

**RADON MITIGATION & MEASUREMENT REPORT
PARKSIDE AT TARKINGTON
3901 NORTH MERIDIAN STREET
INDIANAPOLIS, IN 46208
KERAMIDA PROJECT NO. 20685**

Submitted to: **FLAHERTY & COLLINS PROPERTIES**
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This report was developed specifically for the radon mitigation and post-mitigation assessment conducted at 3901 Meridian Street, Indianapolis, IN 46208. The mitigation and post-assessment were conducted in accordance with the American National Standards Institute (ANSI) document *Protocol for Conducting Radon and Radon Decay Product Measurements in Schools and Large Buildings* (ANSI/AARST MALB- 2014 with 1/2021 Revisions), and *Radon Mitigation Standards for Schools and Large Buildings* (ANSI/AARST RMS-LB 2018 with 12/20 Revisions), by Michael Devir, a radon mitigation and measurement professional licensed by Indiana and credentialed by the National Radon Proficiency Program (NRPP).

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1.0 INTRODUCTION AND SUMMARY

KERAMIDA Inc. (KERAMIDA) was engaged by Flaherty & Collins Properties (Client) to design and install a sub-slab radon mitigation system at the property located at 3901 Meridian Street, Indianapolis, Indiana (the Site). The mitigation system was to be installed on a design-build basis. Work was performed in accordance with the American National Standards Institute (ANSI) document *Radon Mitigation Standards for Schools and Large Buildings (AARST/ANSI RMS-LB 2018 with 12/2020 Revisions)* and under the supervision of Michael Devir, a radon measurement and mitigation professional licensed by Indiana and credentialed by the National Radon Proficiency Program (NRPP).

The install of a radon mitigation system was requested following the findings of a radon assessment conducted as part of a real estate transaction by the Client. The previous radon assessment reported two elevated radon levels in the basement and one testing location on the fifth floor with levels above the Environmental Protection Agency (EPA) recommended radon action level of 4.0 picocuries per liter (pCi/L).

Testing for the mitigation design was conducted in March 2021 and summarized in the KERAMIDA letter report, *Radon Mitigation PFE Test Summary*, dated May 3, 2021. Performance of radon mitigation pressure field extension (PFE) testing was conducted on March 24, 2021 and March 31, 2021 to determine facility subsurface flow characteristics.

Design and installation of the radon mitigation system was conducted between April and November 2022 based on the completion and inspection of remodeling activities at the facility. A summary of the work completed is described below.

1.1 Site Description

The building at the Site is being redeveloped for mixed residential and commercial use. The building is five stories above grade and has a basement footprint of approximately 9,100 square feet (SF). The Site is in a mixed urban residential and commercial area north of downtown Indianapolis. The facility exterior is landscaped with grass, shrubs, paved parking areas and walkways.

2.0 SCOPE OF WORK

The radon mitigation scope of work included:

1. Evaluation of the PFE test results to develop a radon mitigation design
2. Mitigation system installation on a design-build basis
3. Post-Mitigation PFE testing to verify operation characteristics
4. Post-mitigation radon measurement of frequently occupied rooms or easily modified for occupation, plus a minimum of 10% of rooms on each upper floor, and
5. Preparation of a mitigation report to the Client, and regulatory agency, as applicable.

3.0 MITIGATION SYSTEM DESIGN, INSTALLATION & START-UP

3.1 Mitigation System Installation and Start-Up

Mitigation system installation occurred from April 7 through April 8, 2022, September 8, 2022, and November 15 through November 18, 2022. The system was temporarily powered on November 18, and dedicated electrical receptacles installed on November 22, 2022. The mitigation system 'As-Built' design is depicted in Figure 1. Based on the design-build process, the following mitigation system designs were developed:

Suction Pit Construction (Basement)

KERAMIDA constructed six suction pits, utilizing a five-inch diameter core bit and water bath to core through the floor slab. A shop vacuum and small diameter dirt auger on an electric drill were used to remove at least five gallons of soil to a depth of up to three feet within each suction pit. Once each suction pit was constructed, further diagnostic testing was conducted using a radon fan, differential pressure gage, and digital manometer to verify flow parameters of each suction pit.

Vertical Piping Installation (Basement)

Following suction pit construction, three-inch SCH40 PVC pipe (stack pipe) was installed vertically and mounted to the basement wall. A rubber (or PVC) coupling, silicone/polyurethane sealant, and reducing coupling were used at the slab interface to create a leak-proof connection to the suction pit opening. Pipe supports were installed at least every ten feet for each vertical pipe. A three-inch flow control gate valve, pressure differential monitoring device (U-tube manometer), and radon mitigation system labels were installed for each of the six suction pits. The mitigation design was configured as two systems (three suction points per system) with one on the east end of the building and the other on the west end of the building. The basement horizontal piping was a combination of three-inch and four-inch PVC piping suspended from the ceiling approximately every six-feet and sloped for condensate drainage back to the suction points. The horizontal piping installation was completed by the Client mechanical contractor. One battery powered flow alarm was installed on each of the mitigation systems.

Utility Chase Stack Piping (Basement to Roof)

Vertical stack piping was located in the two building utility chases (east elevator/utility chase and west utility chase) and installed by the Client mechanical contractor. The utility chase piping was connected to two basement ceiling header pipes (east and west) and extended to the roof. The eastern piping extended into and across the ceiling of the elevator/maintenance room on top of the roof. The western piping extended across the ceiling of the 5th floor and then penetrated the roof west of the roof mounted roof HVAC equipment. The piping locations were greater than 10-feet from any air intake location. KERAMIDA performed an inspection and labeling of the visible sections of piping.

Roof Fan Installation

KERAMIDA installed two in-line radon fans (RadonAway Model GX4) on the building exterior/roof and connected the fans to the utility chase stack piping discharging to the roof area. The power source (junction box within six feet) for the two fan locations was installed by the Client electrician. The electrical circuit for the radon fans (15 AMP, 120 VAC, 1-phase) was a dedicated circuit to two exterior protected receptacles which were labeled 'RADON SYSTEM' on the exterior and at the service panel. The radon fans operate at a maximum of 170 watts each (1.4 Amps). Information on the installed mitigation system equipment is provided in Appendix A.

4.0 PERFORMANCE EVALUATION

KERAMIDA conducted diagnostic/PFE testing as part of mitigation system installation. Post-mitigation assessment of each blower/header system was conducted to validate that installed systems were operating as designed and that the radon exposure risk was mitigated.

4.1 Post-Mitigation PFE Verification Testing

The post-mitigation PFE verification testing was conducted with the two blower units operating and monitoring of the six suction points and available pressure test points. Post-install diagnostic testing was completed on November 17, 2022. The targeted PFE benchmark was a minimum of -0.004 in w.c. induced differential pressure throughout the sub-slab mitigation area, with reference to the indoor air environment. Post-mitigation testing included flow measurement of each suction point using a piezometer and digital manometer.

The PFE benchmark (-0.004 in w.c.) was achieved at all the pressure test points with the exception of one location. Pressure test point PTP-9, located adjacent to the former electrical vault in the southeast building corner, was slightly below the benchmark with a measured pressure of -0.003 in w.c. The slightly lower pressure is attributed to the test point proximity to the wall and sub-grade footer associated with the former electrical equipment vault. The PFE at this location is anticipated to increase in the months following install as the moisture level in the sub-slab soil is reduced by the mitigation system. Following testing the pressure test points were sealed.

Based on the conducted PFE testing of the installed mitigation system, the selected equipment is operating as designed and within the parameters specified by the manufacturer. The data for the post-mitigation PFE measurements are presented in Table 1 and the locations shown in Figure 1.

Table 1: Diagnostic Testing Results

Point	Pressure Measurement (in w.c)	Calculated Flow (ft³/min)
PTP-1	-0.004	NA
PTP-3	-0.037	NA
PTP-4	-0.067	NA
PTP-6	-0.041	NA
PTP-7	-0.052	NA
PTP-8	-0.052	NA
PTP-9	-0.003	NA
PTP-11	-0.019	NA
SP-1	-0.025	30
SP-2	-0.023	30
SP-3	-0.023	30
SP-4	-0.018	26
SP-5	-0.021	28
SP-6	-0.034	36

Notes:

- in w.c. - inches of water column
- ft³/min – cubic feet per minute
- Points PTP-2, 5, and 10 could not be located and were assumed to be filled-in

4.2 Post-Mitigation Measurement Testing

The post-mitigation radon measurement was conducted from November 23 to November 28, 2022. Measurement devices were deployed in 16 resident rooms and 13 non-resident areas (29 primary test locations) as part of the measurement. The KERAMIDA QAP (Quality Assurance Plan) was in control for the project. Specifically, four duplicate devices, two field blank measurement devices, and two office blank devices were deployed as part of the testing conducted. In addition, three spike devices were also utilized for quality assurance purposes. All devices were sent under appropriate chain of custody to Air Chek, a qualified radon analytical laboratory for analysis. The weather on November 23 at the time of deployment was approximately 58 degrees, light winds, and cloudy. On November 28 during pick-up the weather was 42 degrees, no wind, and cloudy. All of the independent heating units for each residential unit and the non-residential areas were operating normally and closed-building conditions (doors closed – normal usage) were maintained throughout the measurement period. One exception at the time of device deployment was discovery of a large floor vent in the basement former electrical vault which was covered with cardboard and plywood. However, based on project schedule and closed conditions during the measurement period (no contractors working

over the Thanksgiving shut-down), testing was decided to be conducted.

Based on the November 2022 radon laboratory results, the measured 16 resident rooms and ten of the non-resident areas were all below the EPA action level of 4.0 pCi/L. Three of the non-resident areas located in the basement, Rooms 2, 4, and SP-3 were reported above the EPA action level at 32.6 pCi/L, 14.8 pCi/L, and 5.8 pCi/L, respectively. As indicated above, the former electrical vault (Room 2) was identified at the time of deployment to have an open floor grate which was covered with cardboard and plywood. The result of the Room 2 testing indicates the open floor grate needs to be permanently covered, sealed and subsequently radon levels retested.

The measurement device results are presented in Table 2 and the sampling locations/room numbers indicated on Figures 2 through 8. The device placement log is provided in Appendix B, and the analytical laboratory report is provided in Appendix C. Credentials for the radon professional are provided in Appendix D. The Indiana EPA Radon Zone Map is provided in Appendix E. The acknowledged notification of measurement is provided in Appendix F.

4.2.1 Data Validation

The KERAMIDA QAP was in control for the project. The relative percent difference (RPD) between the original samples and duplicates are within the required control limit of 25 percent or less as calculated from duplicates with an average exposure between 2 and 4 pCi/L. The two field blanks and two office blanks were below the detection limit (<0.3 pCi/L). Analytical results of the four duplicate and four field blank samples are included in laboratory report provided in Appendix C. The RPD for the results of the three spikes are within the control limit. Records of the three spikes are included in Appendix G. Therefore, all analytical data for this assessment is valid without qualification.

4.2.2 Post-Mitigation Modifications and Re-Testing

The results of the November testing were communicated with the Client and a follow-on inspection of the sampling locations by KERAMIDA on December 5, 2022. Upon receipt of the results KERAMIDA advised the Client that the open grate in the former electrical room needed to be covered and sealed and all penetration in this room sealed off. KERAMIDA also advised the Client that the multiple penetrations in the basement floor near SP-3 needed to be sealed to mitigate migration of radon into this area.

On December 6, three additional test devices were deployed in the basement to retest the elevated locations (identical sampling locations as previous). The three non-resident areas located in the basement, Rooms 2, 4, and SP-3 were all reported below the EPA action level of 4.0 pCi/L with results of 2.0 pCi/L, 1.8 pCi/L, and 3.9 pCi/L, respectively. Room 2 is the former electrical vault which originally was indicated as not planned for use, however room access was created and indicated to be used only for storage. The former vault has no lighting or electric (currently) and has concrete walls, floor, and ceiling. Room 4 is to be a maintenance office and is directly connected to Room 2 with no door on the opening to the vault. The open basement area where SP-3 is located is indicated

for future tenant usage as storage (open-cage areas). KERAMIDA communicated the follow-on testing results to the Client, and although below the EPA action level, recommended the floor sump with pump near SP-3 to be further sealed (cover and discharge pipe penetration), and re-testing conducted to re-evaluate radon levels.

5.0 OPERATION, MAINTENANCE & MONITORING

Operation & Maintenance (O&M) “is a generic term to refer to periodic inspections, component maintenance or replacements, repairs and related activities that are generally necessary to ensure continued operation and effectiveness of the engineered exposure controls to mitigate vapor intrusion” EPA, June 2015. O&M activities should be conducted routinely and documented, and inclusive of recommendations of equipment manufacturers. The frequency of inspections may be reduced after the initial year of operation while efficient system operations are being demonstrated, with triggers for additional inspection to include out of range readings, alarms from warning devices, if equipped, or following any building modifications.

O&M activities of the mitigation systems are to be performed by Parkside Building Management personnel. The following items are to be included as part of routine O&M activities:

5.1 Mitigation System Inspections

The following O&M schedule is recommended for the continued operation of the mitigation systems:

1. Quarterly (four times per year): Observe and record the static pressure for each suction pit on the U-tube manometer gauge of each mitigation system. If the static pressure is +/- 0.5-in w.c. above or below the operational benchmark, conduct corrective action, as necessary. Note, manometer fluid levels should be at different heights (J- appearance), and not at same height (U-appearance) on both sides. The two installed flow alarm devices should be tested (Test Button depressed) to verify proper operation.
2. Quarterly: Visual inspection of the building (in the areas of the mitigation systems) to ensure there are no significant changes (such as remodeling and/or additions) which would affect the design of the mitigation system.
3. Annually (once per year): Visually inspect each blower and coupling connections (located on the roof). Repair or replace any component determined to be affecting the operation of the system.
4. Annually: Visually inspect all exposed vapor conveyance piping, fasteners and joints. Repair, seal or replace any component determined to be affecting the operation of the system.
5. Annually: Visually inspect all exposed slab and system penetrations. Repair, seal or replace any observed component determined to be affecting the operation of the system.
6. Annually: Visual inspection of all electrical components. Test all disconnects for proper function. Repair or replace any component determined to be affecting the operation of the system. Any electrical repair should be conducted by a qualified contractor.

7. Bi-annually (every two years): Perform a thorough inspection of each of the blower/fan unit for debris build-up and excess noise or vibration and condition of the blower bearing. The batteries in the flow alarms should be replaced at least bi-annually, or sooner if indicated by the low battery alarm.

Operation of the mitigation systems should be inspected quarterly, or more frequent, to confirm blower operation and proper flow in each of the systems. Quarterly vacuum readings (six U-tube manometers), and inspection of the flow alarms and roof located blowers should be recorded on an O&M form and kept on file at the facility manager's office. A blank copy of the proposed O&M form is included in Attachment H. Figure 1 depicts each of the U-Tube Manometer locations.

