

Healthy Green Schools & Colleges™ Pilot Standard for K-12 School Districts and Higher Education Institutions

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Healthy Green Schools & Colleges Standard

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Section 1: Getting Started

1.1 Healthy Green Schools & Colleges Minimum Certification Criteria (Required)

Complete all the items on the Healthy Green Schools & Colleges Minimum Certification Criteria list¹.

1.2 Plan Development (Required)

Create a written, institution-level Facility Operations and Maintenance Plan, soliciting input from representatives of, at minimum, the following stakeholder groups:

- custodial,
- maintenance,
- grounds,
- handler for contracted services,
- site-level administrator,
- employee and/or teacher union representatives, and
- Equity-Based Representative Sample (Appendix 2) of students or parents.

The Facility Operations and Maintenance Plan must include the following:

- standard operating procedures related to healthy, safe, sustainable, and equitable operations and maintenance across the institution,
- schedules for routine and periodic cleaning operations, and
- alternative procedures or schedules in specific buildings across the institution.

¹ https://www.healthygreenschools.org/about/standard/minimum-certification-criteria/

Section 2: Procurement of Facility Operations and Maintenance Products

Purchase *environmentally preferable products*, as described in Sections 2.1–2.3. Products must be purchased during the *performance period* to contribute toward meeting the criteria.

Where federal, state, local, or tribal regulations also apply, comply with the most stringent requirement.

2.1 Consumable Goods (8 points)

At the institution level, purchase environmentally preferable consumable goods during the *performance period*. Points are awarded according to the following table.

Points for Green Consumable Goods

Percentage of Purchases (by Cost)	Points
25	Required for all projects
50	2
70	4
85+	8

Consumable goods include the following categories:

- general-purpose cleaning products,
- sanitizing and disinfecting products,
- specialty cleaning products,
- hand soaps and alcohol-based hand sanitizers,
- laundry care products,
- sanitary paper products,
- printing and writing paper,
- disposable menstrual products,
- trash, recycling, and composting can liners,
- paints, coatings, stains, and sealers, and
- ice melt and snow and ice removal products.

For all categories, purchase products that meet the criteria listed in the following table. See Appendix 3, Approved Third-Party Certifications for Consumable Goods Purchasing, for other approved programs.

Environmentally Preferable Purchasing Criteria for Consumable Goods

Product	Criteria
General-purpose cleaning products, including all-purpose cleaners and degreasers bathroom cleaners and deodorizers (includes hard surface, toilet, and urinal) glass, mirror, and window cleaners carpet, rug, and upholstery cleaners (includes routine and spot-cleaning products) floor cleaners, strippers, sealers, and finishes	Select products certified to Green Seal or other approved program
Sanitizing and disinfecting products	Select products that meet all requirements in 2.1.1
Specialty cleaning products, including	Select products certified to Green Seal or other approved program
Hand soaps and alcohol-based hand sanitizing products	Select products certified to Green Seal or other approved program
Laundry care products	Select products certified to Green Seal or other approved program
Sanitary paper products, including	Select products certified to Green Seal or other approved program
Printing and writing paper	Select products certified to Green Seal or other approved program
Disposable menstrual products	Select products that are free of colored dyes and are fragrance-free, or that comply with International Fragrance Association's (IFRA) safety standards
Trash, recycling, and composting can liners	Select products that contain minimum 30% postconsumer recycled content

Paints, coatings, stains, and sealers	Select products certified to Green Seal GS-11 Edition 4.0, or other approved program
Ice melt and snow and ice removal products	Select products that do not contain chloride, sodium chloride, magnesium chloride, potassium chloride, or calcium chloride

2.1.1 Sanitizing and Disinfecting Products

Purchase *sanitizers* and *disinfectants*, including antimicrobial mold and mildew cleaners, that meet the following requirements.

2.1.1.1 DfE-Certified Disinfectants

Products carry the Design for the Environment (DfE) label and contain only the following active ingredients:

- hydrogen peroxide,**
- citric acid.
- lactic acid,
- ethanol,
- isopropyl alcohol,
- peroxyacetic acid,**
- sodium bisulfate, and/or
- additional antimicrobial active ingredients approved by U.S. Environmental Protection Agency (EPA) for the Design for the Environment for Pesticides program.

OR

2.1.1.2 Alternative Allowable Active Ingredients

Products or product additives contain only the following active ingredients:

- hypochlorous acid (sold off the shelf or device-generated on-site), or
- aqueous ozone (device-generated on-site).

AND

2.1.1.3 Prohibited Active Ingredients

No products shall contain any of the following active ingredients:

- quaternary ammonium compounds ("quats"),
- sodium hypochlorite (i.e., chlorine bleach),
- phenols (e.g., phenol, o-Benzyl-p-chlorophenol, o-Phenylphenol, chloroxylenol), or
- glutaraldehyde.

^{**}The combination of hydrogen peroxide and peroxyacetic acid is a designated asthmagen, so avoid products that contain both.

2.2 Durable Goods (4 points)

At the institution level, purchase environmentally preferable durable goods during the *performance period*. Points are awarded according to the following table.

Points for Green Durable Goods

Percentage of Purchases (by Cost)	Points
25	Required for all projects
50	2
70	3
85+	4

Durable goods include the following categories:

- receptacles and dispensers,
- water softeners for drinking fountains,
- on-site electricity generators,
- hand dryers and paper towel dispensers,
- floor cleaning tools and accessories,
- cleaning cloths,
- tools,
- filters, and
- stand alone air filtration units.

For all categories, purchase products that are certified to Green Seal (when available) or meet the criteria listed in the following table.

