

# Newton Community School District

2016-2046



# RADON MANAGEMENT PLAN



Midwest Indoor Air Quality, LLC

## EXECUTIVE SUMMARY

Newton Community School District has had a Radon Management Plan in place since 2016. Radon testing was done at Newton Schools as early as 2012 and 2013. The EPA's new Protocol for Testing Radon in Schools became effective in 2014 and NCS D initiated their more formal Radon Management Plan in 2016 with the testing of all schools and buildings in 2016-2017. Jack Sutte k, Supervisor of Maintenance and Grounds is the facilitator for the Radon Management Plan.

We began re-testing attendance centers and other District buildings with short-term tests for the measurement of radon gas on a roughly 3-year schedule. The strategy is to ensure each school has initial radon testing. If any building has radon levels at 4.0 pCi/L or higher, after additional diagnostic testing, mitigation will be performed and plans to follow guidelines to retest a mitigated building every 2 years are in place.

The plan to mitigate may include further diagnostic testing, corrective measures with the HVAC system, and active mitigation. The mitigation plan will be completed within two years of the initial short-term test unless the District plans to abandon or renovate the attendance center in the near future.

All new school construction in the Newton Community School District will incorporate radon resistant construction techniques.

We have utilized a professional radon testing company, Midwest Indoor Air Quality, LLC, to do all testing of our schools since 2012. They are credentialed by the Iowa Department of Human Services Radon Division and have undergone training on the current EPA standards for radon measurement of schools and large buildings.

### HISTORY

Our schools and office buildings have had every occupied or potentially occupied room tested as an initial radon survey. Woodrow Wilson Intermediate School had some rooms with high radon when tested in January 2017. Diagnostic testing with Continuous Radon Monitors (CRM's) after HVAC repair or replacement showed very low levels of radon in those rooms. The entire Woodrow Wilson building was retested in 2020 and had 6 rooms > 2.0 pCi/L and 1 room > 4.0 pCi/L. That room was tested with a CRM and showed low radon levels during school hours. Retesting every two years is planned for this building.

Berg Middle School is a new building and the first radon survey of the new building was in 2020. The Band and Choral areas had radon > 4.0 pCi/L and HVAC adjustments were made immediately to that area. Berg Middle School was retested March 2023 and had high radon throughout the building. Jack was contacted on the weekend and Monday morning first thing he discovered there had been no fresh air in the building the week we tested. We retested the building April 2023 and the radon test results were LOW throughout the building. This building will be retested every 2 years for a few cycles, with ongoing HVAC monitoring.

This Radon Management Plan meets all requirements of Iowa bill HF 2412, the Gail Orcutt School Radon Safety Act which was signed into law May, 2022. This law requires that schools do initial testing by 2027 and mitigate buildings that have radon at 4.0 pCi/L or higher, and that they re-test every 5 years after.

## ADDITIONAL INFORMATION

This Radon Management Plan is based on the U.S. Environmental Protection Agency's (EPA) Managing Radon in Schools with Key Drivers and Strategies for Success found at <https://www.epa.gov/iaq-schools/managing-radon-schools> . This is designed to be a work in progress.

The EPA recommends testing all schools for radon. As part of an effective indoor air quality (IAQ) management program, schools can take simple steps to test for radon and reduce risks to occupants if high radon levels are found. The only way to know if elevated radon levels are present is to test.

Successful IAQ management in schools comprises effective pollution source control. Radon—a radioactive gas—is one of the most hazardous indoor pollutants. Radon is the leading cause of lung cancer among non-smokers. In the U.S., an estimated 21,000 people die from radon-induced lung cancer annually. Thousands of classrooms nationwide have elevated radon levels, needlessly exposing hundreds of thousands of students and staff to this serious health risk.

Radon gas enters from the soil beneath the school through cracks and openings in the foundation. Air pressure inside a building is sometimes lower than pressure in the soil under the foundation. Because of this difference in pressure, a building acts like a vacuum drawing radon inside from the soil. Typical cracks and openings include joints where the floor meets the wall, expansion joints in the floor, openings in the floor from pipes and wires, and hollow masonry walls that penetrate the floor.

### Key Drivers for Success & Strategies in Action

#### Organize for Success

- **Secure Senior Buy-In:** Ensure senior-level support. Encourage administrators and facilities managers to connect with radon professionals to share their stories and solicit advice. Partner with parent groups, local health departments, facilities and maintenance organizations and other credible organizations to build understanding, trust and support.
- **Develop a Systematic Approach:** Use the (EPA's) IAQ Tools for Schools Action Kit to tie your goals for radon testing to your overarching IAQ, health and environmental program goals. Coordinate this effort with existing IAQ management program activities.
- **Build an Effective Team:** Assemble a multidisciplinary team to plan for radon testing and mitigation. Include on your team a trained radon professional: Midwest Indoor Air Quality, LLC was sub-contracted for radon screening from 2012 to present. Get to know your state radon program representative; Invite members from existing IAQ or Health and Safety Committees, facilities managers, air-conditioning technicians, IAQ professionals, school administrators, other staff and parents.

