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School and Small Business Ventilation and Energy Efficiency Verification and Repair Program (SSB-VEEVR)

Program Guide

September 9, 2021

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Section 1. PROGRAM OVERVIEW

1.1 Introduction

The School and Small Business Ventilation and Energy Efficiency Verification and Repair Program (SSB-VEEVR or Program) provides grants to Boards of Education (BOEs) and certain Small Businesses to ensure that their facilities have functional HVAC systems that are tested, adjusted, and, if necessary or cost effective, repaired, upgraded, or replaced to increase efficiency and performance.

A BOE or Small Business may apply for a grant by submitting an application to the Program for reasonable costs of the HVAC assessment, assessment report, deferred general maintenance, adjustment of ventilation rates, filter replacement, system repair, upgrade, or replacement, and carbon dioxide monitor installation.

The goal is to improve air quality and energy efficiency in school buildings and Small Businesses including, among others, schools and Small Businesses located in underserved communities. This Program will generally improve the health and safety of the school and Small Business environment and create jobs. This Program Guide describes the requirements for program participation, including eligibility requirements for applicants and projects, the application process, program funding and distribution, as well as project documentation and reporting requirements.

Program grants made pursuant to this Program Guide shall provide no more than 75% of the cost of projects approved by the New Jersey Board of Public Utilities (Board or NJBPU) or its Program Administrator. Applicants are required to follow all program requirements outlined in this Program Guide.

Key Words and Terms

Table 1 identifies the key words or terms used in this Program Guide.

Table 1 - Key Terms

Word/Term	Definition
Applicant	A New Jersey Board of Education or certain Small Business as defined in this table.
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers.
BOE	The Board of Education of any local school district, consolidated school district, regional school district, county vocational school, and any other board of education or other similar body other than the State Board of Education, the Commission on Higher Education, or the Presidents' Council, established and operating under the provisions of Title 18A of the New Jersey Statutes and having authority to make purchases and to enter into contracts for the provision or performance of goods or services. BOE shall include, among other things, the board of trustees of a charter school established under L.1995, c.426 (N.J.S.A. 18A:36A-1 et seq.).

Word/Term	Definition
Certified Energy Auditor	(a) A Professional Engineer licensed pursuant to N.J.S.A. 45:8-27 to 8-60 (and implementing regulations), (b) a person or company that the Division of Property Management and Construction in the New Jersey Department of the Treasury has determined to be qualified to conduct and develop an energy audit meeting the standards of ASHRAE Level II and III, (c) a Certified Energy Manager (CEM), or (d) any other person or company that the NJBPU determines to be qualified to conduct such an energy audit.
Certified TAB Technician	A technician certified to perform testing, adjusting, and balancing of HVAC systems by the Associated Air Balance Council (AABC), the National Environmental Balancing Bureau (NEBB), or the Testing, Adjusting and Balancing Bureau (TABB).
Contractor	A person or company with the appropriate license classification, as determined by the Contractors State License Board.
HVAC	Heating, ventilation, and air conditioning.
HVAC Assessment and <u>Maintenance</u> Pathway	One of two pathways to receive a grant from the Program. This pathway requires HVAC Assessment and Maintenance, completion of an HVAC Assessment Report, carbon dioxide monitor installation, and completion of an HVAC Verification Report.
HVAC Assessment and <u>Replacement/ New System</u> Pathway	One of two pathways to receive a grant from the Program. This pathway allows funding for HVAC system or unit replacement or new system or unit installation; installation of carbon dioxide monitors, an HVAC Assessment Report, and an HVAC Verification Report.
HVAC Assessment and Maintenance	An assessment of and adjustments to an HVAC system. This includes, as applicable, filtration, economizer dampers, ventilation, coil condition, and other requirements.
HVAC Assessment Report	A report prepared by a Qualified Testing Personnel or Qualified Adjusting Personnel for review by a Certified Energy Auditor. The HVAC Assessment Report must be submitted to the Program as part of the final document package.
HVAC Verification Report	A report prepared by an applicant upon completion of all work funded by a Program Grant. The HVAC Verification Report must be submitted to the Program as part of the final document package.
MERV	Minimum efficiency reporting value. A measure of filter performance measured according to ASHRAE Standard 52.2.
Necessary or Cost Effective	Where the existing equipment is nonoperational or has less than three (3) years remaining in its useful measure life.

Word/Term	Definition
NJBPU or Board	New Jersey Board of Public Utilities.
Notice of Funding Availability	A notice issued by the NJBPU to identify funding that NJBPU expects to make available for Program grants. The notice will provide relevant application dates and any applicable funding restrictions.
PPM	Parts per million.
Program Grant	A grant provided as part of the Program to support the safety of schools through one of two grant pathways: the HVAC Assessment and <u>Maintenance Pathway</u> or the HVAC Assessment and <u>Replacement Pathway</u> .
Project	“Project” refers to all assessments, HVAC general maintenance, HVAC replacement, adjustments of ventilation rates, filter replacements, carbon dioxide monitor installations, repairs, upgrades, and replacements that are funded by a Program Grant.
Qualified Adjusting or Qualified Testing Personnel (QP)	<p>Qualified Adjusting Personnel or Qualified Testing Personnel, i.e., either of the following:</p> <ul style="list-style-type: none"> • A Certified TAB Technician, or • A Skilled and Trained Workforce under the supervision of a Certified TAB Technician.
SSB-VEEVR Program or Program	School and Small Business Ventilation and Energy Efficiency Verification and Repair Program.
Site	The location where Program Grant work will be performed.
Skilled and Trained Workforce	A workforce where at least 60% of the construction workers are graduates of a registered apprenticeship program for the applicable occupation.
Small Business	A sole proprietorship, partnership, or corporation that has its principal place of business in New Jersey, is a small business pursuant to N.J.A.C. 17:13-1.2, and is certified by the State as a women’s business or minority business, as those terms are defined in L.1987, c.55 § 2 (N.J.S.A. 52:27H-21.8).
TAB	Testing, adjusting, and balancing.
Underserved Community	A municipality with a school district in which at least 75% of public school students are eligible to receive free or reduced-price meals under the National School Lunch Program, established pursuant to the "Richard B. Russell National School Lunch Act," L.79-396 c.281 (42 U.S.C. § 1751 et seq.).

Word/Term	Definition
UVGI	Ultraviolet germicidal irradiation is an established means of disinfection and can be used to prevent the spread of certain infectious diseases. Low-pressure mercury (Hg) discharge lamps are commonly used in UVGI applications and emit shortwave ultraviolet- C radiation.

1.2 SSB-VEEVR Program Eligibility

Eligible Applicants

1. Boards of Education (BOEs); and
2. Small Businesses as defined in Table 1 - Key Terms.

Underserved Communities

Seventy-five (75) percent of SSB-VEEVR Program funds will be awarded to schools and Small Businesses located in Underserved Communities as defined above. A list of qualifying school districts and charter schools in Underserved Communities is shown in Appendix C: Qualifying Underserved Communities. Additionally, any Small Business or charter school located within a municipality in which a qualifying school district is located will also be deemed to be located in an Underserved Community. For example, any Small Business or charter school located in Newark will be deemed to be located in an Underserved Community.

Section 2. PROJECT REQUIREMENTS

2.1 Program Grants

Applicants may apply for a Program Grant through one of two grant pathways, each of which has specific requirements:

1. HVAC Assessment and Maintenance Pathway, or
2. HVAC Assessment and Replacement/New System Pathway.

Each project awarded a Program Grant will follow only one grant pathway and must complete the process and meet the requirements as described for that grant pathway. The grant pathway and qualification criteria for each pathway are, briefly, as follows:

1. HVAC Assessment and Maintenance Pathway — Available for HVAC maintenance, repair, and minor system repairs and upgrades, but excluding the installation of new HVAC units.
2. HVAC Assessment and Replacement/New System Pathway — Available for the purchase and installation of a new HVAC system or unit, by way of replacement, addition, or otherwise. The applicant must provide supporting documentation showing that the existing HVAC equipment (or lack thereof) is unable to meet the minimum ventilation and filtration standards described in this Guide without an HVAC system or unit (hereinafter sometimes collectively referred to as “system”) replacement. All proposed new systems or HVAC system replacements must meet or exceed the ventilation and filtration standards described in this Guide, and the new or replacement HVAC system must also meet the necessary and cost-effectiveness standards set forth in this Guide.
3. **As set forth in Section 2.3, Program Grants will not be provided for boilers or other types of HVAC equipment that do not directly and significantly affect ventilation or airflow.**

The project requirements that must be met for each grant pathway are summarized in Table 2 below.