Environmentally Preferable Purchasing Criteria for Durable Goods

Product	Criteria
Receptacles and dispensers, including restroom menstrual product receptacles paper product dispensers	Select touch-free systems that comply with Americans with Disabilities Act (ADA)
Water softeners for drinking fountains	Select metered water softeners
On-site electricity generators	Select U.S. EPA Energy Star–certified products
Hand dryers and paper towel dispensers	Select low-energy, touch-free systems
Floor-cleaning tools and accessories, including	Select products certified to Green Seal or other approved program or are made from reusable microfiber

Cleaning cloths	Select microfiber cleaning cloths
Tools	Select ergonomic tools
Powered equipment filters	Select highest-efficiency filter that equipment will support, as described in manufacturer's filtration specifications
Stand-alone air filtration units	Select multi-filtration air filtration units that can provide 4 air changes per hour, properly sized for square footage of space where they are used. When possible, select lowest-decibel unit that meets air change requirement, or provide written justification for not doing so.

2.3 Powered Equipment (4 points)

At the institution level, purchase environmentally preferable powered equipment during the *performance period*. Points are awarded according to the following table.

Points for Green Powered Equipment

Percentage of Purchases (by Cost)	Points
25	Required for all projects
50	2
70	3
85+	4

Powered equipment includes the following categories:

- vacuum cleaners,
- carpet extraction equipment,
- electric-powered floor maintenance equipment,
- propane-powered floor maintenance equipment, and
- outdoor groundskeeping equipment.

For all categories, purchase products that meet the criteria listed in the following table.

Environmentally Preferable Purchasing Criteria for Powered Equipment

Product	Criteria
Vacuum cleaners	Select equipment certified to Carpet and Rug Institute Seal of Approval/Green Label vacuum program and operate at sound level below 70 decibels (dBA). Document efforts to purchase lightweight, self-propelled, <i>ergonomic</i> equipment.

Carpet extraction equipment	Select equipment certified to Carpet and Rug Institute Bronze Seal of Approval or higher. Document efforts to purchase lightweight, self- propelled, <i>ergonomic</i> , and (if appropriate) low-water- use equipment.
Electric-powered floor maintenance equipment	Select equipment that operates at sound level below 70 dBA. Document efforts to purchase lightweight, self-propelled, <i>ergonomic</i> , and (if appropriate) lowwater-use equipment.
Propane-powered floor maintenance equipment	Select equipment certified for low emissions by California Air Resources Board (Small Off-Road Engines or Equipment program) and are equipped with catalytic and exhaust monitoring. Document efforts to purchase lightweight, self-propelled, ergonomic, and (if appropriate) low-water-use equipment.
Outdoor groundskeeping equipment	Document efforts to purchase lightweight, self-propelled, <i>ergonomic</i> , and (if appropriate) low-water-use equipment.

Section 3: Facilities Operations and Maintenance

3.1 Facility Cleaning (8 points)

In the Facility Operations and Maintenance Plan, create standard operating procedures, to be implemented in all buildings, that cover the following activities:

- cleaning by hand (Section 3.1.1),
- sanitizing (Section 3.1.2),
- disinfecting (Section 3.1.3), and
- cleaning with powered equipment (Section 3.1.4).

Where federal, state, local, or tribal regulations also apply, comply with the most stringent requirement.

3.1.1 Cleaning by Hand (2 points)

Include the following requirements in the standard operating procedures:

- Require all employees to wear proper personal protective equipment (PPE) when cleaning by hand, unless the cleaning product's safety data sheet (SDS) states that no PPE is required.
- Ensure that the cleaning methods avoid damage to surfaces.
- Follow the label directions when spray bottles are necessary for product application.
- Determine and describe the scenarios where reusable cleaning cloths must be used.
- Clean high-touch surfaces at least once per day, or more frequently as needed.
- Provide requirements for the tracking system used to verify daily cleaning of high-touch surfaces.
- For the personnel implementing each task, provide instructions in their preferred languages.

3.1.2 Sanitizing (2 points)

Include the following requirements in the standard operating procedures:

- Require all employees to wear proper PPE when conducting *sanitizing* tasks.
- Follow label directions for safe use of *sanitizing* products that are subject to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).
- For the personnel implementing each task, provide instructions in their preferred languages.

3.1.3 Disinfecting (2 points)

- Using guidelines of the U.S. Centers for Disease Control and Prevention (CDC),² determine and describe when *disinfection* is needed and how to *disinfect* safely.
- Follow product label directions for preparing and using *disinfecting* solutions.
- Require all employees to wear proper PPE and safely dispose of materials and supplies after use.
- Disinfect high-touch surfaces at least once per day, or more frequently as needed.
- Provide requirements for the tracking system used to verify daily *disinfection* of *high-touch surfaces*.
- Use only approved *disinfectants*, in compliance with the district's procurement policy. In instances where a noncompliant product may be required, document the specific situation and reason for using a noncompliant product.
- For the personnel implementing each task, provide instructions in their preferred languages.

3.1.4 Cleaning with Powered Equipment (2 points)

Include the following requirements in the standard operating procedures:

- Ensure that backpack equipment models (e.g., backpack vacuums, blowers, electrostatic sprayers) have *ergonomic* harnesses and are properly fitted.
- Follow manufacturer's recommendations for powered equipment battery maintenance, storage, and charging.
- Require staff to wear appropriate PPE when checking acid batteries.
- Inspect vacuum bags or canisters after every two hours of use. Replace bags or empty canisters when half full or as indicated by a bag sensor.
- For the personnel implementing each task, provide instructions in their preferred languages.

3.2 Location-Specific Cleaning Requirements (12 points)

In the Facility Operations and Maintenance Plan, create standard operating procedures, to be implemented in all buildings, that cover the following activities:

- food service, dining areas, and break rooms (Section 3.2.1),
- restrooms (Section 3.2.2),
- laundry (Section 3.2.3),
- entryways (Section 3.2.4),
- laboratories (Section 3.2.5), and
- outdoor surfaces (Section 3.2.6).

