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Procedures Manual

Radon

Date:
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Introduction

This Manual

The purpose of this Radon Procedures Manual is to establish and maintain a system of project implementation and management procedures to ensure that Home Forward's Radon Policy is effectively implemented.

This Radon Procedures Manual is the key operational document guiding Home Forward in the management of project implementation. The Procedures Manual provides details on institutional roles and responsibilities for project owners – particularly for the Integrated Facilities and Safety (IFS) Department, the Department of Development and Community Revitalization, the Property Management Department, Community Services Department, Third Party Property Management, and the Asset Management Department.

Project Background

In 2013, HUD issued a notice to housing authorities encouraging them to test and mitigate for radon. Radon is a radioactive gas found in soil and rock that you cannot see, smell, or taste. According to the American Cancer Society: "Being exposed to radon for a long period of time can lead to lung cancer. Radon gas in the air breaks down into tiny radioactive elements (radon progeny) that can lodge in the lining of the lungs, where they can give off radiation. This radiation can damage lung cells and eventually lead to lung cancer."¹

For other environmental hazards such as lead-based paint, the Department of Housing and Urban Development (HUD) requires housing authorities to take specific actions to identify and remediate the hazard, to notify tenants of its presence and to document our results. HUD also provides resources to support this work. For radon, HUD does not have comprehensive requirements and provides no specific funding to pay for the work.

In the absence of regulation from HUD, Home Forward developed a [Radon Policy](#) (the Policy) that includes requirements related to testing, mitigation where necessary, and re-testing of all properties owned by Home Forward.

¹ American Cancer Society, "Radon and Cancer," Date Accessed: November 1, 2019 (<https://www.cancer.org/cancer/cancer-causes/radiation-exposure/radon.html>).

Project Objectives

The overall objective of implementing Home Forward's Radon policy is to ensure that radon levels in Home Forward properties are below the level at which the Environmental Protection Agency (EPA) recommends mitigating for radon. The U.S. Surgeon General and EPA recommend fixing homes with radon levels at or above 4.0 pCi/L.²

Home Forward has committed to completing its effort to test for, and mitigate if needed, radon in all public housing by the end of 2020 and will complete the rest of the affordable housing portfolio by the end of 2023.

Following completion of the initial phase of testing and mitigation, Home Forward will re-test properties in line with American National Standards Institute (ANSI) recommendations to ensure that radon levels remain below 4.0 pCi/L.

Definitions

Initial Testing Phase: This phase covers the first time we are testing a property according to the standards outlined in Home Forward's Radon Policy.

Ongoing Testing Phase: This phase is for properties that have already had initial testing and mitigation (if needed). Retesting will occur on either a 2 year or 5 year cycle depending on prior testing/mitigation results.

Major rehabilitation: Rehabilitation that is estimated to cost more than 50% of the estimated replacement cost after rehabilitation.³

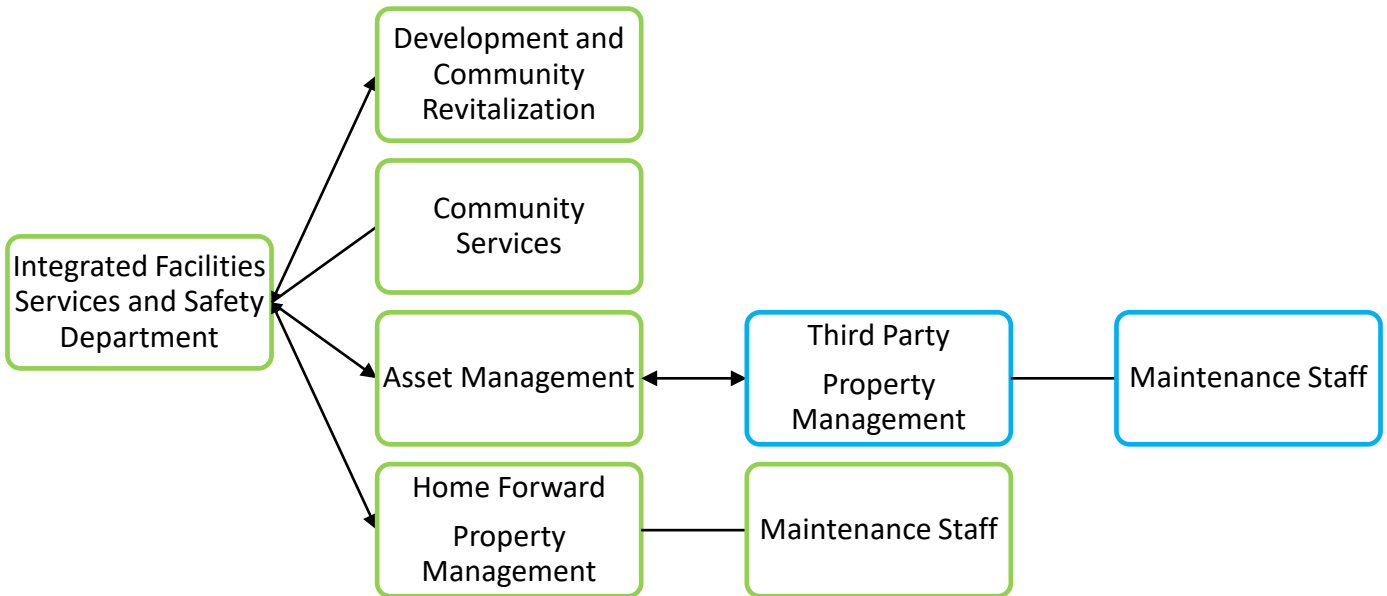
Tenant: Any leaseholder of a Home Forward residential unit or non-residential space.

² United States Environmental Protection Agency, "Basic Radon Facts," Date Accessed: November 1, 2019
*<https://www.epa.gov/radon/basic-radon-facts>).

³ Housing and Urban Development, Multifamily Accelerated Processing (MAP) Guide, pg. 320, January 2016.

Operational Roles

Operational Chart



Integrated Facilities Services and Safety Department

Contact Information

Position	Phone	E-mail
Director of Integrated Facilities Services and Safety	503.280.3708	Firstname.Lastname@Homeforward.org
Environmental and Emergency Manager	TBD	Firstname.Lastname@Homeforward.org

Responsibilities

The Integrated Facilities Services and Safety Department is the Project Manager of Home Forward's Radon Policy implementation. Responsibilities include:

Policy and Operations Management

- Develop Home Forward's Radon Policy and Operations Manual
- Update Policy and Operations Manual as necessary to meet most recent ANSI radon testing and mitigation recommendations and to ensure effective and efficient implementation of the policy
- Compile, consider, and incorporate feedback and recommendations from stakeholders related to the Policy and Operations Manual. Stakeholders include but are not limited to staff, vendors/contractors and tenants.
- Develop and coordinate training courses for internal and external staff, in consultation with Property Management, Asset Management, Community Services, and Development and Community Revitalization to ensure staff understand and meet their responsibilities related to implementing the policy.