Table 2 - Project Requirements by Grant Pathway

Program Requirements	HVAC Assessment and <u>Maintenance</u> Pathway	HVAC Assessment and <u>Replacement/New System</u> Pathway
Filter Installation	Yes	Yes
HVAC Assessment	Yes	Yes
HVAC Maintenance	Yes	No
CO2 Monitor Installation	Yes	Yes
HVAC Assessment Report	Yes	Yes
HVAC Verification Report	Yes	Yes
Eligible for HVAC System Replacement	No	Yes

Program Requirements	HVAC Assessment and Maintenance Pathway	HVAC Assessment and Replacement/New System Pathway
Justification for Grant Pathway	No	Yes

Requirements Applicable to Both Pathways

Applications must describe each Site and provide estimates, verified by a Certified Energy Auditor, for specific costs to complete the project requirements at each Site. A qualified testing personnel or qualified adjusting personnel must prepare an assessment report for review by a Certified Energy Auditor. The Certified Energy Auditor must review the assessment report and determine what, if any, additional adjustments, or repairs would be necessary to meet the minimum ventilation and filtration requirements set forth in this Guide, determine whether any cost-effective energy efficiency repairs, upgrades or replacements are warranted or recommended, and provide an estimated cost for this work. Program Grants will be made based on Certified Energy Auditor estimates and are subject to Program and Board approval.

Program grants will provide no more than 75% of the cost of projects approved by the Program Administrator.

2.2 HVAC Assessment and Maintenance Pathway Requirements

The HVAC Assessment and Maintenance Pathway requires the completion of an HVAC Assessment Report and carbon dioxide monitor installation, all as described in more detail below.

The process for HVAC Assessment and Maintenance must be completed for the entire HVAC system at the site, excluding boilers or other types of HVAC equipment that do not directly and significantly affect ventilation or airflow.

Applicants awarded a grant for this pathway must also complete the other requirements of this section and complete the HVAC Assessment Report and HVAC Verification Report as specified in Sections 2.4 and 2.5, respectively.

Applicable Technical Requirements

Filtration

The applicant receiving a Program Grant shall either:

- (a) confirm that the HVAC systems in each of the buildings utilizing the grant have filtration with a minimum efficiency reporting value of MERV 13 or better in the HVAC system (if and where feasible), OR
- (b) if MERV 13 is not feasible in one or more of the buildings covered by the grant, install the highest MERV filtration that can be used in the subject building(s) without adversely impacting the buildings' HVAC equipment.

The expected cost of filter replacement or upgrade must be included in the cost estimate provided with the application. The purchase of additional replacement filters for future use is not an eligible cost and may not be included in the cost estimate or the application. In addition:

1. Qualified Testing Personnel shall review system capacity and airflow to determine the highest MERV filtration that can be installed without adversely impacting equipment. A qualified contractor shall replace or upgrade filters where needed and shall verify that those filters are installed correctly.
2. If a system uses ultraviolet germicidal irradiation (UVGI) to disinfect the air, the UVGI lamp shall be checked for proper operation, replacing bulbs as needed and verifying that the ultraviolet light does not shine on filters. The expected cost of a UVGI lamp replacement must be included in the cost estimate provided with the grant application. The purchase of additional UVGI lamps for future use is not an eligible cost and may not be included in the cost estimate.
3. For HVAC systems with economizers, qualified testing personnel shall test the HVAC system economizer dampers. Economizer dampers and controls that are not properly functioning shall be repaired by a Skilled and Trained Workforce.

Ventilation

After completing the filtration requirements described above, a Qualified Testing Personnel shall verify the ventilation rates in the school or Small Business building, and other occupied areas to assess whether they meet the minimum ventilation rate requirements set forth in ANSI/ASHRAE Standard 62.1-2019, Ventilation for Acceptable Indoor Air Assessment, which shall include all of the following:

1. A calculation of the required minimum zone airflow and HVAC unit outside air ventilation rates for each occupied area using the ASHRAE 62.1-2019 Section 6.2 Ventilation Rate Procedure, based on the anticipated occupancy and the minimum required ventilation rate per occupant. Calculations shall be based on maximum anticipated building or other occupied area occupancy rates and determined by Qualified Personnel.
2. Natural ventilation shall be designed in accordance with Section 402 of the 2018 International Mechanical Code and shall include mechanical ventilation systems designed in accordance with Section 403 of the 2018 International Mechanical Code.
3. Verification of building pressure relative to the outdoors to ensure positive pressure differential and ensure the building is not over-pressurized.
4. Verification of coil velocities and coil and unit discharge air temperatures required to maintain desired indoor conditions and avoid moisture carryover from cooling coils.
5. Verification that separation between outdoor air intakes and exhaust discharge outlets meet requirements of the 2018 International Mechanical Code.
6. Confirmation that the air-handling unit is bringing in outdoor air and removing exhaust air as intended by the system design.
7. Measurement of all exhaust air volume for exhaust fans, including restrooms. Document any discrepancies from system design.
8. If the system does not meet the minimum ventilation rate requirements, the Certified Energy Auditor or Qualified Adjusting Personnel shall review the HVAC system airflow capacity to determine if additional ventilation can be provided without adversely impacting equipment performance. If additional ventilation can be provided, a Qualified Adjusting Personnel must adjust ventilation rates to meet the minimum ventilation rate requirements set forth in item 1 above to the extent feasible. After the adjustment, the measurement of outside air and verification of whether the HVAC system provides the minimum outside air ventilation rates calculated under this subparagraph shall be repeated. The costs of the adjustment of ventilation rates to meet the minimum ventilation rate requirements with existing equipment shall be included in the cost estimate.

9. If minimum ventilation rate requirements per ASHRAE 62.1-2019 Section 6.2 Ventilation Rate Procedure cannot be met, this deficiency shall be reported in the HVAC Assessment Report and the HVAC Verification Report (outlined in Section 2.4 & 2.5 below) and addressed by a Certified Energy Auditor, as required.

Demand Control Ventilation

If a demand control ventilation system is installed, qualified testing personnel or qualified adjusting personnel shall test it and adjust the ventilation to a carbon dioxide set point of 800 PPM or less.

1. If the demand control ventilation system does not maintain average daily maximum carbon dioxide levels below 1,100 ppm over any given period of two weeks of occupied days, it must be disabled until such time the State of New Jersey has terminated all requirements and restrictions that have or had been imposed in response to COVID-19, unless disabling the control would adversely affect operation of the overall system.
2. When disabling a demand control ventilation system, the system must be configured to meet the minimum ventilation rate at full occupancy requirements and, as to schools, configured to provide a notification when the carbon dioxide levels in the room have exceeded 1,100 ppm. Notification shall be a visual indicator on the monitor, such as an indicator light or other alert system, including but not limited to an electronic mail, text, or cellular telephone application.
3. Recommendations for additional maintenance, repair, or upgrades for the demand control ventilation shall be recorded in the HVAC Assessment Report.

Coil Condition

1. Qualified Personnel or a Skilled and Trained Workforce must verify each of the following:
 - a. Coil condition.
 - b. Condensate drainage.
 - c. Cooling coil air temperature differentials (entering and leaving dry bulb).
 - d. Heat exchanger operation.
 - e. Drive assembly.
2. If maintenance, repairs, or upgrades are necessary, these deficiencies shall be reported in the HVAC Assessment report and the HVAC Verification report, and addressed by a Certified Energy Auditor.