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### Communicate with Everyone All the Time

- **Make the Radon Program Meaningful:** Include radon awareness as part of your overall IAQ management training and education efforts. Share with parents and staff the link between radon and building operations, and encourage them to test their homes as the home is often the most significant source of radon exposure.

**Be Transparent and Inclusive:** Communicate your action plan to stakeholders and the importance of radon testing. Share your testing results, mitigation plans and follow-up testing plans. In cases of elevated radon levels, ensure that your mitigation plan is in place so you can communicate those plans to parents. Invite key stakeholders to examine the issue and be part of the solution.

### Assess your Environments Continuously

- **Walk the Grounds:** Perform radon assessments in conjunction with your regular IAQ walkthroughs. If elevated radon levels are found, survey your buildings for structural or mechanical issues that could be allowing radon to enter, such as cracks in the foundation, expansion joints, sub-slab HVAC ducts and building pressurization patterns. It is not recommended that staff have desk or break areas in boiler rooms. These rooms typically do not have conditioned air and may be a potential entry point for radon.
- **Use Technology:** Track radon test results, assessment data and pending actions on a spreadsheet or in an electronic work order system to build awareness of emerging priorities so that facility maintenance can plan accordingly. Spreadsheet for radon testing and future requirements and plans in progress (see Excel attachment).

### Act to Address Structural, Institutional and Behavioral Issues

- **Test for Radon:** Test according to your plan. Refer to EPA's "Radon Measurement in Schools" and "Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings" (ANSI/AARST MALB 2014) The EPA suggests initial short-term testing in all frequently occupied, ground contact rooms. Initial short-term radon testing finished at Newton Community School buildings early 2017. The buildings have all been retested in 2020 and Berg was retested in 2023.
- **Implement Radon Reduction Plans:** If you find high radon levels and need to mitigate, consider hiring a mitigation contractor. Some states have restrictions on who can test or mitigate a school. Consult with your state radon office for state-specific recommendations. In Iowa radon testing and mitigation are credentialed by the Iowa Department of Human Services. We hired a licensed radon testing professional company called Midwest Indoor Air Quality, LLC for testing.
- **Train Occupants to Identify Radon Risks:** attend radon training to learn about radon and how to effectively test, mitigate and maintain radon reduction. Empower maintenance and facilities staff to become radon champions as occupants will likely refer to them for answers about the testing plan and mitigation actions. Ongoing discussion with maintenance and facilities staff on HVAC conditions, building conditions and safe practices to avoid exposure to radon. Changes to the HVAC will not be made without considering the effect on the pressurization of the building.
- **Educate Staff about Radon:** Include teachers in your testing process to foster awareness and create support. Encourage them to incorporate radon into lesson plans by having students

participate in radon-related science projects or in the National Radon Poster Contest. Our message to staff about upcoming radon tests included educational facts about radon and how their assistance to meet compliance requirements was integral to the success of the test. This will be reiterated when the final test results are shared.

#### Plan Your Short-and Long-Term Activities

- **Work in Stages:** Working with your radon team, identify your action steps and set a schedule for your testing plan. Determine what type of test kits to use and which rooms will be tested (or hire a radon measurement professional). Your state radon program can help you identify next steps and offer other guidance throughout the process of testing and mitigation. We chose to hire a professional radon measurement company to ensure the highest level of safety for our students and staff.
- The Iowa bill HF 2412, Gail Orcutt School Radon Safety Act requires that only TRAINED school staff may do radon testing. The staff must take training by certified trainers approved by the Iowa Department of Human Services Radon Division and Iowa Department of Education. The training is a minimum of 5 hours and the student is required to pass a test. The Iowa Department of Education is responsible to determine compliance of the HF 2412 with school employees.
- **Prioritize Actions:** Identify funding and staff resources available for testing and mitigation. If mitigation is necessary, then initiate radon reduction in the highest radon risk areas first. In progress
- **Evaluate Your Results for Continuous Improvement**
- **Solicit Feedback:** Ask for feedback from your radon testing team, district stakeholders and parents to improve the radon management process. Identify best practices that improve your process for future follow-up radon testing.
- **Ensure Continuity of Radon Management Plan:** Determine additional testing needs and follow-up. Retest according to plan if schools were mitigated to ensure radon mitigation systems are functioning properly. Schedule re-testing following all major renovations, and consider how HVAC modifications or upgrades may affect radon intrusion.

