

Radon Sampling Report

Sampling Period: November 14-16, 2022, and December 12-14, 2022
Fairfield Ludlowe High School
785 Unquowa Road
Fairfield, CT

Fairfield Public Schools
Fairfield, Connecticut

June 2023



FUSS & O'NEILL

59 Elm Street – Suite 500
New Haven, CT



FUSS & O'NEILL

June 23, 2023

Mr. Angelus Papageorge
Executive Director of Operations
Fairfield Public Schools
501 Kings Highway East, Suite 210
Fairfield, CT 06824
apapageorge@fairfieldschools.org

RE: Radon Sampling
Sampling Period: November 14-16, 2022, and December 12-14, 2022
Fairfield Ludlowe High School
785 Unquowa Road, Fairfield, CT
Fairfield Public Schools
Fuss & O'Neill Project No. 20220801.A10

Dear Mr. Papageorge:

Enclosed is the report for the radon sampling conducted in the Fairfield Ludlowe High School located at 785 Unquowa Road in Fairfield, Connecticut. The initial sampling event was performed from November 14-16, 2022, with follow-up sampling conducted from December 12-14, 2022. This work was performed for the Fairfield Public Schools in accordance with our written agreement dated August 29, 2022.

Fairfield Ludlowe High School was last evaluated for radon during the 2017 testing season. This sampling period represents the five-year cycle evaluation for this school building.

If you have any questions regarding the contents of this report, please do not hesitate to contact me at (860) 783-4751. Thank you for this opportunity to have served your environmental needs.

Sincerely,



Eduardo Miguel Marques

Senior Environmental Analyst

EMM/nw

Enclosure

59 Elm Street
Suite 500
New Haven, CT
06510
† 203.374.3748
800.286.2469
f 860.533.5143

www.fando.com

Connecticut
Maine
Massachusetts
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1 Introduction

Fuss & O'Neill, Inc. (Fuss & O'Neill) performed a radon measurement event utilizing passive radon collection devices in the Fairfield Ludlowe High School located at 785 Unquowa Road in Fairfield, Connecticut. The work was conducted for Fairfield Public Schools (the "Client") in accordance with our written agreement dated August 29, 2022, and is subject to the limitations included in *Appendix A*

Fuss & O'Neill performed the sampling from November 14-16, 2022, and conducted follow-up sampling in Room 30 Computer Lab (identified with radon concentrations above EPA Action Level) and adjacent surrounding rooms on December 12-14, 2022. This sampling event was performed under the supervision of Mr. Jared D. Smith. Mr. Smith has completed the requirements for listing under the United States Environmental Protection Agency (EPA) sanctioned National Environmental Health Association National Radon Proficiency Program (NEHA NRPP). Mr. Smith's NEHA NRPP number is 108247RT. Mr. Robert L. May, Jr. serves as Principal-in-Charge of the radon program (NEHA NRPP number 105366 RT).

Sampling at the Fairfield Ludlowe High School was performed in response to the Connecticut General Statute Section 10-220 (d) requirement (also known as the Indoor Air Quality (IAQ) in Schools Law). This law required radon sampling prior to January 1, 2008 in at least at every school building that is constructed, extended, renovated, or replaced on or after January 1, 2003.

The Fairfield Ludlowe High School was last evaluated for radon during the 2017 testing season. This sampling period represents the five-year cycle evaluation for this school building.

2 Radon Facts and Health Effects

Radon is a naturally occurring radioactive gas produced by the natural breakdown (decay) of uranium which is in soil and rock throughout the US. Radon travels through soil and enters buildings through cracks and other penetrations in building foundations. Eventually the gas itself decays into radioactive particles (decay products) that can become trapped in the lungs during human respiration. As these particles in turn decay, they release small bursts of radiation which can damage lung tissue and lead to lung cancer over the course of a person's lifespan.

EPA studies have determined that radon concentrations in outdoor air average approximately 0.4 picoCuries per liter of air (pCi/L). However, radon and its decay products can accumulate to a much higher concentrations inside a building. The EPA has adopted an action level of 4.0 pCi/L, equal to or above which the EPA recommends action be conducted to reduce the level of airborne radon gas within a building.

Radon is a colorless, odorless, and tasteless gas; the only way to know whether or not an elevated level of radon gas is present in a building is to perform radon air sampling and analysis.

Prolonged exposure to elevated radon concentrations causes an increased risk of lung cancer. Like other environmental pollutants, there is some uncertainty about the magnitude of radon health risks. However, scientists are more certain about radon risks than risks from most other cancer-causing

environmental pollutants as estimates of radon risk are based on studies of cancer in humans (underground miners). Additional studies on more typical, non-occupationally exposed populations are underway.

The EPA estimates that radon gas may cause about 21,000 lung cancer deaths in the US each year, with a range of from 7,000 to 30,000. The US Surgeon General has warned that radon is the second leading cause of lung cancer deaths after smoking and is the leading cause among non-smokers.

3 Radon Sampling

On November 14, 2022, Fuss & O'Neill deployed passive radon detection canisters in 10% of qualifying locations at the Site. Following receipt of laboratory data from the November sampling period, Fuss & O'Neill deployed passive radon detection canisters on December 12, 2022, in Room 30 Computer Lab and adjacent surrounding rooms as part of follow-up radon sampling. Fuss & O'Neill retrieved the canisters at least 48 hours, but not later than 96 hours later.

The sampling followed EPA protocols in the EPA "Radon Measurement in Schools, EPA 402-R-92-014, July 1993" document, the American Association of Radon Scientists and Technologists (AARST) Protocol for Conducting Measurements of Radon and Radon Decay Products in Schools and Large Buildings (ANSI/AARST MALB 2014 with January 2021 revisions), and the CTDPH School Radon Testing Guidance document.

Samples are deployed during the coldest months of the year (between November and March) and during normal school days (Monday through Friday, excluding holidays and planned full-day closures). For re-evaluation sampling events, samples are collected individually in 10% of frequently occupied rooms that are either located on ground level, or located over a room or space that touches the ground but is not sampled because it does not meet the criteria of "frequently occupied".

It is recommended that such canisters be placed at least 20 inches from the floor and 12 inches away from exterior walls. Also, it is recommended that the canisters not be placed near drafts resulting from Heating, Ventilating and Air Conditioning (HVAC) air intakes and returns, doors, and at least 36 inches from windows. Canisters should also not be exposed to direct sunlight, be covered, or otherwise disturbed during the testing period. A closed building condition is also utilized for 12 hours prior to testing.