If any blower is found to be non-operational and/or a U-Tube manometer indicates a malfunction, an investigation should be initiated within 48 hours to identify and rectify the problem. If repairs or replacement of a blower or vacuum gauge are required, they are to be performed within 30 days of identification of the problem. Any new equipment should conform to specifications of the original equipment. If a blower unit does malfunction the installed flow alarm should alarm with visual and audible indication within 48-hours of failure (default setting). Additional details on the RadonAway RSA1 Radon System Alarm is provided in Attachment A.

The manufacturer of the blower/fan units (RadonAway), recommends as maintenance that each of the blower units be inspected on a bi-annual basis. The inspection should include each blower and piping looking for leaks, damage, debris, and excess noise or vibration. Inspection for debris may require partial disassembly of the blower at the flexible couplings (blower units located on roof) to complete. If the piping/fan inspection reveals significant dirt/debris in the blower housing, the blower will need to be removed for internal cleaning and then re-installed. Debris in the piping should be removed to the extent feasible by hand and/or mechanical means. Excess noise may indicate problems with the blower bearings and the need for unit replacement. The bi-annual inspection of the blower units should be performed by a licensed radon mitigation specialist.

Following each of the mitigation system inspections, an O&M data form (see Attachment H), or written record of the inspection findings should be generated and a copy placed in the mitigation system records file as maintained by the building manager. Information on the installed mitigation equipment (blower units, pressure gauges, etc.) is provided in Attachment A.

5.2 Long-Term Monitoring

Following mitigation and as part of a long-term monitoring plan, a follow up assessment of radon levels is recommended every two years, or whenever significant changes to the building's structure or HVAC system occurs, to verify indoor radon concentrations at the property remain below the EPA action level.

6.0 CONCLUSIONS

The purpose of this report is to summarize the function of the radon mitigation system installed at the subject Site. An uncertainty with any result due to statistical variations and other factors, such as daily and seasonal variations in radon concentrations, does exist. Variations may be due to changes in weather conditions, environmental influence or building conditions and usage. The conclusions contained within this report are derived from information obtained from the on-Site activities conducted under the scope of work performed. This report was prepared solely for the use of the Client. Use of this report by any party other than the client is prohibited without prior written consent from KERAMIDA Inc.

Sub-slab depressurization was the mitigation technology utilized for this project. Two mitigation systems were installed. Post-mitigation PFE verification testing was conducted using the pressure points installed and the operating blowers to verify effective systems operation.

Based on the observations made during the design-build process, and the results of the post-mitigation radon measurement (below EPA action level) conducted by KERAMIDA, the mitigation systems are functioning as designed. Re-testing demonstrated Client sealing actions in Room 2 and SP-3 reduced radon levels in these areas. In the area of SP-3 (between 2.0 and 4.0 pCi/L), KERAMIDA recommended to the Client that the sump near SP-3 to have the cover and discharge pipe sealed to remove this potential source of radon migration. Following sealing of the sump the radon level in this area should be re-tested to document lower conditions. The Client on January 23, 2023 indicated that the sump cover and piping had been sealed.

7.0 REFERENCES

ANSI/AARST, 2021: *Protocol for Conducting Radon and Radon Decay Product Measurements in Schools and Large Buildings*, American National Standards Institute (ANSI) document. MALB- 2014 with 1/2021 Revisions.

ANSI/AARST, 2018: *Radon Mitigation Standards for Schools and Large Buildings* (ANSI/AARST RMS-LB 2018 with 12/20 Revisions

KERAMIDA, 2019b: *Quality Assurance Plan*, July 2018, Revised March 2019.

TABLES

Table 2 - Post-Mitigation Radon Testing Results
Parkside Project
3901 N Meridian Street, Indianapolis, IN 46208
KERAMIDA Project No. 20685

Kit Number	Start Date	Start Time *	End Date	End Time *	Interior Temperature (°F)	Facility	Room	Floor	Result (pCi/L)	Variance (pCi/L)	Notes
7380091	2022-11-23	2:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	SP-1	0	2	0.3	Open Basement - SP-1
7380092	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	SP-3	0	5.8	0.5	Open Basement - SP-3
7380076	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	SP-4	0	2.9	0.3	Open Basement - SP-4
7380077	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	SP-6	0	3.2	0.3	Open Basement - SP-6
7380079	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	2	0	32.6	2.6	Rm 2 Basement
7380078	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	4	0	14.8	1.2	Rm 4 Basement
7380083	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	104	1	< 0.3	0.3	
7380085	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	105	1	< 0.3	0.3	
7380082	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	106	1	0.7	0.3	
7380081	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	103N	1	0.7	0.3	Open Area - North Side
7380087	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	103SE	1	0.7	0.3	Open Area - East Side
7380086	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	103SW	1	0.7	0.3	Open Area - SW Side
7380084	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	103W	1	0.8	0.3	Open Area - West Side
7380089	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	215	2	1.1	0.3	
7380093	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	208	2	1.2	0.3	
7380094	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	206	2	1.6	0.3	
7380099	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	203	2	1.7	0.3	
7380095	2022-11-23	3:00 pm	2022-11-28	10:00 am	65	PARKSIDE BLDG	301	3	1.8	0.3	
7380096	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	313	3	1.7	0.3	
7380100	2022-11-23	3:00 pm	2022-11-28	10:00 am	65	PARKSIDE BLDG	305	3	1.4	0.3	
7380101	2022-11-23	3:00 pm	2022-11-28	10:00 am	65	PARKSIDE BLDG	308	3	1.3	0.3	
7380102	2022-11-23	3:00 pm	2022-11-28	10:00 am	65	PARKSIDE BLDG	407	3	1.8	0.3	
7380103	2022-11-23	4:00 pm	2022-11-28	10:00 am	65	PARKSIDE BLDG	410	3	2.2	0.3	
7380104	2022-11-23	4:00 pm	2022-11-28	10:00 am	65	PARKSIDE BLDG	403	3	2.5	0.3	
7380108	2022-11-23	4:00 pm	2022-11-28	10:00 am	65	PARKSIDE BLDG	414	3	1.9	0.3	
7380105	2022-11-23	4:00 pm	2022-11-28	10:00 am	65	PARKSIDE BLDG	511	5	2.5	0.3	
7380107	2022-11-23	4:00 pm	2022-11-28	10:00 am	65	PARKSIDE BLDG	502	5	2.9	0.3	
7380109	2022-11-23	4:00 pm	2022-11-28	10:00 am	65	PARKSIDE BLDG	515	5	2.5	0.3	
7380110	2022-11-23	4:00 pm	2022-11-28	10:00 am	65	PARKSIDE BLDG	506	5	2.2	0.3	
7380080	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	DUP-01	0	3	0.3	SP-6
7380088	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	DUP-02	1	0.7	0.3	103W
7380090	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	DUP-03	2	1.5	0.3	206
7380106	2022-11-23	4:00 pm	2022-11-28	10:00 am	65	PARKSIDE BLDG	DUP-04	5	2.2	0.3	506
7380111	2022-11-23	4:00 pm	2022-11-28	11:00 am	65	KEI OFFICE	BLANK 4	0	< 0.3	0.3	Office Blank
7380112	2022-11-23	4:00 pm	2022-11-28	11:00 am	65	KEI OFFICE	BLANK 3	0	< 0.3	0.3	Office Blank
7380097	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	BLANK 2	2	< 0.3	0.3	FIELD BLANK
7380098	2022-11-23	3:00 pm	2022-11-28	10:00 am	70	PARKSIDE BLDG	BLANK 1	2	< 0.3	0.3	FIELD BLANK
7380113	2022-12-06	11:00 am	2022-12-08	12:00 pm	70	PARKSIDE BLDG	SP-3	0	3.9	0.3	RETEST
7380114	2022-12-06	11:00 am	2022-12-08	12:00 pm	70	PARKSIDE BLDG	4	0	1.8	0.3	RETEST
7380115	2022-12-06	11:00 am	2022-12-08	12:00 pm	70	PARKSIDE BLDG	2	0	2	0.3	RETEST

Notes:

* Rounded to the nearest hour per laboratory request

°F = Degree Fahrenheit

pCi/L = picoCuries per liter

Environmental Protection Agency Action Level: 4.0 pCi/L

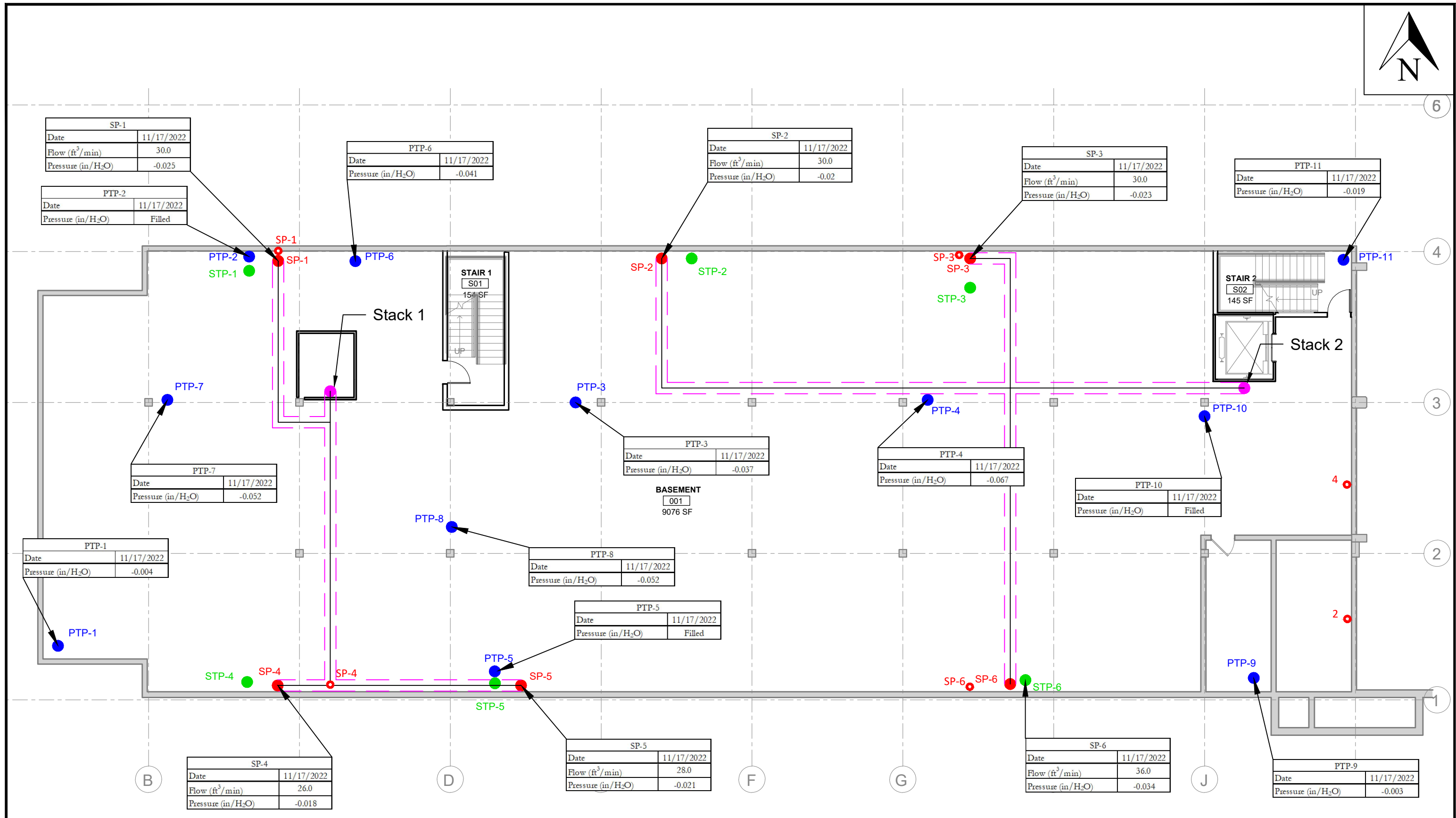
-- = No comment

< = Less than

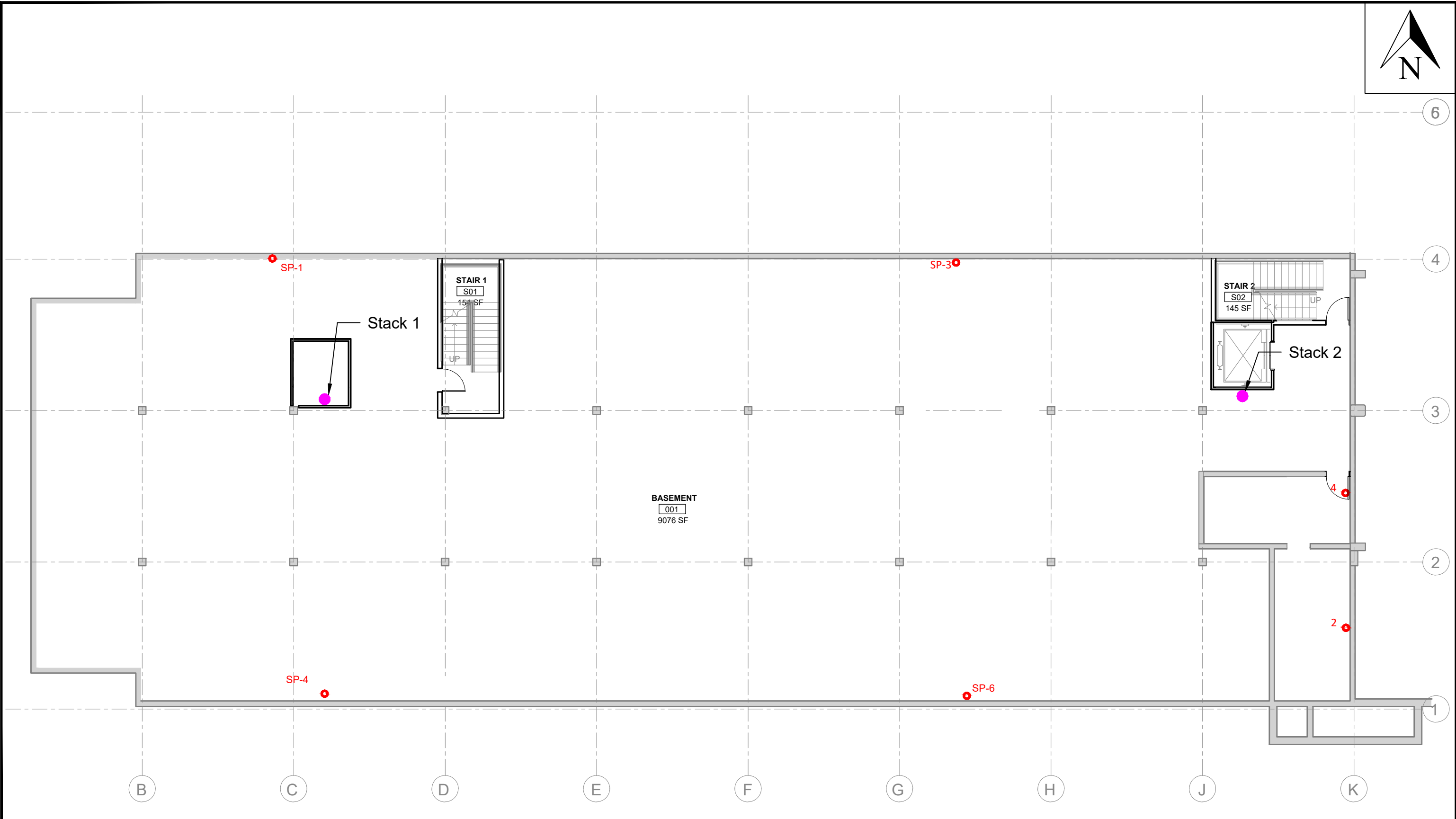
 = Result Greater Than EPA Action Level of 4.0 pCi/L