Additional Requirements

1. Qualified Personnel shall review control sequences to verify that systems will maintain intended ventilation, temperature, and humidity conditions during school or Small Business operation.
2. For previously unoccupied buildings, the applicant shall perform the recommended practices of reopening a building as covered in the ASHRAE Building Readiness document — Restarting a Building. Additional information can be found on ASHRAE's webpage for [Building Readiness](https://www.ashrae.org/technical-resources/building-readiness) (<https://www.ashrae.org/technical-resources/building-readiness>). Those practices include:
 - a. Verify a daily flush is scheduled per ASHRAE Guidance for Reopening and Operating Schools and Buildings or otherwise applicable local or state guidance. Additional information can be found on ASHRAE's webpage for [Reopening of Schools and Universities](https://www.ashrae.org/technical-resources/reopening-of-schools-and-universities) (<https://www.ashrae.org/technical-resources/reopening-of-schools-and-universities>).

- b. Verify that HVAC system operational times, exhaust fans operation times, setpoints, and enabled features meet ASHRAE Guidance for Reopening and Operating Schools and Buildings or otherwise applicable local or state guidance.
3. If installed HVAC systems or system components are broken, fail to meet minimum ventilation requirements, or are unable to operate to the original design and intent, this information shall be set forth in the HVAC Assessment report prepared and be provided to a Certified Energy Auditor for determination of appropriate corrective measures. Repairs, upgrades, or maintenance shall be performed by a Skilled and Trained Workforce.

Carbon Dioxide Monitoring

For a school building, to ensure proper ventilation is maintained throughout the school year, all classrooms in schools receiving a Program Grant shall be equipped with a carbon dioxide monitor that meets all the following requirements:

1. The monitor is hard-wired or plugged-in and mounted to the wall between three and six feet above the floor and at least five feet away from the door and operable windows.
2. The monitor displays the carbon dioxide readings to the teacher through a display on the device or other means such as a web-based application or cellular telephone application.
3. The monitor provides a notification through a visual indicator on the monitor, such as an indicator light or other alert system, including but not limited to an electronic mail, text, or cellular telephone application, when the carbon dioxide levels in the classroom have exceeded 1,100 ppm.
4. The monitor maintains a record of previous data that includes at least the maximum carbon dioxide concentration measured.
5. The monitor has a range of 400 ppm to 2,000 ppm or greater.
6. The monitor is certified by the manufacturer to be accurate within 75 ppm at 1,000 ppm carbon dioxide concentration and is certified by the manufacturer to require calibration no more frequently than once every five years.

Continued Monitoring of Classroom Carbon Dioxide Level

If a classroom carbon dioxide concentration exceeds 1,100 ppm more than once a week as observed by the teacher or other building staff, the classroom ventilation rates shall be adjusted by Qualified Testing or Adjusting Personnel to ensure peak carbon dioxide concentrations in the classroom remain below the maximum allowable carbon dioxide PPM setpoint.

Verification of the installation of carbon dioxide monitors in all classrooms, but not their continued monitoring results, shall be included in the assessment report

2.3 HVAC Replacement/New System Pathway Requirements

The HVAC Replacement/New System Pathway allows for complete HVAC system or HVAC unit replacement or new system installation where no current HVAC system exists. All replacements or new systems and units must meet minimum ASHRAE 90.1 2016 requirements. The replacement pathway is intended for systems and facilities that have been demonstrated to be unable to meet the minimum requirements of the HVAC Assessment and Maintenance Path, as described in Section 2.2, due to system deficiencies or the complete absence of mechanical ventilation systems. It also requires the installation of MERV 13 filtration and carbon dioxide monitors in each room consistent with the requirements of Section 2.2, completion of an HVAC Assessment Report as specified in Section 2.4, and an HVAC

Verification Report as specified in Section 2.5. This pathway requires justification for system replacement, which will include the following:

1. If installed HVAC systems or system components are broken, fail to meet minimum ventilation requirements, or are unable to operate to the original design and intent, this information shall be set forth in the HVAC Assessment Report prepared and provided to a Certified Energy Auditor for determination of appropriate corrective measures. Complete system replacements shall be performed by a Skilled and Trained Workforce.
2. The HVAC replacement must be deemed necessary or cost-effective to be approved for a replacement Grant.
 - a. Necessary or cost effective is when the existing equipment is nonoperational or has less than three (3) years remaining in its useful measure life.
 - b. If identified costs for work vary by more than 10% from RSMeans expected construction cost data, the Applicant shall provide justification for higher costs of requested funding. RSMeans is a comprehensive database for estimating construction costs. More information can be found through the [RSMeans website](#).
3. **Program Grants will NOT be provided for boilers or other types of HVAC equipment that do not directly and significantly affect ventilation or airflow.**
4. Utility Rebates – Applicants approved for this path must also apply to New Jersey’s Clean Energy Program or their participating utility energy efficiency incentive program, if available.
5. Program Grants for HVAC replacement will be 75% of the cost of the project after deducting the value of any utility energy efficiency program or New Jersey’s Clean Energy Program incentive funds paid to the applicant.
 - a. For example, if the project costs \$1,200,000 and a utility energy efficiency program incentive is available in the amount of \$200,000, this SBVEEVR Program would pay no more than \$750,000 ($[1,200,000 - 200,000] \times 0.75 = \$750,000$).
6. A BOE or Small Business shall comply with the requirements of this section for all new or replaced air-handling units, rooftop units, and unitary and single zone equipment covered by a Program Grant in its schools’ or Small Business’s HVAC system or systems.

In addition, an HVAC system installed pursuant to this section shall meet the ANSI/ASHRAE Standard 62.1-2019, Ventilation for Acceptable Indoor Air Quality and shall have Qualified Personnel perform the following:

1. Review control sequences to verify HVAC systems will maintain intended ventilation, temperature, and humidity conditions during operation. Previously unoccupied buildings shall perform the recommended practices of reopening a building as covered in the ASHRAE Building Readiness document – Restarting a Building.
2. For previously unoccupied buildings, verify a daily flush is scheduled for two hours before and after scheduled occupancy or demonstrate calculation of flush times per ASHRAE Guidance for Reopening and Operating Schools or Commercial Buildings, as applicable, or otherwise applicable local or State guidance; and
3. Verify that HVAC system operational times, exhaust fans operation times, setpoints, and enabled features meet ASHRAE Guidance for Reopening and Operating Schools or Commercial Buildings, as applicable, or otherwise applicable local or State guidance
4. Meet all other requirements as stated in the HVAC Assessment and Maintenance Pathway Section 2.2 including, among others, filtration, ventilation, carbon dioxide monitoring, demand control ventilation requirements.

2.4 HVAC Assessment Report

A Qualified Testing Personnel or Qualified Adjusting Personnel shall prepare an HVAC Assessment Report for review by a Certified Energy Auditor based on the requirements specified for each pathway in Sections 2.2 & 2.3 above. The Certified Energy Auditor shall review the assessment report and determine what, if any, additional adjustments or repairs would be necessary to meet the minimum ventilation and filtration requirements, determine whether any cost-effective energy efficiency upgrades or replacements are warranted or recommended, and provide an estimated cost for this work.

Certain work must be done by Qualified Testing or Adjusting Personnel, and certain other work must be done by a Certified Energy Auditor. An applicant receiving a Program Grant must ensure that such work is performed by persons with the appropriate foregoing qualifications. Moreover, the results and findings from assessments must be recorded in the HVAC Assessment Report as described in this section.

The HVAC Assessment Report completed for each pathway shall include the following information as specified in Table 3, below, in the required form or formats.

