

Amendment No. 346

Assembly Amendment to Assembly Bill No. 257	(BDR 34-212)
<b>Proposed by:</b> Assembly Committee on Education	
<b>Amends:</b> Summary: No Title: Yes Preamble: No Joint Sponsorship: No Digest: Yes	

ASSEMBLY ACTION				Initial and Date	SENATE ACTION				Initial and Date
Adopted	<input type="checkbox"/>	Lost	<input type="checkbox"/>	_____	Adopted	<input type="checkbox"/>	Lost	<input type="checkbox"/>	_____
Concurred In	<input type="checkbox"/>	Not	<input type="checkbox"/>	_____	Concurred In	<input type="checkbox"/>	Not	<input type="checkbox"/>	_____
Receded	<input type="checkbox"/>	Not	<input type="checkbox"/>	_____	Receded	<input type="checkbox"/>	Not	<input type="checkbox"/>	_____

EXPLANATION: Matter in (1) *blue bold italics* is new language in the original bill; (2) variations of green bold underlining is language proposed to be added in this amendment; (3) ~~red strikethrough~~ is deleted language in the original bill; (4) ~~purple double strikethrough~~ is language proposed to be deleted in this amendment; (5) orange double underlining is deleted language in the original bill proposed to be retained in this amendment.

AMM/AAK



Date: 4/18/2021

A.B. No. 257—Establishes provisions governing indoor air quality in public schools. (BDR 34-212)





## ASSEMBLY BILL NO. 257—ASSEMBLYWOMAN MARTINEZ

MARCH 12, 2021

Referred to Committee on Education

SUMMARY—Establishes provisions governing indoor air quality in public schools. (BDR 34-212)

FISCAL NOTE: Effect on Local Government: May have Fiscal Impact.  
Effect on the State: Yes.

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EXPLANATION – Matter in ***bolded italics*** is new; matter between brackets ~~omitted material~~ is material to be omitted.

AN ACT relating to school property; requiring the ~~{Office of Energy within the Office of the Governor to award a grant to the}~~ board of trustees of a school district ~~{}~~ or the {sponsor} governing body of a charter school {for a business} to assess and improve certain ventilation and filtration systems of a school to the extent that money is available; establishing requirements for such assessments and improvements; requiring ~~{a certified technician}~~ certain personnel to complete an assessment report; requiring the board of trustees of a school district ~~{}~~ or the {sponsor} governing body of a charter school {for a business} to prepare a report; ~~{providing that a generally accepted industry standard prevails over any requirement of this bill that conflicts with the industry standard;}~~ requiring certain local educational agencies to include certain information in a plan to return to in-person instruction; and providing other matters properly relating thereto.

**Legislative Counsel's Digest:**

1       Section 6 of this bill requires ~~{the Office of Energy within the Office of the Governor,}~~  
2       the board of trustees of a school district or governing body of a charter school, to the  
3       extent that money is available, ~~{to award a grant to the board of trustees of a school district,~~  
4       ~~the sponsor of a charter school or a business to employ a certified technician}~~ to assess the  
5       status of and make improvements to the ventilation and filtration systems of a school and  
6       ensure that the systems are performing adequately and efficiently. **Sections 7-10** of this bill  
7       set forth the requirements for ~~{a certified technician}~~ qualified adjusting personnel or  
8       qualified testing personnel to assess and perform updates to: (1) a filtration system of a  
9       school; (2) the ventilation rates of a school; (3) the heating, ventilation and air conditioning  
10      system of a school; and (4) the carbon dioxide monitors in a school, respectively. **Sections 7-**  
11      **10** generally require such systems, rates and monitors to meet certain standards. Section 10.5  
12      of this bill sets forth requirements for an assessment of a school with a limited or no  
13      ventilation system. **Section 11** of this bill requires ~~{a certified technician}~~ qualified  
14      adjusting personnel or qualified testing personnel to prepare an assessment report  
15      including certain information relating to the assessments conducted pursuant to ~~sections 7-~~  
16      ~~10.~~ 7-10.5. **Section 12** of this bill requires the board of trustees of a school district ~~{}~~ or the  
17      {sponsor} governing body of a charter school {for a business that receives a grant} to complete

a report on the work performed by a ~~[certified technician]~~ qualified adjusting personnel or qualified testing personnel pursuant to ~~sections 7-10~~ 7-10.5 and make the report available to the Office of Energy and the public upon request. Existing federal law requires a local educational agency that receives certain federal money to develop a plan for the safe return to in-person instruction and continuity of services. (American Rescue Plan Act of 2021, Pub. L. No. 117-2, § 2001(i)) ~~Section 13.5 of this bill provides that if a requirement of this bill conflicts with a generally accepted industry standard, the industry standard prevails.~~ requires a local educational agency to include the information contained in a report prepared pursuant to section 12 in such a plan.