FIGURES


G:\AUTOCAD\1_CLIENTS\F\Flaherty & Collins\19918 - Radon




G:\AUTOCAD\1_CLIENTS\Flaherty & Collins\19918 - Radon



Legend:

 Stack

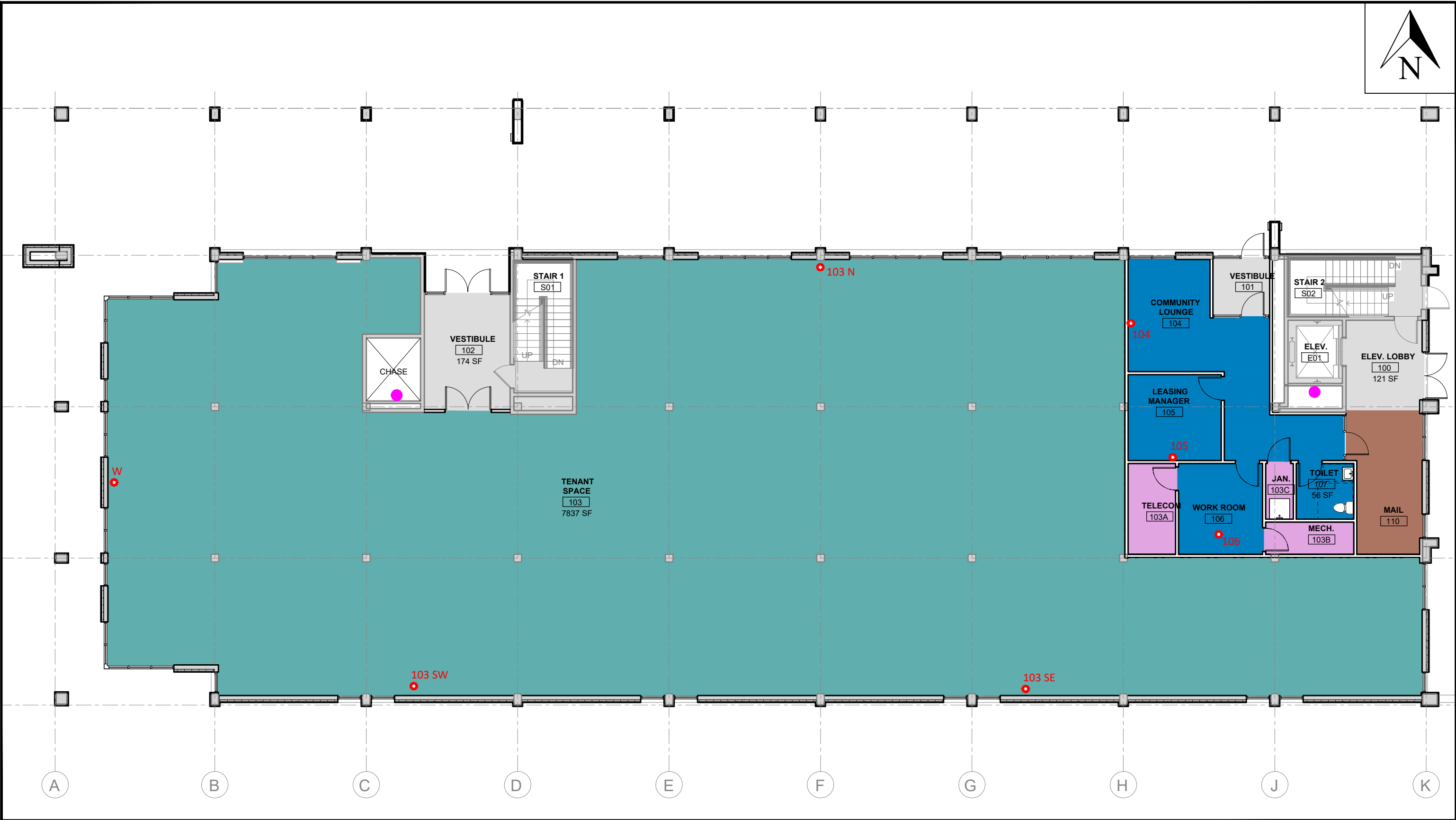
 **SP-1** Radon Sampling Location



Project: Flaherty & Collins Radon Detection 3901 Meridian Street Indianapolis, IN, 46208	
Project Number: 19918	Drawn By: M. Thiel
Date: December 5, 2022	Approved By: X.X.
	File No.: 19918 -

Figure 2
Radon Mitigation Design and Post Measurement
Locations Basement

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Legend:
Stack
SP-1 Radon Sampling Location



Project: Flaherty & Collins Radon Detection
3901 Meridian Street
Indianapolis, IN, 46208

Project Number: 19918	Drawn By: M. Thiel
Date: December 5, 2022	Approved By: X.X.
	File No.: 19918 -

Figure 3
Radon Mitigation Design First Floor

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Legend:

Stack

SP-1 Radon Sampling Location

SCALE:

0 6' 12'



Project: Flaherty & Collins Radon Detection
3901 Meridian Street
Indianapolis, IN, 46208

Project Number: 19918
Date: December 5, 2022

Drawn By: M. Thiel
Approved By: X.X.
File No.: 19918 -

Figure 4

Radon Mitigation Design Second Floor

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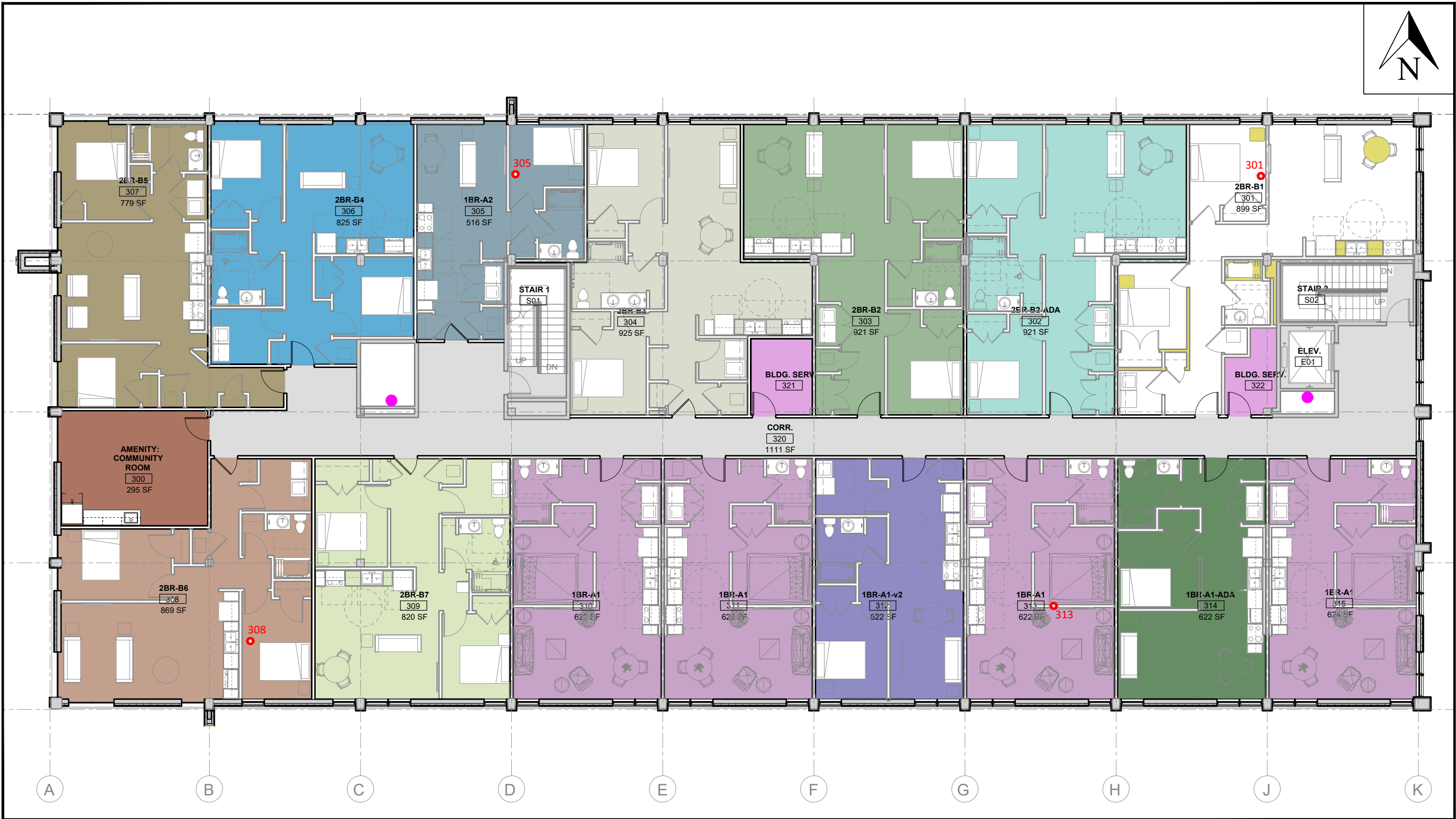
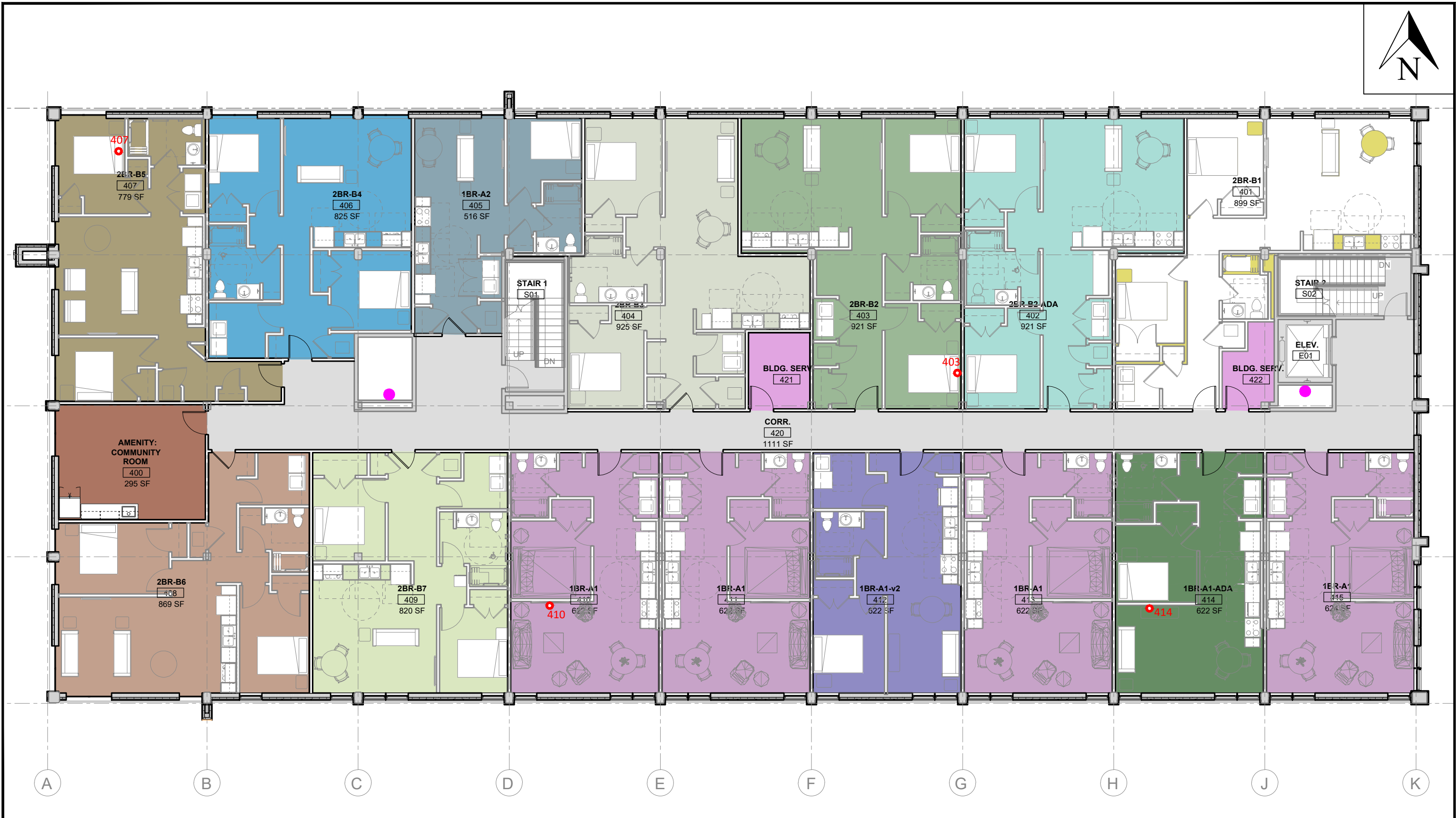