The canisters were supplied by and analysis was performed by Radon Testing Corporation of America (RTCA). RTCA is certified by the National Radiation Safety Board (NRSB) (Certification ARLOO01) as well as the CTDPH (Certification PH-0327). The radon laboratory analytical report and chain of custody form are included in *Appendix B*.

4 Radon Sampling Quality Assurance Procedures

The EPA recommends and the AARST and CTDPH require that quality assurance measurements are included in radon measurement studies. Quality assurance measurements are summarized below:

Duplicate Samples are pairs of canisters deployed in the same location, side by side, for the same measurement period. Duplicate samples are placed in at least ten percent of all sampling locations. These duplicate canisters are stored, deployed, removed, and shipped to the laboratory for analysis in the same manner as the other canisters. If either or both of the analysis in a duplicate pairing is above the EPA recommended action level of 4.0 pCi/L, the relative percent difference (RPD) between the two tests must be determined. If the allowable difference is exceeded, the test is determined to be invalid and a new duplicate test must be conducted. If both canister results are below the EPA standard, then the RPD is not calculated since both results are below the EPA standard.

Blank Samples are utilized to determine whether the manufacturing, shipping, storage, and processing of the canisters has affected the accuracy of radon sampling procedures. Blank samples are unopened, unexposed canisters that are deployed with and shipped with the exposed canisters, so the processing laboratory treats them without bias. The number of blank samples is at least five percent of the total number of canisters deployed, up to a maximum of 25 canisters.

Spike Samples are used to determine the accuracy of the normal measurement process. For each month of active radon sampling, a batch of canisters equal to three percent of the monthly sample total or a maximum of six are provided by Fuss & O'Neill to a secondary laboratory separate from the primary laboratory used for analysis of the school samples. These canisters are then exposed to a known and elevated concentration of radon (i.e., "spiked"). The spiked samples are then sent as normal school samples to the primary laboratory. The results of analysis at the primary laboratory should have an average error of no more than ten percent from the target value set by the secondary laboratory.

In the below table, we have listed the results of quality control spike samples. Spike samples were prepared at Bowser-Morner, Inc. (Bowser-Morner) of Dayton, Ohio from October 29-31, 2022, and shipped/submitted to RTCA on November 5, 2022. The target concentration as reported by Bowser-Morner (secondary laboratory) and the measured concentration as reported by RTCA (primary laboratory) are listed below in *Table 1*:

Table 1: Spike Samples – October 29-31, 2022

Canister Number	Target Value (pCi/Liter)	Measured Value (pCi/Liter)	Error (%)
2985590	26.1	26.5	1.53
2985644		28.7	9.96
2985651		29.1	11.49
2985656		29.0	11.11
2985664		28.8	10.34
2985671		28.8	10.34
Average Error Percentage			9.12

The average error percentage for November 2022 spike sample analysis was 9.12% and was within the +/- 10% acceptable limit.

5 Radon Analytical Results

During the initial sampling period, a total of nine (9) canisters, including one duplicate sample and one blank sample, were placed in 10% of qualifying rooms at the Site. During the follow-up sampling period, a total of five (5) canisters, including one duplicate sample and one blank sample, were placed in Room 30 Computer and adjacent surrounding rooms as part of follow-up radon sampling. The radon concentrations in the samples ranged from 0.4 pCi/L to 8.7 pCi/L. The EPA Action Level for radon is 4.0 pCi/L.

In *Table 2A* below, the testing locations, canister numbers, and radon concentrations are listed for the radon sampling conducted from November 14-16, 2022.

Table 2A
Radon Sampling Results

Location	Canister Numbers	Radon Concentration (pCi/Liter)
Room 7 Art	2990324	0.4
Room 2 Art	2990398	1.3
Room 27 Trainer	2990315	1.2
Room 30 Computer	2990329	4.4
Room 114 Music Office	2990410	1.6
Room 129	2990290	2.4
Room 146	2991447	0.5

In *Table 2B* below, the testing locations, canister numbers, and radon concentrations are listed for the follow-up radon sampling conducted from December 12-14, 2022.

Table 2B
Radon Sampling Results

Location	Canister Numbers	Radon Concentration (pCi/Liter)
Room 30 Computer	2991434	8.7
Room 31 Computer	2996184	1.8
Room 32 Computer	2991460	0.4

All results were below the EPA Action Level of 4.0 pCi/L with exception to Room 30 Computer. Installation of a radon mitigation system is required for this room followed by confirmatory radon sampling to verify that the radon concentration has been lowered to levels below the EPA Action Level.

Refer to *Appendix C* for a sample location diagram.

In *Table 3A* below, the testing locations, canister numbers, and radon concentrations of quality control duplicate tests are listed for the radon sampling conducted from November 14-16, 2022.

Table 3A: Duplicate Samples

Location	Canister Numbers	Radon Concentration (pCi/Liter)			Relative Percent Difference (RPD, %)
		Sample	Sample Duplicate	Sample Average	
Room 30 Computer	2990329 2991461	4.4	4.8	4.6	8.7

Note: Duplicate sample results were satisfactory.

In *Table 3B* below, the testing locations, canister numbers, and radon concentrations of quality control duplicate tests are listed for the radon sampling conducted from December 12-14, 2022.

Table 3B: Duplicate Samples

Location	Canister Numbers	Radon Concentration (pCi/Liter)			Relative Percent Difference (RPD, %)
		Sample	Sample Duplicate	Sample Average	
Room 31 Computer	2996184 2996168	1.8	2.1	1.95	Percent Difference Not Needed (No Concentrations Above 4.0 pCi/Liter)

Note: Duplicate sample results were satisfactory.

In *Table 4A* below, the testing location, canister number, and radon concentration of the quality control blank test is listed for the radon sampling conducted from November 14-16, 2022.

**Table 4A
Blank Sample Results**

Location	Canister Number	Radon Concentration (pCi/Liter)
Trainer Room 27	2989927	0.1

Note: Blank sample results were satisfactory

In *Table 4B* below, the testing location, canister number, and radon concentration of the quality control blank test is listed for the radon sampling conducted from December 12-14, 2022.

**Table 4B
Blank Sample Results**

Location	Canister Number	Radon Concentration (pCi/Liter)
Room 30 Computer	2996167	0.2

Note: Blank sample results were satisfactory

6 Conclusions

During the course of this five-year cycle radon sampling event at the Site, a total of nine (9) canisters, including one duplicate sample and one blank sample, were placed in 10% of qualifying rooms at the Site. A total of five (5) canisters, including one duplicate sample and one blank sample, were placed in Room 30 Computer and adjacent surrounding rooms as part of follow-up radon sampling.