1. Name and address of the school or Small Business and person or contractor who prepared and certified the report.
2. Documentation of HVAC equipment model number, serial number, general condition of unit, and any additional information that could be used to assess replacement and repair options given potential for increased energy efficiency benefits.
3. Either verification that MERV 13 filters have been installed or verification that the maximum MERV-rated filter that the system is able to effectively handle has been installed; and the filters' MERV rating.
4. For a school building, the verified ventilation rates for facility classrooms, auditoriums, gymnasiums, nurses' offices, restrooms, offices, and other occupied areas, and whether those rates meet the requirements set forth in ANSI/ASHRAE Standard 62.1-2019. If ventilation rates do not meet applicable requirements, then an explanation for why the current system is unable to meet those rates shall be provided.
5. For a school building, the verified exhaust rates for building classrooms, auditoriums, gymnasiums, nurses' offices, restrooms, and other occupied areas and whether those rates meet the requirements set forth in the design intent.
6. For a Small Business, the verified ventilation rates for all occupied areas and whether those rates meet the requirements set forth in ANSI/ASHRAE Standard 62.1-2019. If ventilation rates do not meet applicable requirements, then an explanation for why the current system is unable to meet those rates shall be provided.
7. For a Small Business, the verified exhaust rates for all occupied areas and whether those rates meet the requirements set forth in the design intent.
8. Documentation of system deficiencies and recommendations for additional maintenance, replacement, or upgrades to improve energy efficiency, safety, or performance.
9. Name of the utility that provides electricity service and monthly electricity meter data.
10. If applicable, documentation and certification by at least the Certified Energy Auditor that the existing HVAC infrastructure cannot meet the requirements described in Section 2.2 HVAC Assessment and Maintenance Pathway, and therefore the proposed HVAC repair, upgrade or replacement is necessary or cost-effective.

Applicants may be required to submit additional information as described or otherwise required by this Program Guide, including but not limited to the information described in Appendix B: HVAC Assessment Report Information.

The HVAC Assessment Report Worksheets will be made available for use in developing the report on the program webpage.

The HVAC Assessment Report Worksheets includes worksheets as described in Appendix B: HVAC Assessment Report Information and listed in Table 3 below. Table 3 provides information as to which worksheets of the HVAC Assessment Report must be completed and submitted for each of the two grant pathways.

Table 3 - HVAC Assessment Report Requirements by Grant Pathway

HVAC Assessment Report Required Information	HVAC Assessment and Maintenance Pathway	HVAC Assessment and Replacement/New System Pathway
1. System Overview	Yes	Yes
2. Filtration System	Yes	Yes
3. Ventilation Rate	Yes	Yes
4. Economizer Operation	Yes	No
5. Demand Control Ventilation	Yes	No
6. Air Distribution and Building Pressure	Yes	Yes
7. General Maintenance	Yes	No
8. Operational Controls	Yes	No
9. CO2 Monitoring	Yes	Yes

Review of HVAC Assessment Report and Maintenance Pathway

A Certified Energy Auditor shall review the HVAC Assessment Report completed for sites following the HVAC Assessment and Maintenance Pathway and:

1. Determine what, if any, additional adjustments or repairs would be necessary to meet the minimum ventilation and filtration requirements.
2. Determine whether any cost-effective energy efficiency upgrades or repairs are warranted or recommended.
3. Provide an estimated cost for all identified work.

If the cost of recommended repairs or upgrades are greater than the funds provided in the grant after considering the effect of an NJCEP or utility energy efficiency incentives, as described in Section 2.3), then the Certified Energy Auditor and the Applicant may submit an application for additional funding.

The provision of any additional funding for repairs, upgrades, or maintenance shall be conditioned upon, among other things, the applicant ensuring that all construction work funded, in whole or in part, by the additional funding is performed by a Skilled and Trained Workforce.

Review of HVAC Assessment Report and Replacement/New System Pathway

A Certified Energy Auditor shall review the HVAC Assessment Report completed for sites following the HVAC Replacement/New System Pathway and:

1. Provide certification that the existing HVAC infrastructure cannot meet the requirements as described in Section 2.2 HVAC Assessment and Maintenance Pathway and justify that complete HVAC replacement is necessary or cost effective, as defined in Table 1.
2. Determine recommendations for adding mechanical ventilation and filtration where none exists or for replacing a mechanical ventilation system where the current system is nonoperational.
3. Provide an estimated cost for all identified work.
4. If identified costs for work vary by more than 10% from RSMMeans expected construction cost data, the Applicant will provide justification for higher costs of requested funding.

The provision of any funding for system replacements shall be conditioned on the applicant ensuring that all construction work funded, in whole or in part, by the additional funding is performed by a Skilled and Trained Workforce.

2.5 HVAC Verification Report

Upon completion of all work funded by a Program Grant, the Applicant shall prepare and submit to the Program an HVAC Verification Report for each site included in the grant. The HVAC Verification Report must include the following information as specified for each grant pathway in Table 4, below, in the required form or formats.

1. Name and address of the school site(s) or Small Business covered by the report and the name of the person certifying the report.
2. Description of assessment, maintenance, adjustment, repair, upgrade, and replacement activities and outcomes at each site involving Program Grant work.
3. Verification that the applicant has complied with all applicable program requirements.
4. Verification that either MERV 13 filters have been installed or verification that the maximum MERV-rated filter that the system is able to effectively handle has been installed, additionally, the filters' MERV rating.
5. For a school, the verified ventilation rates for building classrooms, auditoriums, gymnasiums, nurses' offices, restrooms, offices, and other occupied areas and whether those rates meet the requirements set forth in ANSI/ASHRAE Standard 62.1-2019. If any of the ventilation rates do not meet applicable guidance, then the report shall provide an explanation for why the current system is unable to meet those requirements.
6. The verified exhaust for building classrooms, auditoriums, gymnasiums, nurses' offices, restrooms, and other occupied areas and whether those rates meet the requirements set forth in the design intent.
7. For a Small Business, the verified ventilation rates for all occupied areas and whether those rates meet the requirements set forth in ANSI/ASHRAE Standard 62.1-2019. If ventilation rates do not meet applicable requirements, then an explanation for why the current system is unable to meet those rates shall be provided.
8. For a Small Business, the verified exhaust rates for all occupied areas and whether those rates meet the requirements set forth in the design intent.
9. Documentation of system deficiencies and recommendations for additional maintenance, replacement, or upgrades to improve energy efficiency, safety and health, or performance.

10. Documentation of initial operating verifications, adjustments, and final operating verifications, and documentation of any adjustments or repairs performed.
11. Verification of installation of carbon dioxide monitors, including make and model of monitors.
12. Verification that all work has been performed by appropriately qualified personnel, including the provision of the contractor’s name, the Certified TAB Technician’s name and certification number, and certification that all construction work has been performed by a Skilled and Trained Workforce.

Table 4 - HVAC Verification Report Requirements by Grant Pathway

HVAC Verification Report Required Information (Items 1–12 listed above)	HVAC Assessment and Maintenance Pathway	HVAC Assessment Replacement/New System Pathway
1 through 8	Yes	Yes
9	Yes	No
10	Yes	No
11	Yes	Yes
12	Yes	Yes

The HVAC Verification Report template will be made available for use in developing the report on the program webpage. Applicants may be required to submit additional information as may be determined by the Board and/or its Program Administrator.

In addition to submitting the HVAC Verification Report to the Program, the Applicant shall maintain a copy of the HVAC Verification Report and make it available to any member of the public upon request.

2.6 Skilled and Trained Workforce Requirement

All repair, upgrade, replacement, or other technical work completed as part of the Program must be performed by a Skilled and Trained Workforce. Applicants may use in-house staff or contractors to complete the work as long as all staff meet applicable Skilled and Trained Workforce requirements and all other labor requirements as described in this Program Guide appropriate to each activity completed.

2.7 Prevailing Wage Requirement

The Program Grants will constitute financial assistance provided by the Board and therefore may be subject to prevailing wage requirements pursuant to the Prevailing Wage Act (N.J.S.A. 34:11-56.25 et seq.) and the regulations promulgated thereunder (N.J.A.C. 12:60). By submitting an application to the Program, applicants will self-certify their compliance with any and all applicable prevailing wage requirements relating to the work covered by Program Grant. The New Jersey Department of Labor and Workforce Development is authorized to interpret and enforce prevailing wage requirements.

2.8 Program Budget

The Program budget will be set by the Board, and a pro forma version of what the budget is estimated to be is set forth in Table 5. For each applicant, the program grant will be equal to the sum of approved individual site budgets for all eligible sites included in the application. Each site budget will be equal to the amount of the cost estimate provided by the Certified Energy Auditor for eligible work to be completed at that site, not to exceed the maximum award as specified by the Board. Program Administration staff will review the cost estimate and determine the approved site budget based on program requirements, including eligible cost requirements in these guidelines.