3.2.1 Food Service, Dining Areas, and Break Rooms (3 points)

3.2.1.1 Cleaning and Sanitizing (1 point)

² https://www.cdc.gov/coronavirus/2019-ncov/community/disinfecting-building-facility.html

- Clean and sanitize surfaces in food preparation and consumption areas, areas touched by hands, and containers used for food waste at least daily, and more frequently as needed.
- Empty waste containers once per day and when full.

3.2.1.2 ATP Monitoring (2 points)

At least monthly, implement adenosine triphosphate (ATP) monitoring for food preparation surfaces. Provide written justification for any food preparation surfaces excluded from monthly monitoring.

3.2.2 Restrooms (3 points)

3.2.2.1 Supply Labeling and Cleaning Procedures (1 point)

Include the following requirements in the standard operating procedures:

- List the equipment and cleaning supplies that must be used to comply with this standard and each school's restroom needs.
- Clearly label the equipment used for restroom cleaning (e.g., with a permanent marker or by color) as designated for restroom-only cleaning. Use color coding to ensure that cloths used on toilets and urinals are not used on other surfaces.
- Store designated restroom-cleaning equipment separately from other cleaning equipment and maintain a written list of this equipment and where it is located.
- Conduct restroom cleaning from high to low, toward the doorway, with dry cleaning tasks performed before wet cleaning operations.
- Clean and *disinfect* surfaces where pathogens can collect and surfaces touched by hands daily, or more frequently in the event of high traffic or high occupancy.
- Remove standing moisture from floors and restroom surfaces.
- Pull bathroom trash liners and *disinfect* trash receptacles, including stall menstrual waste receptacles, at least once per day.

3.2.2.2 Maintaining Drain Traps (1 point)

Provide adequate water deposits or primer liquids to effectively maintain the drain traps. Identify and determine a maintenance procedure for any drain that does not receive regular wet cleaning.

3.2.2.3 Daily Logging (1 point)

Track and log daily cleaning activities for *high-touch surfaces* (e.g., doorknobs, handles, in-stall handrails).

3.2.3 Laundry (2 points)

3.2.3.1 Laundry Handling (1 point)

Include the following requirements in the standard operating procedures:

- Use the appropriate water temperature setting and dry items completely.
- Wear gloves and a mask if handling dirty laundry from a person who is sick.
- Clean clothes hampers and laundry baskets after they have held dirty laundry.
- Wash hands after handling dirty laundry.

3.2.3.2 Detergent Dispensing (1 point)

Use an automated detergent-dispensing system in all laundry care areas.

3.2.4 Entryways (2 points)

Include the following requirements in the standard operating procedures:

- Clean outside entryways daily.
- Place walk-off matting at all building entryways, with 6–10 feet of scraper or wiper matting, followed by 6–10 feet of wiper matting.
- Vacuum matting daily, or as needed to prevent contaminants from being tracked into the building.
- Evaluate matting regularly to ensure that it stays in place during periods of high foot traffic, and inspect it for bunching and curled edges.
- Replace worn or heavily used matting as needed.

3.2.5 Laboratories (1 point)

Include the following requirements in the standard operating procedures:

- Before entry, don PPE appropriate to the activities in the lab.
- Focus cleaning activities on the floors and *high-touch surfaces* (e.g., door handles); avoid disturbing experiments and chemicals on benchtops.
- Ask the lab owner or manager to clean and *disinfect* test surfaces between experiments.

3.2.6 Outdoor Surfaces (1 point)

Include the following requirements in the standard operating procedures:

- Clean *high-touch* plastic or metal surfaces (e.g., grab bars, play structures, railings) according to the specified schedule.
- Do not spray cleaning products or *disinfectants* on outdoor surfaces (e.g., sidewalks, roads, mulch, sand) or attempt to *disinfect* wood surfaces (e.g., wood play structures, benches, tables), except in cases of an accident or the presence of bodily fluids.

3.3 Floor Maintenance (2 points)

In the Facility Operations and Maintenance Plan, create standard operating procedures, to be implemented in all buildings, that cover the following activities:

- routine floor maintenance (Section 3.3.1), and
- periodic or restorative floor maintenance (Section 3.3.2).

3.3.1 Routine Floor Maintenance (1 point)

- Vacuum floors or use mops with mop heads that are certified to Green Seal or other approved program, or are reusable microfiber mop heads.
- Schedule daily cleaning for heavy-traffic areas (e.g., entrances, corridors, break areas, congested areas, main passageways, primary work or office areas).
- Vacuum or mop as necessary to clean light-traffic areas (e.g., conference rooms, administrative offices, auditoriums, media centers, limited-access areas, other areas or spaces with limited or periodic use).

3.3.2 Periodic or Restorative Floor Maintenance (1 point)

Include the following requirements in the standard operating procedures:

- Perform restoration only when needed, rather than on a predetermined schedule.
- Schedule floor stripping and refinishing during periods of minimum occupancy.
- Provide reasonable notice to building occupants before nonroutine floor maintenance operations. Establish the timing and method of the notice in consultation with building management.
- Ensure that sufficient floor finish exists on the floor surface, to avoid damage to the flooring.
- Avoid spraying floor restoration chemicals.
- Use burnishing or buffing equipment that captures the dust generated by the equipment.
- Ventilate the area to the outside if possible, both during and after floor stripping, scrubbing, or recoating.

3.4 Carpet Cleaning and Maintenance (2 points)

In the Facility Operations and Maintenance Plan, create standard operating procedures, to be implemented in all buildings, that cover the following activities:

- routine carpet maintenance (Section 3.4.1), and
- interim or restorative carpet cleaning (Section 3.4.2).