Project Management:

- Maintain centralized testing and mitigation information, including saving the test results into relevant data tracking documents.
- Develop and maintain "master schedule" of portfolio testing needs in compliance with Home Forward's radon policy.
- Develop and finalize annual work plan for each department, in consultation with Asset Management, Property Management, and Development Departments, that outlines which Department is managing the testing and mitigation of specific properties.⁴ Provide reminders of upcoming required testing (no later than 60 days prior to deadline for re-testing.) Oversee

⁴ The work plan for initial testing should prioritize testing in areas with elevated radon levels based on the Environmental Protection Agency's "Map of Radon Zones" (<https://www.epa.gov/radon/epa-map-radon-zones>).

implementation of annual work plan of Asset Management and Development Departments to ensure testing and mitigation deadlines are met for their properties.

- Ensure that Asset Management, Property Management, and Development Departments complete testing and mitigation work within the testing schedule and in compliance with the Radon Policy and Procedures.
- Ensure compliance with notification policy, including:
 - Coordinating with Property Management, Community Services, and Asset Management to ensure that notifications are sent to tenants and staff in compliance with the policy.
 - Maintain database of the dates that Home Forward received test results and the date notifications including test results were sent to staff and tenants to ensure compliance with radon policy and procedures.

On-going Communication:

Communicate to Property Management Department, Department of Community Services and Department of Development and Community Revitalization about changes in:

- Policies or procedures,
- Guidance from the Department of Housing and Urban Development (HUD), the Environmental Protection Agency (EPA), American Association for the Rhetoric of Science and Technology (AARST) and/or American National Standards Institute (ANSI) standards related to radon.

Communicate to the Executive Team if there are compliance issues within organization.

Procurement:

- Provide Procurement Division with vendor requirements and expectations based on the policy.
- Review Requests for Bid (RFBs) and Requests for Proposals (RFPs) to ensure alignment with requirements and expectations outlined in the policy.

Department of Development and Community Revitalization

Contact Information

Position	Phone	E-mail
Director	503.802.8507	Firstname.Lastname@Homeforward.org

Responsibilities

Project Management

- Test for, and mitigate where necessary, radon in any projects that are acquisitions, new construction or major rehabilitation projects.
- Incorporate cost estimates into acquisition, new construction or major rehabilitation budgets.
- Inform Property Management and Community Services of property level testing schedule.
- Communicate with contractors, vendors, or service providers who might have staff in the building about testing and mitigation work.
- Report testing and mitigation results to Integrated Facilities Services and Safety Department, Property Manager, Regional Property Manager, Asset Manager, Director and Assistant director of: Property Management, Community Services, and Asset Management.
- Information regarding all new mitigation system installations will be sent to the Home Forward Compliance Manager to be logged into the radon spreadsheet. Information recorded needs to include:
 - Property Name
 - Unit #
 - Indicate if attached to house or unit power
 - Type of unit installed
 - Kilowatts per hour used
 - Date installed
 - Housing Type (RAD, PH, LIHTC, PBRA)

On-going Communication

- Provide input and feedback to Integrated Facilities Services and Safety Department regarding policy, procedures, and training.
- Provide input and feedback to Procurement regarding testing scope of work, scheduling, and experience with vendors.
- Provide information to the Compliance Manager for Utility Allowance reviews.

Community Services Department

Contact Information

Position	Phone	E-mail
Director of Community Services	(503) 802-8554	Firstname.lastname@Homeforward.org

Responsibilities

- Communicate with service providers stationed at a site about upcoming testing and/or mitigation.
- Answer general questions from residents about radon as provided in Home Forward's Radon Frequently Asked Questions document.
- If a resident has a question about radon that a service provider does not know the answer to, direct residents to Property Management or other external resources.
- If a resident meeting related to radon is scheduled, work with property management to support the meeting.

Asset Management

Contact Information

Position	Phone	E-mail
Director of Asset Management	503.802.8437	Firstname.lastname@Homeforward.org

Responsibilities

Project Management

- Provide input to IFS regarding policy, procedures, and training.
- Provide input to Procurement regarding testing scope of work and scheduling.
- Implement annual work plan and create a budget (property level testing schedule) to meet testing and mitigation deadlines provided by IFS.
- Notify third party property management of radon testing responsibilities in accordance with the master schedule developed by IFS.
- Ensure third party property management compliance with radon policy and procedures, by:
 - Developing and implementing quality assurance protocols for third party property management companies related to the scheduling and oversight of testing and mitigation of radon.
 - Ensuring that third party property management is communicating with the Community Services Department about upcoming notifications to residents prior to sending/posting notifications.
 - Ensuring that third party property management is sending/posting notifications in compliance with Home Forward's Radon Policy and Procedures.
 - Ensuring that, if a mitigation system was installed, third party property management is following maintenance procedures.

- During installation of a radon mitigation system in units or common areas – Site staff will be provided the operational manual from the installer, as well as the location of the system within the unit/property.
 - Site staff will review the manual for preventive maintenance requirements from the manufacturer and add to the annual preventative maintenance plan.
 - If afforded by the property a once per year preventive maintenance service by a contractor can be implemented. This should be reviewed with the Asset Manager.
- Report testing and mitigation results received by/from third party property management to: Integrated Facilities Services and Safety Department, Community Services Department Director, and the Asset Management Director.
- Send notifications to tenants of commercial and nonresidential spaces.
- To determine if the installation of a mitigation system has impacted a resident’s utility bill, the Asset Manager or Associate Asset Manager will receive the required information from site staff. The Asset or Associate Asset Manager will then send the required information to the Home Forward Compliance Manager. The information must include:
 - Property Name
 - Unit #
 - Indicate if attached to house or unit power
 - Type of unit installed
 - Kilowatts per hour used
 - Date installed
 - Housing Type (RAD, PH, LIHTC, PBRA)
- The third-party managed site staff or the Rent Assistance Coordinator will refer to the current Utility Schedule to complete and enter the review per unit and will ensure the tenant receives the adjusted utility allowance.

On-going Communication

- Provide input and feedback to Integrated Facilities Services and Safety Department regarding policy, procedures, and training.
- Provide input and feedback to Procurement regarding testing scope of work, scheduling, and experience with vendors.