THE PEOPLE OF THE STATE OF NEVADA, REPRESENTED IN  
SENATE AND ASSEMBLY, DO ENACT AS FOLLOWS:

**Section 1.** Chapter 393 of NRS is hereby amended by adding thereto the provisions set forth as sections 2 to ~~13.5~~ 13.5, inclusive, of this act.

**Sec. 2.** *As used in sections 2 to ~~13.5~~ 13.5, inclusive, of this act, unless the context otherwise requires, the words and terms defined in sections 3 ~~4 and~~ to 5, inclusive, of this act have the meanings ascribed to them in those sections.*

**Sec. 3.** *“Apprenticeship program” means an apprenticeship program recognized by the State Apprenticeship Council created by NRS 610.030.*

**Sec. 3.5.** *“Minimum efficiency reporting value” means the minimum efficiency reporting value established by the American Society of Heating, Refrigerating and Air-Conditioning Engineers, or its successor organization.*

**Sec. 4.** ~~“Certified technician”~~ “Qualified adjusting personnel” means a [technician] :

1. Technician certified to test, adjust and balance heating, ventilation and air conditioning systems through a program accredited by the Associated Air Balance Council, the National Environmental Balancing Bureau or the Testing, Adjusting and Balancing Bureau, or their successor organizations ~~+~~ ; or

2. Skilled and trained workforce under the supervision of a technician certified to test, adjust and balance heating, ventilation and air conditioning systems through a program accredited by the Associated Air Balance Council, the National Environmental Balancing Bureau or the Testing, Adjusting and Balancing Bureau, or their successor organizations.

**Sec. 4.5.** “Qualified testing personnel” means:

1. A technician certified to test, adjust and balance heating, ventilation and air conditioning systems through a program accredited by the Associated Air Balance Council, the National Environmental Balancing Bureau or the Testing, Adjusting and Balancing Bureau, or their successor organizations; or

2. A person certified to perform ventilation assessments of heating, ventilation and air conditioning systems through a program accredited by the American National Standards Institute.

**Sec. 5.** *“Skilled and trained workforce” means a workforce not less than 60 percent of which is composed of graduates of an apprenticeship program.*

**Sec. 5.5.** The Legislature hereby finds and declares that:

1. Studies have found that:

(a) Approximately 41 percent of the school districts in the United States need to update or replace the heating, ventilation and air conditioning systems in at least half of their schools;

(b) Most heating, ventilation and air conditioning systems are improperly installed;

(c) Most classrooms fail to meet minimum standards for ventilation rates;

(d) Many of the problems with heating, ventilation and air conditioning systems are linked to the use of inadequately trained personnel to install, test, adjust and balance heating, ventilation and air conditioning systems; and

(e) Improved rates of ventilation and reduced carbon dioxide concentrations can increase pupil performance.

2. Ventilation systems that are not properly installed, inadequate, inefficient or poorly maintained can significantly increase costs to a public school.

3. Ventilation systems should operate as efficiently as possible and inspections and repairs should be performed by qualified personnel.

4. In addition to increasing the risk of infectious, airborne diseases, inadequate ventilation systems in public schools negatively impact the health and learning of pupils.

5. Improving indoor air quality in public schools may protect the health of pupils and school staff, improve attendance, improve pupil performance, reduce the risk of infectious, airborne diseases and save energy.

6. Public schools should have functioning ventilation systems that meet or exceed recommended health and safety standards for classrooms.

7. Consistent, statewide standards are necessary to protect the health and safety of pupils, the ability of pupils to learn effectively and the health and safety of school staff in this State.