3.4.1 Routine Carpet Maintenance (1 point)

Include the following requirements in the standard operating procedures:

- Schedule daily vacuuming for heavy-traffic areas (e.g., entrances, corridors, break areas, congested areas, main passageways, primary work or office areas).
- Schedule periodic vacuuming for light-traffic areas (e.g., conference rooms, administrative offices, auditoriums, media centers, limited-access areas, other areas or spaces with limited or periodic use).

3.4.2 Interim or Restorative Carpet Cleaning (1 point)

- Provide reasonable notice to building occupants before interim or restorative carpet cleaning operations.
- Perform carpet extraction only as needed rather than on a regular schedule. When carpet extraction is necessary, schedule extraction during periods of minimum occupancy.
- Clean carpets such that they will dry in less than four hours.
- Limit workers' exposure to dust and particulate matter from vacuum cleaners when cleaning and replacing bags and filters.
- Do not use propane-powered equipment indoors when the building is occupied.

 Provide the maximum air circulation and exchange possible when using propanepowered equipment indoors.

3.5 Waste, Recycling, and Composting Handling (5 points)

In the Facility Operations and Maintenance Plan, create standard operating procedures, to be implemented in all buildings, that cover the following activities:

- trash and recycling storage (Section 3.5.1),
- trash, recycling, and compost collection (Section 3.5.2), and
- communication (Section 3.5.3).

3.5.1 Trash and Recycling Storage (1 point)

Include the following requirements in the standard operating procedures:

- Dispose of trash outside, in covered containers, away from the immediate exterior of the building.
- Store all recyclable waste items in separate recycling containers.

3.5.2 Trash, Recycling, and Compost Collection (3 points)

3.5.2.1 Trash Collection (1 point)

Include the following requirements in the standard operating procedures:

- Ensure that the trash stations are marked clearly, and use uniform color and signage to distinguish trash bins from recycling containers.
- Label bins with both text and images to ensure that occupants know what items are allowed.
- Remove trash and replace liners daily if possible, or when liners are ripped or soiled from wet trash or food.
- Dispose of all trash before weekends and holidays.
- Ensure that personnel have tools (e.g., reachers) that allow for safe and *ergonomic* work.

3.5.2.2 Recycling Collection (1 point)

- Ensure that the recycling stations are marked clearly, and use uniform color and signage to distinguish recycling bins from trash containers.
- Label recycle bins with both text and images to ensure that occupants know what materials can be recycled.
- Use restrictive openings to control what can be placed inside.
- Inspect recycling areas daily, including collection bins, and clean them if needed.
- Remove recyclable food and beverage containers from the building before weekends and holidays.
- Determine, together with facility management, the following:
 - o procedures for rinsing and separating recyclables,

- locations and procedures for collecting recyclables, and
- o making recycling stations convenient to access.
- Periodically review the status of the recycling program, including effectiveness and any problems with the separation or collection of recyclable materials.

3.5.2.3 Compost Collection (1 point)

Include the following requirements in the standard operating procedures:

- Ensure that compost stations are marked clearly, and use uniform color and signage to distinguish composting bins from trash and recycling containers.
- Label compost bins with both text and images to ensure that occupants know what materials can be composted.
- Use restrictive openings to control what can be placed inside.
- Empty food compost containers daily, or as needed.
- Empty paper towel compost once a week.

3.5.3 Communication (1 point)

Include the following requirements in the standard operating procedures:

- Display easy-to-understand instructional signage at all waste collection stations.
- Provide education and outreach to the community to engage people in waste diversion action.

3.6 Material Handling and Storage (5 points)

In the Facility Operations and Maintenance Plan, create standard operating procedures, to be implemented in all buildings, that cover the following activities:

- proper material handling and storage practices (Section 3.6.1),
- chemical use policy (Section 3.6.2),
- spill kits (Section 3.6.3),
- dilution control (Section 3.6.4), and
- closed dilution control system (Section 3.6.5).

3.6.1 Proper Material Handling and Storage Practices (1 point)

Include the following requirements in the standard operating procedures:

- appropriate ventilation, security, safety, and management of each storage area for cleaning products,
- labeling of hand-held spray bottles and stored chemicals,
- protocols for wearing proper PPE, per product SDS, when handling chemicals,
- posting of the chemical inventory in the storage area to track supplies,
- easily understood directions, in the preferred languages of cleaning staff, for dilution of cleaning products, proper rinsing of containers, and appropriate disposal of leftover products and containers, and
- location of product SDSs, which should be readily available to staff.

3.6.2 Chemical Use Policy (1 point)

Implement a first-in, first-out chemical usage policy, detailed in the standard operating procedures. The policy should cover, at minimum, the following:

- chemicals approved for purchase,
- procedures for labeling, dating, and inspecting materials when they are received,
- recordkeeping for date of receipt,
- use of old stock of chemicals first,
- labeling of chemicals with a "date opened" sticker to track first use,
- inventorying of materials, and
- disposal procedures for expired chemicals and damaged product containers.

3.6.3 Spill Kits (1 point)

Create a spill kit for any enclosed room where chemicals are stored. The kit must contain the following items, as necessary and appropriate:

- rags to wipe up small spills,
- container to hold spill debris,
- granular absorbent, absorbent pads, and broom,
- plastic dustpan and broom for sweeping up granular absorbent (for flammable materials, choose a spark-free dustpan),
- labels (e.g., hazardous waste stickers) to mark containers of spill debris,
- forceps, tongs, or other tools to pick up contaminated debris or broken glass,
- oil-absorbent brooms,
- pump to empty leaking drums, as well as plugs and patching materials for drums,
- written chemical spill kit procedures and instructions, in the preferred languages of the staff.
- basic first-aid kit,
- calcium gluconate gel (2.5%) for skin contact with hydrofluoric acid, and
- isopropanol, polyethylene glycol 300, or polyethylene glycol 400 for skin contact with chloroform or phenol.