The canisters were found in place and undisturbed when Fuss & O'Neill retrieved the canisters. The 'blank' and 'spike' sample results did not exceed a concentration that would question the validity of the laboratory results.

The average outdoor radon concentration as studied by the EPA is 0.4 pCi/L and the average indoor concentration is 1.4 pCi/L. The EPA has identified an Action Level of 4.0 pCi/L and recommends taking further action (fixing the problem) if your results are over 4.0 pCi/L.

Installation of a radon mitigation system is required for Room 30 Computer followed by confirmatory radon sampling to verify that the radon concentration have been lowered to levels below the EPA Action Level.

Per CTDPH requirements, the facility must be continually evaluated on a five-year cycle. In addition, Room 30 Computer will require a mid-cycle evaluation every 2-3 years to verify the effectiveness of the radon mitigation system.

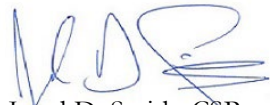
The State of Connecticut Department of Public Health Re-evaluation Report Form for this Site is located in *Appendix D*.

Prepared by:



Eduardo Miguel Marques
Senior Environmental Analyst

Reviewed by:



Jared D. Smith, CSP
Senior Project Manager
(NEHA NRPP # 108247RT)

Appendix A

Limitations

APPENDIX A - LIMITATIONS

**Site: Fairfield Ludlowe High School
785 Unquowa Road, Fairfield, CT**

1. This environmental report has been prepared for the exclusive use of Fairfield Public Schools (the “Client”), and is subject to, and is issued in connection with the terms and conditions of the agreement dated August 29, 2022, and all of its provisions. Any use or reliance upon information provided in this report, without the specific written authorization of the Client and Fuss & O’Neill, Inc. (Fuss & O’Neill) shall be at the User's individual risk.
2. Fuss & O’Neill has obtained and relied upon information from sources to form certain conclusions regarding likely environmental issues at and in the vicinity of the subject properties in conducting this inspection. Except as otherwise noted, no attempt has been made to verify the accuracy or completeness of such information, or verify compliance by any party with federal, state or local laws or regulations.
3. Fuss & O’Neill has obtained and relied upon laboratory analytical results in conducting the sampling. This information was used to form conclusions regarding radon concentrations at the subject property. Fuss & O’Neill has not performed an independent review of the reliability of this laboratory data.
4. The findings, observations and conclusions presented in this report are limited by the scope of services outlined in our agreement. Furthermore, the sampling has been conducted in accordance with generally accepted environmental practices. No other warranty, expressed or implied, is made.
5. The conclusions presented in this report are based solely upon information gathered by Fuss & O’Neill to date. Should further environmental or other relevant information be discovered at a later date, the Client should immediately bring the information to Fuss & O’Neill’s attention. Based upon an evaluation and assessment of relevant information, Fuss & O’Neill may modify the letter report and its conclusions.

Appendix B

Radon Laboratory Analytical Report and Chain of Custody Form

11-21-22
-24 ✓
DE

*RTCA: These items must be included on our results pages. Email Results and this/these sheet(s) to LabResults@fando.com.

Radon Testing Summary Sheet

Page 1 of 1

*Project Number: 20220801 A10
 *Site Name: Fairfield Public Schools
 *Building: Ludlow HS
 *Site Address: 785 Unquowa Rd.
 *City/State: Fairfield, CT
 Project Manager: Fulu

Placed by: Vincent Savarese
 Retrieved by: Vincent Savarese
 Start Date: 11/14/2022
 Stop Date: 11/16/2022
 Weather at Placement: Sunny

Instructions: Tear off center bar coded label from canister and affix to sheet in spaces provided. Please make sure top bar coded label is left on detector. Identify test location for each detector in space provided for that detector (room #, location in room, etc.). Use additional sheets as necessary. Please mark clearly if any detector is missing or damaged at retrieval.

REMOVE THIS PORTION AND AFFIX TO TEST INFORMATION FORM 2990324

Start Time: 9:38am
 Stop Time: 10:02am
 Identifier: 7 Art

REMOVE THIS PORTION AND AFFIX TO TEST INFORMATION FORM 2990290

Start Time: 9:48am
 Stop Time: 10:10am
 Identifier: 179

REMOVE THIS PORTION AND AFFIX TO TEST INFORMATION FORM 2990398

Start Time: 9:35am
 Stop Time: 10:01am
 Identifier: 2 Art

REMOVE THIS PORTION AND AFFIX TO TEST INFORMATION FORM 2991447

Start Time: 9:51am
 Stop Time: 10:12am
 Identifier: 146

REMOVE THIS PORTION AND AFFIX TO TEST INFORMATION FORM 2990315

Start Time: 9:42am
 Stop Time: 10:05am
 Identifier: Trainer 27

REMOVE THIS PORTION AND AFFIX TO TEST INFORMATION FORM 2989927

Start Time: 9:42am
 Stop Time: 10:05am
 Identifier: Trainer 27
BK

REMOVE THIS PORTION AND AFFIX TO TEST INFORMATION FORM 2990329

Start Time: 9:44am
 Stop Time: 10:07am
 Identifier: computer 30

REMOVE THIS PORTION AND AFFIX TO TEST INFORMATION FORM 2991461

Start Time: 9:44am
 Stop Time: 10:07am
 Identifier: computer 30
Dup

REMOVE THIS PORTION AND AFFIX TO TEST INFORMATION FORM 2990410

Start Time: 9:33am
 Stop Time: 9:57am
 Identifier: 114 office
(Music)

Start Time: _____
 Stop Time: _____
 Identifier: _____

Site Radon Inspection Report

Date : 11/21/2022

Ms. Karron Redfield
Fuss & O'Neill Inc.
146 Hartford Road
Manchester, CT 06040-

Client: Ludlowe H.S. / 20220801.A10
Test Location: 785 Unquowa Road
Fairfield, CT 06824-

Individual Canister Results

Canister ID# : 2989927 Test Start : 11/14/2022 @ 09:47
Canister Type : Charcoal Canister 3 inch Test Stop : 11/16/2022 @ 10:05
Location : Trainer 027 BLANK Received: 11/21/2022 @ 10:14
Radon Level : 0.1 pCi/L Analyzed: 11/21/2022 @ 12:18
Error for Measurement is: ± 0.2 pCi/L

Canister ID# : 2990290 Test Start : 11/14/2022 @ 09:48
Canister Type : Charcoal Canister 3 inch Test Stop : 11/16/2022 @ 10:10
Location : Rm 129 Received: 11/21/2022 @ 10:14
Radon Level : 2.4 pCi/L Analyzed: 11/22/2022 @ 14:29
Error for Measurement is: ± 0.5 pCi/L