Table 5 - Program Funding

Grant Program Draft Incentive Budget Table		
HVAC Program		
	Underserved Communities	Not in Underserved Communities
Schools	\$75,937,500	\$25,312,500
Small Businesses	\$25,312,500	\$8,437,500

Program grants will provide no more than 75% of the cost of projects approved by the Program.

Table 6 - Example of Approved Site Budget for HVAC Assessment and Maintenance Pathway

Example Site: School in Maintenance Pathway with 20 HVAC system units, 20 filters, and 20 classrooms	
Calculation Description	Calculation Example
HVAC Assessment and Maintenance and HVAC Assessment Report — Example budget	$\$5,460 \times 20 = \$109,200$
Filter Replacement — Example budget for purchase and installation	$\$40 \times 20 = \800
Carbon Dioxide Monitors — Approved budget for purchase and installation	$\$500 \times 20 = \$10,000$
Approved Site Budget = Approved budgets for: <ul style="list-style-type: none"> • HVAC Assessment and Maintenance • HVAC Assessment Report • Filter Replacement • Carbon Dioxide Monitors 	$\$109,200 + \$800 + \$10,000 = \$120,000$

Approved budgets are site-specific. No additional funding will be awarded if costs exceed the applied and approved site budget, so applicants are encouraged to prepare their applications accordingly.

2.9 Project Term

1. For each project, the applicant will have up to 12 months from the date of approval to complete all work and submit the final reporting documentation described in Section 4.
2. Applicants in either pathway may request and be granted one 6-month extension for good cause shown.

Section 3. APPLICATIONS AND AWARDS

This section provides information regarding the application process, required application forms and supporting documentation, the process used by the Program to approve applications and determine grant awards, payment of funds, project and reporting requirements, and similar items.

3.1 Application Process

To facilitate program participation and funding availability, the Board may initially make funding commitments only for Pathway 1 applications, HVAC Assessment and Maintenance, during a first phase of funding that would be conducted between October 1, 2021 and December 31, 2021. This would allow a comparatively larger number of BOEs and Small Businesses to access program funding for the HVAC assessment, maintenance, and minor repairs and upgrades necessary to provide adequate ventilation and therefore improved health and safety, especially as to COVID-19 protection. On January 1, 2022, or at a date determined by the Board, Phase 2 of program funding commitments will begin for applications that fall under Pathway 2, HVAC Assessment and Replacement/New System.

The application and award process generally follows the steps detailed below:

1. The Board or its Program Administrator issues a Notice of Funding Availability with details of the total funding available, start and end dates for application acceptance, and the breakdown of funds by Funding Category, as described in these guidelines.
2. Applicants submit grant applications to the Program Administrator.
3. The Program Administrator begins to review applications in the order that administratively complete applications are received.
 - a. The Program Administrator will review all applications that are received by the posted deadline.
 - b. At any time, should the Board and/or its Program Administrator determine that all funds in a single funding category and/or tier have been reserved, the Board and/or its Program Administrator may provide public notification of that determination but will continue to accept applications and identify applicants that may be funded should additional funding become available.
4. The Program Administrator will award Program Grants to projects that meet all program requirements, at which time funds are committed and reserved for those projects.
5. Incomplete applications and applications deemed not to have met the application requirements will be considered “deficient” applications.
 - a. If an application is considered deficient, a deficiency notice will be sent via email to the applicant requesting additional information. The information or documentation requested on the email must be received by the Program Manager within 30 days of the date of the request. If additional deficiencies are still noted, there will be up to two additional notifications issued with the same time frames. If a participating customer fails to respond to a deficiency request within 30 days or exceeds the three attempts provided, the application will be rejected.
6. The Program Administrator will issue a commitment letter with approval of the proposed Program Grant to an applicant who has submitted a complete application that is deemed to have met all program requirements.
7. Applicants who implement projects without the Program Administrator’s approval do so at their own risk, including, among other things, the risk of having their project deemed ineligible for incentives.

8. All projects are subject to Program post-inspections to verify the HVAC verification report and installed project components and equipment.
9. All projects must adhere to the requirements provided in these guidelines and must use all required forms to receive a grant award and funding.

3.2 Application Package

Eligible applicants must submit a complete application package for an Assessment and Maintenance Program Grant or HVAC Assessment and Replacement/New System Program Grant using the electronic submission process and system identified by the Board or its Program Administrator. The application package must include the following in the required form or formats. The information required in the application form is generally described below and all forms will be made available for use in developing the application package on the program webpage.

1. Applicant Details: Applicant information, including official name, address, responsible parties, contact information, description of applicant territory, applicable sites, and specific site information to determine the applicable grant pathway.
2. Overall Grant Request Summary: Site and budget summary page and status of all site-specific work including start date and projected end date.
3. Site-Specific Details: Detailed information identifying all sites to be addressed by the grant, general site information, identification of the number and type of HVAC units on site, number of buildings for carbon dioxide monitoring, project completion status, and total site-specific estimate for assessment and maintenance project.
4. The applicant self-certifies (in a format to be developed by the NJBPU or its Program Administrator):
 - a. It will follow the program guidelines.
 - b. The information included in the application package is true and correct to the best of the applicant's knowledge.
 - c. It acknowledges that the expended funds may be subject to audit, including a financial audit.
 - d. It will comply with all reporting requirements.
 - e. It will comply with all Assessment and Maintenance Grant terms and conditions.
 - f. It will comply with all Assessment and Replacement Grant terms and conditions.
 - g. It will comply with all Skilled and Trained Workforce requirements.
 - h. All applicable Labor Code requirements, public works labor requirements, including the payment of prevailing wage, will be followed.
 - i. It acknowledges that it may be subject to a post-program inspection site visit and measurement and evaluation study conducted by the Board or its delegate.
5. Supporting documentation:
 - a. Cost estimate supporting each site-specific amount requested; this includes:
 - i. Site-specific budget
 - ii. Timeline
 - iii. Clear and accurate description of work that will be provided
 - b. To be deemed complete, a cost estimate must also be itemized and show line item cost estimates for materials, labor, and other costs.
 - c. For the HVAC Assessment and Replacement/New System path, provide documentation and certification that the existing HVAC infrastructure cannot meet the requirements as

described in Section 2 HVAC Assessment and Maintenance Path and therefore justifies full HVAC replacement.

- d. Letter of authorization from applicants who allow a third-party to submit program documents on their behalf.
- e. Required documentation for the HVAC Assessment and Replacement/New System Pathway:
 - i. A facility master plan, or similar document, showing a plan for the system to be replaced. Documentation should also identify funding reserved for the proposed project.
6. Any other information the Board's Program Administrator or Staff may reasonably require.

3.3 Cost Estimates

The funding amount requested in the application package may only be for reasonable costs to complete the work and requirements of the site's grant pathway, as described in Section 2. Work and requirements include:

1. HVAC Assessment and Maintenance Pathway:
 - a. Assessments and general maintenance as specified in Section 2.2 – HVAC Assessment and Maintenance Pathway Requirements
 - b. Carbon Dioxide monitor installation or replacement as specified in Section 2.2.
 - c. Preparation of HVAC Assessment Report(s) as specified in Section 2.4.
 - d. Review of the HVAC Assessment Report(s) as specified in Section 2.4.
2. HVAC Assessment and Replacement/New System Pathway:
 - a. Filter replacement as specified in Section 2.3 – HVAC Assessment and Replacement/New System Pathway Requirements
 - b. Carbon Dioxide monitor installation or replacement as specified in Section 2.2
 - c. Preparation of HVAC Assessment Report(s) as specified in Section 2.4.
 - d. Review of the HVAC Assessment Report(s) as specified in Section 2.4.

The cost estimate must include a detailed site-specific budget, timeline, and a clear and accurate description of the work that will be provided. The site-specific budget needs to show line-item cost estimates for materials, labor, and other costs.

