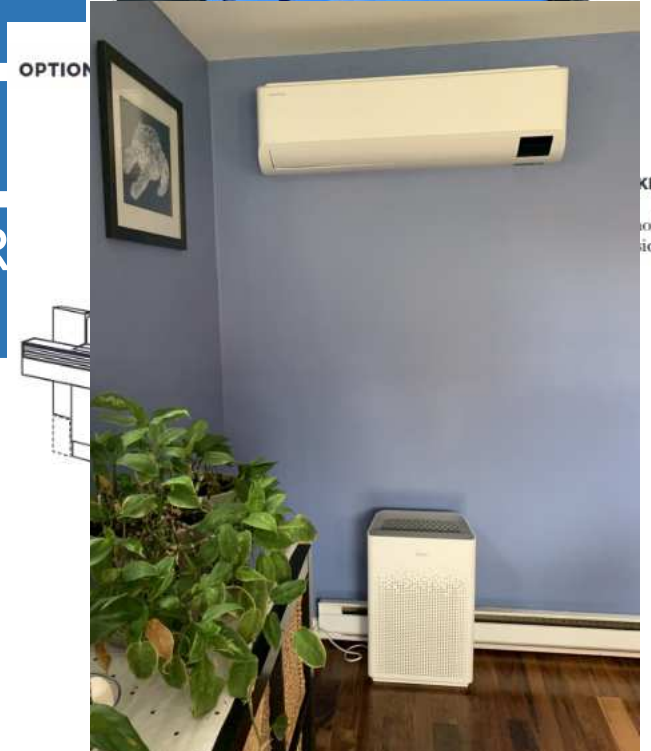
1.4.6 Capillary break under or on top of all new concrete footers



Version 2 Gold Verification



- 4.2.1 Humidity monitoring main living area
- 4.4.3 All HAC (*not V*) within thermal envelope
- 4.6.1 Balanced ventilation with MERV 13 (4.6.6)
- 4.8.1 Electric cooktop + recirc hood + charcoal filter (*MF only*)
- 4.12 Non ducted HAC w/ MERV 13 or portable air cleaner OR transfer grill w/ MERV 13



Version 2 Gold Verification



- ✓ 5.4.2 Compartmentalization testing < 0.25 cfm50/sf encl
- ✓ 6.6 Insulation meets VOC limits in CDPH
- N/A 4.7.4 Demand-controlled bath exhaust with timer or sensor
- N/A 4.9 & 4.11 Common space HVAC
- N/A 5.1.1 Combustion equipment mech drafted or direct-vented



Eagleville Green Indoor AirPlus





Program Framework and Landscape

V2 Program Framework Summary

- Improved spec requirements
 - “V1 Construction Specifications” → “V2 Verification Requirements”
- 2 tiers: Certified and Gold
- Stand-alone certification framework
 - Certification Protocol and System
 - National Program Requirements
 - ✓ Building eligibility
 - ✓ Training requirements – *forthcoming 2025*
 - ✓ Certification process
- QA/QC by IAP HCOs



Indoor AirPlus Verification Requirements

VERSION 2

DRAFT

Indoor airPLUS Certification System
for Homes and Apartments

Effective: <DATE TBD>




Indoor AirPlus Version 2 National Program Requirements

Eligibility Requirements

The building team must submit, including newly constructed buildings or those undergoing gut rehabilitation, an eligible to seek Indoor AirPlus certification after verification of compliance with the program specifications. For multifamily buildings, the Indoor AirPlus requirements apply to all dwelling units, sleeping units, and common spaces in the building. They do not apply to commercial or retail space. EPA recognizes that some program requirements present unique challenges for homes and buildings undergoing gut rehabilitation. To help mitigate these challenges, EPA has developed alternative compliance options that have been incorporated directly into the program specifications. EPA acknowledges that increased flexibility and alternative assessment protocols for existing buildings are important to promote adoption of broader indoor air quality practices through professional inspection of newly installed features, along with the performance outcomes of existing assemblies and systems. EPA, committed to including alternatives that demonstrate and promote sustained indoor air quality improvements, consistent with the intent of the respective certification.

The following building types (either new construction or undergoing a gut-rehabilitation) are eligible to participate in the Indoor AirPlus certification program:

- Site built or modular “buildings” (e.g., single-family homes, duplexes)
- “Townhouses”;
- Multifamily or mixed-use buildings with dwelling or sleeping units;

Partnership, Training, and Credentialing Requirements

- The Builder or Developer for the building is required to sign an Indoor AirPlus Partnership Agreement, which can be found at <https://climate.solutions.gov/indoor-air-plus-partnership-agreement>. At least one representative of the partnering organization is required to complete the online “Indoor AirPlus Version 2 Training” and communicate or otherwise distribute the training content directly to the appropriate staff within the organization responsible for implementation of the program requirements (e.g., construction superintendents, purchasing managers, etc.). Deadlines for training completion and documentation will be forthcoming (pending EPA release, anticipated in early 2025).
- Verification Companies are required to sign an Indoor AirPlus Partnership Agreement, which can be found at <https://climate.solutions.gov/indoor-air-plus-partnership-agreement>, and register under a Home Certification Organization (HCO). HCO requirements, including the oversight of certifier and quality assurance, will be outlined in the forthcoming revisions to the [Indoor AirPlus Certification System](https://climate.solutions.gov/indoor-air-plus-partnership-agreement) (tentative to late 2024).
- Verifiers are required to complete EPA-recognized “Indoor AirPlus Version 2 Training”, pending EPA release, anticipated in early 2025 and be certified by a Home Certification Organization (HCO) prior to completing inspections (pending EPA approval of an IAP HCO application).

