

Green Cleaning Standard

Facilities Management and Planning

Carleton University

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Introduction

Objective

Carleton University is committed to green cleaning in all of the facilities on campus. As part of this initiative, the university has prepared a Green Cleaning Standard to ensure that present and future cleaning practices maintain a high degree of sustainability. The standard outlines proper sustainable training and procedures as well as certified products, chemicals and equipment. The standard is grouped into 5 categories: training, procedures, products, further standards and continued improvement. This can help create healthy high performance cleaning and a more productive indoor environment with fewer burdens to our natural resources.

Carleton University is partnered with DTZ for all cleaning on campus. DTZ has created a Green Cleaning Plan for the campus and Carleton University encourages that both the Standard and Plan be used in conjunction with each other. The purpose of this document is to present a framework that Carleton University's cleaning partnership, (DTZ) can follow and implement.

This cleaning standard was created to meet current industry best practices. New buildings on campus are required to input data and information in the Green Globes Energy and Environment Assessment for New Construction. Existing buildings must complete the APPA online assessment for campuses which measures the ongoing sustainability of each building and of the whole campus at Carleton University. This Standard will identify the credits corresponding to green cleaning. Other standards include the policies put in place by Green Seal, Environmental Choice, Ecologo and CRI's Green Label Program.

All the standards and guidelines will be upheld by all the management and custodial staff. This policy takes effect upon the occupancy of the facility and will be upheld indefinitely. This standard is also meant to evolve alongside best practices and other standards and policies as appropriate.

Roles and Responsibilities

DTZ and Carleton University are expected and encouraged to communicate regarding strategies, standards and plans for green cleaning. In the Green Cleaning Plan created by DTZ it states, "A good fit for our needs is to have two teams: one made up of senior management from both Carleton and DTZ and another team consisting of the implementation team."

Senior management team members would be:

- Carleton University – Manager of Maintenance Services (Team Leader)
- Carleton University Manager, Sustainability Programs
- DTZ – General Manager

Their responsibilities should include:

- Setting overall goals.
- Clearing organizational obstacles to facilitate implementation.
- Ensuring that the implementation team is meeting milestones.
- Communicating top management's commitment to the program.

Implementation team members would be:

- Carleton University – (to be determined).
- DTZ – Managers and Supervisors.

Their responsibilities should include:

- Creating action steps.
- Assigning resources.
- Defining milestones and timing.
- Developing and implementing communication plans.
- Ensuring that responsible parties complete their tasks.

TRAINING

A training program should be created by the cleaning contractor management team. The training program should address green cleaning procedures for cleaning supervisors and staff. The training is to ensure that staff understands the environment and health issues associated with cleaning products and equipment, as well as their specific responsibilities for application and adherence to standards. The program should cover hazards, use, maintenance, disposal and recycling of cleaning chemicals, and dispensing equipment and packaging. The program should also include strategies for promoting and improving hand hygiene, including both hand washing and the use of alcohol-based waterless hand sanitizers. Hand washing instructions will be posted in custodial closets that have sinks. Training should be updated to reflect current best practices. Below is a chart of performance metrics and targets in regards to sustainable cleaning training.

Item	Performance Indicator	Target
Staff training	Percentage of cleaning staff that are versed in the appropriate use of cleaning products before the first day of work or on the first day of employment.	100%

DTZ’s operational SOP26 ‘Training Plan’ details all training to be provided to cleaning staff, Lead Hands, Supervisors and Managers. DTZ is responsible for updating the training plan to reflect environmental standards and best practices.

Carleton University suggests the basic principles of green cleaning training should include, but is not limited to, the following items:

- Training on green cleaning procedures, equipment and products will take place before the first day of work or on the first day of employment.
- Indoor Air Quality: procedures for minimizing particles of dust and chemicals in the air. Application of chemicals to the cloth rather than spraying the surface to be cleaned.
- Proper use of the chemical management systems for accurate dilutions to maximize cleaning efficiency and minimize waste.
- Entryways: trapping and removing dirt and pollutants before they enter the building. Frequent cleaning of entrances and floor mats.
- HEPA filter bags: empty the equipment at the end of shifts or when they are half full.
- Proper vacuuming, extraction, rinsing and drying of carpet.

- Focus on cleaning touch points such as door knobs, handles, bright work, fixtures and any other common areas in the building where occupants come in contact.
- Proper application of disinfectant in restrooms by following the proper dwell time for chemical to work on the surface. Disinfect or remove any spots while using fewer products.
- Colour-code tools to ensure that pollutants do not get carried from one area to another.
- Preventing cross contamination by using the proper microfiber clothe codes:
 - Yellow microfiber cloth for dusting
 - Green/white microfiber for general purposes
 - Blue microfiber cloth for glass surfaces
 - Red/orange microfiber cloth for restrooms
- Preventing cross contamination by using the proper mop pad codes:
 - Yellow microfiber pads for finish remover
 - Green microfiber pads will be used dry
 - Blue microfiber pads will be used wet
 - White microfiber pads for finish applicator

PROCEDURES

Below is an outline of common cleaning procedures used throughout the Carleton University campus. The next section outlines the products used to complete these procedures. Each section gives a general description and then highlights procedures or products as well as standards associated. Procedures include inspection, actual cleaning, storage and waste.