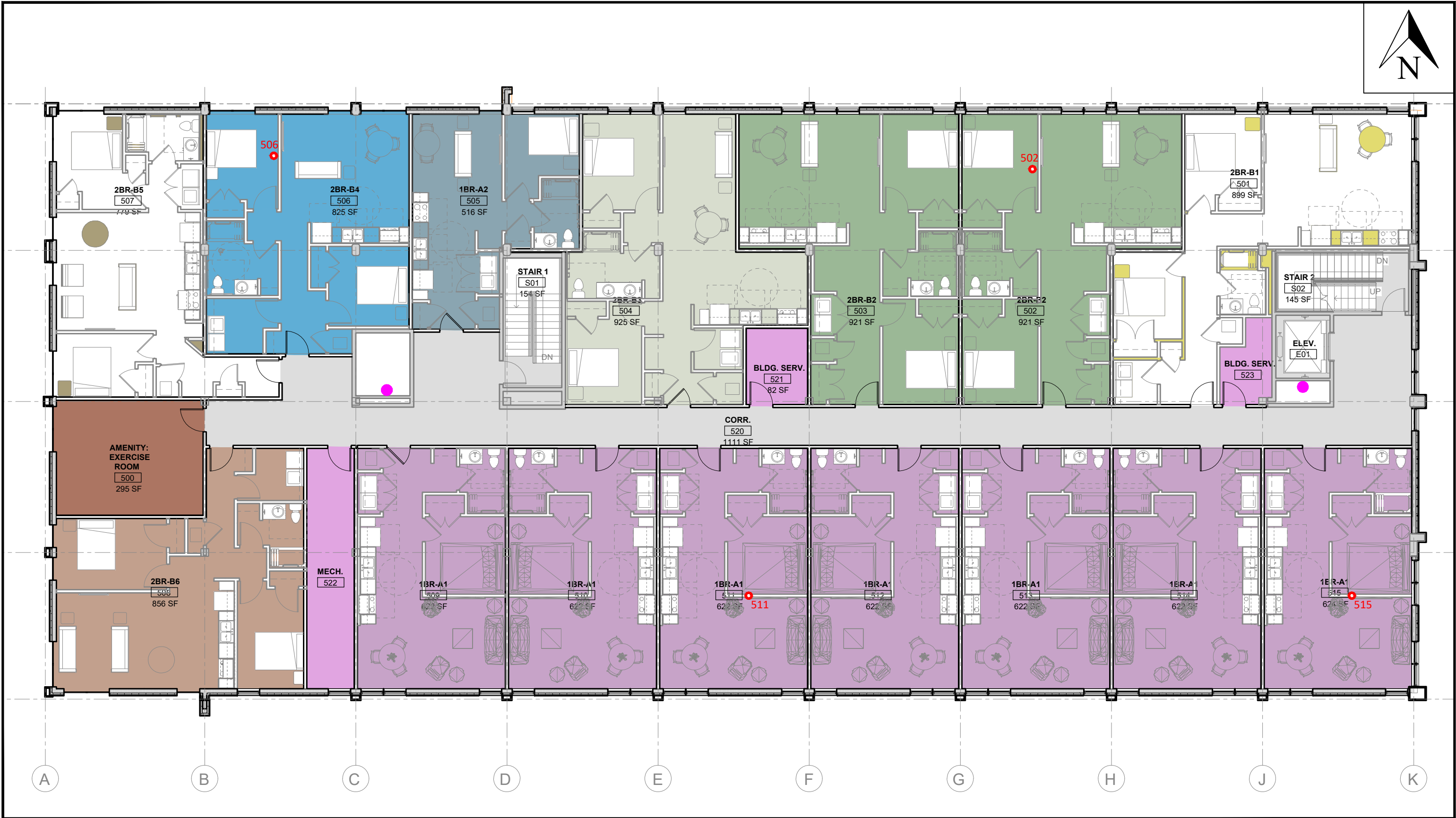
Figure 5

Radon Mitigation Design Third Floor

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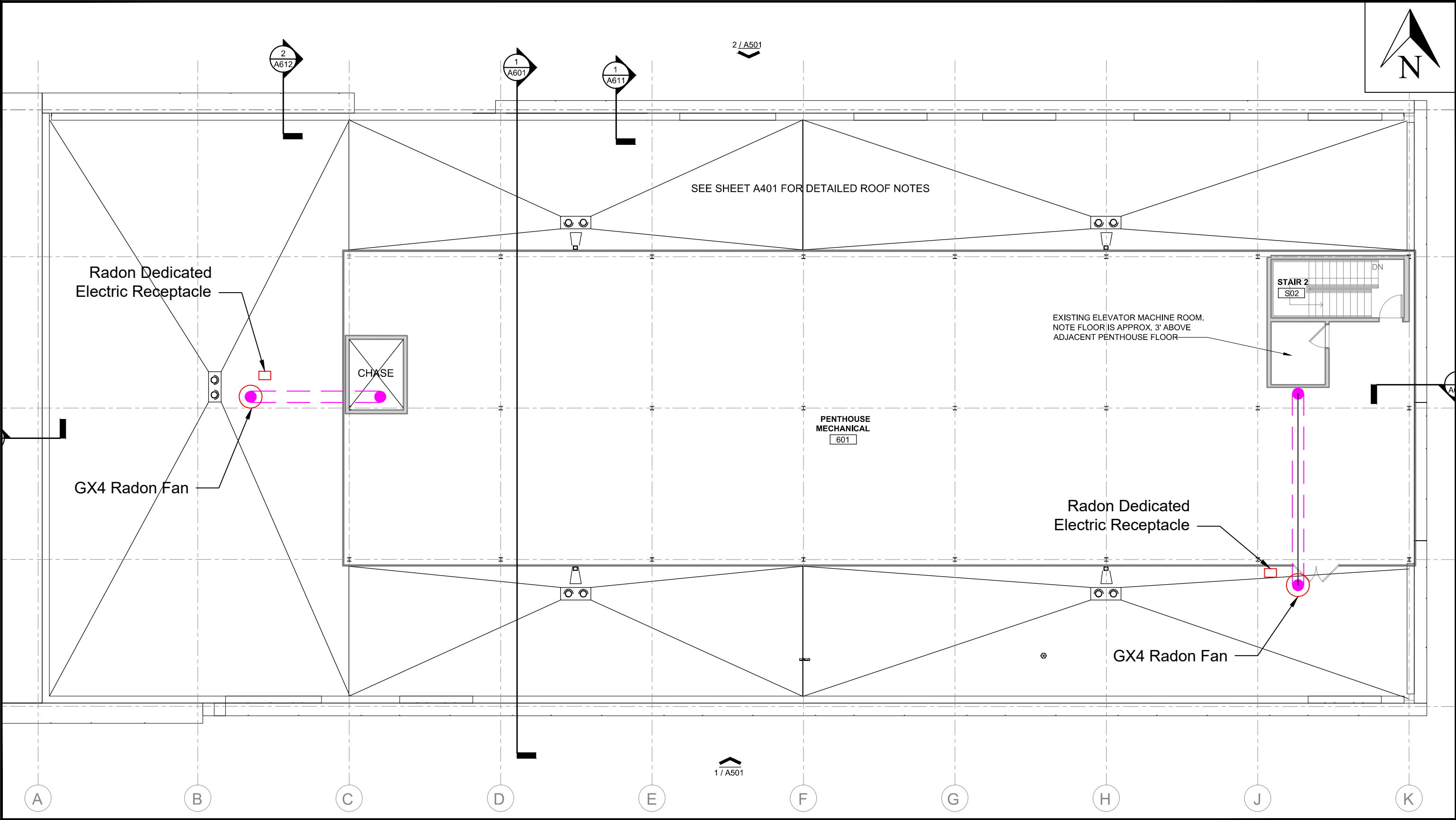
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Project: Flaherty & Collins Radon Detection
3901 Meridian Street
Indianapolis, IN, 46208

Project Number: 19918
Date: December 5, 2022
Drawn By: M. Thiel
Approved By: X.X.
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- Legend:
- Stack
 - Horizontal Piping
 - GX4 Radon Fan



Project: Flaherty & Collins Radon Detection
3901 Meridian Street
Indianapolis, IN, 46208

Project Number: 19918	Drawn By: M. Thiel
Date: December 5, 2022	Approved By: X.X.
	File No.: 19918 -

Figure 8

Radon Mitigation Design Roof

Appendix A

Mitigation System Equipment Information

GX PRO SERIES



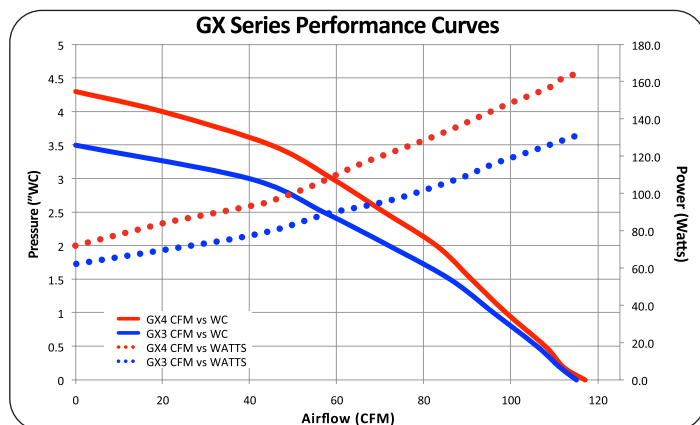
GX3/GX4



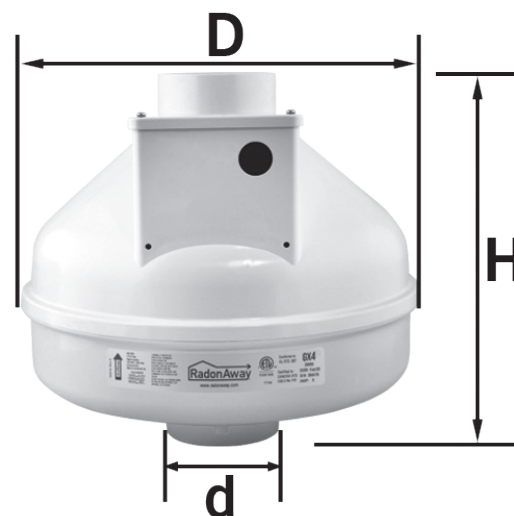
Features

- Revolutionary patent pending design
- Eternalast™ polycarbonate plastic housing
- Water-hardened thermally-protected motor
- Optimal for moderate to tight soils
- Quiet operation
- Rated for indoor and outdoor use
- Rated for commercial or residential use
- Vapor Tite™ technology to inhibit radon and soil gas leakage
- ETL listed by Intertek to UL507 and CSA C22.2 Standards

MODEL	P/N	FAN DUCT DIAMETER	WATTS	RECOM. MAX. OP. PRESSURE "WC	TYPICAL CFM vs. STATIC PRESSURE WC					
					0"	1.0"	2.0"	3.0"	4.0"	5.0"
GX3	28584	3"	60-135	3.3"	115	96	72	40	-	-
GX4	28585	3"	70-170	4.0"	117	99	83	59	20	-



MODEL	DUCT SIZE - OD (d)	DIAMETER (D)	HEIGHT (H)
GX3	3.5"	11.9"	10.9"
GX4	3.5"	11.9"	10.9"



with U.S. and imported parts.



ETL Listed



RadonAway® Pro Series inline radon fans are covered by a 5-year, limited warranty.

For more information
(800) 767-3703
RadonAway.com

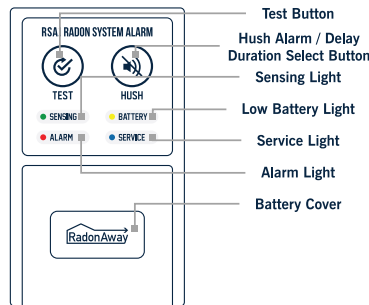




RSA1 Radon System Alarm

w/PPS Technology

P/N 28535
Model# RSA1



ABOUT THE ALARM

The Radon System Alarm (alarm) is a vacuum monitoring product utilizing piezoresistive pressure sensor (PPS) technology. This product provides audible and visual indication when the Radon System vacuum pressure has dropped below the preset operating limit resulting in insufficient pressure to be effective.

BOX CONTENTS

- RSA1 Radon System Alarm
- Wall Mount Adapter (flat)
- Pipe Mount Adapter (curved)
- Silicone Alarm/Pipe Connector Elbow
- Battery
- Product Instructions

FEATURES

- Easy Installation
- Battery Operated (No Wiring Required)
- Vacuum Sensing
- Visual and Audible Indicators
- Selectable Alarm & Service Delay Functions (48 Hours / 7 Days / 30 Days)
- Hush and Test Buttons
- Mounts on 2", 3", 4" or 6" Pipe, or Flat Surfaces

1



INSTALLATION INSTRUCTIONS

This alarm is for conditioned* indoor installations only and should be located in an area where it will be readily observed by the occupants. Outdoor installation will void the warranty!

*Conditioned: Living space or other space that is temperature and humidity controlled.

TOOLS NEEDED

A drill with 5/8" diameter drill bit is required for all installations to install the pipe connector bracket. A liquid level is recommended for proper alignment of the pipe insert bracket and/or wall bracket.

DIRECT PIPE MOUNTING - HORIZONTAL & VERTICAL PIPE

1. Choose a location on the suction side of the radon fan (a minimum of 12 inches from fan) in an area readily observable by building occupants.
2. Drill a hole using a 5/8" drill bit. Clean hole of drill debris and make sure the pipe surrounding the hole is clean and free of dirt, oils and grease.

Without removing the protective film on the pipe mount adapter, test the fit by placing the adapter into the hole in the pipe and adjust hole if necessary.

2

3. Connect one end of the silicone pipe connector elbow to the alarm housing port located inside the battery compartment by pushing it onto the port barb.
4. Slide the pipe mounting bracket into the back of the alarm housing, making note of the curvature and how it relates to the orientation of the pipe at the place of installation. Connect the open end of the silicone pipe connector elbow to the pipe mounting bracket port by pushing it onto the port barb.
5. Peel back the protective film on the mounting tape and insert the assembled alarm/bracket assembly into the drilled hole, making sure it is level, and firmly press in place to seat mounting tape. (See ACTIVATION section for alarm activation instructions)

REMOTE - WALL MOUNTING

1. Mount the RSA1 Alarm within 50' of where the radon system piping will be monitored. Wall surface must be clean and free of dirt, oils and grease.
2. Using a liquid level and pencil, mark a line on the wall surface where the edge of the RSA1 housing will be located.
3. Mount the pipe adapter (at a minimum distance of 12 inches from the fan) on the suction side of the radon fan. Drill a hole using a 5/8" drill bit. Clean hole of drill debris and make sure the pipe surrounding the hole is clean and free of dirt, oils and grease.

3

4. Without removing the protective film on the pipe mount adapter, test the fit by placing the adapter into the hole in the pipe and adjust hole if necessary.
5. Peel back the protective film on the mounting tape and insert the pipe mounting bracket onto the radon system pipe.
6. Connect one end of the tubing (50' max; sold separately) to the pipe mount adapter by pushing the tubing onto the port barb. Route the tubing to the location where the RSA1 alarm will be mounted, avoiding pinching or kinking the tubing along the way.
7. Insert the tubing into the hole located at the bottom of the alarm housing until it reaches into the battery compartment.
8. Connect the tubing to the alarm housing by pushing the tubing onto the port barb. Slide the wall mounting bracket into the back of the alarm housing.
9. Peel back the protective film on the mounting tape and firmly press the assembled alarm/bracket assembly onto the wall to seat mounting tape, making sure it is aligned with the pencil mark previously placed on the wall.