Canister ID# : 2990315 Test Start : 11/14/2022 @ 09:47
Canister Type : Charcoal Canister 3 inch Test Stop : 11/16/2022 @ 10:05
Location : Trainer 027 Received: 11/21/2022 @ 10:14
Radon Level : 1.2 pCi/L Analyzed: 11/22/2022 @ 13:52
Error for Measurement is: ± 0.6 pCi/L

Canister ID# : 2990324 Test Start : 11/14/2022 @ 09:38
Canister Type : Charcoal Canister 3 inch Test Stop : 11/16/2022 @ 10:02
Location : Rm 007 Art Received: 11/21/2022 @ 10:14
Radon Level : 0.4 pCi/L Analyzed: 11/22/2022 @ 14:55
Error for Measurement is: ± 0.5 pCi/L

Canister ID# : 2990329 Test Start : 11/14/2022 @ 09:44
Canister Type : Charcoal Canister 3 inch Test Stop : 11/16/2022 @ 10:07
Location : Computer 030 DP Received: 11/21/2022 @ 10:14
Radon Level : 4.4 pCi/L Analyzed: 11/22/2022 @ 12:57
Error for Measurement is: ± 0.6 pCi/L

Canister ID# : 2990398 Test Start : 11/14/2022 @ 09:35
Canister Type : Charcoal Canister 3 inch Test Stop : 11/16/2022 @ 10:01
Location : Rm 002 Art Received: 11/21/2022 @ 10:14
Radon Level : 1.3 pCi/L Analyzed: 11/22/2022 @ 14:48
Error for Measurement is: ± 0.6 pCi/L



Andreas C. George

Andreas C. George
Radon Measurement Specialist
NJ MES 11089

Dante Galan

Dante Galan
Laboratory Director

NRSB ARL0001
NYS ELAP ID: 10806
PADEP ID: 0346
NJDEP ID: NY933
NJ MEB 90036
FL DOH RB1609
IL RNL2000201

Site Radon Inspection Report

Date : 11/21/2022

Ms. Karron Redfield
Fuss & O'Neill Inc.
146 Hartford Road
Manchester, CT 06040-

Client: Ludlowe H.S. / 20220801.A10
Test Location: 785 Unquowa Road
Fairfield, CT 06824-

Individual Canister Results

Canister ID# :	2990410	Test Start :	11/14/2022 @ 09:33
Canister Type :	Charcoal Canister 3 inch	Test Stop :	11/16/2022 @ 09:57
Location :	Off. 114 Music	Received:	11/21/2022 @ 10:14
Radon Level :	1.6 pCi/L	Analyzed:	11/22/2022 @ 14:29
Error for Measurement is: ±	0.5 pCi/L		

Canister ID# :	2991447	Test Start :	11/14/2022 @ 09:51
Canister Type :	Charcoal Canister 3 inch	Test Stop :	11/16/2022 @ 10:12
Location :	Rm 146	Received:	11/21/2022 @ 10:14
Radon Level :	0.5 pCi/L	Analyzed:	11/22/2022 @ 14:48
Error for Measurement is: ±	0.5 pCi/L		

Canister ID# :	2991461	Test Start :	11/14/2022 @ 09:44
Canister Type :	Charcoal Canister 3 inch	Test Stop :	11/16/2022 @ 10:07
Location :	Computer 030 DP	Received:	11/21/2022 @ 10:14
Radon Level :	4.8 pCi/L	Analyzed:	11/22/2022 @ 14:55
Error for Measurement is: ±	0.6 pCi/L		

The results indicate that at least one testing device registered at or above the United States Environmental Protection Agency (EPA) action level of 4.0 picoCuries per liter of air (pCi/L). The EPA recommends mitigation if the average of two short-term tests taken in the lowest level of the building suitable for occupancy show radon levels that are equal to or greater than 4.0 pCi/L.

For information on how to reduce radon levels in your home, please review the EPA booklet: Consumer's Guide to Radon Reduction (www.epa.gov/radon/pdfs/consguid.pdf) and contact your state health department. The EPA maintains a radon information website, including copies of its publications, at www.epa.gov/iaq/radon.

For New Jersey clients: Please see the attached guidance document entitled Radon Testing and Mitigation: The Basics for further information.

For New York clients: If the radon level of one or more testing devices is equal to or exceeds 20 pCi/L please contact the New York State Department of Health, Bureau of Environmental Radiation Protection, for technical advice and assistance at 518-402-7556 or toll free 1-800-458-1158.



Andreas C. George

Andreas C. George
Radon Measurement Specialist
NJ MES 11089

Dante Galan

Dante Galan
Laboratory Director

NRSB ARL0001
NYS ELAP ID: 10806
PADEP ID: 0346
NJDEP ID: NY933
NJ MEB 90036
FL DOH RB1609
IL RNL2000201

Site Radon Inspection Report

Date : 11/21/2022

Ms. Karron Redfield
Fuss & O'Neill Inc.
146 Hartford Road
Manchester, CT 06040-

Client: Ludlowe H.S. / 20220801.A10
Test Location: 785 Unquowa Road
Fairfield, CT 06824-
Individual Canister Results

PLEDGE OF ASSURED QUALITY

All procedures used for generating this report are in complete accordance with the current EPA protocols for the analysis of radon in air (EPA 402-R-92-004). The analytical results relate only to the samples tested, in the condition received by the lab, and that calculations were based upon the information supplied by client. RTCA and its personnel do not assume responsibility or liability, collectively and individually, for analysis results when detectors have been improperly handled or placed by the consumer, nor does RTCA and its personnel accept responsibility for any financial or health consequences of subsequent action or lack of action, taken by the customer or it's consultants based on RTCA-provided results.



Andreas C. George

Andreas C. George
Radon Measurement Specialist
NJ MES 11089

Dante Galan

Dante Galan
Laboratory Director

NRSB ARL0001
NYS ELAP ID: 10806
PADEP ID: 0346
NJDEP ID: NY933
NJ MEB 90036
FL DOH RB1609
IL RNL2000201

DE

*RTCA: These items must be included on our results pages. Email Results and this/these sheet(s) to LabResults@fando.com.

Radon Testing Summary Sheet

Page 1 of 1

*Project Number: 20220801.410
 *Site Name: Fairfield Public Schools
 *Building: Fairfield Ludlow HS
 *Site Address: 785 Unguova Rd.
 *City/State: Fairfield, CT
 Project Manager: EMM

Placed by: Vincent Savarese
 Retrieved by: Vincent Savarese
 Start Date: 12/17/2022
 Stop Date: 12/14/2022
 Weather at Placement: cloudy

Instructions: Tear off center bar coded label from canister and affix to sheet in spaces provided. Please make sure top bar coded label is left on detector. Identify test location for each detector in space provided for that detector (room #, location in room, etc.). Use additional sheets as necessary. Please mark clearly if any detector is missing or damaged at retrieval.