The applicant will be required to submit the original cost estimate as part of the application package to demonstrate that all costs are reasonable for the work to be completed. The cost estimate should include supporting documentation demonstrating that the scope of work is consistent with the requirements of these guidelines.

Ineligible costs cannot be included as part of the cost estimate. Additional information consistent with this Program Guide may be required from applicants to complete the application process after notification of the grant award.

3.4 Application Review

Applications will be accepted electronically through the Board's electronic submission system, and all applications submitted will be identified by the date and time received.

The Program Administrator will review each submitted application package to ensure all the required information has been provided. If an application is rejected during the open application period, the applicant may revise and resubmit the application during the open application period. Depending on the

volume and timing of applications received, the Board may not always be able to review and notify applicants of errors during the open application period.

Approved applications that exceed the amount of funds available in the current funding round for the funding category will be placed in order of date and time received on a priority list for funding if and when additional funds are made available. The award of Program Grants is conditioned on the availability of funding. Applicants proceed at their own risk until they receive an award letter.

3.5 Payment of Grant Funds

The Board will issue notice to approved applicants identifying the amount of the Program Grant.

Funds will be issued for the HVAC Assessment and Maintenance Path as follows:

1. Assessment Cost – 50% of the approved Program Grant amount will be issued for HVAC assessment costs upon submission of a purchase order consistent with the approved application and verified cost estimates.
2. Project Completion – The remaining 50% will be paid upon receipt, review, and approval of all final required reporting, including the HVAC verification report and complete reporting of how grant funds were used.

Funds will be issued for the HVAC Assessment and Replacement Path as follows:

1. Assessment Cost – A first payment of funds for HVAC Assessment costs will be issued upon approval of the application and verified cost estimates.
2. Equipment Procurement – The applicant will move forward with equipment procurement and project installation. A second payment of funds equal to the cost of the material equipment purchased will be issued based on review and approval of submitted material invoices and verification that equipment matches project documentation.
3. Project Completion – A third and final payment will be issued upon receipt, review and approval of all final required reporting, including the HVAC verification report and complete reporting of how grant funds were used.

All project requirements, as specified in Section 2, must be completed to receive Grant funding. Board staff will issue payment only for the final invoice once and only when all final reporting is submitted and approved by the Program Administrator.

3.6 Ineligible Costs

Grant award funding can only be used for direct costs and work performed in accordance with the terms of this Program Guide .

Costs that are ineligible to be paid with grant funding include, but are not limited to:

1. Costs associated with the use and continuous monitoring of the carbon dioxide monitors, such as electrical improvements, subscription services, storage, and central hubs.
2. Purchase of equipment that is not an integral part of the project.
3. **Costs for boilers or other types of HVAC equipment that do not directly and significantly affect ventilation or airflow.**
4. Consultant fees (other than those for Qualified Personnel and Certified Energy Auditors).

Section 4. PROJECT COMPLETION AND REPORTING

4.1 Completion of Projects

As noted, applicants will have 12 months to complete all work and submit final reporting requirements, with the ability to request one 6-month extension. It is the applicant's responsibility to monitor project completion and meet all required reporting and invoicing deadlines.

Applicants shall submit final reporting electronically using the system or process required by the Board and/or its Program Administrator. The Board and/or its Program Administrator will provide forms, formats, and guidance to assist applicants in preparing and submitting the subject reporting

4.2 Final Reporting and Invoice for Remaining Funds

After the completion of all work covered by a Program Grant, the applicant must submit a final document package to the Program Administrator that includes:

1. HVAC Assessment Report, as specified in Section 2.4.
2. HVAC Verification Report as specified in Section 2.5.
3. Final invoice and any other supporting documentation for all expended grant funds up to the original grant amount.
4. The Applicant's self-certification that:
 - a. It followed the program guidelines.
 - b. The information included in the final document package is true and correct to the best of the applicant's knowledge.
 - c. All applicable New Jersey codes and laws were followed.
 - d. It acknowledges that the expended funds may be subject to an audit, including a financial audit.
 - e. It complied with all reporting requirements.
 - f. It complied with all Assessment and Maintenance Grant terms and conditions.
 - g. It complied with all Assessment and Replacement/New System Grant terms and conditions.
 - h. It complied with all Skilled and Trained Workforce and other labor requirements.
 - i. It complied with any and all applicable law regarding the payment of Prevailing Wages.
 - j. All requirements for public works, including payment of prevailing wages, were followed.
 - k. It commits to participate with the Board or its delegate in the assessment of energy savings or GHG emission reductions, including providing access to project sites and project and equipment information.
 - l. It acknowledges that it may be subject to a post-program inspection site visit and measurement and evaluation study conducted by the Board or its delegate.

4.3 Use and Disclosure of Information and Records and Confidentiality

With very few exceptions, documents and information submitted to the Board, its Program Administrator, or its other consultants/contractors in connection with this program are considered public records subject to disclosure under the Open Public Records Act, N.J.S.A. 47:1A-1 et seq. The Board or other State entities may use any of these documents or information for any purpose, including, among other things, to determine eligibility and compliance with the program or applicable law; to evaluate related or relevant



programs or program elements; or to prepare reports. The Board and its contractors/consultants may also share such documents or information with the applicants' utilities and/or those utilities' contractors/consultants, and/or with contractors/consultants administering the Board's clean energy and energy efficiency programs, as they may deem necessary or appropriate to further this program and/or the other programs.

APPENDIX A: APPLICATION INFORMATION

This appendix describes the information that will be required in the application form. The application will be completed and submitted by the applicant using the electronic submission process and system identified in the notice of funding availability issued by the Board. The application form will be made available for use in developing the application package on the program webpage.

Refer to Section 3 for more detailed information about the application process.

Program Enrollment Application Form

1. Application Information
 - a. Applicant name
 - b. Type of entity
 - c. Address
 - d. Contact information
 - e. Utility provider(s)
2. Project Information (Table format for multiple projects in applicant's application)
 - a. Type of project (Maintenance or Replacement/New)
 - b. School or business address
 - c. School or business size (classrooms/students, square footage)
 - d. Project description
3. Project Schedule
 - a. Estimated start date
 - b. Estimated completion date
4. Project Budget
5. Supporting Documentation
6. Self-Certifications

APPENDIX B: HVAC ASSESSMENT REPORT INFORMATION

This appendix describes the information that will be required in the HVAC Assessment Report. The assessment report form will be completed by Qualified Testing Personnel, verified by a Certified Energy Auditor, and submitted using the electronic submission process and system identified in the notice of funding availability issued by the Board. The assessment report forms will be made available for use in on the program webpage.

Refer to Section 2 for more detailed information about the assessment report requirements.

1. Overview Form (checklist)
 - a. Unit/Model No./Serial No./SEER Rating/Refrigerant
 - b. Filtration
 - c. Ventilation rate
 - d. Ventilation system operation
 - e. Air distribution
 - f. Building pressure
 - g. General maintenance
 - h. Operational controls
 - i. CO₂ monitoring
 - j. Energy and ventilation upgrades
2. Filtration Form
 - a. Existing filter data
 - b. Installation audit
 - c. Frame condition
 - d. Motor and control type
 - e. MERV 13 verification
3. Ventilation Rate Form
 - a. Determine minimum required outside air
 - b. Verify minimum required outside air
 - c. Increased outside air
4. Economizer Operation Form
 - a. Verify economizer operation
 - b. Economizer functions as designed (Y/N)
 - c. Documentation of adjustments and repairs required
5. Demand Control Ventilation Operation Form
 - a. Verify DCV operation
 - b. Verify DCV function at setpoint of 800 ppm
 - c. Document adjustments or repairs required
6. Air Distribution and Building Pressure Form
 - a. Supply outlets measurement
 - b. Return inlets measurement
 - c. Exhaust inlets measurement
 - d. Measured supply air = measured outside air + measured return air determination
 - e. Measured supply air slightly great than measured return air determination
 - f. Air distribution notes
 - g. Document repairs and adjustments required
7. General Maintenance Form
 - a. Verify coil condition

- b. Verify condensate drainage
 - c. Measure and document temperature differential
 - d. Verify condition of drive assembly
 - e. Document deficiencies
 - f. Document required repairs and adjustments
8. Operational Controls Form
- a. Review control sequences – verify systems will maintain intended conditions during operation
 - b. Ventilation schedule operation
 - c. Document deficiencies and recommendations for maintenance, replacement or upgrades.
9. CO₂ Monitoring Form
- a. Verify installation or install a CO₂ monitor
 - b. Verify and document CO₂ monitor meets required capabilities

APPENDIX C: QUALIFYING UNDERSERVED COMMUNITIES

See Section 1.2.