Note: RSA1 uses a permanent tape that may cause damage if removed. If you must remove the mounted device, use a piece of dental floss or wire held tautly between two hands. Pull back and forth to split the tape, and release the mounted object. (See ACTIVATION section for alarm activation instructions)

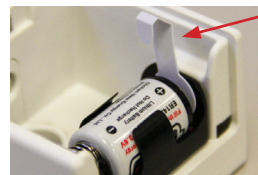
4





ACTIVATION

Prior to alarm activation, make sure both ends of the silicone pipe connector are connected and the radon fan is running. Remove the battery isolator installed for shipping from the positive pole end of the battery. Ensure battery is properly seated. Alarm is now powered on and will begin the activation sequence automatically.



Battery Isolator

CALIBRATION

The RSA1 self-calibrates automatically upon installation of the battery. After the alarm is powered on, the system will run a 20-second initialization to measure baseline system operating pressure. The green sensing LED will flash during this time. A single beep of the buzzer will indicate the initialization is complete and the alarm is now active. No additional calibration is necessary.

5

AUDIBLE ALARM DELAY SELECTION

The RSA1 comes equipped with three optional audible & service alarm delays. To select the desired alarm delay duration complete the following steps:

Step 1: Press and hold "Hush" button for a minimum of 5 seconds to start the time delay selection mode.

Step 2: Keep "Hush" button held down until the desired time delay appears (every 5 seconds) as shown below:

LED States	Descriptions	Delay durations	Note
<div><div></div> SENSING</div> <div><div></div> ALARM</div>	Both the "SENSING" and the "ALARM" LED's are lighted up.	48 hours	Default
<div><div></div> SENSING</div>	Only the "SENSING" LED is lighted up.	7 days	Selected by holding down Hush button for 5 Seconds
<div><div></div> ALARM</div>	Only the "ALARM" LED is lighted up.	30 days	Selected by holding "Hush" button down for 10 seconds

Step 3: Stop depressing "Hush" button when desired time delay appears as indicated by the LEDs. Time delay selection mode will cycle in a continual loop until the "Hush" button is no longer depressed. Once the "Hush" button is no longer depressed the time delay mode will no longer be activated.

6

FUNCTIONAL MODES

Sensing Mode (Visual Only) - Sensing light blinks @ 60-second intervals (3 flashes).

Pre-Alarm Mode (Visual Only) - Alarm light blinks @ 60-second intervals when low or no pressure is sensed. Pre-alarm ends when the pressure is restored within the selected delay duration or it enters Alarm Mode.

Alarm Mode - After selected delay duration, buzzer beeps and Red alarm light flashes, then no light or beep for 60 seconds, then repeat until "Hush" is pressed or system is serviced.

Service Mode - After 3 pre-alarm conditions occur within the selected delay duration, buzzer beeps and Blueservice light flashes, then no light or beeps for 60 seconds, then repeat until "Hush" is pressed or system is serviced.

Hush Mode - Silences audible sound for 7 days but visual remains as programmed; after 7 days goes back to sensing mode, alarm mode (with sound) or service mode (with sound).

Low Battery Mode - 1 "chirp" and simultaneous flash @ 5-minute intervals.

Test Mode - Audible "beep" sounds and all lights illuminate when "Test" button pressed.

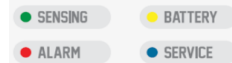
7

FUNCTIONAL SPECIFICATIONS

Sensing Range: -0.1"WC to -20"WC
Alarm Range: $\geq 90\%$ reduction of baseline pressure
Service Condition: 3+ Pre-Alarm Trig. @ 48 Hrs
After 48 Hours, 7 Days or 30 Days
Low Battery Condition: <3.35 V
Hush Button: Silences alarm sound for 7 days
Test Button: Sounds alarm / activates lights
Dimensions: W x H x D (2.19" x 3.75" x 1.37")
Overpressure: ± 20 "WC
Audible Alarm: ≈ 85 dba

Indicator Light Explanation

Sensing, Green Light (Flashing)
= Operating / Sensing
Alarm, Red Light (Flashing)
= Low / No Pressure (Vacuum)
Service, Blue Light (Flashing)
= Service Mode
Battery, Yellow Light (Flashing)
= Low Battery



8

BATTERY REPLACEMENT

1. Remove existing battery.
 2. Be sure fan is operating and alarm tubing is still connected.
 3. Install new battery and make sure it is properly seated.
 4. 20-Second self-calibration operation will then begin.
- (refer to CALIBRATION section for additional information).

WARRANTY INFORMATION

Subject to applicable consumer protection legislation, RadonAway warrants that the Alarm (model RSA1) will be free from defective material and workmanship for a period of (2) years from the date of purchase. Warranty is contingent on installation in accordance with the instructions provided. This warranty does not apply where repairs or alterations have been made or attempted by others; or the unit has been abused or misused. Warranty does not include damage in shipment unless the damage is due to the negligence of RadonAway. All other warranties, expressed or written, are not valid. To make a claim under these limited warranties, you must return the defective item to RadonAway with a copy of the purchase receipt. RadonAway is not responsible for installation or removal cost associated with this warranty.

In no case is RadonAway liable beyond the repair or replacement of the defective product FOB RadonAway.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. THERE IS NO WARRANTY OF MERCHANTABILITY. ALL OTHER WARRANTIES, EXPRESSED OR WRITTEN, ARE NOT VALID.

For service under these warranties, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping costs to and from factory.

3 Saber Way Ward Hill, MA 01835

01/21

IN098 Rev E

10



GX Pro Series Fans Installation Instructions



Fan Installation & Operating Instructions
GX Pro Series Fans
Please Read and Save These Instructions.

DO NOT CONNECT POWER SUPPLY UNTIL FAN IS COMPLETELY INSTALLED. MAKE SURE ELECTRICAL SERVICE TO FAN IS LOCKED IN “OFF” POSITION. DISCONNECT POWER BEFORE SERVICING FAN.

1. **WARNING!** For General Ventilating Use Only. Do Not Use to Exhaust Hazardous, Corrosive or Explosive Materials, Gases or Vapors. See Vapor Intrusion Application Note #AN001 for important information on VI Applications. RadonAway.com/vapor-intrusion
2. **NOTE:** Fan is suitable for use with solid state speed controls; however, use of speed controls is not generally recommended.
2. **WARNING!** Check voltage at the fan to insure it corresponds with nameplate.
3. **WARNING!** Normal operation of this device may affect the combustion airflow needed for safe operation of fuel burning equipment. Check for possible backdraft conditions on all combustion devices after installation.
4. **NOTICE!** There are no user serviceable parts located inside the fan unit.
Do NOT attempt to open. Return unit to the factory. (See Warranty, p. 8, for details.)
5. **WARNING!** Do not leave fan unit installed on system piping without electrical power for more than 48 hours. Fan failure could result from this non-operational storage.
6. **WARNING!** TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:
 - a) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer. (See p. 8.)
 - b) Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
 - c) Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire rated construction.
 - d) Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent backdrafting. Follow the heating equipment manufacturers' guidelines and safety standards such as those published by any National Fire Protection Association, and the American Society for Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), and the local code authorities.
 - e) When cutting or drilling into a wall or ceiling, do not damage electrical wiring and other hidden utilities.
 - f) Ducted fans must always be vented to outdoors.
 - g) If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application and be connected to a GFCI (Ground Fault Circuit Interrupter) protected branch circuit.



1.0 SYSTEM DESIGN CONSIDERATIONS

1.1 INTRODUCTION

The GX Pro Series Radon Fan is intended for use by trained, professional, certified/licensed radon mitigators. The purpose of these instructions is to provide additional guidance for the most effective use of GX Pro Series Fans. These instructions should be considered supplemental to current industry standards and federal, state, county and local building codes and regulations. In the event of a conflict, those standards, codes, practices and regulations take precedence over these instructions.

1.2 FAN SEALING

The GX Pro Series Fan is factory sealed; no additional caulk or other materials are required to inhibit air leakage.

1.3 ENVIRONMENTALS

The GX Pro Series Fan is designed to perform year-round in all but the harshest climates without additional concern for temperature or weather. For installations in an area of severe cold weather, please contact RadonAway for assistance. When not in operation, the fan should be stored in an area where the temperature is never less than 32 degrees F or more than 100 degrees F.

1.4 ACOUSTICS

The GX Pro Series Fan, when installed properly, operate with little or no noticeable noise to the building occupants. The velocity of the outgoing air should be considered in the overall system design. In some cases a “rushing” sound of the outlet air may be audible. In these instances, the use of a RadonAway Exhaust Muffler is recommended.

1.5 GROUND WATER

In the event that a temporary high water table results in water at or above slab level, water may be drawn into the riser pipes, thus blocking air flow to the GX Pro Series Fan. The lack of cooling air may result in the fan cycling on and off as the internal temperature rises above the thermal cutoff. Should this condition arise, it is recommended that the fan be turned off until the water recedes, allowing for return to normal operation.

1.6 SLAB COVERAGE

The GX Pro Series Fan can provide coverage up to 2000+ sq. ft. per slab penetration. This will primarily depend on the sub-slab material in any particular installation. In general, the tighter the material, the smaller the area covered per penetration. Appropriate selection of the RadonAway Radon Fan best suited for the sub-slab material can improve the slab coverage. Additional suction points can be added as required. It is recommended that a small pit (5 to 10 gallons in size) be created below the slab at each suction hole.

1.7 CONDENSATION & DRAINAGE

Condensation is formed in the piping of a mitigation system when the air in the piping is chilled below its dew point. This can occur at points where the system piping goes through unheated space such as an attic, garage or outside. The system design must provide a means for water to drain back to a slab hole to remove the condensation. The GX Pro Series Fan MUST be mounted vertically plumb and level, with the outlet pointing up for proper drainage through the fan. Avoid mounting the fan in any orientation that will allow water to accumulate inside the fan housing. The GX Pro Series Fan is NOT suitable for underground burial.

For GX Pro Series Fan piping, the following table provides the minimum recommended pipe diameter and pitch under several system conditions.

Pipe Diameter	Minimum Rise per Ft of Run*		
	@25 CFM	@50 CFM	@100 CFM
4"	1/8"	1/4"	3/8"
3"	1/4"	3/8"	1 1/2"

RISE

RUN

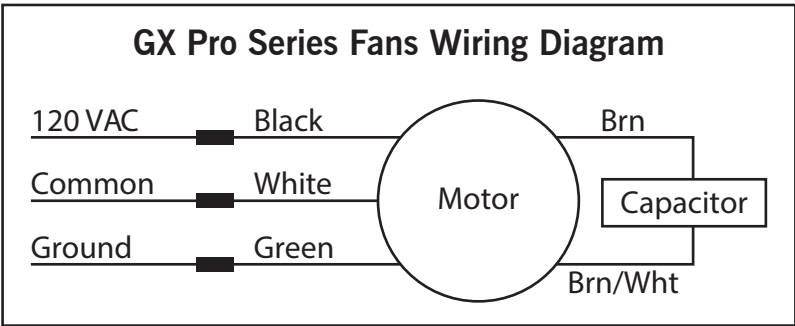
See p. 6-7 for detailed specifications.

1.8 SYSTEM MONITOR & LABEL

As may be required, system monitors, alarms and labels are available for separate purchase. The GX3 and GX4 Fans are compatible with a 4.5" U-Tube Manometer (such as P/N 50017) and a 6.5" U-Tube Manometer (such as P/N 50036). You may choose to also use an audible alarm (P/N 28001-2, 28001-4, 28421 or 28535). A System Label (provided with Manometers P/N 50017 and 50036) with instructions for contacting the installing contractor for service and identifying the necessity for periodic radon tests to be conducted by the building occupants, as may be required, can be conspicuously placed in a location where the occupants frequent and can see the label.

1.9 ELECTRICAL WIRING

The GX Pro Series Fan operates on standard 120V, 60Hz AC. All wiring must be performed in accordance with National Fire Protection (NFPA) National Electrical Code, Standard #70, current edition, for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician. Outdoor installations require the use of a UL Listed watertight conduit. Ensure that all exterior electrical boxes are outdoor rated and properly sealed to prevent water penetration into the box. A means, such as a weep hole, is recommended to drain the box.



2.0 INSTALLATION

The GX Pro Series Fan can be mounted indoors or outdoors. (It is suggested that current industry standards and federal, state, county and local building codes and regulations be followed in choosing the fan location.) The GX Pro Series Fan may be mounted directly on the system piping or fastened to a supporting structure by means of an optional mounting bracket.

The ducting from the fan to the outside of the building has a strong effect on noise and fan energy use. Use the shortest, straightest duct routing possible for best performance, and avoid installing the fan with smaller ducts than recommended. Insulation around the ducts can reduce energy loss and inhibit mold growth. Fans installed with existing ducts may not achieve their rated airflow.

2.1 MOUNTING

Mount the GX Pro Series Fan vertically with outlet up, using flexible couplings to connect the fan to the pipe. Ensure the unit is plumb and level. When mounting directly on the system piping assure that the fan does not contact any building surface to avoid vibration noise. An optional mounting bracket (P/N 25007) is available, as are foam or rubber grommets and other items for vibration isolation.

2.2 SYSTEM PIPING

Complete piping run, as may be required by current industry standards and federal, state, county and local building codes and regulations, using flexible couplings as a means of disconnect for servicing the unit and for vibration isolation. As the fan is typically outside of the building thermal boundary and is venting to the outside, installation of insulation around the fan is not required. If desired, a vent muffler (such as P/N 24003 or 24007), available separately, may be installed at the end of the pipe.

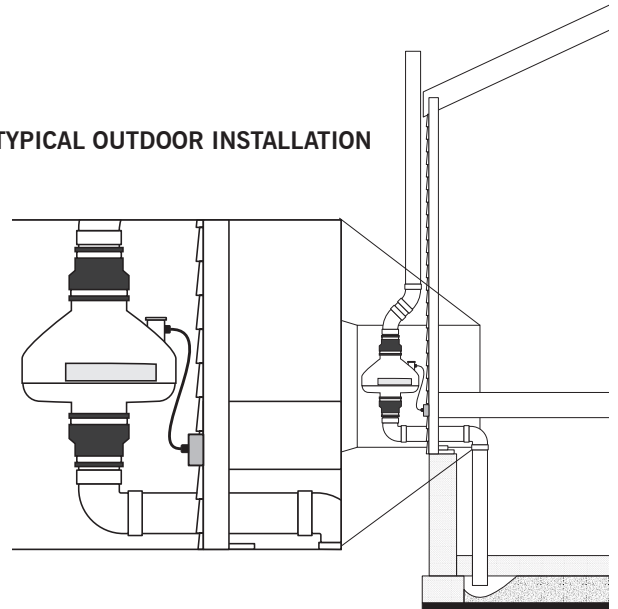
2.3 ELECTRICAL CONNECTION

Connect wiring with wire nuts provided, observing proper connections (See Section 1.9). Note that the fan is not intended for connection to rigid metal conduit.