3.6.4 Dilution Control (1 point)

Include the following in the standard operating procedures:

- process for diluting cleaning product concentrates using a dilution control system that limits workers' exposure, and
- process and frequency for periodic checks of the *dilution control* system to ensure that the proper chemical ratio is produced, via test strips, calibration of the dilution system, or other quantitative check.

3.6.5 Closed Dilution Control System (1 point)

For products with high toxicity when *concentrated*, include the following in the standard operating procedures:

- list of products with a high concentrated toxicity,
- process for safely using closed dilution control systems, and
- locations of closed *dilution control* systems.

3.7 Powered Equipment Maintenance (3 points)

In the Facility Operations and Maintenance Plan, create standard operating procedures, to be implemented in all buildings, that cover the following activities:

- general powered equipment maintenance (Section 3.7.1), and
- vacuum cleaner maintenance (Section 3.7.2).

3.7.1 General Powered Equipment Maintenance (2 points)

3.7.1.1 Standard Operating Procedures (1 point)

Include the following requirements in the standard operating procedures:

- Ensure that the equipment functions properly or is tagged out of service.
- Use equipment for its full service life.
- Use a maintenance log to record cleaning and repairs.
- Ensure that the equipment is cleaned of used products (e.g., oil).
- Store equipment properly, per manufacturer's recommendations.
- Establish a quarterly maintenance program to inspect and maintain all equipment, per manufacturer's recommendations.
- Maintain a list of recommended service life for equipment and develop a plan for the phase-out of equipment.

3.7.1.2 Battery Maintenance Schedule (1 point)

Establish and implement a battery maintenance schedule.

3.7.2 Vacuum Cleaner Maintenance (1 point)

Include the following requirements in the standard operating procedures:

- Equip vacuum cleaners with the proper filter or bag, and change or clean filters per manufacturer's recommendations.
- Limit workers' exposure to dust and particulate matter when cleaning and replacing bags and filters, as applicable.

3.8 Pest Management (3 points)

At the institution level, create and implement an integrated pest management plan using the Penn State Extension IPM for Pennsylvania Schools and Childcares How to Manual, or a locally required equivalent, whichever is more stringent.

Ensure that pest management workers and contractors are licensed.

Section 4: Building Systems Operations and Maintenance

4.1 Heating, Ventilation, and Air Conditioning (HVAC) Systems

4.1.1 Standard Operating Procedures (Required)

In the Facility Operations and Maintenance Plan, create written HVAC system maintenance standard operating procedures that include, at minimum, the following requirements:

- Regularly, or at least quarterly, inspect HVAC systems, using U.S. EPA Ventilation Checklist³ from Tools for Schools, to examine outdoor air intakes, system cleanliness, outdoor air supplies, air distribution, exhaust systems, and quality of outdoor air.
- At least quarterly, clean air supply diffusers, grilles, return registers, and outside air intakes to prevent contaminants from entering the system or spreading around the room.
- At least quarterly, inspect outside air intakes to ensure that they are working properly, with no standing water in the vicinity of the air intakes.
- At least quarterly, inspect the building automation system, dampers, actuators, and physical system components to ensure that they are working as designed.
- Establish and implement a written response plan that prioritizes issues based on their scope, urgency, and consequences for the safety, health, and wellness of building occupants.
- Create and implement an equipment replacement plan based on the expected lifetime of the equipment.

4.1.2 Systems Able to Meet Required Outdoor Air Inflow Rates (4 points)

Modify or maintain each outdoor air intake, supply air fan, and ventilation distribution system to meet the outdoor air intake flow rates and minimum requirements of ASHRAE Standard 62.1 applicable to the institution's location.

4.1.3 Systems Unable to Meet Required Outdoor Air Inflow Rates (3 points)

Where the existing HVAC system alone cannot achieve adequate ventilation and air exchange for the occupancy level, per CDC Ventilation in Schools and Childcare Programs guidelines, provide supplemental air-cleaning systems (e.g., standalone HEPA filtration units) for all classrooms and other areas of assembly.

³ https://www.epa.gov/iaq-schools/ventilation-checklist-indoor-air-quality-tools-schools

4.1.4 Air Filters (2 points)

Use air filters labeled for minimum MERV-13 in all HVAC systems.

4.1.5 Computerized Maintenance Management Systems (2 points)

Use a computerized maintenance management system (CMMS) for all maintenance operations.

4.2 Water and Plumbing Systems

In the Facility Operations and Maintenance Plan, create standard operating procedures, to be implemented in all buildings, that cover the following activities:

- new plumbing installations (Section 4.2.1),
- potable water testing (Section 4.2.2),
- water quality emergencies (Section 4.2.3),
- backflow and drainage maintenance (Section 4.2.4),
- cooling towers (Section 4.2.5), and
- dormant buildings (Section 4.2.6).

4.2.1 New Plumbing Installations (Required)

Establish a written maintenance plan that includes, at minimum, the following requirements:

- Ensure that any new plumbing is compliant with the Safe Drinking Water Act (NSF/ANSI 61 Annex G).
- Ensure that any solder used for plumbing providing drinking water is of 95/5 composition.

4.2.2 Potable Water Testing (2 points)

Establish a potable water testing protocol that follows U.S. EPA 3Ts for Reducing Lead in Drinking Water Toolkit.

4.2.3 Water Quality Emergencies (1 point)

Create a written action plan for emergency water quality problems.