REMOVE THIS PORTION AND AFFIX TO TEST INFORMATION FORM
 2991434



Start Time: 2:31pm
 Stop Time: 2:51pm
 Identifier: computer
report (30)

REMOVE THIS PORTION AND AFFIX TO TEST INFORMATION FORM
 2996167



Start Time: 2:31pm
 Stop Time: 2:51pm
 Identifier: computer
(30) report BK

REMOVE THIS PORTION AND AFFIX TO TEST INFORMATION FORM
 2996184



Start Time: 2:33pm
 Stop Time: 2:53pm
 Identifier: computer lab #
(31)

REMOVE THIS PORTION AND AFFIX TO TEST INFORMATION FORM
 2996168



Start Time: 2:35pm
 Stop Time: 2:53pm
 Identifier: computer lab
(31) #1 Dup

REMOVE THIS PORTION AND AFFIX TO TEST INFORMATION FORM
 2991460



Start Time: 2:35pm
 Stop Time: 2:54pm
 Identifier: computer lab #2
(32)

Start Time: _____
 Stop Time: _____
 Identifier: _____

Start Time: _____
 Stop Time: _____
 Identifier: _____

Start Time: _____
 Stop Time: _____
 Identifier: _____

Start Time: _____
 Stop Time: _____
 Identifier: _____

Start Time: _____
 Stop Time: _____
 Identifier: _____

For Official Use Only

SIDE C

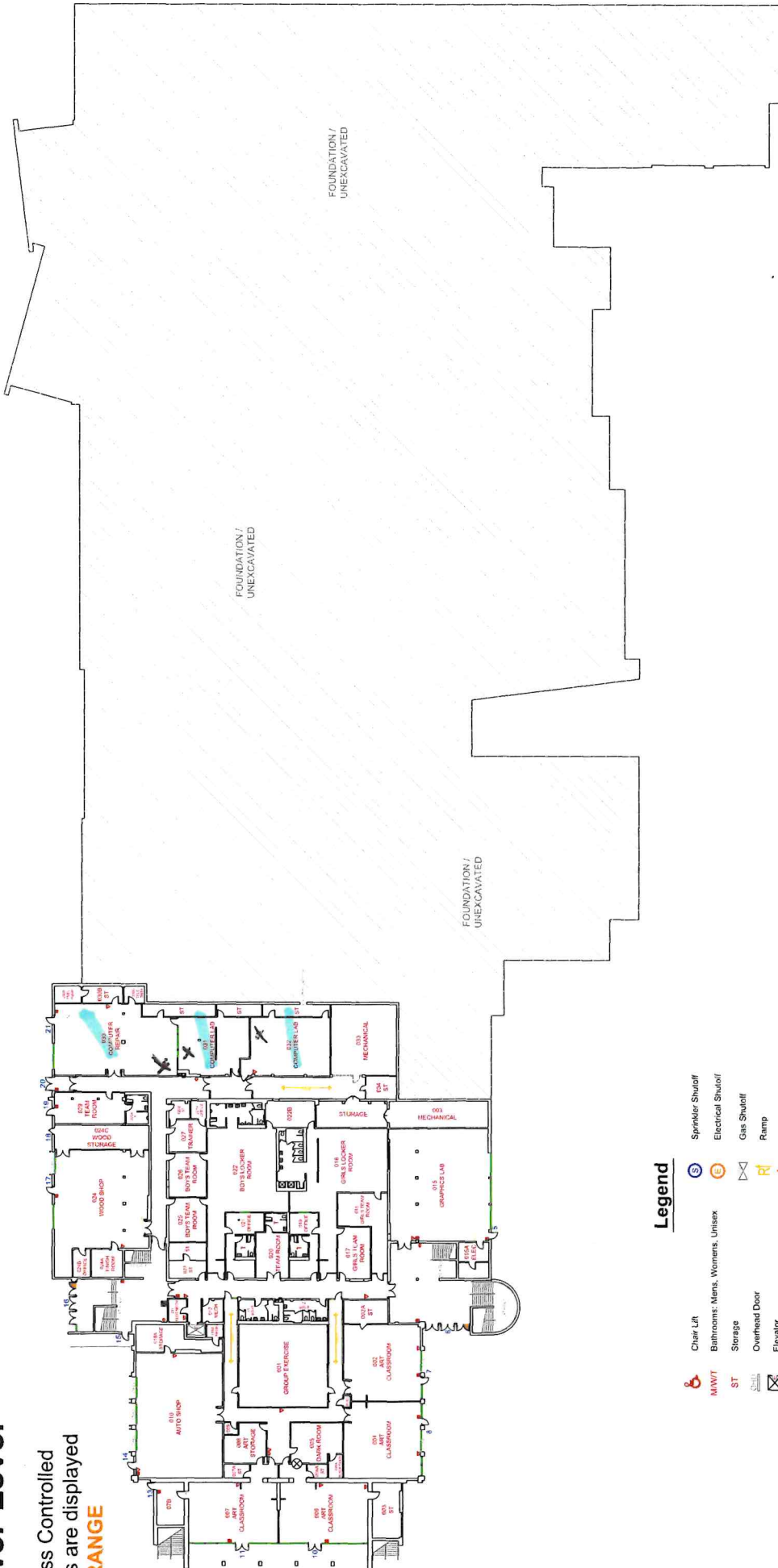
SIDE D

SIDE A

istrict Name:	FAIRFIELD PUBLIC SCHOOLS
ilding Name:	Fairfield Ludlowe High School
ddress:	785 Unquowa Road Fairfield, CT 06824

Lower Level

Access Controlled
Doors are displayed
in ORANGE



Legend

- Chair Lift
- Sprinkler Shutoff
- Bathrooms: Mens, Womens, Unisex
- Electrical Shutoff
- Storage
- Gas Shutoff
- Overhead Door
- Ramp
- Elevator
- Emergency Generator
- Emergency Phone
- Knox Box
- Fire Alarm Control Panel
- Fire Dept. Connection
- Water Shutoff
- Fire Extinguisher



Site Radon Inspection Report

Date : 12/16/2022

Ms. Karron Redfield
Fuss & O'Neill Inc.
146 Hartford Road
Manchester, CT 06040-

Client: Fairfield Ludlowe H.S. / 20220801.A10
Test Location: 785 Unquowa Road
Fairfield, CT 06824-