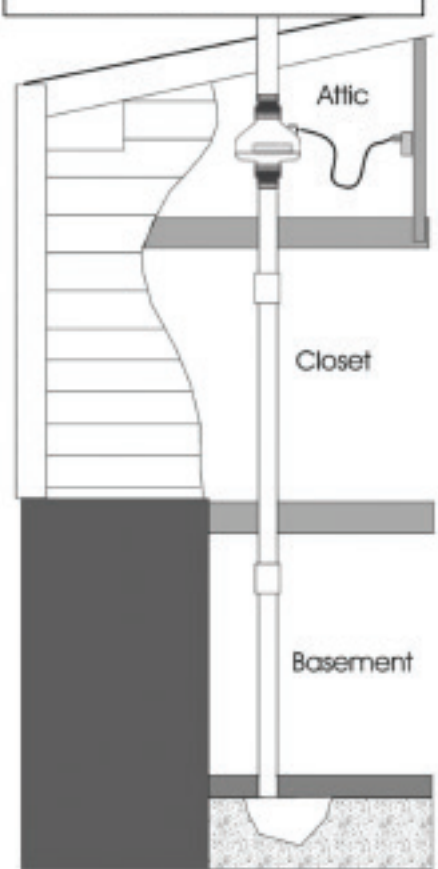
2.4 OPERATION CHECKS & ANNUAL SYSTEM MAINTENANCE

- _____ **Verify** all connections are tight and **leak-free**.
- _____ **Ensure** the GX Pro Series Fan and all ducting are **secure and vibration-free**.
- _____ **Verify system vacuum pressure** with manometer. **Ensure** vacuum pressure is within normal operating range and **less than** the maximum recommended operating pressure.
(Based on sea-level operation, at higher altitudes reduce by about 4% per 1000 feet)
(Further reduce Maximum Operating Pressure by 10% for High Temperature environments.)
See Product Specifications. If this is exceeded, increase the number of suction points.
- _____ **Verify Radon levels** by testing to applicable current industry standards and federal, state, county and local building codes and regulations.

TYPICAL OUTDOOR INSTALLATION



TYPICAL INDOOR INSTALLATION

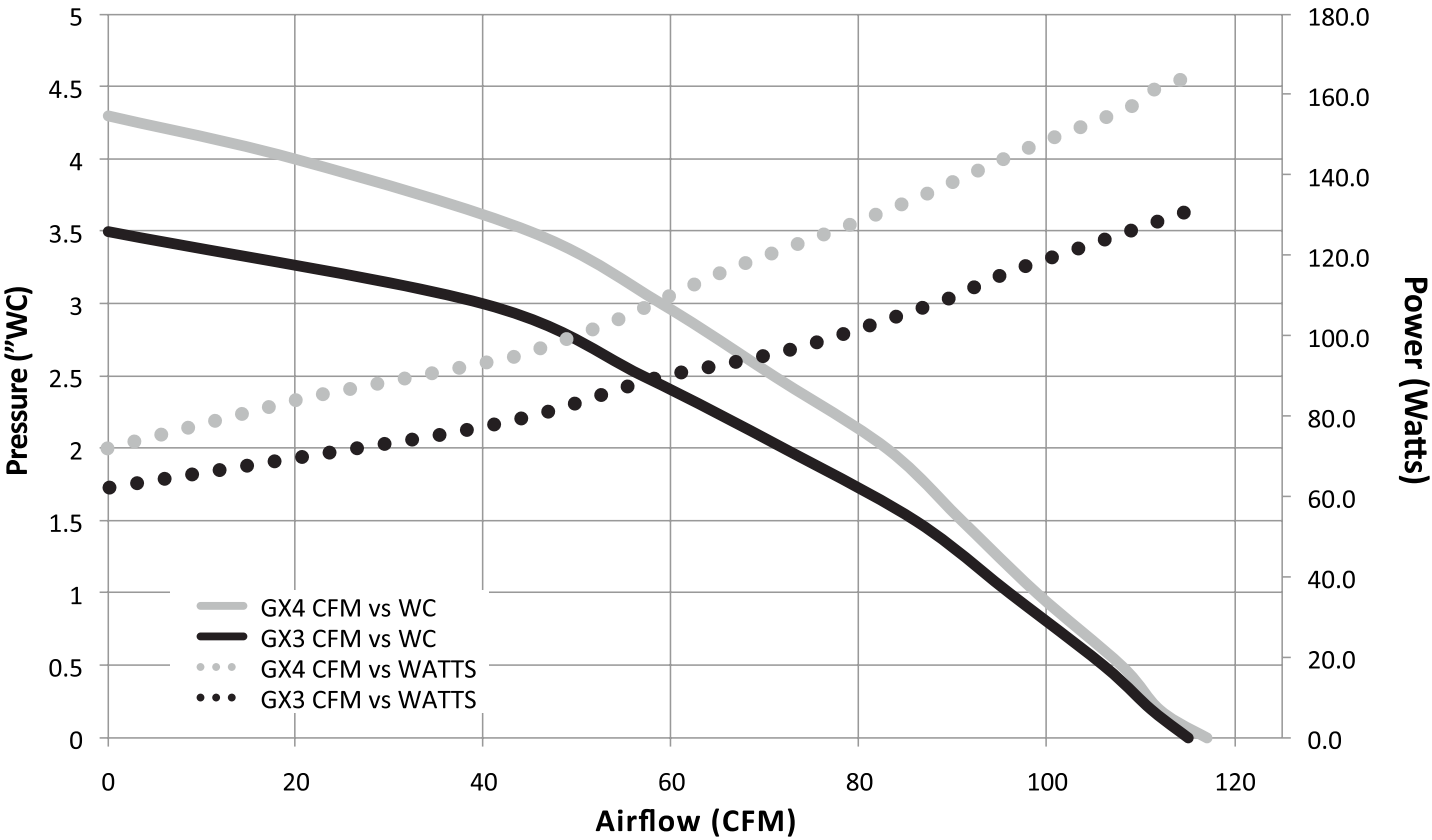


THE FOLLOWING CHARTS SHOW THE PERFORMANCE OF THE GX PRO SERIES FANS

GX PRO SERIES FANS Product Specifications

Typical CFM Vs. Static Pressure "WC								
Model	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"	4.5"	5.0"
GX3	86	72	57	40	-	-	-	-
GX4	-	-	71	59	45	20	-	-

GX Series Performance Curves



IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the RadonAway® GX Pro Series Fan for shipping damage within 15 days of receipt. **Notify RadonAway of any damages immediately.** RadonAway is not responsible for damages incurred during shipping. However, for your benefit, RadonAway does insure shipments.

There are no user serviceable parts inside the fan. **Do not attempt to open the housing.** Return unit to factory. (See Warranty below).

Install the GX Pro Series Fan in accordance with all current industry standards and federal, state, county and local building codes and regulations.

Provide a copy of this instruction or comparable radon system and testing information to the building occupants after completing system installation.

Warranty

RadonAway® warrants that the GX Pro Series Fan (the "Fan") will be free from defects in materials and workmanship for a period of 12 months from the date of purchase or 18 months from the date of manufacture, whichever is sooner (the "Warranty Term").

RadonAway® will replace any fan which fails due to defects in materials or workmanship during the Warranty Term. This Warranty is contingent on installation of the Fan in accordance with the instructions provided. This Warranty does not apply where any repairs or alterations have been made or attempted by others, or if the unit has been abused or misused. Warranty does not cover damage in shipment unless the damage is due to the negligence of RadonAway®.

The Fan must be returned (at Owner's cost) to the RadonAway® factory. Any Fan returned to the factory will be discarded unless the Owner provides specific instructions along with the Fan when it is returned regardless of whether or not the Fan is actually replaced under this warranty. Proof of purchase must be supplied upon request for service under this Warranty.

5-YEAR EXTENDED WARRANTY WITH PROFESSIONAL INSTALLATION.

RadonAway® will extend the Warranty Term of the fan to 60 months (5 years) from date of purchase or 66 months from date of manufacture, whichever is sooner, provided that the fan is installed by a professional radon mitigation contractor. Proof of purchase and/or proof of professional installation may be required for service under this warranty. No extended warranty is offered outside the Continental United States and Canada beyond the standard 12 months from the date of purchase or 18 months from the date of manufacture, whichever is sooner.

RadonAway® is not responsible for installation, removal or delivery costs associated with this Warranty.

LIMITATION OF WARRANTY

EXCEPT AS STATED ABOVE, THE GX PRO SERIES FAN IS PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL RADONAWAY BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR RELATING TO, THE FAN OR THE PERFORMANCE THEREOF. RADONAWAY'S AGGREGATE LIABILITY HEREUNDER SHALL NOT IN ANY EVENT EXCEED THE AMOUNT OF THE PURCHASE PRICE OF SAID PRODUCT. THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT, TO THE EXTENT THE SAME DOES NOT MEET WITH RADONAWAY'S WARRANTY AS PROVIDED ABOVE.

For service under this Warranty, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping costs, including insurance, to and from factory.

RadonAway®
3 Saber Way, Ward Hill, MA 01835 USA
TEL (978) 521-3703 FAX (978) 521-3964
Email to: Returns@RadonAway.com

Record the following information for your records:

Serial Number:

Purchase Date:

THE FOLLOWING CHARTS SHOW THE PERFORMANCE OF THE GX PRO SERIES FANS

GX PRO SERIES FANS Product Specifications (Continued)

Model	Power Consumption 120VAC, 60Hz, 1.8 Amp Maximum	Maximum Recommended Operation Pressure* (Sea Level Operation)**
GX3	60 - 135 watts	3.3" WC
GX4	70 -170 watts	4.0" WC

**Reduce by 10% for High Temperature Operation **Reduce by 4% per 1000 ft. of altitude.*

Model	Size	Weight	Inlet/Outlet
GX3	10.9"H x 11.9" Dia.	7 lbs 10 oz	3.5"OD (3.0" PVC Sched 40 size compatible)
GX4		7 lbs 11 oz	

GX Pro Series Fan Additional Specifications

Model	Recommended Ducting	Recommended PVC Pipe Mounting	Thermal Cutout	Insulation Class
GX3 GX4	3" or 4" PVC pipe	Inline pipe mount with flex couplings (optional bracket available)	120°C / 248°F	Class B Insulation

Continuous Duty
3000 RPM
Thermally Protected
Residential and Commercial
Rated for Indoor or Outdoor Use

LISTED
Electric Fan



Conforms to
UL STD. 507
Certified to
CAN/CSA STD.
C22.2 No.113



Easy Read Manometer Vacuum Gauge Installation Instructions

1. Select location on the vertical suction pipe where the vacuum gauge is to be mounted. Fix the gauge vertically to the pipe using the screws provided.

2. Remove end caps from both tube ends.

Warning: Do not ingest gauge fluid.

Cauton: Gauge fluid will stain if spilled.

3. Allow fluid to settle in gauge for several minutes and then zero the gauge by sliding the tube until the tops of both columns align with the zero mark on the pressure scale.

4. Drill a 3/16" hole in piping 2 inches below the top of the gauge.

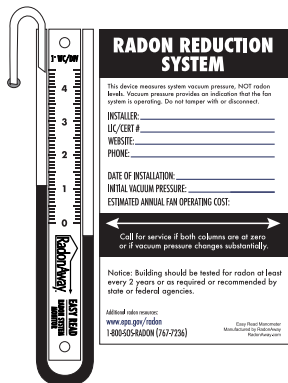
Positioning the hole below the top of the gauge will prevent condensation from potentially collecting in the u-tube gauge.

5. Insert vinyl tubing into either opening in gauge tube and push firmly.

6. Install end of the tubing into drilled hole. Apply caulking for airtight connection.

7. Fill in label using an indelible marker.

8. Remove backing and position label next to vacuum gauge ensuring the arrow is lined up with the gauge zero.



WARRANTY

Subject to any applicable consumer protection legislation, RadonAway warrants that the Easy Read Vacuum Gauge (the "Gauge") will be free from defects in materials and workmanship for a period of five (5) years from the date of manufacture (the "Warranty Term"). Outside the Continental United States and Canada the Warranty Term is one (1) year from the date of manufacture.

RadonAway will replace any Gauge which fails due to defects in materials or workmanship. The Gauge must be returned (at owner's cost) to the RadonAway factory. Proof of purchase must be supplied upon request for service under this Warranty.

This Warranty is contingent on installation of the Gauge in accordance with the instructions provided. This Warranty does not apply where any repairs or alterations have been made or attempted by others, or if the unit has been abused or misused. Warranty does not include damage in shipment unless the damage is due to the negligence of RadonAway.

RadonAway is not responsible for installation, removal or delivery costs associated with this Warranty.

EXCEPT AS STATED ABOVE, THE GAUGE IS PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL RADONAWAY BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR RELATING TO, THE GAUGE OR THE PERFORMANCE THEREOF. RADONAWAY'S AGGREGATE LIABILITY HEREUNDER SHALL NOT IN ANY EVENT EXCEED THE AMOUNT OF THE PURCHASE PRICE OF SAID PRODUCT. THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT, TO THE EXTENT THE SAME DOES NOT MEET WITH RADONAWAY'S WARRANTY AS PROVIDED ABOVE.

For service under this Warranty, contact RadonAway for a Return Material Authorization (RMA) number and shipping information.

No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping cost to and from factory.

RadonAway
3 Saber Way
Ward Hill, MA 01835
TEL (978) 521-3703
FAX (978) 521-3964

Record the following information for your records:

Purchase Date _____

Installation Date _____

11/13 RevB

RADON PROFESSIONAL: PLEASE READ

This label package is designed to help professionals to comply with the RRNC 2.0 AARST-ANSI Standard. It provides required system and component labels, a system monitor (the Easy Read Manometer) and a homeowner information brochure. After you install an ASD system, properly affix the labels and manometer according to the Standard and either give the documentation to the homeowner or affix it in the provided clear plastic bag to a "readily observable" part of the system (usually on or near the manometer).

The RRNC 2.0 AARST-ANSI Standard specifies that certain labels are required with an ASD system. This package provides all labels needed to comply with the Standard, including:

- Pipe labels (Section 501.10) - 4 provided
- Fan circuit label (Section 701.2.1) - 3 sizes provided
- System label (Section 1001.4)
- Sump label (Section 1001.4.1)

Please read the Standard provisions to ensure that you are properly placing the labels.

The RRNC 2.0 AARST-ANSI Standard, in Section 1001.1, also specifies that each ASD system shall be provided with a system negative pressure monitor to indicate system operation. Please see instructions (opposite) regarding correct installation of the Easy Read Manometer Vacuum Gauge and follow the Standard provision to ensure proper placement "indoors in an area where the monitor is readily observable by the occupants."

Section 1001.5 of the Standard requires a system documentation package. To assist in compliance with that requirement, our homeowner information brochure provides a system description plus space for other pertinent data, including installation date, fan model, system operating costs and radon test results.