Sec. 6. 1. To the extent that money is available, ~~the Office of Energy created pursuant to NRS 701.150 shall award a grant to~~ the board of trustees of a school district ~~or the sponsor~~ governing body of a charter school ~~for a business to~~ shall ensure that ~~a public school~~ each school in the school district or the charter school, as applicable, is equipped with functional ventilation systems that are tested, adjusted and, if necessary or cost-effective, repaired, upgraded or replaced to increase efficiency and performance.

2. The board of trustees of a school district ~~or the sponsor~~ governing body of a charter school ~~for a business~~ that ~~receives a grant~~ ensures a public school is equipped with functional ventilation systems pursuant to this section shall employ ~~a certified technician~~ qualified adjusting personnel or qualified testing personnel to assess the status of and make any necessary improvements to the:

(a) Filtration system of ~~a~~ the school in accordance with the provisions of section 7 of this act;

(b) Ventilation rates of ~~a~~ the school in accordance with the provisions of section 8 of this act;

(c) Heating, ventilation and air conditioning system of ~~a~~ the school in accordance with the provisions of section 9 of this act; and

(d) Carbon dioxide monitors at ~~a~~ the school in accordance with the provisions of section 10 of this act.

3. The board of trustees of a school district or the governing body of a charter school that ensures a public school is equipped with functional ventilation systems pursuant to this section shall perform any work required to meet the minimum requirements for ventilation and filtration established by sections 2 to 13.5, inclusive, of this act, up to an estimated cost of not more than \$200,000. The board of trustees of a school district or the governing body of a charter school may perform any additional recommended work that exceeds an estimated cost of \$200,000.

Sec. 7. In assessing a filtration system of a school pursuant to section 6 of this act, ~~a certified technician~~ qualified adjusting personnel or qualified testing personnel, as applicable, shall:

1       1. Review the capacity and airflow of the filtration system to determine the  
2 type of filters with the best minimum efficiency reporting value based on industry  
3 standards that can be installed without adversely impacting the filtration system;

4       2. Ensure that the filters used in the filtration system are of the type  
5 determined pursuant to subsection 1 with the best possible minimum efficiency  
6 reporting value;

7       3. Ensure that the filters are properly installed and replace or upgrade the  
8 filters as needed;

9       4. If a filtration system uses ultraviolet germicidal irradiation to disinfect  
10 air, ensure that the ultraviolet bulb is operating properly and does not shine on  
11 the filters, and replace the ultraviolet bulbs as needed;

12       5. If a filtration system uses an economizer, test and repair the economizer  
13 dampers; and

14       6. Recommend any additional maintenance, replacements or upgrades to  
15 improve the overall performance of the filtration system.

16       Sec. 8. 1. In assessing the ventilation rates of a school pursuant to section  
17 6 of this act, ~~[-a certified technician]~~ qualified adjusting personnel or qualified  
18 testing personnel, as applicable, shall:

19       (a) Ensure that the ventilation rates in each room of the facility that is  
20 routinely occupied meet the minimum requirements for ~~[-acceptable indoor air~~  
21 ~~quality]~~ ventilation rates set forth [by the American National Standards Institute  
22 and the American Society of Heating, Refrigerating and Air Conditioning  
23 Engineers]] in the Uniform Mechanical Code;

24       (b) Calculate the required minimum outside air ventilation rates for each  
25 room of the facility that is routinely occupied based on the maximum anticipated  
26 rate of occupancy and the minimum required ventilation rate per occupant in  
27 accordance with the ~~[-International]~~ Uniform Mechanical Code;

28       (c) Ensure that the minimum outside air ventilation rates meet the required  
29 minimum rate calculated pursuant to paragraph (b);

30       (d) If the minimum outside air ventilation rates do not meet the required  
31 minimum rate calculated pursuant to paragraph (b):

32       (1) Determine whether additional ventilation can be provided without  
33 adversely impacting the performance of the filtration system or the environmental  
34 quality of the building; and

35       (2) If additional ventilation can be provided, adjust the ventilation rates  
36 to meet the required minimum rate;

37       (e) If the minimum outside air ventilation rate cannot be met after adjusting  
38 the ventilation rates pursuant to paragraph (d), explain why the rate cannot be  
39 met;

40       (f) Conduct survey readings of the inlets and outlets to:

41       (1) Ensure that ventilation is reaching the served zone and is adequately  
42 distributed;

43       (2) Ensure that the inlets and outlets are balanced to be tolerated by the  
44 design of the filtration system;

45       (3) Document read values and deficiencies; and

46       (4) If the original values of the design of the filtration system for inlets  
47 and outlets of the filtration system are not available, document the available  
48 information and note the unavailability of the original values;

49       (g) Ensure that there is a positive pressure differential between the building  
50 and the outdoors, ~~[-and]~~ that the building is not overly pressurized [-] and that  
51 rooms designated for temporary occupation by sick pupils or staff maintain a  
52 negative pressure differential or a pressure differential otherwise set forth by the  
53 applicable industry standards;

(h) Ensure that the coil velocities and the coil and unit discharge air temperatures maintain the desired indoor conditions and avoid moisture carryover from the cooling coils;

(i) Ensure that the separation between the outdoor air intakes and the exhaust discharge outlets is in accordance with the ~~International~~ Uniform Mechanical Code;

(j) Verify that the air handling unit is bringing in outdoor air and removing exhaust air as intended by the design of the filtration system;

(k) Measure the air volume for the exhaust fans and document any discrepancies in volume between the measurements and the original volume of the design of the filtration system;

(l) Verify that the coil condition, condensate drainage, air temperature differentials of the cooling coils, operation of the heat exchangers and drive assembly meet applicable industry standards;

(m) Review the control sequences to verify that the systems will maintain the intended ventilation, temperature and humidity during school operation;

(n) Verify that daily flushes are scheduled ~~for 2 hours before and after any scheduled occupancy or demonstrate that the calculation of flush times is~~ in accordance with ~~any applicable guidance~~ the standards set forth by the American National Standards Institute and the American Society of Heating, Refrigerating and Air-Conditioning Engineers and any applicable local or state guidance; and

(o) Ensure that the operation times and set points of the heating, ventilation and air conditioning system and exhaust fans are in accordance with any applicable guidance set forth by the American National Standards Institute and the American Society of Heating, Refrigerating and Air-Conditioning Engineers and any applicable local or state guidance.

2. Except as otherwise provided in subsection 3, if a demand control ventilation system is installed at a school, ~~a certified technician~~ qualified adjusting personnel or qualified testing personnel, as applicable, shall ensure that the set point for carbon dioxide is set to 800 parts per million or less.

3. ~~A certified technician~~ Qualified adjusting personnel, qualified testing personnel or a licensed mechanical professional engineer shall disable a demand control ventilation system installed at a school and configure the overall ventilation system to meet the minimum requirements of sections 2 to ~~13,~~ 13.5, inclusive, of this act if:

(a) The demand control ventilation system does not maintain an average daily maximum carbon dioxide concentration of less than 1,100 parts per million;

(b) The board of trustees of the school district ~~is sponsor or governing body of the charter school, for business that received the grant pursuant to section 6 of this act,~~ or governing body as applicable, determines that a public health crisis caused by an airborne illness is in effect; and

(c) Disabling the demand control ventilation system would not adversely affect the operation of the overall ventilation system,

until the board of trustees is sponsor or business that received the grant pursuant to section 6 of this act, or governing body determines that a public health crisis caused by an airborne illness is no longer in effect.

Sec. 9. In assessing the heating, ventilation and air conditioning system of a school pursuant to section 6 of this act, ~~a certified technician~~ qualified adjusting personnel or qualified testing personnel, as applicable, shall assess the overall performance of the heating, ventilation and air conditioning system. If a heating, ventilation and air conditioning system is broken, fails to meet the minimum requirements for ventilation established by sections 2 to ~~13,~~ 13.5,

1 inclusive, of this act or is otherwise unable to operate at the level intended by the  
2 original design of the system, ~~[(a-certified-technician)]~~ qualified adjusting  
3 personnel or qualified testing personnel, as applicable, shall recommend any  
4 necessary repairs or maintenance. Any repairs or maintenance to the heating,  
5 ventilation and air conditioning system must be performed by a skilled and  
6 trained workforce.