4.2.4 Backflow and Drainage Maintenance (1 point)

Establish a maintenance protocol for backflow preventers, floor drains, and air gaps.

4.2.5 Cooling Towers (2 points)

Establish a water treatment protocol for all cooling towers. During the *performance period*, conduct a one-time potable water analysis of all cooling towers governed by the institution. Measure at least the following control parameters, and limit cooling tower cycles to avoid exceeding any of the maximum allowable concentrations listed.

Maximum Allowable Concentrations for Cooling Tower Control Parameters

Parameter	Maximum Concentration
Ca (as CaCO3)	1,000 ppm
Total alkalinity	1,000 ppm
SiO2	100 ppm
CI	250 ppm
Conductivity	2000 μS/cm

4.2.6 Dormant Buildings (1 point)

Establish a dormant buildings maintenance protocol that follows CDC guidance for restoration of service.

4.3 Sidewalk, Pavement, and Grounds Maintenance (4 points)

4.3.1 Site Management Plan (2 points)

At the institution level, create and implement a site management plan using the U.S. Green Building Council's Site Management Policy Template, 4 which covers the following:

- goals and performance measurement,
- schedule for reassessment,
- quality assurance and quality control processes,
- roles and responsibilities, and
- standard operating procedures and implementation strategies for
 - o maintenance equipment,
 - o snow and ice removal,
 - o erosion and sedimentation control,
 - o addition of organic matter mulch to planting areas,
 - o invasive and toxic species management,
 - o fertilizer usage,
 - o herbicide, pesticide, and fungicide usage and integrated pest management plan,
 - o irrigation using automatic controlled systems,
 - o irrigation management, and
 - o storage of materials and equipment.

Ensure that site management workers and contractors are licensed.

4.3.2 Hardscape and Pavement Maintenance (2 points)

Include the following requirements in the site management plan:

• At least monthly, monitor the condition of entryways, sidewalks, parking areas, and roadways and inspect for damage and disrepair.

⁴ https://www.usgbc.org/resources/v41-ssc-site-management-policy-template

•	As needed, replace cracked and sunken surfaces and fill potholes to reduce the potential for injuries.

Section 5. Monitoring and Evaluation

5.1 Indoor Air Quality Monitoring (15 points)

5.1.1 Carbon Dioxide (CO₂) Monitoring (Required)

K-12 School Districts

Monitor levels of CO₂ during times of regular occupancy, at least once per calendar quarter while school is in session and during the *performance period*, across a sample of buildings in the following building locations:

- cafeteria.
- gym,
- library, and
- two classrooms.

Points are awarded according to the following table.

Points for Percentage of Buildings Included in CO₂ Monitoring

Percentage Monitored	Points
10 percent (or 3 buildings, whichever is higher)	Required for all projects
25 percent	1
50 percent	2
100 percent	3

The buildings selected for monitoring must be an Equity-Based Representative Sample (Appendix 2).

At the institution level, create a written action plan for situations when CO₂ levels exceed 900 ppm. Document all instances of CO₂ levels in excess of 900 ppm during occupancy throughout the *performance period* identified through monitoring, and provide a summary of the remediation action implemented.

Higher Education Institutions

Establish and implement a plan to monitor CO₂ and specify the building spaces to be tested. Conduct testing at least once per quarter, including periods of regular occupancy, during the *performance period* across a sample of buildings. Points are awarded according to the following table.

Points for Percentage of Buildings Included in CO₂ Monitoring

Percentage Monitored	Points
10 percent (or 3 buildings, whichever is higher)	Required for all projects
25 percent	1
50 percent	2
100 percent	3

The buildings selected for monitoring must be an Equity-Based Representative Sample (Appendix 2).

At the institution level, create a written action plan for situations when CO₂ levels exceed 900 ppm. Document all instances of CO₂ levels in excess of 900 ppm during occupancy throughout the *performance period* identified through monitoring, and provide a summary of the remediation action implemented.

5.1.2 Ongoing Monitoring for Contaminants (3 points)

In all institution buildings, establish and implement a plan to monitor indoor air quality (IAQ), including monitoring frequency, contaminants to be monitored, acceptable levels, and building spaces tested. Monitor, at minimum, the following contaminants:

- CO₂,
- mold.
- mildew,
- total volatile organic compounds (VOCs) and formaldehyde,
- radon
- particulate matter (PM_{2.5} and/or PM₁₀),
- ozone, and
- other elements that affect IAQ, such as bus diesel exhaust, sewer gas, and natural gas venting.

Conduct air quality testing in each building at least once during the *performance period*. Document the results and remediation actions.

5.1.3 Action Planning to Address IAQ Issues (6 points)

Implement any of the following strategies, as appropriate, for contaminant monitoring and action planning in all buildings.

5.1.3.1 Mold, Moisture, and Humidity Control (1 point)

Create and implement an action plan for addressing mold and mildew consistent with U.S. EPA Tools for Schools, Appendix H, Mold and Moisture.

Monitor relative humidity to maintain industry-accepted standards, as described in U.S. EPA Tools for Schools.

5.1.3.2 Contaminant Reduction (2 points)

Create and implement an action plan for reducing radon, VOCs, formaldehyde, PM_{2.5} and/or

PM₁₀, ozone, and other elements that affect IAQ, such as bus diesel exhaust, sewer gas, and natural gas venting. Document the achieved reductions in contaminants during the *performance period*.

5.1.3.3 Building Occupant Interviews (1 point)

At least quarterly, interview building occupants in schools with frequent IAQ issues to help identify problem areas. Include the school nurse and other staff members who regularly engage with students and staff to identify any trends in health complaints.

5.1.3.4 Asbestos Management (1 point)

Develop and implement an Asbestos Hazard Emergency Response Act (AHERA) management plan for asbestos remediation.