Request a free digital copy of the standard at
www.RadonAway.com/standard

P/N 15163 Rev A

Home → RadonAway® Easy Read Manometer - BLUE



RadonAway® Easy Read Manometer - BLUE

SKU: 50017

★★★★★ Be the first to review this product

The RadonAway® Easy Read U-tube Manometer, installed in nearly a half million homes to date, lets the homeowner know at a glance whether the radon system is operating. Quantity Price Discounts apply at 50+. Pricing will update when added to Shopping Cart.

\$7.99

- > Buy 50 for \$7.59 each and **save 5.01%**
- > Buy 100 for \$6.99 each and **save 12.52%**



Zoom



3" Gate Valve

SKU: 79192

★★★★★ 1 Review(s) | [Add Your Review](#)

PVC, manual operation. 12/case

\$19.30

- > Buy 12 for \$16.54 each and **save 14.3%**

Qty:

1

Add to Cart



Add to Wishlist



Add to Compare



Share

[Home](#) → Pipe Guard for 3" Schedule 40 varmint guard



Zoom



Pipe Guard for 3" Schedule 40 varmint guard

SKU: 76041-1

Be the first to review this product



\$4.75

- Buy 200 for \$3.75 each and **save 21.05%**

Qty: [Add to Cart](#)

- [Add to Wishlist](#)
- [Add to Compare](#)
- [Share](#)

- Details
- [Additional Info](#)
- [Reviews](#)
- [Conditions of Sale](#)

Related

Product Categories

Radon Fans	+
HRVs / ERVs	+
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Mitigation Tools & Diagnostic Aids	+
Sealing Products	+
Crawlspace Moisture and Radon Control	+
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Pipe Accessories	+
Radon System Accessories	+
Radon in Water Removal Systems	+
Radon Testing	+
Spruce Inline Ventilation	+
Canada Fulfillment	+
Air Purifiers	
New Products	New
Best Sellers	
On Sale	

- 1-2 day shipping in most of US
[Read more...](#)
- Five year manufacturer's warranty on RadonAway fans
- Free technical support for our customers
- [Contact Us](#)

Appendix B

Device Placement Log

Device Placement Log

Prepared By: KERAMIDA, INC
 401 N. College Ave, Indianapolis, IN 46202
 Project No. 20685
 Project Site: Parkside at Tarkington
 3901 N Meridian St., Indianapolis, IN

Flaherty Collins
 One Indiana Square - Ste 3000
 Indianapolis, IN 46204
 11/23/2022 - Low ___F, High ___F, _____
 11/28/2022 - Low ___F, High ___ °F, _____

Sampler: Mike Devir (No. RTS00923)

KITNUMBER	STARTDATETIME	ENDDATETIME	FACILITY	FLOOR	TEMPERATURE	ROOM	NOTES
7380076	11/23/2022 14:32	11/28/2022 10:01	Parkside Bldg	0	70	SP-4	
7380077	11/23/2022 14:34	11/28/2022 9:59	Parkside Bldg	0	70	SP-6	
7380078	11/23/2022 14:37	11/28/2022 9:57	Parkside Bldg	0	70		4 Maint Office
7380079	11/23/2022 14:37	11/28/2022 9:58	Parkside Bldg	0	70		2 Vent floor covered w/ wood - Electrical Vault
7380080	11/23/2022 14:38	11/28/2022 9:59	Parkside Bldg	0	70	DUP-01	(SP-6)
7380081	11/23/2022 14:52	11/28/2022 10:03	Parkside Bldg	1	70	103N	
7380082	11/23/2022 14:47	11/28/2022 9:56	Parkside Bldg	1	70	106	
7380083	11/23/2022 14:45	11/28/2022 9:54	Parkside Bldg	1	70	104	
7380084	11/23/2022 14:52	11/28/2022 10:03	Parkside Bldg	1	70	103W	
7380085	11/23/2022 14:46	11/28/2022 9:55	Parkside Bldg	1	70	105	
7380086	11/23/2022 14:52	11/28/2022 10:03	Parkside Bldg	1	70	103SW	
7380087	11/23/2022 14:52	11/28/2022 10:03	Parkside Bldg	1	70	103SE	
7380088	11/23/2022 14:55	11/28/2022 10:04	Parkside Bldg	1	70	DUP-02	(103W)
7380089	11/23/2022 15:02	11/28/2022 10:10	Parkside Bldg	2	70	215	
7380090	11/23/2022 15:07	11/28/2022 10:07	Parkside Bldg	2	70	DUP-3	206
7380091	11/23/2022 14:29	11/28/2022 10:01	Parkside Bldg	0	70	SP-1	
7380092	11/23/2022 14:31	11/28/2022 9:59	Parkside Bldg	0	70	SP-3	
7380093	11/23/2022 15:04	11/28/2022 10:07	Parkside Bldg	2	70	208	
7380094	11/23/2022 15:07	11/28/2022 10:07	Parkside Bldg	2	70	206	
7380095	11/23/2022 15:16	11/28/2022 10:14	Parkside Bldg	3	65	301	
7380096	11/23/2022 15:19	11/28/2022 10:15	Parkside Bldg	3	70	313	
7380097	11/23/2022 15:10	11/28/2022 10:08	Parkside Bldg	2	70	Blank 2	206
7380098	11/23/2022 15:10	11/28/2022 10:09	Parkside Bldg	2	70	Blank 1	206
7380099	11/23/2022 15:13	11/28/2022 10:12	Parkside Bldg	2	70	203	
7380100	11/23/2022 15:22	11/28/2022 10:15	Parkside Bldg	3	65	305	
7380101	11/23/2022 15:24	11/28/2022 10:15	Parkside Bldg	3	65	308	
7380102	11/23/2022 15:28	11/28/2022 10:17	Parkside Bldg	4	65	407	
7380103	11/23/2022 15:31	11/28/2022 10:18	Parkside Bldg	4	65	410	
7380104	11/23/2022 15:32	11/28/2022 10:19	Parkside Bldg	4	65	403	
7380105	11/23/2022 15:43	11/28/2022 10:22	Parkside Bldg	5	65	511	
7380106	11/23/2022 15:46	11/28/2022 10:24	Parkside Bldg	5	65	DUP-04	506
7380107	11/23/2022 15:41	11/28/2022 10:23	Parkside Bldg	5	65	502	
7380108	11/23/2022 15:36	11/28/2022 10:19	Parkside Bldg	4	65	414	
7380109	11/23/2022 15:39	11/28/2022 10:24	Parkside Bldg	5	65	515	
7380110	11/23/2022 15:46	11/28/2022 10:22	Parkside Bldg	5	65	506	
7380111	11/23/2022 16:00	11/28/2022 10:48	KEI Office	0	65	Blank 4	Office Blank
7380112	11/23/2022 16:00	11/28/2022 10:48	KEI Office	0	65	Blank 3	Office Blank

Note: Dates below reflect the America/New_York timezone. Generated export at 2022-11-28T15:55:24.981Z.

Device Placement Log

Prepared By: KERAMIDA, INC
401 N. College Ave, Indianapolis, IN 46202
Project No. 20685
Project Site: Parkside at Tarkington
3901 N Meridian St., Indianapolis, IN

Flaherty Collins
One Indiana Square - Ste 3000
Indianapolis, IN 46204
12/6/2022 - Low ____F, High ____F, _____
12/8/2022 - Low ____F, High ____°F, _____

Sampler: Mike Devir (No. RTS00923)

KITNUMBER	STARTDATETIME	ENDDATETIME	PROJECTID	FLOOR	TEMPERATURE	ROOM	NOTES
7380113	12/6/2022 11:22	12/8/2022 11:37	Parkside Resample	0	70	SP-3	
7380114	12/6/2022 11:20	12/8/2022 11:34	Parkside Resample	0	70	4	
7380115	12/6/2022 11:17	12/8/2022 11:33	Parkside Resample	0	70	2	

Note: Dates below reflect the America/New_York timezone. Generated export at 2022-12-08T17:05:21.380Z.

Appendix C

Analytical Laboratory Report

November 29, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

KEI OFFICE

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7380112	BLANK 3	2022-11-23 @ 4:00 pm	2022-11-28 @ 11:00 am	< 0.3	2022-11-29
7380111	BLANK 4	2022-11-23 @ 4:00 pm	2022-11-28 @ 11:00 am	< 0.3	2022-11-29

Air Chek 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

Radon test result report for:
PARKSIDE BLDG

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7380081	103N	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	0.7 ± 0.3	2022-11-29
7380087	103SE	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	0.7 ± 0.3	2022-11-29
7380086	103SW	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	0.7 ± 0.3	2022-11-29
7380084	103W	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	0.8 ± 0.3	2022-11-29
7380083	104	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	< 0.3	2022-11-29
7380085	105	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	< 0.3	2022-11-29
7380082	106	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	0.7 ± 0.3	2022-11-29
7380079	2	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	32.6 ± 2.6	2022-11-29
7380099	203	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	1.7 ± 0.3	2022-11-29
7380094	206	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	1.6 ± 0.3	2022-11-29
7380093	208	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	1.2 ± 0.3	2022-11-29
7380089	215	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	1.1 ± 0.3	2022-11-29
7380095	301	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	1.8 ± 0.3	2022-11-29
7380100	305	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	1.4 ± 0.3	2022-11-29
7380101	308	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	1.3 ± 0.3	2022-11-29
7380096	313	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	1.7 ± 0.3	2022-11-29
7380078	4	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	14.8 ± 1.2	2022-11-29
7380104	403	2022-11-23 @ 4:00 pm	2022-11-28 @ 10:00 am	2.5 ± 0.3	2022-11-29
7380102	407	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	1.8 ± 0.3	2022-11-29
7380103	410	2022-11-23 @ 4:00 pm	2022-11-28 @ 10:00 am	2.2 ± 0.3	2022-11-29
7380108	414	2022-11-23 @ 4:00 pm	2022-11-28 @ 10:00 am	1.9 ± 0.3	2022-11-29
7380107	502	2022-11-23 @ 4:00 pm	2022-11-28 @ 10:00 am	2.9 ± 0.3	2022-11-29
7380110	506	2022-11-23 @ 4:00 pm	2022-11-28 @ 10:00 am	2.2 ± 0.3	2022-11-29
7380105	511	2022-11-23 @ 4:00 pm	2022-11-28 @ 10:00 am	2.5 ± 0.3	2022-11-29
7380109	515	2022-11-23 @ 4:00 pm	2022-11-28 @ 10:00 am	2.5 ± 0.3	2022-11-29
7380098	BLANK 1	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	< 0.3	2022-11-29
7380097	BLANK 2	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	< 0.3	2022-11-29
7380080	DUP-01	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	3.0 ± 0.3	2022-11-29
7380088	DUP-02	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	0.7 ± 0.3	2022-11-29
7380106	DUP-04	2022-11-23 @ 4:00 pm	2022-11-28 @ 10:00 am	2.2 ± 0.3	2022-11-29
7380090	DUP-3	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	1.5 ± 0.3	2022-11-29
7380091	SP-1	2022-11-23 @ 2:00 pm	2022-11-28 @ 10:00 am	2.0 ± 0.3	2022-11-29
7380092	SP-3	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	5.8 ± 0.5	2022-11-29
7380076	SP-4	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	2.9 ± 0.3	2022-11-29
7380077	SP-6	2022-11-23 @ 3:00 pm	2022-11-28 @ 10:00 am	3.2 ± 0.3	2022-11-29

December 9, 2022

**** LABORATORY ANALYSIS REPORT ****

Radon test result report for:

Kit #	Room Id	Started	Ended	pCi/L	Analyzed
7380115	2	2022-12-06 @ 11:00 am	2022-12-08 @ 12:00 pm	2.0 ± 0.3	2022-12-09
7380114	4	2022-12-06 @ 11:00 am	2022-12-08 @ 12:00 pm	1.8 ± 0.3	2022-12-09
7380113	SP-3	2022-12-06 @ 11:00 am	2022-12-08 @ 12:00 pm	3.9 ± 0.3	2022-12-09

Air Chek 1936 Butler Bridge Rd, Mills River, NC 28759-3892 Phone: (828) 684-0893 Fax: (828) 684-8498

Appendix D

Credential Documentation


Your Primary Radon Tester license (number RTP00923) and reference card are enclosed.

ADDRESS CHANGE: It is your responsibility to notify the Indiana State Dept. of Health, Lead and Healthy Homes program, in writing of any address changes. Please provide your name, previous address, new address, zip code, license number, expiration date, home phone number, and work number in your correspondence.

NAME CHANGE: If you have a name change to report, you must provide the appropriate documentation - such as a copy of a marriage certificate, divorce decree, or court order. Please provide your name, previous address, new address, zip code, certificate number, expiration date, home phone number, and work number in your correspondence.

Send any Name and Address changes to Indiana State Department of Health, Lead and Healthy Homes, 2 N. Meridian Street, 5J, Indianapolis, IN 46204.

LICENSE RENEWAL: The Lead and Healthy Homes Program will forward a license renewal application to the licensee at the address provided to the Indiana State Department of Health for this license about sixty (60) days prior to expiration.



Indiana State Department of Health
Lead and Healthy Homes
100 N. Senate Avenue, N855
Indianapolis, IN 46204 (317) 234-4423

Primary Radon Tester License


Certificate Number	Status	Expiration Date
RTP00923	Active	12/31/2022

Michael Devir

STATE FORM 49122 (R2 / 10-18)

Approved by
State Board of
Accounts 1999

Certificate Number	Status	Expiration Date
RTP00923	Active	12/31/2022



Indiana State Department of Health
Lead and Healthy Homes
2 N. Meridian Street, 5J
Indianapolis, Indiana 46204 (317) 234-4423

Primary Radon Tester License

Certificate Number	Status	Expire Date
RTP00923	Active	12/31/2022

Michael Devir

Kristina Box, MD, FACOG
Kristina Box, MD, FACOG
State Health Commissioner
Indiana State Department of Health

STATE FORM 49122 (R2 / 10-18)



Michael J Devir

Has satisfactorily fulfilled the requirements set forth by the
National Radon Proficiency Program and is therefore certified as a:

Radon Measurement Professional

with Standard Services

NRPP ID 109954-RMP

Issued On: 2022-06-23 Expires: 2024-07-31

Valid for specific activities or
measurement devices, which can be
verified with NRPP. State and local
agencies may have additional
requirements.



In witness Whereof,
I have subscribed my name as a
Representative of NRPP

Christina Johnson

Christina Johnson
NRPP Credentialing Manager


Your Radon Mitigator license (number RTM00924) and reference card are enclosed.

ADDRESS CHANGE: It is your responsibility to notify the Indiana State Dept. of Health, Lead and Healthy Homes program, in writing of any address changes. Please provide your name, previous address, new address, zip code, license number, expiration date, home phone number, and work number in your correspondence.

NAME CHANGE: If you have a name change to report, you must provide the appropriate documentation - such as a copy of a marriage certificate, divorce decree, or court order. Please provide your name, previous address, new address, zip code, certificate number, expiration date, home phone number, and work number in your correspondence.

Send any Name and Address changes to Indiana State Department of Health, Lead and Healthy Homes, 2 N. Meridian Street, 5J, Indianapolis, IN 46204.