Individual Canister Results

Canister ID# : 2991434 Test Start : 12/12/2022 @ 14:31
Canister Type : Charcoal Canister 3 inch Test Stop : 12/14/2022 @ 14:51
Location : Rm 30 Comp. Repair Received: 12/16/2022 @ 11:05
Radon Level : 8.7 pCi/L Analyzed: 12/16/2022 @ 10:54
Error for Measurement is: ± 0.4 pCi/L

Canister ID# : 2996167 Test Start : 12/12/2022 @ 14:31
Canister Type : Charcoal Canister 3 inch Test Stop : 12/14/2022 @ 14:51
Location : Rm 30 Comp. Repair BL Received: 12/16/2022 @ 11:05
Radon Level : 0.2 pCi/L Analyzed: 12/16/2022 @ 10:54
Error for Measurement is: ± 0.3 pCi/L

Canister ID# : 2996168 Test Start : 12/12/2022 @ 14:33
Canister Type : Charcoal Canister 3 inch Test Stop : 12/14/2022 @ 14:53
Location : Rm 31 Comp. Lab 1 DP Received: 12/16/2022 @ 11:05
Radon Level : 2.1 pCi/L Analyzed: 12/16/2022 @ 11:02
Error for Measurement is: ± 0.3 pCi/L

Canister ID# : 2996184 Test Start : 12/12/2022 @ 14:33
Canister Type : Charcoal Canister 3 inch Test Stop : 12/14/2022 @ 14:53
Location : Rm 31 Comp. Lab 1 DP Received: 12/16/2022 @ 11:05
Radon Level : 1.8 pCi/L Analyzed: 12/16/2022 @ 10:54

Average of Side by Side Canisters 2.0 pCi/L
Error for Measurement is: ± 0.3 pCi/L

Canister ID# : 2991460 Test Start : 12/12/2022 @ 14:35
Canister Type : Charcoal Canister 3 inch Test Stop : 12/14/2022 @ 14:54
Location : Rm 32 Comp. Lab 2 Received: 12/16/2022 @ 11:05
Radon Level : 0.4 pCi/L Analyzed: 12/16/2022 @ 11:35
Error for Measurement is: ± 0.3 pCi/L



Andreas C. George

Andreas C. George
Radon Measurement Specialist
NJ MES 11089

Dante Galan

Dante Galan
Laboratory Director

NRSB ARL0001
NYS ELAP ID: 10806
PADEP ID: 0346
NJDEP ID: NY933
NJ MEB 90036
FL DOH RB1609
IL RNL2000201

Site Radon Inspection Report

Date : 12/16/2022

Ms. Karron Redfield
Fuss & O'Neill Inc.
146 Hartford Road
Manchester, CT 06040-

Client: Fairfield Ludlowe H.S. / 20220801.A10

Test Location: 785 Unquowa Road
Fairfield, CT 06824-

Individual Canister Results

The results indicate that at least one testing device registered at or above the United States Environmental Protection Agency (EPA) action level of 4.0 picoCuries per liter of air (pCi/L). The EPA recommends mitigation if the average of two short-term tests taken in the lowest level of the building suitable for occupancy show radon levels that are equal to or greater than 4.0 pCi/L.

For information on how to reduce radon levels in your home, please review the EPA booklet: Consumer's Guide to Radon Reduction (www.epa.gov/radon/pdfs/consguid.pdf) and contact your state health department. The EPA maintains a radon information website, including copies of its publications, at www.epa.gov/iaq/radon.

For New Jersey clients: Please see the attached guidance document entitled Radon Testing and Mitigation: The Basics for further information.

For New York clients: If the radon level of one or more testing devices is equal to or exceeds 20 pCi/L please contact the New York State Department of Health, Bureau of Environmental Radiation Protection, for technical advice and assistance at 518-402-7556 or toll free 1-800-458-1158.

PLEDGE OF ASSURED QUALITY

All procedures used for generating this report are in complete accordance with the current EPA protocols for the analysis of radon in air (EPA 402-R-92-004). The analytical results relate only to the samples tested, in the condition received by the lab, and that calculations were based upon the information supplied by client. RTCA and its personnel do not assume responsibility or liability, collectively and individually, for analysis results when detectors have been improperly handled or placed by the consumer, nor does RTCA and its personnel accept responsibility for any financial or health consequences of subsequent action or lack of action, taken by the customer or its consultants based on RTCA-provided results.



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IL RNL2000201

EXPOSURE IN BOWSER-MORNER RADON CHAMBER

CLIENT Fuss & O'Neill Enviro Science Job Number 207644

NOMINAL Conditions: Radon Conc 26.1 pCi/L Rel. Hum 50.0 % Temp. 79.2 F

Date Start: 10/29/22 Date Stop: 10/31/22 Date Start: _____ Date Stop: _____

Time Start: 0821 Time Stop: 0821 Time Start: _____ Time Stop: _____

Device No.'s: (6) Chan. Cans - Device No.'s: _____

2985671, 2985664, 2985590,
2985651, 2985656, 2985644
Project # 20071837, B10

S2 Right

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

Site Radon Inspection Report

Date : 11/04/2022

Ms. Karron Redfield
Fuss & O'Neill Inc.
146 Hartford Road
Manchester, CT 06040-

Client:
Test Location:

Individual Canister Results

Canister ID# : 2985590 Test Start : 10/29/2022 @ 08:21
Canister Type : Charcoal Canister 3 inch Test Stop : 10/31/2022 @ 08:21
Location : Client Withheld Received: 11/04/2022 @ 10:23
Radon Level : 26.5 pCi/L Analyzed: 11/04/2022 @ 09:55
Error for Measurement is: \pm 0.8 pCi/L

Canister ID# : 2985644 Test Start : 10/29/2022 @ 08:21
Canister Type : Charcoal Canister 3 inch Test Stop : 10/31/2022 @ 08:21
Location : Client Withheld Received: 11/04/2022 @ 10:23
Radon Level : 28.7 pCi/L Analyzed: 11/04/2022 @ 09:55
Error for Measurement is: \pm 0.8 pCi/L

Canister ID# : 2985651 Test Start : 10/29/2022 @ 08:21
Canister Type : Charcoal Canister 3 inch Test Stop : 10/31/2022 @ 08:21
Location : Client Withheld Received: 11/04/2022 @ 10:23
Radon Level : 29.1 pCi/L Analyzed: 11/04/2022 @ 10:20
Error for Measurement is: \pm 0.8 pCi/L