Property Management Department

Contact Information

Position	Phone	E-mail
Director	503.280.3742	Firstname.lastname@Homeforward.org

Responsibilities

Project Management

- Implement annual work plan and develop budget (property level testing schedule) to meet testing and mitigation deadlines provided by the Integrated Facilities and Safety Department.
- Project manage testing and mitigation work, including:
 - Contact vendor to schedule testing.
 - Ensure vendor compliance with radon policy and procedures, including but not limited to testing and notification requirements.
 - Consult with Asset Management, Development, and Procurement regarding major scope of mitigation work.
 - In the case that mitigation work exceeds the amount projected in the budget or contract, consult with Asset Management and/or Procurement.
 - Ensuring that, if a mitigation system was installed, that maintenance staff are visually inspecting the mitigation system each year to make sure it is operational.
- Report test results if received directly by contractor to Integrated Facilities Services and Safety, Property Manager, Regional Property Manager, Asset Manager, Director and Assistant Director of: Property Management, Community Services, and Asset Management.
- Communicate with the Department of Community Services prior to mailing/posting notifications to residents and participants.
- Mail/post notifications and test results to tenants and staff according to Notification Procedures below.
- Communicate with contractors, vendors, or service providers who might have staff in the building about testing and mitigation work.
- Notify IFS of the mailing/posting date of any notification that includes test results (see Notification Procedures).
- To determine if the installation of a mitigation system has impacted a resident's utility bill, the project manager will send the required information to the Home Forward Compliance Manager. The information must include:
 - Property Name
 - Unit #
 - Indicate if attached to house or unit power
 - Type of unit installed
 - Kilowatts per hour used
 - Date installed
 - Housing Type (RAD, PH, LIHTC, PBRA)

- Home Forward on an annual basis publishes utility schedules for Multnomah County. Beginning in 2020 Home Forward will add to the published utility schedule a radon mitigation allowance amount.
- The Home Forward Compliance Manager will adjust the kilowatt per hour charge and update the Radon tracking sheet to provide the utility amount.
- When calculating the utility allowance amount the Home Forward Compliance Manager will review the cost of running the mitigation systems. If all units are within a \$5 utility allowance cost, the highest amount will be used. If the units are greater than a \$5 utility allowance cost, than the average of all units will be used.
 - Ex. Unit A= \$11, Unit B=\$13, Unit C= \$14= UA adjustment will be \$14
 - Ex. Unit A= \$11, Unit B=\$20, Unit C= \$17= UA adjustment will be \$16 (average)
- Once the standard cost is calculated, the Home Forward Compliance Manager will notify the Management Analyst in Rent Assistance who will update the Utility Allowance schedule prior to publishing the annual amounts.

Home Forward Managed Properties:

- If a utility allowance adjustment is required, the Home Forward Compliance Manager will complete and enter the review. Once the review has been entered the Home Forward Compliance Manager will communicate with site staff or the Rent Assistance Service Coordinator to ensure the tenant receives the increased utility allowance.

Third-Party Managed Properties:

- The Home Forward Compliance Manager will update the allowance amount in the Utility Schedule annually. The third-party managed site staff or the Rent Assistance Coordinator will refer to the current Utility Schedule to complete and enter the review per unit and will ensure the tenant receives the adjusted utility allowance.
- If a utility allowance adjustment is required, the Home Forward Compliance Manager will complete and enter the review. Once the review has been entered the Home Forward Compliance Manager will communicate with site staff or the Rent Assistance Service Coordinator to ensure the tenant receives the increased utility allowance.
- Ensure radon mitigation systems are maintained and are in working order.
 - During the installation of a radon mitigation system in units or common areas – Site staff will be provided the operational manual from the project manager, as well as the location of the system within the unit/property.
 - Site staff will review the manual for preventive maintenance requirements from the manufacturer and add it to the annual preventative maintenance plan.
 - A quarterly reoccurring work order will be added to Yardi by the Assistant Director of Property Management to track maintenance service to each unit. The RWO should detail the location of the system within the unit. (System located in attic)

- If afforded by the property a once per year preventive maintenance service by a contractor can be implemented. Please review with your Regional Property Manager.
- Schedule resident meeting in compliance with Home Forward's Radon Policy in consultation with Community Services Department.
- Once ongoing testing for the property is scheduled, maintenance staff will enter each unit with a current mitigation system installed to ensure it is operational. Property Managers will enter a work order into Yardi to document this work.

On-going Communication

- Provide input and feedback to Integrated Facilities Services and Safety Department regarding policy, procedures, and training.
- Provide input and feedback to Procurement regarding the testing scope of work, scheduling, and experience with vendors.
- Provide required information about new mitigation installations to Home Forward's Compliance Manager

Third Party Property Management:

Responsibilities

- Implement annual work plan and develop budget (property level testing schedule) to meet testing and mitigation deadlines provided by the Asset Management Department.
- Project manage testing and mitigation work, including:
 - Coordinate with Asset Management about the scope of testing and mitigation work.
 - Contact vendor to schedule testing.
 - Ensure vendor compliance with radon policy and procedures, including but not limited to testing and notification requirements.
 - Consult with Asset Management regarding major scope of mitigation work.
 - In the case that mitigation work exceeds the amount projected in the budget or contract, consult with Asset Management and/or Procurement.
 - Ensuring that, if a mitigation system was installed, that maintenance staff are visually inspecting the mitigation system each year to make sure it is operational:
 - During the installation of a radon mitigation system in units or common areas – Site staff will be provided the operational manual from the installer, as well as the location of the system within the unit/property.
 - Site staff will review the manual for preventive maintenance requirements from the manufacturer and add it to the annual preventative maintenance plan.
 - A quarterly reoccurring work order for will be added to the preventative maintenance schedule to track maintenance service to each unit. The RWO should detail the location of the system within the unit. (System located in attic)

- If afforded by the property a once per year preventive maintenance service by a contractor can be implemented. This should be reviewed with the Asset Manager.
- Report test results if received directly by contractor to Asset Management.
- Mail/post notifications and test results to tenants and staff according to Notification Procedures below.
- Notify Asset Management and on-site Community Services staff of the mailing/posting date of any notification that includes test results (see Notification Procedures).
- Communicate with contractors, vendors, or service providers who might have staff in the building about testing and mitigation work.
- Once ongoing testing for the property is scheduled, maintenance staff will enter each unit with a current mitigation system installed to ensure it is operational. Property Managers will enter a work order into their preventative maintenance schedule.
- To determine if the installation of a new mitigation system has impacted a resident's utility bill, third party managed site staff will send new installation information to their Asset or Associate Asset Manager. The information required is:
 - Property Name
 - Unit #
 - Indicate if attached to house or unit power
 - Type of unit installed
 - Kilowatts per hour used
 - Date installed
 - Housing Type (PBV, RAD, PH, LIHTC, PBRA)
- The Asset or Associate Asset Manager will send the information to the Home Forward Compliance Manager
- The Home Forward Compliance Manager will update the allowance amount in the Utility Schedule.
- The third-party managed site staff or the Rent Assistance Coordinator will refer to the current Utility Schedule to complete and enter the review per unit and will ensure the tenant receives the adjusted utility allowance.