Indoor AirPlus Certification Process

1. For the IAP V2 implementation (beginning in October 1, 2024) verifier partners can continue using the Indoor AirPlus (Version 1) certification process with when the Indoor AirPlus Version 1 (the “Construction Specifications or the Indoor AirPlus Version 1 Verification Requirements). All new homes and apartments with building permits on or after January 1, 2025 will need to be certified under an EPA-recognized IAP HCO.
2. The Indoor AirPlus Version 2 certification process offers two tiers to earn Indoor AirPlus certification:
 - a. **Gold:** The dwelling units (and multifamily common spaces), where applicable are designed and constructed to meet or exceed all the applicable items in the Indoor AirPlus Verification Requirements¹, including the applicable requirements related “Gold”, in addition to achieving ENERGY STAR certification (either Single Family New Homes or Multifamily New Construction).
 - b. **Build:** The dwelling units (and multifamily common spaces) where applicable are designed and constructed to meet or exceed all the applicable items in the Indoor AirPlus Verification Requirements¹, including the applicable requirements related “Gold”, in addition to achieving ENERGY STAR certification (either Single Family New Homes or Multifamily New Construction).
3. For multifamily buildings, Indoor AirPlus certification can only be achieved where all requirements are met in all dwelling units, sleeping units, and common spaces in the building.
4. During construction and upon building completion, an Indoor AirPlus Verifier confirms that all requirements have been met, using the referenced inspection and testing procedures (including all Addenda and Narrative Appendices, with new revisions and Addenda implemented according to the schedule defined by the HCO for “indoor” buildings. A Verifier must confirm any requirement in the alert not able to be verified on a building because a house will be occupied prior to its issuance.

Indoor AirPlus Certified Homes and Apartments Quality Assurance Checklists, Version 2

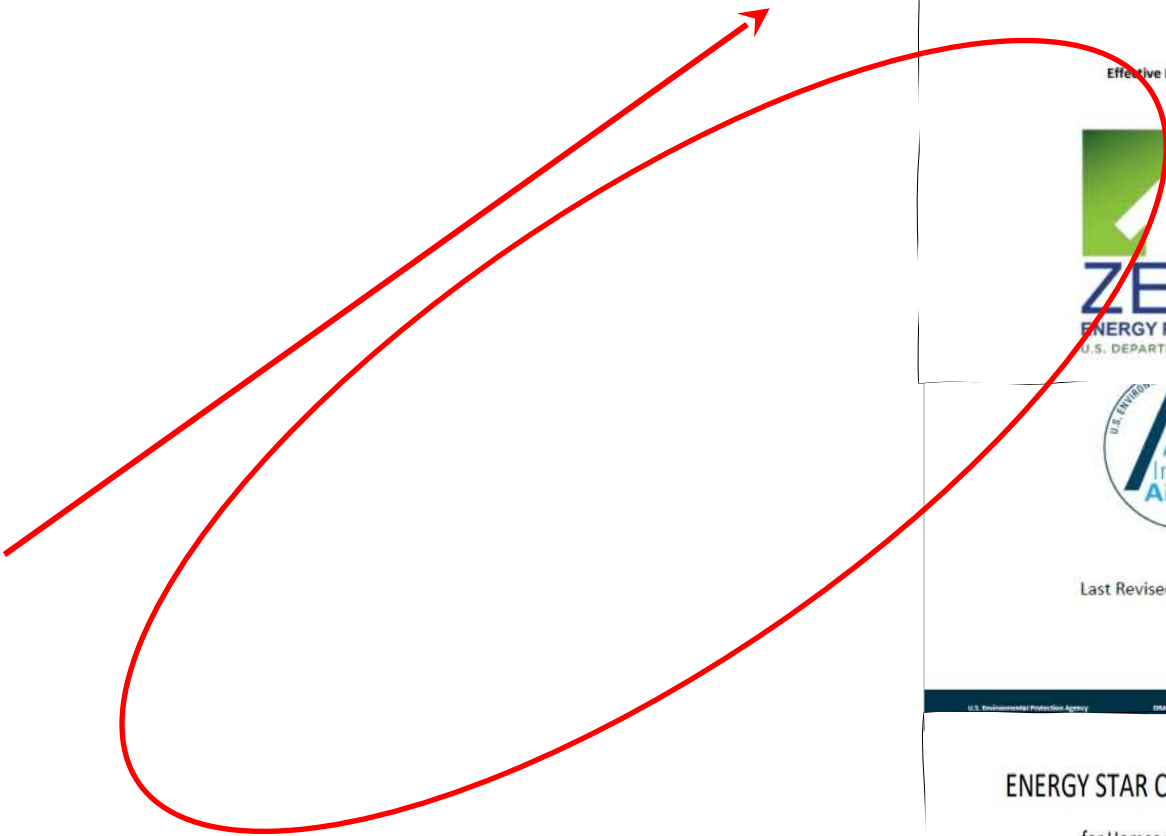
An Indoor airPLUS Quality Assurance Checklist shall be completed during each quality assurance site review and hold review EPA record of buildings being certified through the Indoor airPLUS program in accordance with the policies and procedures of the Home Certification Organization (HCO). This QA checklist is mandatory for buildings certified under Version 2. Review complete instructions on page 4.