<u>ATLANTIC</u>
ATLANTIC CITY BD OF ED
EGG HARBOR CITY BD OF ED
PLEASANTVILLE PUBLIC SCH
PRINCIPLE ACADEMY CHARTER
CHARTER TECH HS
<u>BURLINGTON</u>
BEVERLY CITY BD OF ED
<u>CAMDEN</u>
CAMDEN CITY BD OF ED
LAWNSIDE BD OF ED
LINDENWOLD BOE
WOODLYNNE BD OF ED
KIPP COOPER NORCROSS ACADEMY AT L
HOPE COMMUNITY CHARTER SCHOOL
CAMDENS PROMISE CHARTER
ECO CHARTER SCHOOL
FREEDOM ACAD CHARTER SCH
LEAP ACADEMY UNIVERSITY

<u>CAPE MAY</u>
WILDWOOD BD OF ED
WOODBINE BD OF ED
<u>CUMBERLAND</u>
BRIDGETON CITY BD OF ED
COMMERCIAL TWP BD OF ED
FAIRFIELD TWP BD OF ED
MILLVILLE BD OF ED
MILLVILLE PUBLIC CHARTER SCHOOL
<u>ESSEX</u>
EAST ORANGE BD OF ED
ESSEX REG ED SERV COMM
ESSEX CO VOC BD OF ED
IRVINGTON BD OF ED
NEWARK PUBLIC SCHOOLS
ORANGE BD OF ED
PRIDE ACADEMY CHARTER
BURCH CHARTER SCH OF EX
NEWARK EDUCATORS CHARTER SCHOOL
GREAT OAKS LEGACY CHARTER SCHOOL
PEOPLES PREPARATORY CHARTER HIGH SC
ROSEVILLE COMMUNITY CHARTER SCHOO
LINK COMMUNITY CHARTER S
LEAD CHARTER SCHOOL

DISCOVERY CHARTER SCHOOL
EAST ORANGE COMM CHARTE
MARION P THOMAS CHARTER
NEW HORIZONS COMM CHARTE
NORTH STAR ACADEMY
TEAM ACADEMY CHARTER
MARIA L. VARISCO/ROGERS
UNIVERSITY HEIGHTS CHARTE
YOUTH CONSULTATION-RES
ESSEX CO JUV DET CTR
<u>GLOUCESTER</u>
PAULSBORO BD OF ED
<u>HUDSON</u>
NEW JERSEY CITY UNIVERSIT
EAST NEWARK BD OF ED
GUTTENBERG BD OF ED
HARRISON BD OF ED
JERSEY CITY BD OF ED
UNION CITY BD OF ED
WEST NEW YORK BD OF ED
DR LENA EDWARDS ACADEMIC CHARTER
METS CHARTER SCHOOL
JERSEY CITY COMM CHARTER

<u>MERCER</u>
TRENTON BD OF ED
FOUNDATION ACADEMY CHAR
PAUL ROBESON CHARTER SCHOOL
INTERNATIONAL CHARTER
PACE CHARTER-HAMILTON
ACHIEVERS EARLY COLLEGE P
VILLAGE CHARTER SCHOOL
<u>MIDDLESEX</u>
NEW BRUNSWICK BD OF ED
PERTH AMBOY BD OF ED
GREATER BRUNSWICK CHARTE
<u>MONMOUTH</u>
ASBURY PARK BD OF ED
FREEHOLD BORO BD OF ED
KEANSBURG BD OF ED
LONG BRANCH BD OF ED
RED BANK BORO BD OF ED
ACADEMY CHARTER HS
HOPE ACADEMY CHARTER
RED BANK CHARTER SCHOOL
COLLEGE ACHIEVE GREATER A

<u>OCEAN</u>
LAKWOOD BD OF ED
SEASIDE HEIGHTS BD OF ED
<u>PASSAIC</u>
HALEDON BD OF ED
PASSAIC CITY BD OF ED
PASSAIC COUNTY MANCHESTE
PATERSON BD OF ED
PROSPECT PARK BD OF ED
COMMUNITY CHARTER SCHOOL OF PATERS
JOHN P. HOLLAND CHARTER SCHOOL
PASSAIC ARTS AND SCIENCE CHARTER SCH
PATERSON ARTS & SCIENCES CHARTER SC
PATERSON CHARTER SCI TECH
COLLEGE ACHIEVE PATERSON
<u>SALEM</u>
PENNS GR CNYS PT RG BOE
SALEM CITY BD OF ED
SALEM CO SPEC SERV
<u>SOMERSET</u>
SOMERSET CO ED SERV COMM

<u>UNION</u>
ELIZABETH BD OF ED
PLAINFIELD BD OF ED
UNION CO ED SERVICES COMM
BARACK OBAMA GREEN CHARTER SCHOO
CRESTHAVEN ACADEMY CHARTER SCHOOL
QUEEN CITY ACAD CHARTER
UNION CO TEAMS CHARTER

APPENDIX D: TABLE 120.1-A

This appendix is provided for reference purposes only.

Table 6-1 Minimum Ventilation Rates in Breathing Zone

Occupancy Category	People Outdoor Air Rate R_p		Area Outdoor Air Rate R_a		Default Values	Air Class	OS (6.2.6.1.4)
	cfm/person	L/s-person	cfm/ft ²	L/s-m ²	Occupant Density #/1000 ft ² or #/100 m ²		
Animal Facilities							
Animal exam room (veterinary office)	10	5	0.12	0.6	20	2	
Animal imaging (MRI/CT/PET)	10	5	0.18	0.9	20	3	
Animal operating rooms	10	5	0.18	0.9	20	3	
Animal postoperative recovery room	10	5	0.18	0.9	20	3	
Animal preparation rooms	10	5	0.18	0.9	20	3	
Animal procedure room	10	5	0.18	0.9	20	3	
Animal surgery scrub	10	5	0.18	0.9	20	3	
Large-animal holding room	10	5	0.18	0.9	20	3	
Necropsy	10	5	0.18	0.9	20	3	
Small-animal-cage room (static cages)	10	5	0.18	0.9	20	3	
Small-animal-cage room (ventilated cages)	10	5	0.18	0.9	20	3	
Correctional Facilities							
Booking/waiting	7.5	3.8	0.06	0.3	50	2	
Cell	5	2.5	0.12	0.6	25	2	
Dayroom	5	2.5	0.06	0.3	30	1	
Guard stations	5	2.5	0.06	0.3	15	1	
Educational Facilities							
Art classroom	10	5	0.18	0.9	20	2	
Classrooms (ages 5 to 8)	10	5	0.12	0.6	25	1	
Classrooms (age 9 plus)	10	5	0.12	0.6	35	1	
Computer lab	10	5	0.12	0.6	25	1	
Daycare sickroom	10	5	0.18	0.9	25	3	
Daycare (through age 4)	10	5	0.18	0.9	25	2	
Lecture classroom	7.5	3.8	0.06	0.3	65	1	✓
Lecture hall (fixed seats)	7.5	3.8	0.06	0.3	150	1	✓
Libraries	5	2.5	0.12	0.6	10		
Media center	10	5	0.12	0.6	25	1	
Multiuse assembly	7.5	3.8	0.06	0.3	100	1	✓
Music/theater/dance	10	5	0.06	0.3	35	1	✓
Science laboratories	10	5	0.18	0.9	25	2	

a. Outpatient facilities to which the rates apply are freestanding birth centers, urgent care centers, neighborhood clinics and physicians offices, Class 1 imaging facilities, outpatient psychiatric facilities, outpatient rehabilitation facilities, and outpatient dental facilities.

b. The requirements of this table provide for acceptable IAQ. The requirements of this table do not address the airborne transmission of airborne viruses, bacteria, and other infectious contagions.