Testing Procedures⁵

All Home Forward properties should have a sample testing for radon any time testing is happening, as follows:

- 100% ground contact residential units and non-residential spaces (utility rooms, storage rooms, maintenance rooms, office space, community rooms, commercial space, basements etc.) that are occupied 1 hour or more a day OR that are connected to occupied areas.⁶
- 10% of the dwellings on each of the higher floors. It is recommended that the upper floor test locations be selected so that units on one floor are not directly above or below units being tested on other floors.⁷ If there are elevators in the building, it is recommended to include units near the elevator shaft in the 10% of dwellings selected for testing on that floor.
- Units should be tested whenever significant changes to the building structure or mechanical systems occur.⁸

Figure 1. Where to test (protocol requirements)



Source: 2017 ANSI AARST, Figure 3.4, pg. 3.

A certified radon professional may recommend not testing during the months of July and August when weather may prevent accurate test results.

Initial Testing

This phase covers the first time we are testing a property according to the standards outlined in Home Forward’s Radon Policy and must follow the sample testing procedures outlined above (See “Testing Procedures”).

Inconclusive or Voided Results and Pre-Mitigation Testing

- In the event that a test result is inconclusive or voided, and no other unit within the building structure tests at or above 4.0 pCi/L, Home Forward will re-test until results are conclusive and it is possible to determine whether mitigation is necessary.

⁵ See Home Forward’s Radon Policy and the “Radon Testing Diagram” on the intranet or Home Forward’s Radon Webpage (www.HomeForward.org/radoninfo)

⁶ See section 3.0 ANSI AARST MAMF

⁷ See 2017 ANSI AARST, “Upper Levels”, Section 3.4, pg 3.

⁸ Ibid., CG 1.11, pg. CG5.

- In the event that a test result is inconclusive, and another unit within the building structure tests at or above 4.0 pCi/L, Home Forward will not re-test the unit with the inconclusive test result until after mitigation has occurred.
- In the event that test results from an individual unit or area are repeatedly inconclusive or voided, property management shall consult with the Director of Property Management, Director of Community Services, and Director of IFS about next steps.

Testing and Compliance Responsibilities

New Construction and Major Rehab projects:

- In all new construction and major acquisition and/or rehabs for which Home Forward Development and Community Revitalization staff is project managing, Development and Community Revitalization staff will be responsible for project managing radon testing as described in the “Responsibilities” section above.

Existing housing:

- In existing housing, which is not undergoing a major rehab or significant changes to the building structure or mechanical systems, IFS will communicate which department is responsible for project managing radon testing as described in the “Responsibilities” section above.

The party responsible for testing will communicate test results in accordance with the “Responsibilities” and “Notifications” sections.

Post-Mitigation Re-testing

Testing procedures for post-mitigation re-testing must follow the sample testing procedures outlined above (See “Testing Procedures”).

- Conduct post-mitigation test between 24 hours and 30 days after installation of the mitigation system to ensure that the system is working and maintaining radon levels below 4.0 pCi/L.⁹
- In some cases, weather conditions prevent accurate test results. In such cases, the post mitigation test will be conducted as soon as reasonably possible per the advice of Home Forward’s contracted certified radon professional.

Ongoing Testing

Testing procedures for ongoing testing must follow the sample testing procedures outlined above (See “Testing Procedures”).

⁹ See AARST Consortium on National Radon Standards, “Protocol for Conducting Measurements of Radon and Radon Decay Products in Multifamily Buildings,” American Association of Radon Scientists and Technologists, 2017, CG1.10.1, pg. CG4 and Radon Testing Diagram in the Visual Aids Section of this procedures manual.

This phase is for properties that have already had initial testing and mitigation (if needed). Retesting will occur on either a 2 year or 5 year cycle depending on prior testing/mitigation results.

See Visual Aid 3. Radon Testing Diagram

Re-test in two years when:

- Mitigation system has been successfully installed two years prior to ensure systems are working properly and maintaining radon levels below 4.0 pCi/L.¹⁰
- Initial testing, or testing two years post mitigation system being installed, found radon concentrations measured at testing between 3.0 and 3.9 pCi/L should be re-tested every two years.^{11,12}

Re-test in five years when:

- Initial testing found units with radon concentrations at testing of 2.9 pCi/L or below.¹³
- Two year ongoing testing of buildings that had received mitigation found units with radon concentrations at testing of 2.9 pCi/L or below.

Re-test when any of the following circumstances occur¹⁴:

- A new addition is constructed or alterations for building reconfigurations or rehabilitation occur;
- A ground-contact area not previously tested is occupied;
- Heating or cooling systems are altered with changes to air distribution or pressure relationships;
- Ventilation is altered by extensive weatherization, change to mechanical systems or comparable procedures;
- A mitigation system is altered, modified or repaired.

¹⁰ Ibid, 7.1.8.3, pg. 16.

¹¹ Note: Requiring re-testing every two years in this case goes beyond the ANSI standards for re-testing for results below 4.0 at initial testing. ANSI requires testing every 5 years if levels are below 4.0 pCi/L upon initial testing (CG 1.9) and every 2 years post mitigation if levels are below 4.0 pCi/L upon re-testing after installation of a mitigation system (CG 1.10.1). Home Forward requires re-testing every 2 years in both of these cases.

¹² AARST Consortium on National Radon Standards, "Protocol for Conducting Measurements of Radon and Radon Decay Products in Multifamily Buildings," American Association of Radon Scientists and Technologists, 2017, CG1.9 and CG1.10.1, pg. CG4.

¹³ Ibid., CG 1.9, pg. CG4.

¹⁴ Ibid, CG 1.11 (pg. CG5). Note: Two circumstances ANSI recommends for re-testing are vague, including "sizable openings to soil" and "earthquakes, construction blasting, or formation of sink holes nearby." For this reason, Home Forward will implement an alternative approach of re-testing every 2 or 5 years to ensure radon levels are below 4.0 pCi/L.

Mitigation Procedures

According to Home Forward's Radon Policy, locations with any test results from a Certified Radon Professional contracted by Home Forward that are at or above 4.0 pCi/L must be mitigated within 12 months of receiving test results. Mitigation and radon resistant construction must conform to the most restrictive standard provided by ANSI, ASTM, HUD, OSHA or EPA.