7 **Sec. 10.** ~~[(H)]~~ In assessing the carbon dioxide monitors of a school  
8 pursuant to section 6 of this act, ~~[(a-certified-technician)]~~ qualified adjusting  
9 personnel or qualified testing personnel, as applicable, shall ensure that each  
10 classroom in the school is equipped with a carbon dioxide monitor that:

11 ~~[(e)]~~ 1. Is hardwired or plugged in and mounted to the wall at least 3 feet  
12 but not more than 6 feet above the floor and at least 5 feet away from any door or  
13 operable window;

14 ~~[(e)]~~ 2. Displays readings to appropriate personnel through a display on the  
15 monitor or through an application on an Internet website or a cellular phone;

16 ~~[(e)]~~ 3. Provides a visual notification, including, without limitation,  
17 through an indicator light, electronic mail, text message or an application on a  
18 cellular phone, when the concentration of carbon dioxide in the room reaches  
19 1,100 parts per million or more;

20 ~~[(d)]~~ 4. Maintains a record of previous data that includes, without  
21 limitation, the maximum carbon dioxide concentration measured;

22 ~~[(e)]~~ 5. Has a range of 400 parts per million to 2,000 parts per million or  
23 more; and

24 ~~[(f)]~~ 6. Is certified by the manufacturer of the carbon dioxide monitor to be  
25 accurate within 75 parts per million at a carbon dioxide concentration of 1,000  
26 parts per million and requires calibration not more than once every 5 years.

27 ~~[- 2. If a carbon dioxide monitor records a concentration of 1,100 parts per~~  
28 ~~million or more once a week or more frequently, as observed by a teacher or staff~~  
29 ~~member of a school, a certified technician shall adjust the classroom ventilation~~  
30 ~~rates to ensure that the carbon dioxide concentration remains below 1,100 parts~~  
31 ~~per million.]~~

32 **Sec. 10.5.** 1. If a public school has a limited or no ventilation system, a  
33 qualified adjusting personnel or qualified testing personnel, as applicable, shall  
34 document existing conditions and provide a licensed professional engineer with  
35 any information necessary for the licensed professional engineer to make  
36 recommendations for upgrading or installing a ventilation system.

37 2. Qualified adjusting personnel or qualified testing personnel that  
38 conducts an assessment of a public school with a limited or no ventilation system  
39 shall determine whether carbon dioxide monitors that meet the requirements of  
40 section 10 of this act are installed in each classroom of the school.

41 **Sec. 11.** 1. [A-certified-technician] Qualified adjusting personnel or  
42 qualified testing personnel, as applicable, shall prepare an assessment report of  
43 any assessment performed in a school pursuant to section 6 of this act. A  
44 [mechanical] licensed professional engineer shall:

45 (a) Review the assessment report and determine if any:

46 (1) Additional adjustments or repairs are necessary to meet the minimum  
47 requirements for ventilation and filtration established by sections 2 to ~~[(13)]~~ 13.5,  
48 inclusive, of this act; and

49 (2) Cost-effective upgrades for energy efficiency are warranted; and

50 (b) Provide an estimated cost of any work required to meet the minimum  
51 requirements for ventilation and filtration established by sections 2 to 13.5,  
52 inclusive, of this act, up to an estimated cost of not more than \$200,000 and an



estimated cost of any additional recommended work ~~up to an estimated cost of not more than \$200,000.~~

2. The assessment report must include, without limitation:

(a) The name and address of the person preparing the report and the school where the assessments required pursuant to section 6 of this act were performed;

(b) For each piece of equipment assessed, the model number, serial number, general condition and any additional information that could be used to assess options for replacements, repairs or upgrades;

(c) Verification that the filters meet the best possible minimum efficiency reporting values pursuant to subsection 2 of section 7 of this act or, if a filter does not meet the best possible minimum efficiency reporting value, documentation of the current minimum efficiency reporting value of the filter;

(d) Verification that the ventilation rates meet the requirements set forth in section 8 of this act or, if the ventilation rates do not meet the requirements, an explanation of why the ventilation rates do not meet the requirements;

(e) The measurements of air volume for the exhaust fans and the documentation of any discrepancies in volume between the measurements and the original volume of the design of the filtration system prepared pursuant to paragraph (k) of subsection 1 of section 8 of this act;

(f) Verification that each assessment conducted pursuant to sections 7 to ~~10.5~~ 10.5, inclusive, of this act meets the requirements of the applicable section;

(g) If the minimum outside air ventilation rate of a filtration system cannot be met, the explanation of why the rate cannot be met prepared pursuant to paragraph (e) of subsection 1 of section 8 of this act.