5.1.3.5 Emergency IAQ Issues (1 point)

Create a written action plan for emergency air quality problems.

5.1.4 Reporting on IAQ Issues (3 points)

At least annually, report to the school community, at minimum, the following information:

- all IAQ issues found in each building through contaminant testing or reported by a building occupant,
- the scope and scale of the issues,
- remediation activities underway,
- the distribution of IAQ issues by school demographics,
- areas of disproportionate IAQ effect by school demographics, and
- any other relevant trends indicated by the data.

5.2 Performance Measurement, Metrics, and Data Tracking (2 points)

- Document the size and age of all buildings.
- Track the number of work orders written against the building inventory.
- Monitor work orders to ensure that all schools receive timely and equitable attention to maintenance and operations matters.
- Review, identify, and plan for improvements using data and trends identified through the IAQ and building system monitoring.

5.3 Staffing Formulas (1 point)

- Develop staffing formulas that take into consideration building size, occupant load, space usage, and any unique needs of student populations.
- Use staffing formulas when making staffing decisions.

5.4 Ongoing Training (4 points)

5.4.1. Annual Training for Cleaning Personnel (2 points)

Provide all cleaning personnel who have been on staff at least one year 24 or more hours of annual training, delivered through in-service, continuing education, or professional development, to maintain knowledge of correct procedures for safety, cleaning products, equipment, techniques, and relevant environmental standards. Points are awarded according to the following table.

Points for Hours of Annual Training for Cleaning Personnel

Hours	Points
12	1
24	2

Document requests for training accommodations (e.g., materials in a non-English language, transcripts or recordings of presentations) and the accommodations provided.

Maintain records for each staff member of all training required by this standard. Records must include the following:

- topics addressed in the training,
- general outline of information covered,
- name and qualifications of the trainer, and
- dates and duration of the training.

Retain the records for all training for the duration of each staff member's employment, and for one year after departure.

Within one month of annual training, use a pass-fail test or hands-on check with equipment to ensure that personnel understand and can successfully implement skills taught during onboarding training. Maintain a record of skills testing alongside other training records.

During the *performance period* and at least once every two years, conduct an evaluation of materials to check for relevance and appropriateness. Update materials as needed.

5.4.2 Cross-Departmental Training (1 point)

During the *performance period* and at least once per year, provide teachers, nurses, food service staff, maintenance and grounds staff, transportation personnel, and other relevant school personnel training on their roles and responsibilities in supporting the plan, promoting health and safety, and minimizing the spread of infectious disease.

Document requests for training accommodations (e.g., materials in a non-English language, transcripts or recordings of presentations) and the accommodations provided.

Maintain records for each staff member of all training required by this standard. Records must include the following:

- topics addressed in the training,
- general outline of information covered,
- name and qualifications of the trainer, and
- dates and duration of the training.

Retain the records for all training for the duration of each staff member's employment, and for one year after departure.

5.4.3 Procurement Training (1 point)

During the *performance period* and at least once per year, provide procurement staff training on selecting environmentally preferable cleaning products, materials, and equipment; understanding third-party product certifications; and soliciting cleaning personnel's assessment of the cleaning products.

Document requests for training accommodations (e.g., materials in a non-English language, transcripts or recordings of presentations) and the accommodations provided.

Maintain records for each staff member of all training required by this standard. Records must include the following:

- topics addressed in the training,
- general outline of information covered,
- name and qualifications of the trainer, and
- dates and duration of the training.

Retain the records for all training for the duration of each staff member's employment, and for one year after departure.

Appendix 1: Glossary

concentrate a product that must be substantially diluted with water before use. To comply with the requirements of Green Seal GS-37, glass, restroom, and carpet cleaners must be concentrated to at least 1:16; general-purpose cleaners must be concentrated to at least 1:32.

dilution control a procedure or formulation that achieves the proper mix of a concentrated product while limiting workers' exposure. Examples include tablets, dissolvable film pods, closed dilution systems, and premeasured pouches.

disinfect to destroy infectious microorganisms (bacteria, viruses, mold, mildew) present on hard surfaces.

disproportionate impact an outcome experienced by one subgroup that is substantially different (lower or higher) from the benchmark rate.

economic disadvantage an unfavorable status of wealth or resources. For the purposes of this standard, the percentage of students in a school who are eligible for free or reduced-price lunch (FRPL) under the National School Lunch Program (NSLP) is the most appropriate proxy measure for economic disadvantage.

environmentally preferable product a product certified as "green" based on the consequences for human health and safety, ecological toxicity, other environmental effects, and resource conservation, as appropriate, of the product and its packaging, on a life-cycle basis. The designation may come from a Type 1 (i.e., third-party) environmental label developed in accordance with the ISO 14024 Environmental Labeling Standard, or from an established, legitimate, nationally recognized program that has no financial interest or stake in sales of the product, or other conflict of interest. The designation must distinguish market leadership for the product category, and the criteria must be publicly available and transparent.

equity fairness and impartiality, such that one's identity has no influence on how one fares in society. In education, equity is a measure of achievement, fairness, and opportunity made possible by the educational institution's structure, policies, and practices.

ergonomic designed for human comfort, safety, and injury prevention during use. The word may apply to a product, tool, piece of equipment, furniture, or other accessory.

high-touch surface a surface that may be handled frequently. Examples include counters, tables, doorknobs, light switches, handles, stair rails, elevator buttons, desks, keyboards, phones, toilets, faucets, and sinks.

performance period the most recent period of operations preceding the certification application. It must be at least three months but no more than 12 months, unless noted otherwise in the standard requirements. All performance periods must overlap and conclude within 30 days of each other.

restorative carpet cleaning a procedure used when accumulated soils and cleaning residues need to be extracted to return the carpet to a relatively clean (free of unwanted matter) condition or when interim cleaning systems are not achieving desired results.

sanitize to reduce bacteria to levels specified by public health codes or regulations. *Note:* Sanitizing uses chemicals to kill bacteria on surfaces; it is not intended to kill viruses.

vulnerable population building occupants who are more susceptible than the general population to health risks that cleaning operations may pose.