Canister ID# : 2985656 Test Start : 10/29/2022 @ 08:21
Canister Type : Charcoal Canister 3 inch Test Stop : 10/31/2022 @ 08:21
Location : Client Withheld Received: 11/04/2022 @ 10:23
Radon Level : 29.0 pCi/L Analyzed: 11/04/2022 @ 10:20
Error for Measurement is: \pm 0.8 pCi/L

Canister ID# : 2985664 Test Start : 10/29/2022 @ 08:21
Canister Type : Charcoal Canister 3 inch Test Stop : 10/31/2022 @ 08:21
Location : Client Withheld Received: 11/04/2022 @ 10:23
Radon Level : 28.8 pCi/L Analyzed: 11/04/2022 @ 10:20
Error for Measurement is: \pm 0.8 pCi/L

Canister ID# : 2985671 Test Start : 10/29/2022 @ 08:21
Canister Type : Charcoal Canister 3 inch Test Stop : 10/31/2022 @ 08:21
Location : Client Withheld Received: 11/04/2022 @ 10:23
Radon Level : 28.8 pCi/L Analyzed: 11/04/2022 @ 10:14
Error for Measurement is: \pm 0.8 pCi/L



Andreas C. George

Andreas C. George
Radon Measurement Specialist
NJ MES 11089

Dante Galan

Dante Galan
Laboratory Director

NRSB ARL0001
NYS ELAP ID: 10806
PADEP ID: 0346
NJDEP ID: NY933
NJ MEB 90036
FL DOH RB1609
IL RNL2000201

Site Radon Inspection Report

Date : 11/04/2022

Ms. Karron Redfield
Fuss & O'Neill Inc.
146 Hartford Road
Manchester, CT 06040-

The results indicate that at least one testing device registered at or above the United States Environmental Protection Agency (EPA) action level of 4.0 picoCuries per liter of air (pCi/L). The EPA recommends mitigation if the average of two short-term tests taken in the lowest level of the building suitable for occupancy show radon levels that are equal to or greater than 4.0 pCi/L.

For information on how to reduce radon levels in your home, please review the EPA booklet: Consumer's Guide to Radon Reduction (www.epa.gov/radon/pdfs/consguid.pdf) and contact your state health department. The EPA maintains a radon information website, including copies of its publications, at www.epa.gov/iaq/radon.

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PLEDGE OF ASSURED QUALITY

All procedures used for generating this report are in complete accordance with the current EPA protocols for the analysis of radon in air (EPA 402-R-92-004). The analytical results relate only to the samples tested, in the condition received by the lab, and that calculations were based upon the information supplied by client. RTCA and its personnel do not assume responsibility or liability, collectively and individually, for analysis results when detectors have been improperly handled or placed by the consumer, nor does RTCA and its personnel accept responsibility for any financial or health consequences of subsequent action or lack of action, taken by the customer or its consultants based on RTCA-provided results.



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Appendix C

Sample Location Diagram

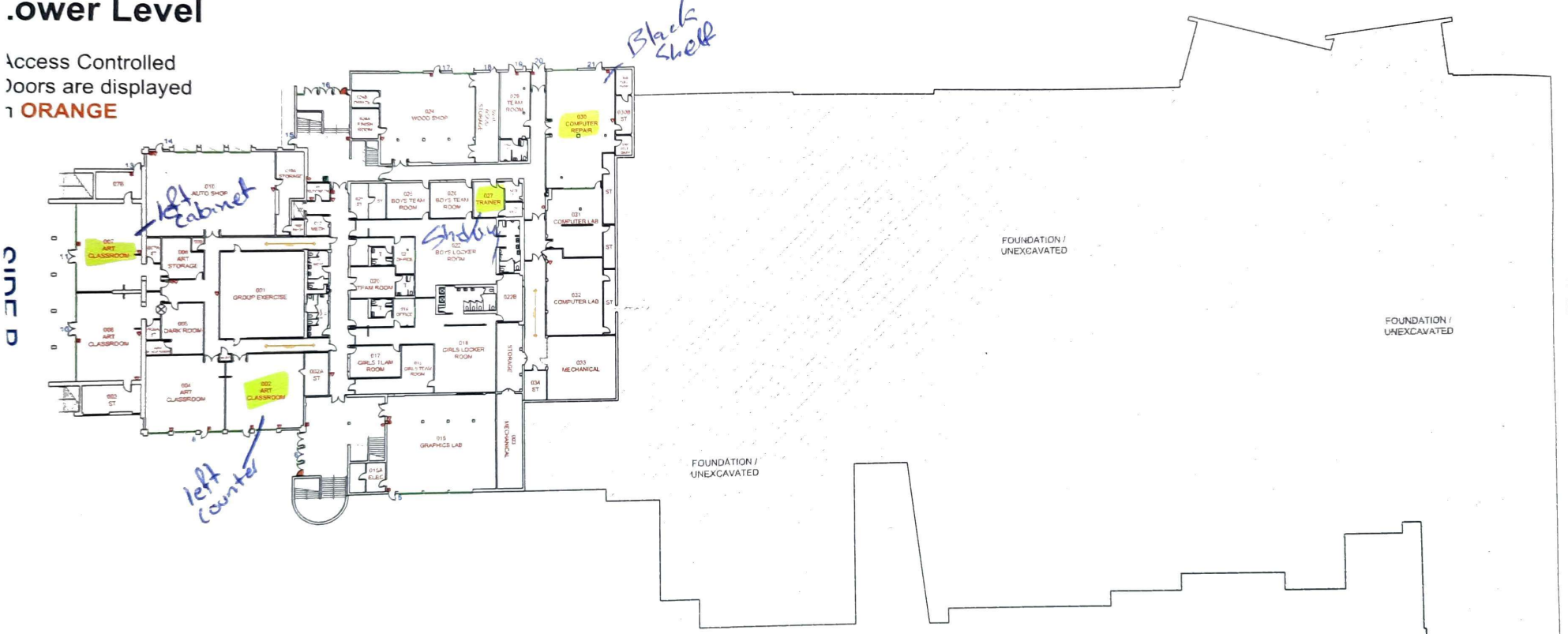
District Name:	FAIRFIELD PUBLIC SCHOOLS
Building Name:	Fairfield Ludlowe High School
Address:	785 Unquowa Road Fairfield, CT 06824

SIDE C

For Official Use Only

Lower Level

Access Controlled
Doors are displayed
in ORANGE



Legend

- | | |
|---------------------------------|--------------------------|
| Chair Lift | Sprinkler Shutoff |
| Bathrooms: Mens, Womens, Unisex | Electrical Shutoff |
| Storage | Gas Shutoff |
| Overhead Door | Ramp |
| Elevator | Emergency Generator |
| Emergency Phone | Fire Alarm Control Panel |
| Knox Box | Fire Dept. Connection |
| Water Shutoff | Fire Extinguisher |