(h) If the original values of the design of the filtration system for the inlets and outlets of the filtration system are not available pursuant to paragraph (f) of subsection 1 of section 8 of this act, documentation of the available information and a notation of the unavailability of the original values;

(i) Documentation of any deficiencies within any system assessed pursuant to section 6 of this act;

(j) Verification of the installation of carbon dioxide monitors pursuant to section 10 of this act, including, without limitation, the make and model of the carbon dioxide monitors; ~~and~~

(k) If applicable, documentation of the information prepared pursuant to section 10.5 of this act for a school with a limited or no ventilation system; and

(l) Recommendations for additional maintenance, replacements or upgrades to improve the energy efficiency, safety or performance of any system assessed pursuant to section 6 of this act.

Sec. 12. 1. The board of trustees of a school district ~~or the sponsor~~ governing body of a charter school ~~for a business that receives a grant~~ that ensures a public school is equipped with functional ventilation systems pursuant to section 6 of this act shall prepare a report on the status of the assessments performed pursuant to section 6 of this act and any maintenance, repairs or upgrades performed as a result of those assessments. The report must include, without limitation:

(a) The name and address of the person preparing the report and the school where the assessments required pursuant to section 6 of this act were performed;

(b) A description of the assessments performed pursuant to section 6 of this act and any maintenance, repairs or upgrades performed as a result of those assessments;

(c) Verification that the board of trustees of the school district ~~sponsor~~ governing body of the charter school, ~~for business~~ as applicable, has complied with the requirements of section 2 to ~~13.5~~ 13.5, inclusive, of this act;

(d) Verification that the filters meet the best possible minimum efficiency reporting values pursuant to subsection 2 of section 7 of this act or, if a filter does not meet the best possible minimum efficiency reporting value, documentation of the current minimum efficiency reporting value of the filter;

(e) Verification that the ventilation rates meet the requirements set forth in section 8 of this act or, if the ventilation rates do not meet the requirements, an explanation of why the ventilation rates do not meet the requirements;

(f) The measurements of air volume for the exhaust fans and the documentation of any discrepancies in volume between the measurements and the original volume of the design of the filtration system prepared pursuant to paragraph (k) of subsection 1 of section 8 of this act;

(g) Documentation of any deficiencies within any system assessed pursuant to section 6 of this act;

(h) Documentation of the initial operating verifications and adjustments, the final operating verifications and adjustments and any adjustments or repairs performed;

(i) Verification of the installation of carbon dioxide monitors pursuant to section 10 of this act, including, without limitation, the make and model of the carbon dioxide monitors; ~~and~~

(j) If applicable, documentation of the information prepared pursuant to section 10.5 of this act for a school with a limited or no ventilation system;

(k) Verification that all work has been performed by ~~a certified technician~~ qualified adjusting personnel or qualified testing personnel or a skilled and trained workforce, as appropriate, which may include, without limitation, the provision of the name and, if applicable, certification number of any contractor ~~for certified technician~~, qualified adjusting personnel or qualified testing personnel.

2. The board of trustees of a school district ~~or~~ or the ~~sponsor~~ governing body of a charter school ~~or a business~~ shall maintain the report prepared pursuant to subsection 1 for at least 5 years and make a copy of the report available to the Office of Energy or any member of the public upon request ~~or~~ during the time in which the report is maintained.

Sec. 13. ~~[In the event of a conflict between the requirements of sections 2 to 13, inclusive, of this act and generally accepted industry standards, the industry standards prevail.] (Deleted by amendment.)~~

Sec. 13.5. A local educational agency, as defined in 20 U.S.C. § 7801(30)(A), that develops a plan for the safe return to in-person instruction and continuity of services pursuant to section 2001(i) of the American Rescue Plan Act of 2021, Public Law 117-2, shall include in the plan the information contained in a report prepared pursuant to section 12 of this act.

Sec. 14. This act becomes effective on July 1, 2021 ~~or~~, and expires by limitation on June 30, 2023.