The standards utilized for radon-resistant new construction are those described in HUD Notice H 2013-03, Paragraphs IV(A)(6)(b) and (7), which incorporates by reference ASTM E 1465-0Sa (or most recent edition), Standard Practice for Radon Control Options for the Design and Construction of New Low-Rise Residential Buildings. The Radon Professional must assure that radon resistant construction or radon mitigation, when required, conforms to the most restrictive standard provided by ANSI, ASTM, HUD, OSHA or EPA, or local building codes.

Notification Procedures

Property Management and Asset Management will ensure that tenants and staff receive notifications in alignment with Home Forward's Radon Policy (January 2020) and Home Forward's Limited English Proficiency Plan.

Testing Notifications

Pre-testing notices:

- A. Pre-testing Notification (Property) –send to all tenants of the property and include information about when and how results will be made available; this notice must include a Home Forward “Tips for Air Quality” flyer.
- B. Pre-testing Notification (Unit) - send to tenants of all units selected for testing.

Post-testing notice:

- C. Post-testing Notification (Property) -If one or more units has radon test results at or above 4.0 pCi/L, the post-testing notice should be sent to all tenants of the property within 30 business days of receipt of the final test report by Home Forward staff, and must include:
 - A contractor-generated testing report summary,
 - A Home Forward “Tips for Air Quality” flyer.
- D. Post-testing Notification (Unit) – If all units tested have radon test results below 4.0 pCi/L, send Notification to all tenants of tested units with a contractor-generated testing report summary.

Pre-Mitigation notice

- E. 48 hour Notification (Unit) – send to tenants of all units where access will be necessary for mitigation; in-person meetings may need to occur if significant unit-specific work is expected. This notification will include an approximate time frame during which mitigation will occur.
- F. Resident Meeting Notification (Property) – If determined necessary by the Director of Property Management, a resident meeting may be held for properties where a high number of a property's tested areas test at or above 4.0 pCi/L, or where mitigation work will be particularly disruptive. This meeting will be planned in consultation with agency communications staff.

Pre-mitigation common area and staff area notices:

- G. Common Area Notification - post in any common or work area(s) where test results are at or above 4.0 pCi/L. Notice may be removed once mitigation is completed and post testing indicates the level is below 4.0 pCi/L.
- H. Staff Notification – An email will be sent to staff who may work in areas, including on-call maintenance staff, where test results were at or above 4.0 pCi/L. It should be emailed to the Directors and Assistant Directors email lists so the appropriate department director (e.g., Property Management, Community Services, Integrated Facilities Services and Safety) can forward to potentially impacted staff.

Post-mitigation notices:

- I. Post Mitigation Completion Notification (Property) – If post testing mitigation finds that all units are below 4.0 pCi/L, send this notification to all tenants of the property. The post-mitigation testing notice must be sent within 30 business days of receipt of the final test report by Home Forward staff. Notice to tested units must include a contractor generated testing report summary.
- J. Post Mitigation Notification (Unit) – If post mitigation testing finds any units above 4.0 pCi/L, send this notification to tenants of tested units within 30 business days of receipt of the final test report by home Forward staff and include a contractor generated testing report summary.
- K. Staff Notification – An email will be sent to staff who are assigned to work in the building where mitigation was completed and to on-call maintenance staff. The post-testing notice should be sent within 30 business days of receipt of the final test report by Home Forward staff, and must include a contractor-generated testing report summary. It should be emailed to the Directors and Assistant Directors email lists so the appropriate department director (e.g., Property Management, Community Services, Integrated Facilities Services and Safety) can forward to potentially impacted staff.

New Move-In Notifications

New tenants should receive information about radon status of the property at move-in. The notice to new tenants must include a Home Forward “Tips for Air Quality” flyer.

Move-In Notifications:

- L. Move-In Notification (Unit) – New tenants who move into a building where all test results were below the EPA’s recommended level (<4.0 pCi/L) will receive information regarding radon prevention or mitigation activities; this notice must include a Home Forward “Tips for Air Quality” flyer.
- M. Move-In Notification (Unit) – New tenants who move into a building that has not yet been tested for radon will receive information regarding Home Forward’s plan to test; this notice must include a Home Forward “Tips for Air Quality” flyer.

Tenants moving into a building that is in the process of being tested, or receiving mitigation, will receive the most recent radon notice provided on the entire property and will receive further notification during their tenancy.

Non-Residential Tenant Notifications

- N. Non-residential notification – Non-residential tenants (service providers and commercial tenants) should receive information about radon status of the property. The notice must include a Home Forward “Tips for Air Quality” flyer.

Maintenance Procedures

- During installation of a radon mitigation system in units or common areas the Property Manager or Maintenance Supervisor will be provided the operational manual from the installer, as well as the location of the system within the unit/property.
- The Property Manager or Maintenance Supervisor will review the manual for preventive maintenance requirements from the manufacturer and add these requirements to their preventative maintenance plan.
- A reoccurring work order will be added in Yardi by the Assistant Director of Property Management to track annual maintenance service to each unit. The reoccurring work order should detail the location of the system within the unit (i.e. system located in attic)
- A second recurring work order will be added that requires maintenance staff to verify that the mitigation system is operating, has not been tampered with or blocked. This will be a visual inspection and will be done twice a year. The recurring work order should also detail the location of the system within the unit.

Safety Procedures

While occupying areas in Home Forward properties where radon test results show radon levels at or above 4.0 pCi/L, staff and tenants should receive information about how to improve air quality in compliance with the “Notification Procedures” section.

Supervisor Responsibilities

- Referring to test results to determine which work areas have elevated radon levels (4.0 pCi/L or above);
- Making sure employees are aware if they are working in an area that has high levels of radon (4.0 pCi/L or above);
- Contacting IFS if they or their employees have questions about Home Forward’s Radon Policy and Procedures.

Employee Responsibilities

Staff occupying/working in areas with elevated radon levels (4.0 pCi/L or above) must take the following steps to improve indoor air quality:

- Refer to test results to determine areas with high levels of radon;
- Open all windows and turn on all exhaust fans;
- Place circulation fan in work area and run fan while working;
- If there is a possibility of working in an area for five or more hours in a day, the employee should notify their supervisor;
- Referring to Home Forward’s safety policies, including the personal protective equipment (PPE), confined space, and respirator policies;
- Notifying their supervisor of any tampering or change in the equipment provided to reduce radon levels;
- Following Home Forward’s Radon Policy and Radon Procedures manual.

Procurement Procedures

All procurement for radon contracting needs are to follow Public Contracting Code, regardless of the property management company assigned. All Requests for Bids should include a request for the contractor to label test kits so tenants with a test kit in their unit or workspace know what they are.