SIDE A

Lower Level



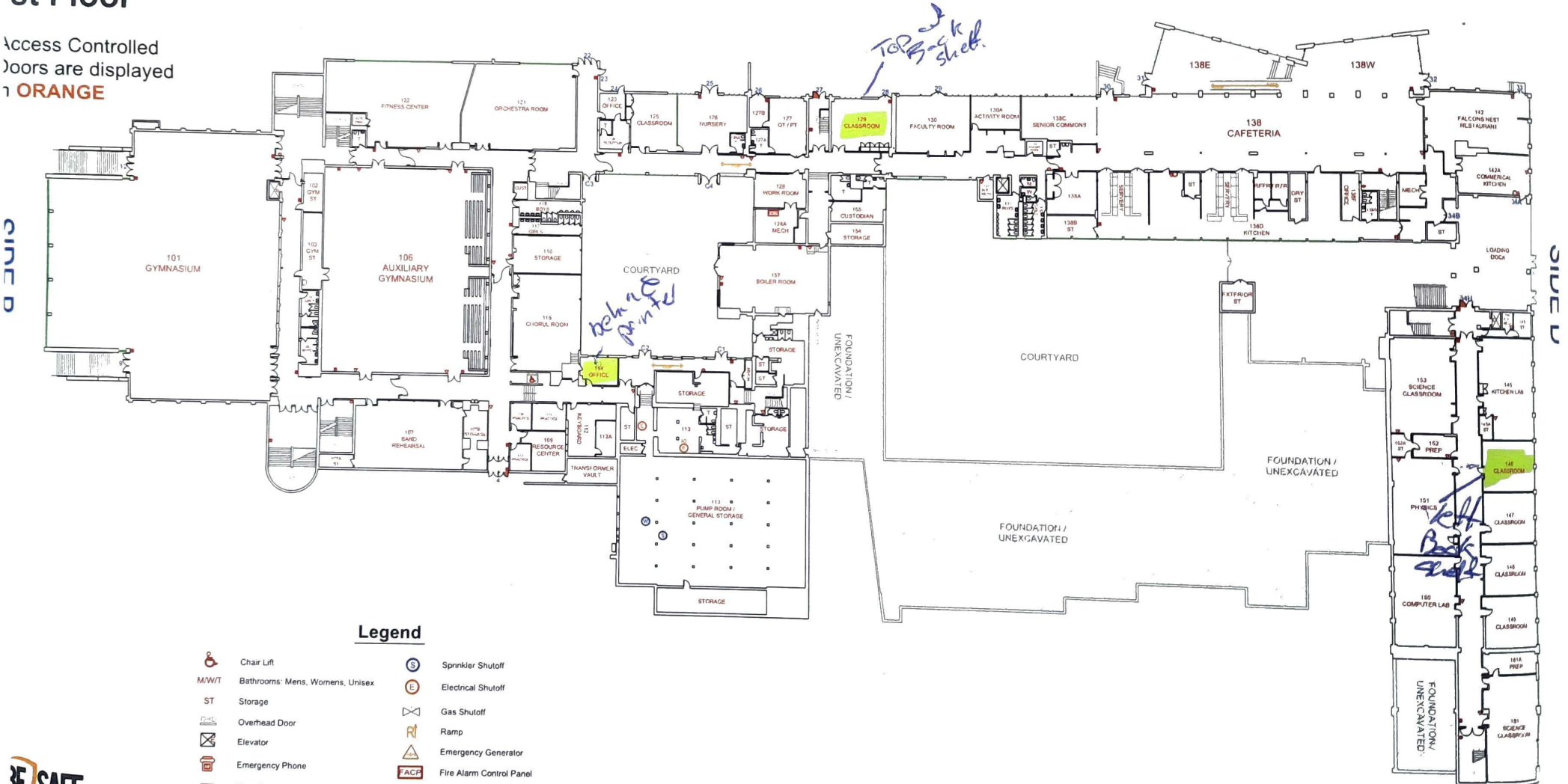
District Name:	FAIRFIELD PUBLIC SCHOOLS
Building Name:	Fairfield Ludlowe High School
Address:	785 Unquowa Road Fairfield, CT 06824

SIDE C

For Official Use Only

1st Floor

Access Controlled
doors are displayed
in **ORANGE**



Legend

	Chair Lift		Sprinkler Shutoff
	Bathrooms: Mens, Womens, Unisex		Electrical Shutoff
	Storage		Gas Shutoff
	Overhead Door		Ramp
	Elevator		Emergency Generator
	Emergency Phone		Fire Alarm Control Panel
	Knox Box		Fire Dept. Connection
	Water Shutoff		Fire Extinguisher

SIDE A



Appendix D

State of Connecticut Department of Public Health Re-evaluation Report Form



STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH RADON PROGRAM SCHOOL RADON RE-EVALUATION REPORT FORM

January 2021

The following form must be submitted to the Connecticut Department of Public Health Radon Program within ten (10) business days of providing a final written report of radon measurement activities to school personnel. **Do not send test results or other documents.** Submit only one signed form by **mail, fax OR email (preferred)** to the Radon Program at:

CT Department of Public Health Radon Program
410 Capitol Avenue MS#12RAD
Hartford, CT 06134-0308
Fax: 860-509-7295
Email: DPH.RadonReports@ct.gov

Name of School:

Fairfield Ludlowe High School

Address:

(Street, town, zip code)

785 Unquowa Road

Fairfield, CT

Measurement Company:

Fuss & O'Neill, Inc.

Please provide the following summary information:

Testing Dates:

(deployment & retrieval. Include confirmatory testing dates if necessary)

November 14-16, 2022 and December 12-14, 2022

Total # of Rooms Tested:

9

Total # of Rooms Requiring Re-Testing:

1

Total # of Rooms Where Average Results were at or above 4.0 pCi/L:

1

Radon measurement activities were performed at the location above in accordance with United States Environmental Protection Agency protocols and the Connecticut Department of Public Health Radon Program's *School Radon Testing Guidance*.

Jared D. Smith, CSP (NRPP #108247RT)

Measurement Professional / NRPP/NRSB #

Signature

2/24/2023

Date

Exec. Director of Operations

School Designee / Title

Signature

5-13-23

Date



Phone: (860) 509-7300
Telephone Device for the Deaf (860) 509-7191
450 Capitol Avenue - MS # 51RAD
P.O. Box 340308 Hartford, CT 06134
An Equal Opportunity Employer