Appendix 2: Equity-Based Representative Sample

Compliance with criteria 1.2 (Plan Development) and 5.1 (Indoor Air Quality Monitoring) require applicants to select a balanced sample of schools. Determine an Equity-Based Representative Sample through the steps that follow.

K-12 School Districts

Provide the following:

- 1. A data set of all schools in the district that includes student population and racial demographics from the current school year.
- 2. A list of all schools organized in descending order by the percentage of Black, Indigenous, and People of Color (BIPOC) students (combined) in each school.
- 3. The average percentage of BIPOC students in the district.
- 4. A list of the schools whose percentage of BIPOC students is +/- 10% of the district average.
- 5. The 20% of schools with the highest percentage of BIPOC students.
- 6. The 20% of schools with the lowest percentage of BIPOC students.
- 7. Repeat Steps 1–6, calculating the percentage of students who are *economically disadvantaged* (as defined in Appendix 1, Glossary).
- 8. A list of schools in each of the following three groups:
 - a. The 20% of schools with the highest percentage of BIPOC students AND the highest percentage of *economically disadvantaged* students.
 - b. Schools within +/- 10% of the district average percentage of BIPOC students AND within +/- 10% of the district average percentage of *economically disadvantaged* students.
 - c. The 20% of schools with the lowest percentage of BIPOC students AND the lowest percentage of *economically disadvantaged* students.
- 9. The total number and percentage of students in each of the three groups (Step 8).

The Equity-Based Representative Sample must include, at minimum, one school from each group (Steps 8a, 8b, and 8c).

In addition, any school, regardless of demographic or socioeconomic indicators, that has a *vulnerable population* more than 20 percent higher than the average *vulnerable population* size across all schools must be included in the Equity-Based Representative Sample.

For districts with 35 or more schools, the Equity-Based Representative Sample must include at least 10 percent of schools. Add schools to the sample as follows:

Sample Size and Composition, Based on School District Size

Additional School (Total Schools in District) Assigned Group	Additional School (Total Schools in District)	Assigned Group
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School #4 (35–44 schools)	Group 8a
School #5 (45–54 schools)	Group 8b
School #6 (55–64 schools)	Group 8c
School #7 (65-74 schools)	Group 8a
School #8 (75–84 schools)	Group 8b
School #9 (85–94 schools)	Group 8c
School #10 (95–104 schools)	Group 8a
School #11 (105–114 schools)	Group 8b
School #12 (115–124 schools)	Group 8c

Higher Education Institutions

List the buildings where students are regular occupants, by type: dormitory, lecture hall, dining hall, etc. Include in the Equity-Based Representative Sample an equal number of each building type, with no fewer than three or 10 percent (whichever is higher) of buildings in the sample.

Identify *equity* gaps at the institution through demographic and socioeconomic data disaggregation using a *disproportionate impact* method, such as the following:

- percentage point gap index,
- 80% rule index, or
- proportionality index.

For each *equity* gap identified, include in the sample any building where an identified group is disproportionately represented above the baseline. If no buildings have disproportionate representation of an identified group, ensure that the identified group is represented in the buildings selected for the sample.

In addition, any building, regardless of demographic or socioeconomic indicators, that has a *vulnerable population* more than 20 percent higher than the average *vulnerable population* size across all buildings must be included in the Equity-Based Representative Sample.

Appendix 3: Cleaning Personnel Training Curriculum

Safety Training

Provide cleaning personnel with safety training that covers, at minimum, the following topics:

- reducing and preventing ergonomic injuries,
- avoiding exposure to hazardous materials, including in chemistry laboratories,
- properly storing and disposing of hazardous materials,
- properly using and disposing of PPE,
- properly rinsing and disposing of leftover cleaning products and empty containers,
- safely using powered equipment,
- avoiding exposure to bloodborne pathogens, and
- preventing slips and falls.

Site-Specific Training

Provide cleaning personnel with site-specific training that covers, at minimum, the following topics:

- · cleaning procedures for their assigned facilities,
- the facility-specific cleaning plan,
- measures for protecting vulnerable populations, and
- communication protocols for hazardous events.

Appendix 4: Approved Third-Party Certifications for Consumable Goods Purchasing

Product Category	Approved Certification
General-purpose (all-purpose) cleaners and degreasers	 Green Seal Safer Choice UL Ecologo
Bathroom cleaners and deodorizers (includes hard surface, toilet, and urinal)	 Green Seal Safer Choice UL Ecologo
Glass, mirror, and window cleaners	 Green Seal Safer Choice UL Ecologo
Carpet, rug, and upholstery cleaners (includes routine and	Green Seal

spot-cleaning products)	Safer Choice
Floor care tools and accessories (mop heads)	Green Seal
Floor cleaners, strippers, sealers, and finishes	Green SealSafer Choice
Specialty cleaning products, including	Green SealSafer Choice
Hand soaps and alcohol-based hand sanitizing products	Hand soaps ■ Green Seal ■ UL Ecologo Alcohol-based hand sanitizing products ■ Green Seal
Laundry care products	Green Seal Safer Choice
Sanitary paper products, including	Green Seal UL Ecologo
Printing and writing paper products	Green Seal UL Ecologo
Paints, coatings, stains, and sealers	Green Seal, GS-11 Edition 4.0