LICENSE RENEWAL: The Lead and Healthy Homes Program will forward a license renewal application to the licensee at the address provided to the Indiana State Department of Health for this license about sixty (60) days prior to expiration.

 Indiana State Department of Health Lead and Healthy Homes 100 N. Senate Avenue, N855 Indianapolis, IN 46204 (317) 234-4423		
Radon Mitigator License		
Certificate Number	Status	Expiration Date
RTM00924	Active	12/31/2022
Michael Devir		

STATE FORM 49122 (R2 / 10-18)

Approved by
State Board of
Accounts 1999

Certificate Number	Status	Expiration Date
RTM00924	Active	12/31/2022

 Indiana State Department of Health Lead and Healthy Homes 2 N. Meridian Street, 5J Indianapolis, Indiana 46204 (317) 234-4423		
Radon Mitigator License		
Certificate Number	Status	Expire Date
RTM00924	Active	12/31/2022
Michael Devir		
Kristina Box, MD, FACOG Kristina Box, MD, FACOG State Health Commissioner Indiana State Department of Health		

REMOVE AT EXPIRATION

STATE FORM 49122 (R2 / 10-18)



Michael J Devir

Has satisfactorily fulfilled the requirements set forth by the
National Radon Proficiency Program and is therefore certified as a:

Radon Mitigation Specialist

NRPP ID 109955-RMS

Issued On: 2022-06-23 Expires: 2024-07-31

Valid for specific activities or
measurement devices, which can be
verified with NRPP. State and local
agencies may have additional
requirements.



In witness Whereof,
I have subscribed my name as a
Representative of NRPP

Christina Johnson

Christina Johnson
NRPP Credentialing Manager

Appendix E

EPA Radon Zone Map

INDIANA - EPA Map of Radon Zones

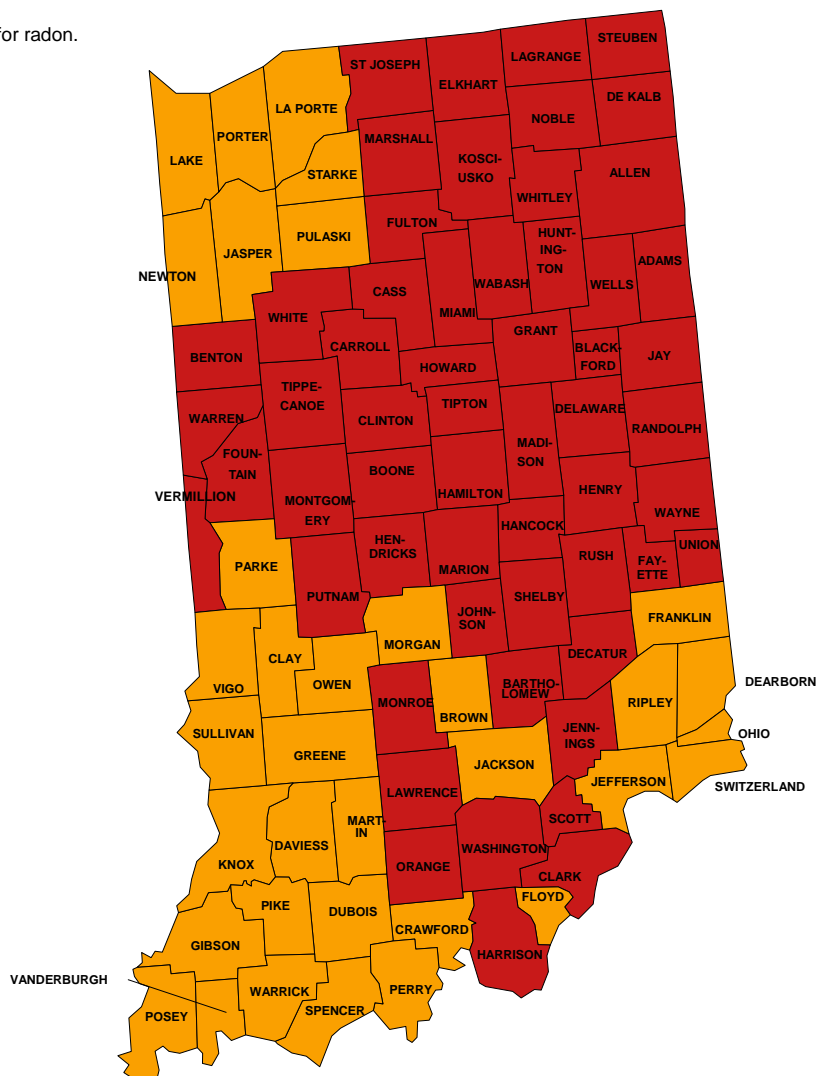
<http://www.epa.gov/radon/zonemap.html>

The purpose of this map is to assist National, State and local organizations to target their resources and to implement radon-resistant building codes.

This map is not intended to determine if a home in a given zone should be tested for radon. Homes with elevated levels of radon have been found in all three zones.

All homes should be tested, regardless of zone designation.

IMPORTANT: Consult the publication entitled "Preliminary Geologic Radon Potential Assessment of Indiana" (USGS Open-File Report 93-292-E) before using this map. <http://energy.cr.usgs.gov/radon/grpinfo.html> This document contains information on radon potential variations within counties. EPA also recommends that this map be supplemented with any available local data in order to further understand and predict the radon potential of a specific area.



1

Zone 1



Zone 2

10

Zone 3

Appendix F

Notification Documentation

Radon Measurement – Responsible Party Notification (ST)

Date: November 21, 2022

Measurement Location: Parkside Project,
3901 Meridian Street, Indianapolis, INMeasurement Period: **11/23/2022 to 11/28/2022**

During the measurement period, the following conditions must be maintained in each office/room (regardless of whether or not the unit contains a measurement device) and all common areas in the building to ensure a valid measurement:

- All windows must be kept closed. All exterior doors must be kept closed, except for normal entry and exit. Windows and exterior doors throughout the building **MUST** be kept closed for a minimum of 12 hours before and during the test period.
- Whole house fans must not be operated. Window air conditioning units may only be operated in recirculation mode. Portable window fans must be removed from the window or sealed in place. Conditions **MUST** be maintained for a minimum of 12 hours before and during the test period.
- Fireplaces or combustion appliances, other than water heaters and cooking appliances must not be operated unless they are the primary heat source.
- Ceiling fans, portable air filters, portable de-humidifiers, portable humidifiers or window air conditioning units operating in recirculation mode must not be operated within 20 feet of measurement devices.
- The measurement device must not be touched, tampered with, covered, removed or altered, and the location of the device must not be changed. HVAC systems must be operated in the normal range – thermostats should not be adjusted drastically and air handlers should be set in normal mode.
- Unusual occurrences that could affect the measurement, such as power outages or extreme weather conditions must be reported to KERAMIDA, INC.

The technician placing and retrieving the devices is required to report any failure to maintain measurement conditions. Failure to maintain measurement conditions may result in an invalid measurement and require the measurement to be repeated.

As the responsible party for the measurement location listed above, I hereby acknowledge receipt of this Measurement Conditions Notification and agree to make reasonable efforts to ensure the conditions outlined herein are maintained throughout the measurement period.

Gretchen Duff**11/22/2022**

Responsible Party Name (Printed)

Date



Responsible Party Signature

SAMPLE PRIOR NOTICE—PUBLIC NOTICE POSTER

Radon Survey in Progress

Dear Residents,

An important step is being taken to protect your health. Radon testing is being conducted for this building.

Radon is a naturally occurring radioactive gas that can be present in some buildings at concentrations greater than recommended. Testing for radon is recommended for all homes. Radon gas is the second leading cause of lung cancer and the leading cause of lung cancer for nonsmokers in the United States.

The only way to know what the radon concentrations are for any building is to test.

Radon testing is scheduled for:

Building(s): PARKSIDE AT TARKINGTON, 3901 MERIDIAN ST, INDIANAPOLIS, IN 46208

Building Area(s): ALL FLOORS OF BUILDING TO BE TESTED

Test Deployment: Day Wednesday Date 11/23/22 (please close windows the night before)

Test Completion: Day Monday Date 11/28/22 Time: Before close of business hours

Please help to maintain these required test conditions throughout the building (12 hours prior the test and during the test).	
Windows	Keep closed on all levels of the building including areas not being tested
Exterior doors (except for momentary entry and exit)	
Heating and cooling systems	Set to normal occupied operating conditions with normal temperatures between 65° and 80° F (18° - 27° C)
Systems that temporarily ventilate with outdoor air for seasonal comfort or energy savings	Set to the lowest seasonal ventilation
Bathroom fans	Operate normally
Exhausts Systems (that temporarily draw air from the building such from laundries, workshops, community kitchens or for local control of fumes)	Avoid excessive operation
Fireplaces (that burn solid, liquid or gas fuels unless a primary/normal source of heat for the building)	Do not operate

For general health information:

Copies of EPA's *A Citizen's Guide to Radon* can be found online at www.epa.gov/radon.

For inquiries or reporting concerns.

Contact Person: _____ Phone: _____

We thank you for your cooperation in helping to ensure a safe and healthy building.

SPANISH TRANSLATION—PUBLIC NOTICE POSTER

Encuesta radon en curso

Estimados Residentes,

Se está tomando un paso importante para ayudar a proteger la. Las pruebas de radon se están llevando a cabo en partes de este edificio.

El radon es un gas radioactivo natural que a menudo se encuentra en el suelo que puede estar presente en edificios a concentraciones superiores a las recomendadas. Se recomiendan pruebas de radon para todos los hogares. El gas radon es la segunda causa de cancer de pulmón y la principal causa de cancer de pulmón para los no fumadores en los Estados Unidos.

La única manera de saber cuáles son las concentraciones de radon para cualquier edificio es probar.

Las pruebas de radon están programadas para:

Edificio(s): PARKSIDE AT TARKINGTON, 3901 MERIDIAN ST, INDIANAPOLIS, IN 46208

Área(s) del edificio(s): ALL FLOORS OF BUILDING TO BE TESTED

Implementación de Pruebas: Día _____ Fecha 11/23/22 (por favor, cierre las ventanas la noche anterior)

Finalización de la prueba: Día _____ Fecha 11/28/22 Tiempo: Antes de horas de cierre del negocio.

**Por favor, ayude a mantener estas condiciones de prueba requeridas en todo el edificio.
(12 horas antes de la prueba y durante de la prueba.)**

Ventanas	Mantener cerradas en todos los niveles del edificio incluyendo áreas que no están probando
Puertas exteriores (except por la entrada momentánea y la salida)	
Sistemas de calefacción y refrigeración	Ajustar a condiciones normales de funcionamiento ocupadas con temperaturas normales entre 65° and 80° F (18° - 27° C)
Sistemas que ventilan temporalmente con aire exterior para la comodidad estacional o ahorro de energía.	Ajuste a la ventilación estacional más baja
Ventiladores de baño	Operar con normalidad
Sistemas de Escape (que extraen temporalmente el aire del edificio, como de lavanderías, talleres, cocinas comunitarias o para el control local de los humos)	Evitar el funcionamiento excesivo
Chimeneas (que queman combustibles sólidos, líquidos, o gas a menos que es una fuente primaria/normal de calor para el edificio)	No operar

Para información general de salud:

Copias de la *Manual Informativo Sobre El Radón* de la EPA se puede encontrar en línea en
<https://espanol.epa.gov/cai/acerca-del-radon>.

Para consultas o preocupaciones de informes:

Persona de Contacto: _____ Teléfono: _____

Le agradecemos su cooperación para ayudar a garantizar un edificio seguro y saludable.

Appendix G

Spike Device Documentation

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT Keramida, Inc. Job Number 204649

NOMINAL Conditions: Radon Conc 26.3 pCi/L Rel. Hum 50.3 % Temp. 70.2 F

Date Start: 3/20/22 Date Stop: 3/23/22 Date Start: _____ Date Stop: _____

Time Start: 0713 Time Stop: 0713 Time Start: _____ Time Stop: _____

Device No.'s: (3) Char Bags - Device No.'s: _____

7361579, 7361583, 7361584 _____

SS left

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Date Start: _____ Date Stop: _____ Date Start: _____ Date Stop: _____

Time Start: _____ Time Stop: _____ Time Start: _____ Time Stop: _____

Device No.'s: _____ Device No.'s: _____

Note: All times are in 24-hour (military) notation, Eastern Standard Time (EST)
Background = 7 μ R/h Elevation = 820 ft

P8523 / MIKE DEVIR

Kit Number	Start Date	Start Time	End Date	End Time	Temp.	Facility	Building	Room	Project ID	Floor	Result
7361579	2022-03-20	7:00 am	2022-03-23	7:00 am	65	DANVILLE ARMORY BUILDING	DANVILLE ARMORY BUILDING	NA	DANVILLE ARMORY	1	22.3
7361583	2022-03-20	7:00 am	2022-03-23	7:00 am	65	DANVILLE ARMORY BUILDING	DANVILLE ARMORY BUILDING	NA	DANVILLE ARMORY	1	23.1
7361584	2022-03-20	7:00 am	2022-03-23	7:00 am	65	DANVILLE ARMORY BUILDING	DANVILLE ARMORY BUILDING	NA	DANVILLE ARMORY	1	25.2

Appendix H

O&M Data Form (Blank)

RADON MITIGATION SYSTEM O&M FORM
Parkside Project
3901 N. Meridian Street, Indianapolis, Indiana 46208
KERAMIDA Project No. 20685

Inspection by Name: _____

Date/Time _____

Weather _____

Suction Point Gauge Readings

<u>Gauge Location</u>	<u>U-Tube</u>	<u>Recommended Range</u>
SP-1	_____ in H ₂ O	<u>0.6 to 1.0</u> in H ₂ O
SP-2	_____ in H ₂ O	<u>1.5 to 2.2</u> in H ₂ O
SP-3	_____ in H ₂ O	<u>1.5 to 2.2</u> in H ₂ O
SP-4	_____ in H ₂ O	<u>1.8 to 2.4</u> in H ₂ O
SP-5	_____ in H ₂ O	<u>1.8 to 2.4</u> in H ₂ O
SP-6	_____ in H ₂ O	<u>1.8 to 2.4</u> in H ₂ O

Note: Gauge readings each should be greater than 0.1 in H₂O (> or = 0.1 in H₂O).

Flow Sensor Operational?

Note: Depress Test Button - Audible and Visual Response

Flow Sensor (SP-1)	YES	NO	_____
Flow Sensor (SP-3)	YES	NO	_____

Blowers Operational?

Notes

Blower (East Roof)	YES	NO	_____
Blower (West Roof)	YES	NO	_____

Any significant building alterations since last inspection?

YES NO

If yes, describe building alterations in notes below.

Note: Sampling is recommended by licensed radon measurement professional every 2 years or following significant building alterations.

Notes/Observations: