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Management Plan for Radon

Northfield Public Schools

Management Plan for Radon

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1.0 Introduction

Radon is a colorless, odorless, radioactive gas that occurs naturally in soil, rocks, underground water supplies, and in the ambient air that, according to the U.S. Environmental Protection Agency (EPA) and other scientific organizations, has been associated with an increased risk of developing lung cancer. Radon gas typically moves up through the ground into the air in buildings through sub-surface wall and/or floor cracks, floor drains, and construction joints and pipes. The water supply may also be a source of radon exposure.

The EPA and the Minnesota Department of Health (MDH) advise school districts to test for radon every five years and after any renovation to the building or HVAC system, with the goal of reducing levels to below 4 picoCuries per Liter (pCi/L). Regulations and guidelines followed by Northfield Public Schools and addressed in this program include: ANSI AARST MALB 2014 (with 1/21 revisions) *Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings* (ANSI AARST MALB 2014), MDH *Radon Testing in Minnesota Schools (4/08/2021)* and Minnesota Statute 123B.571.

2.0 Responsibilities

The program administrator, or designee, is responsible for ensuring that the following items are completed, per the *Radon Testing in Minnesota Schools* document:

- Radon testing and mitigation is conducted by licensed individuals (per MN Statute 144.4961 *Minnesota Radon Licensing Act*)
- Testing and mitigation complies with the *Minnesota Radon Licensing Act* (MN Statute 144.4961) and the MN Administrative Rules (4620.7000 – 4620.7950), which includes the ANSI/AARST standards ‘Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings’ and ‘Radon Mitigation Standards for Schools and Large Buildings’ or the successor ANSI/AARST standards
- Conduct testing between November 1 and March 31
- Conduct testing with short-term test kits
- Conduct testing on school days or with HVAC operating under occupied conditions
- Test all occupied and intended to be occupied rooms in contact with the ground, 10% of upper floor rooms, and other rooms specified in the ANSI/AARST standard
- Conduct follow-up testing in rooms that have radon ≥ 4 pCi/L and other rooms specified in the ANSI/AARST standard
- Mitigate occupied and intended to be occupied rooms that have radon ≥ 4 pCi/L
- Re-test the building after mitigation to verify radon reduction
- Report all radon test results to MDH on the ‘School Radon Testing Form’ at the conclusion of the testing project (after follow-up testing, mitigation and post-mitigation testing have been completed)
- Report radon test results at a school board meeting

3.0 Radon Testing Procedures

Initial measurements are collected under the following conditions:

- Under closed conditions (closed windows/doors except for normal exit/entry)
- With HVAC systems operating in a manner typical for normal occupancy
- Not during construction that includes structural changes to a building and/or the renovation or replacement of the HVAC system
- Not during unusually severe weather or periods of unusually high winds

Northfield Public Schools conducts air sampling for the presence of radon using short term (72-96 hours) activated charcoal test kits on school days only (not holidays, vacations or weekends), between November 1 and March 31 on a five-year cycle. Any areas with elevated radon results are mitigated (reference specific radon testing reports for more information).

Certified radon testing devices are used and are listed by either The National Radon Proficiency Program (NRPP) or National Radon Safety Board (NRSB).

Sampling for the presence of radon is conducted in accordance with the MDH's *Radon Testing in Minnesota Schools* (4/08/2021). Radon measurement professionals are required to be licensed through the MDH and follow ANSI/AARST MALB 2014. Radon Measurement licenses are also required for school staff who complete the testing, unless the individual who completes the testing owns the building and is not compensated. The District will follow the MDH licensing requirement to follow ANSI/AARST MALB 2014 for quality assurance measurements by including duplicate and control (blanks) measurements. The sampling and analysis methodologies are provided within the reports located in Appendix A.

4.0 Mitigation

A single test result should not be the basis for determining if action needs to be taken to reduce radon levels. If the initial testing results indicate the radon level in a room is 4 picocuries per liter (pCi/L) or greater, follow-up testing should be completed within one month of initial testing, in the same location and under conditions similar to the initial measurements. Continuous radon monitor (CRM) measurements are recommended because they can determine if elevated levels are present during occupied times.

Rooms with elevated radon during occupied times must be mitigated following ANSI/AARST MALB 2014. Radon can usually be reduced by adjusting the existing HVAC system, including increasing fresh air or balancing air flow to rooms, or by installing an active soil depressurization system.

Retesting is conducted after mitigation or HVAC adjustments to verify that radon levels have been reduced.

5.0 Program Communication

Per ANSI/AARST MALB 2014, placement of radon measurement devices is communicated to building occupants. Radon documentation may be reviewed during normal business hours at the Building & Grounds Office.

Per Minnesota Statutes, Section 123B.571, Northfield Public Schools reports radon testing results at a school board meeting and to the MDH. The MDH reporting form is provided in Appendix B.

Appendix A

*Radon Testing Results and Locations
(Maintained at the Building & Grounds Office)*

Appendix B

*MDH Reporting Form
(Maintained at the Building & Grounds Office)*