Contracts for Radon Testing

- Radon testing is a Personal Services procurement. Consult with the Procurement Team about the appropriate procurement procedures for your situation or if you need information on potential testing vendors.

Contracts for Radon Mitigation

- Radon mitigation is a Goods and Services procurement. Consult with the Procurement Team if you have questions about the procedures for procuring radon mitigation services or if you need information on potential mitigation vendors.
- If tests show radon at or above 4.0 pCi/L in an occupied unit or an area that sees daily use, and:
 - Cost is expected to be \$10,000 or more: pursue an emergency declaration. This will allow you to work with a single vendor to have a mitigation system designed and installed as soon as possible.
 - Cost is expected to be less than \$10,000: radon mitigations services can be direct appointed.

Key Documents

Certain Departments are the managers of specific critical documents related to the implementation for the Radon policy. These documents include:

- Radon Policy
- Radon Procedures Manual
- Notifications for tenants and staff (outlined in Radon Procedures Manual)
- Master Schedule of Radon Testing and Notifications, including:
 - Testing, re-testing, and mitigation dates
 - Notification letter dates (if notification included test results)
 - Test Results
- Home Forward Air Quality Flyer
- EPA Citizen's Guide to Radon
- Home Forward's Radon Frequently Asked Questions (FAQ)

Radon Policy and Procedures

Documents Managed by: Director of Integrated Facilities Services and Safety

Document Location: The Radon Policy and Procedures are located on Home Forward's Intranet: "Safety Page"

Notifications for Tenants and Staff

Documents Managed by: Director of Integrated Facilities Services and Safety

Document Location: The Radon notifications for tenants and staff are located on Home Forward's Intranet: "Safety Page"

Master Schedule of Radon Testing & Notifications

Documents Managed by: Integrated Facilities Services and Safety

Documents that track data related to testing, test results, and communication about test results including:

- Centralized location for test results provided by the Radon testing professionals
- All unit level test results in a master spreadsheet with property level tabs and a summary sheet. This document captures unit level test results, mitigation status, and expected re-testing date (2 or 5 years, depending on policy).
- Scanned copies of all notices sent to tenants
 - Location: Dept. Shares (H Drive) → Active Properties → "Property Name"

- A spreadsheet tracking the dates that test results were received by Home Forward, and the date that tenants were notified of the test results to ensure compliance with 30 business day requirement to share results with tenants.

Tenant Documents

Documents that are sent to or available to tenants to provide information about radon and air quality, including:

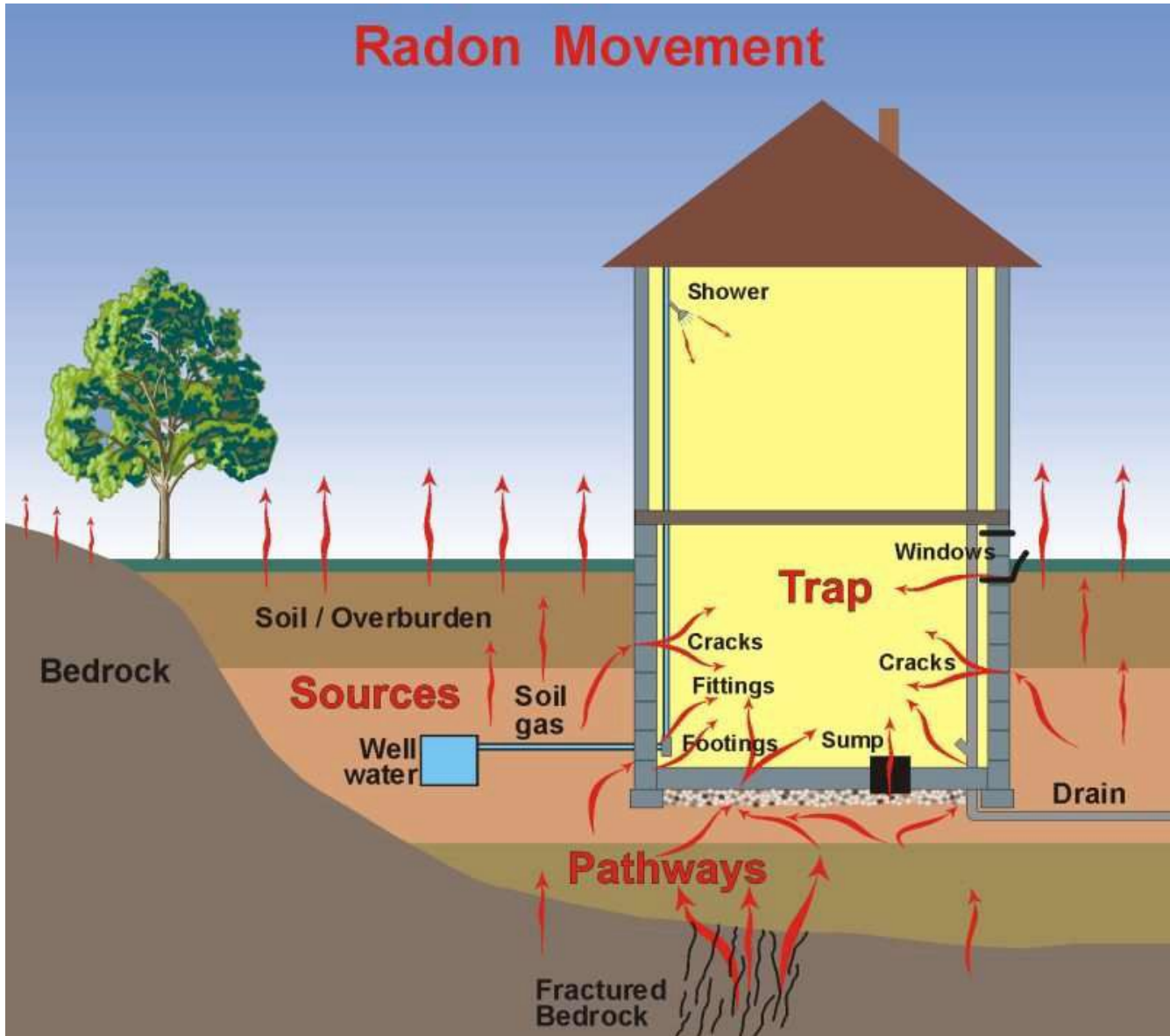
- Home Forward's Air Quality Flyer
- EPA Citizen's Guide to Radon
- Home Forward's Radon Frequently Asked Questions (FAQ)

Documents Managed by: Director of Integrated Facilities Services and Safety

Document Location: Tenant documents are located on Home Forward's Intranet: "Safety Page"