Indoor airPLUS Certified Quality Assurance Checklist

| QA Review | Review Type | Field | QA Reviewer | Date of Review |
|--|-------------------------|---------------------|---------------------|----------------|
| Original verification | Verifier Name | Verifier Number | Common Spaces | |
| Pre-Drywall Inspection | Verifier Name | ID # | Date | |
| Final Inspection | Verifier Name | ID # | State | |
| Building Address | City | State | ZIP Code | |
| Building Name (Multi-Family only) | Number of Units | | | |
| Building Classification | Climate Zone (H-4) | Moisture Zone (A-C) | Radiant Zone (Y-N) | |
| <input type="checkbox"/> New construction <input type="checkbox"/> Gut Rehabilitation | Terminology Probability | Very Heavy | Moderately to Heavy | NA/A |
| <input type="checkbox"/> New construction <input type="checkbox"/> Gut Rehabilitation | Climate Zone (H-4) | Moisture Zone (A-C) | Radiant Zone (Y-N) | |
| <input type="checkbox"/> New construction <input type="checkbox"/> Gut Rehabilitation | Terminology Probability | Very Heavy | Moderately to Heavy | NA/A |
| <input type="checkbox"/> New construction <input type="checkbox"/> Gut Rehabilitation | Climate Zone (H-4) | Moisture Zone (A-C) | Radiant Zone (Y-N) | |
| <input type="checkbox"/> New construction <input type="checkbox"/> Gut Rehabilitation | Terminology Probability | Very Heavy | Moderately to Heavy | NA/A |

ONQC


Federal Program Framework




DOE Zero Energy Ready Home Program
Certification System

for Homes and Apartments
Using an Energy Rating Index or Dwelling Unit Modeling Compliance Path

Effective Date: 1/1/2023



ZERO
ENERGY READY HOME
U.S. DEPARTMENT OF ENERGY



U.S. ENVIRONMENTAL PROTECTION AGENCY
Indoor AirPlus

Last Revised: June 2024

U.S. Environmental Protection Agency DRAFT

ENERGY STAR Certification System

for Homes and Apartments
Using an Energy Rating Index or Dwelling Unit Modeling Compliance Path

Last Revised: 07/30/2024

High-Performance Residential Programs



- IAP is a benchmark for IAQ to protect occupant health.
- Pre-requisite for other labeling programs (DOE Zero Energy Ready Homes, PHIUS+).
- Referenced by LEED, NGBS, Enterprise, (and soon) WELL Residential.

Image Source: PHIUS



§ 45L Federal Tax Credit – ZERH requires IAP

- Homes / Buildings permitted on or before 12/31/2025 must certify under *either*:
 - Indoor airPLUS (IAP) Version 1 (Rev 4), OR
 - IAP Version 2 Certified or Gold tier.
- Homes / Buildings permitted on or after 1/1/2026 must certify under the IAP Version 2 Certified or Gold tier.
- For guidance on the 45L tax credit and detailed ZERH program requirements, see:

<https://www.energy.gov/eere/buildings/doe-zero-energy-ready-home-zerh-program-requirements>

What We Covered

- New Indoor AirPlus Website www.epa.gov/indoorairplus
- 7 Key Changes in Version 2
- 13 Upgrades for Gold
- Case Study – v1, v2, v2 Gold
- Program Framework and Landscape
 - ZERH and 45L Tax Credit
- Questions & Answers





Indoor AirPlus

A new opportunity for leading builders to create better environments inside and out.

Learn more at:

www.epa.gov/indoorairplus

OR contact the Indoor AirPlus Team at

Indoor_AirPlus@epa.gov

Questions?

Karla Butterfield, Steven Winter Associates

Gayathri Vijayakumar, Steven Winter Associates

Nicholas Hurst, US Environmental Protection Agency

Contact us: Indoor_AirPlus@epa.gov

Visit us: www.epa.gov/indoorairplus