Informative Note: These rates are intended only for outpatient dental clinics where the amount of nitrous oxide is limited. They are not intended for dental operatories in institutional buildings where nitrous oxide is piped.

Table 6-1 Minimum Ventilation Rates in Breathing Zone (Continued)

Occupancy Category	People Outdoor Air Rate R_p		Area Outdoor Air Rate R_a		Default Values		Air Class	OS (6.2.6.1.4)
	cfm/person	L/s-person	cfm/ft ²	L/s-m ²	Occupant Density			
					#/1000 ft ² or #/100 m ²			
Educational Facilities (continued)								
University/college laboratories	10	5	0.18	0.9	25		2	
Wood/metal shop	10	5	0.18	0.9	20		2	
Food and Beverage Service								
Bars, cocktail lounges	7.5	3.8	0.18	0.9	100		2	
Cafeteria/fast-food dining	7.5	3.8	0.18	0.9	100		2	
Kitchen (cooking)	7.5	3.8	0.12	0.6	20		2	
Restaurant dining rooms	7.5	3.8	0.18	0.9	70		2	
Food and Beverage Service, General								
Break rooms	5	2.5	0.06	0.3	25		1	✓
Coffee stations	5	2.5	0.06	0.3	20		1	✓
Conference/meeting	5	2.5	0.06	0.3	50		1	✓
Corridors	—	—	0.06	0.3	—		1	✓
Occupiable storage rooms for liquids or gels	5	2.5	0.12	0.6	2		2	
Hotels, Motels, Resorts, Dormitories								
Barracks sleeping areas	5	2.5	0.06	0.3	20		1	✓
Bedroom/living room	5	2.5	0.06	0.3	10		1	✓
Laundry rooms, central	5	2.5	0.12	0.6	10		2	
Laundry rooms within dwelling units	5	2.5	0.12	0.6	10		1	
Lobbies/prefunction	7.5	3.8	0.06	0.3	30		1	✓
Multipurpose assembly	5	2.5	0.06	0.3	120		1	✓
Miscellaneous Spaces								
Banks or bank lobbies	7.5	3.8	0.06	0.3	15		1	✓
Bank vaults/safe deposit	5	2.5	0.06	0.3	5		2	✓
Computer (not printing)	5	2.5	0.06	0.3	4		1	✓
Freezer and refrigerated spaces (<50°F [10°C])	10	5	0	0	0		2	
Manufacturing where hazardous materials are not used	10	5.0	0.18	0.9	7		2	
Manufacturing where hazardous materials are used (excludes heavy industrial and chemical processes)	10	5.0	0.18	0.9	7		3	
Pharmacy (prep. area)	5	2.5	0.18	0.9	10		2	
Photo studios	5	2.5	0.12	0.6	10		1	
Shipping/receiving	10	5	0.12	0.6	2		2	

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b. The requirements of this table provide for acceptable IAQ. The requirements of this table do not address the airborne transmission of airborne viruses, bacteria, and other infectious contagions.

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Table 6-1 Minimum Ventilation Rates in Breathing Zone (Continued)

Occupancy Category	People Outdoor Air Rate R_p		Area Outdoor Air Rate R_a		Default Values		Air Class	OS (6.2.6.1.4)
	cfm/person	L/s-person	cfm/ft ²	L/s-m ²	Occupant Density			
					#/1000 ft ² or #/100 m ²			
Miscellaneous Spaces (continued)								
Sorting, packing, light assembly	7.5	3.8	0.12	0.6	7		2	
Telephone closets	—	—	0.00	0.0	—		1	
Transportation waiting	7.5	3.8	0.06	0.3	100		1	✓
Warehouses	10	5	0.06	0.3	—		2	
Office Buildings								
Breakrooms	5	2.5	0.12	0.6	50		1	
Main entry lobbies	5	2.5	0.06	0.3	10		1	✓
Occupiable storage rooms for dry materials	5	2.5	0.06	0.3	2		1	
Office space	5	2.5	0.06	0.3	5		1	✓
Reception areas	5	2.5	0.06	0.3	30		1	✓
Telephone/data entry	5	2.5	0.06	0.3	60		1	✓
Outpatient Health Care Facilities ^{a,b}								
Birth room	10	5	0.18	0.9	15		2	
Class 1 imaging rooms	5	2.5	0.12	0.6	5		1	
Dental operatory	10	5	0.18	0.9	20		1	
General examination room	7.5	3.8	0.12	0.6	20		1	
Other dental treatment areas	5	2.5	0.06	0.3	5		1	
Physical therapy exercise area	20	10	0.18	0.9	7		2	
Physical therapy individual room	10	5	0.06	0.3	20		1	
Physical therapeutic pool area	—	—	0.48	2.4	—		2	
Prosthetics and orthotics room	10	5	0.18	0.9	20		1	
Psychiatric consultation room	5	2.5	0.06	0.3	20		1	
Psychiatric examination room	5	2.5	0.06	0.3	20		1	
Psychiatric group room	5	2.5	0.06	0.3	50		1	
Psychiatric seclusion room	10	5	0.06	0.3	5		1	
Speech therapy room	5	2.5	0.06	0.3	20		1	
Urgent care examination room	7.5	3.8	0.12	0.6	20		1	
Urgent care observation room	5	2.5	0.06	0.3	20		1	
Urgent care treatment room	7.5	3.8	0.18	0.9	20		1	
Urgent care triage room	10	5	0.18	0.9	20		1	

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Table 6-1 Minimum Ventilation Rates in Breathing Zone (Continued)

Occupancy Category	People Outdoor Air Rate R_p		Area Outdoor Air Rate R_a		Default Values		Air Class	OS (6.2.6.1.4)
	cfm/person	L/s-person	cfm/ft ²	L/s-m ²	Occupant Density			
					#/1000 ft ² or #/100 m ²			
Public Assembly Spaces								
Auditorium seating area	5	2.5	0.06	0.3	150		1	✓
Courtrooms	5	2.5	0.06	0.3	70		1	✓
Legislative chambers	5	2.5	0.06	0.3	50		1	✓
Libraries	5	2.5	0.12	0.6	10		1	
Lobbies	5	2.5	0.06	0.3	150		1	✓
Museums (children's)	7.5	3.8	0.12	0.6	40		1	
Museums/galleries	7.5	3.8	0.06	0.3	40		1	✓
Places of religious worship	5	2.5	0.06	0.3	120		1	✓
Retail								
Sales (except as below)	7.5	3.8	0.12	0.6	15		2	
Barbershop	7.5	3.8	0.06	0.3	25		2	✓
Beauty and nail salons	20	10	0.12	0.6	25		2	
Coin-operated laundries	7.5	3.8	0.12	0.6	20		2	
Mall common areas	7.5	3.8	0.06	0.3	40		1	✓
Pet shops (animal areas)	7.5	3.8	0.18	0.9	10		2	
Supermarket	7.5	3.8	0.06	0.3	8		1	✓
Sports and Entertainment								
Bowling alley (seating)	10	5	0.12	0.6	40		1	
Disco/dance floors	20	10	0.06	0.3	100		2	✓
Gambling casinos	7.5	3.8	0.18	0.9	120		1	
Game arcades	7.5	3.8	0.18	0.9	20		1	
Gym, sports arena (play area)	20	10	0.18	0.9	7		2	
Health club/aerobics room	20	10	0.06	0.3	40		2	
Health club/weight rooms	20	10	0.06	0.3	10		2	
Spectator areas	7.5	3.8	0.06	0.3	150		1	✓
Stages, studios	10	5	0.06	0.3	70		1	✓
Swimming (pool and deck)	—	—	0.48	2.4	—		2	
Transient Residential								
Common corridors	—	—	0.06	0.3			1	✓
Dwelling unit	5	2.5	0.06	0.3	F		1	✓

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