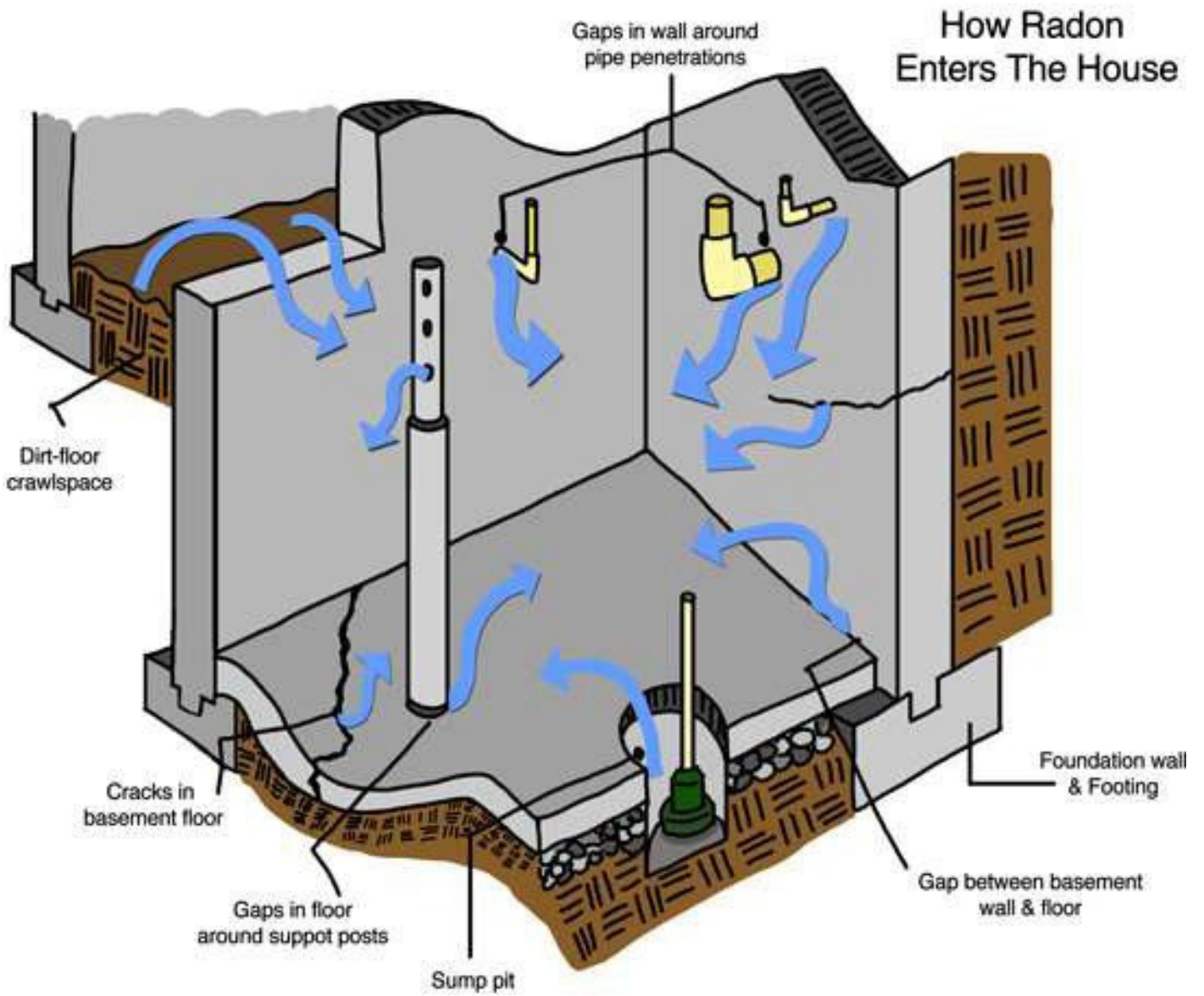
Visual Aids

Visual Aid 1. Radon Movement



Source: ProtectPT, Radon & Shale Gas.

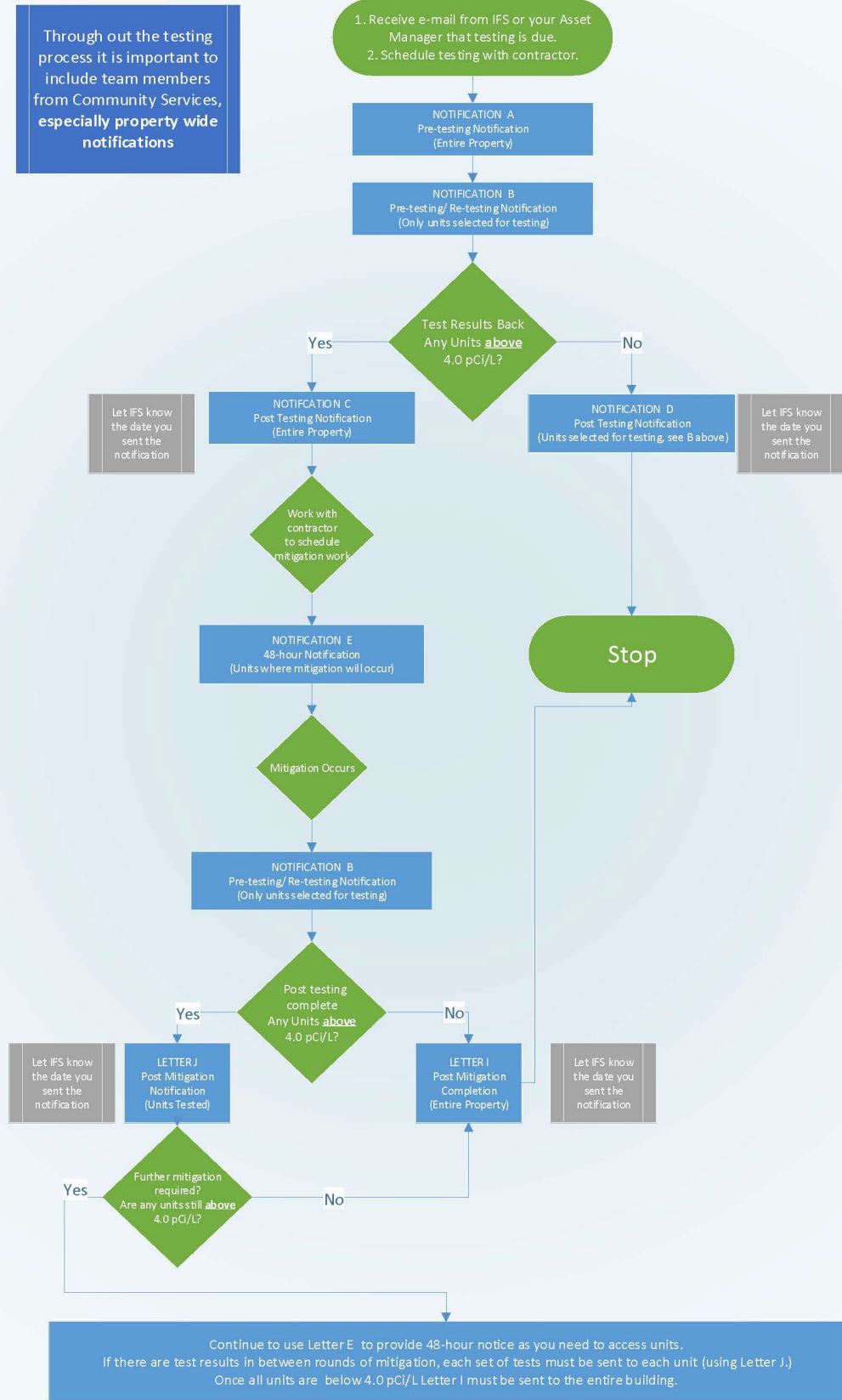
Visual Aid 2. How Radon Enters the House



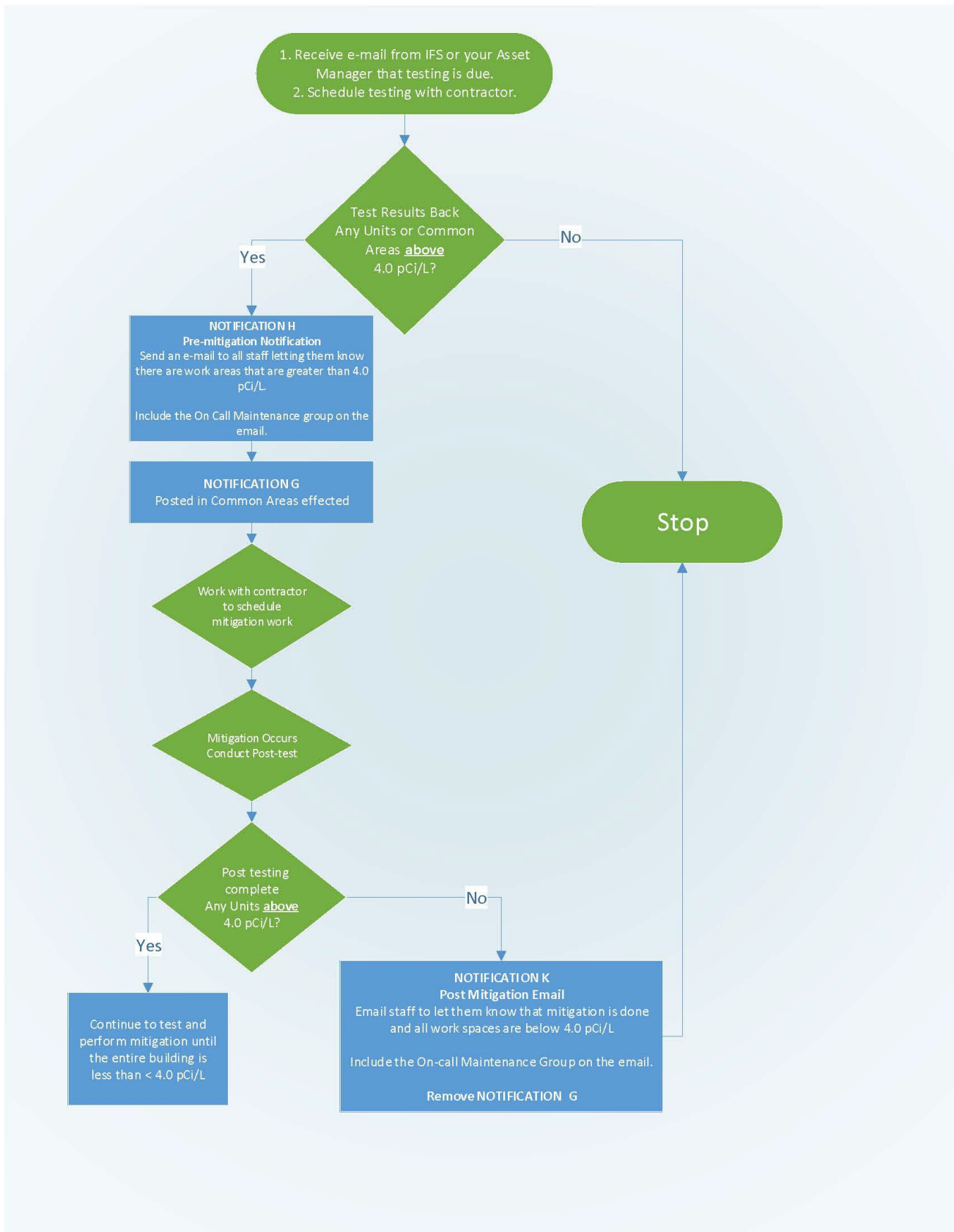
Source: Woodford Bros, Radon Levels in Central New York

Visual Aid 3. Radon Testing and Notification Diagram (Residents)

Through out the testing process it is important to include team members from Community Services, especially property wide notifications



Visual Aid 4. Radon Testing and Notification Diagram (Staff)



Visual Aid 5. Notification Table

PROPERTY/ BUILDING LEVEL	UNIT(S) LEVEL	COMMON AREAS/NON RESIDENTIAL	STAFF
(A) Pretesting Notice - Testing is going to happen	(B) Pre Testing Notice – Initial Unit selected for testing		
(C) Post Testing Notice (units at or above 4.0) - Testing completed. Include property level testing results.	(D) Post-testing notice (units below 4.0) – Testing completed. Include test results.	(G) Common Area Posting - Radon levels at or above 4.0 has been found in a common area	(H) Staff notification - Email to staff, including all call maintenance staff. Include property level testing results
(F) Property Level - Resident meeting notification	(E) 48 hour notice – Informs tenant that radon mitigation is taking place (only in units where access is needed to install mitigation system - may not necessarily be a unit with level at or above 4.0)	(only posted until mitigation is completed and post testing is less than 4.0)	
(I) Post mitigation completion notification (units below 4.0) (Send after system installation and post testing, indicating test results and any next steps)	(J) Post mitigation completion (units at or above 4.0) – post mitigation testing completed with all test results attached.		(K) Staff notification – E-mail to staff, including on call maintenance staff, that post mitigation testing completed. Include property level test results.
	(L) New Move in notification - Property tested. (M) New Move in notification – Property not yet tested	(N) Non residential/commercial tenant and service provider notification	