Inspections - APPA Level of Cleaning

An audit or inspection of cleanliness of spaces should occur randomly, but often. No advance notice should be given to occupants or cleaning staff. This will ensure that spaces are adequately cleaned and maintained. The APPA (Association of Physical Plant Administration) Scoring System will be used. Managers and/or supervisors will conduct routine inspection and maintain records of inspection results and the corrective actions. All spaces should maintain at least a Level 2 designation. The various levels are:

Level 1 – Orderly Spotlessness

- Floors and base moldings shine and/or are bright and clean; colours are fresh. There is no buildup in corners or along walls.
- All vertical and horizontal surfaces have a freshly cleaned or polished appearance and have no accumulation of dust, dirt, marks, streaks, smudges or fingerprints.
- Washroom and shower tile and fixtures gleam and are odor free. Supplies are adequate.
- Trash containers and pencil sharpeners are empty, clean and odor-free.

Level 2 – Ordinary Tidiness

- Floors and base moldings shine and/or are bright and clean. There is no buildup in corners or along walls, but there can be up to two days' worth of dirt, dust, stains or streaks.
- All vertical and horizontal surfaces are clean, but marks, dust, smudges and fingerprints are noticeable with close observation.
- Washroom and shower tile and fixtures gleam and are odor free. Supplies are adequate.
- Trash containers and pencil sharpeners are empty, clean and odor-free.

Level 3 – Casual Inattention

- Floors are swept clean, but upon observation dust, dirt and stains, as well as a buildup of dirt, dust and/or floor finish in corners and along walls, can be seen.
- There are dull spots and/or matted carpet in walking lanes and streaks and splashes on base moldings.

- All vertical and horizontal surfaces have obvious dust, dirt, marks, smudges and fingerprints.
- Lamps all work and all fixtures are clean.
- Trash containers and pencil sharpeners are empty, clean and odor free.

Level 4 – Moderate Dinginess

- Floors are swept clean, but are dull. Colours are dingy and there is an obvious buildup of dust, dirt and/or floor finish in corners and along walls. Moldings are dull and show streaks and splashes.
- All vertical and horizontal surfaces have conspicuous dust, dirt, smudges, fingerprints and marks that will be difficult to remove.
- Less than 5 percent of lamps are burned out and fixtures are dingy.
- Trash containers and pencil sharpeners have old trash and shavings. They are stained and marked. Trash cans smell sour.

Level 5

- Floors and carpets are dirty and have visible wear and/or pitting. Colours are faded and dingy and there is a conspicuous buildup of dirt, dust and/or floor finish in corners and along walls. Base moldings are dirty, stained and streaked. Gum, stains, dirt and dust balls and trash are broadcasted.
- All vertical and horizontal surfaces have major accumulations of dust, dirt, smudges and fingerprints, as well as damage. It is evident that no maintenance or cleaning is done on these surfaces.
- Trash containers and pencil sharpeners overflow. They are stained and marked. Trash containers smell sour.

General Cleaning

As stated, operational procedures are maintained by DTZ. Carleton University states that general cleaning of all surfaces must be performed a minimum of once a week. Restrooms and other public areas should be cleaned daily.

- Microfiber, lint-free dusting clothes are preferred instead of cotton clothes.
- Always use a folded cloth. Spray cloth with cleaner. Be sure to refold when full of soil. Refolding provides more cleaning surface area and maximizes effective use of the cloth.
- Use designated colour cloth for different spaces, for example, for restrooms.
- Soiled clothes are to be placed in a container to be laundered.

Dust Mopping

The dust mopping of floors and stairwells must be performed a minimum of once a week. If dust mopping procedures are not followed correctly it can often mean the dust is simply moved from one place to another. This wastes labour and reduces efficiencies.

- A microfiber flat mop is preferred over a dry or chemically treated cotton mop.
- Use appropriately sized mop.
- Start from the far corner and work towards the door.
- Ensure all hard to reach areas are dusted.

Vacuuming

Vacuuming of floors must be performed a minimum of once a week.

- Carpet and Rug Institute's (CRI's) Green Label Program and HEPA filters are required for vacuums.
- Vacuum bags should be checked periodically and changed out when they become half-full.
- All new vacuum cleaners purchased will operate with a sound level of less than 70 dBA.

Standards: CRI's Green Label Program and HEPA

Entrance Maintenance

Grilles, grates and matting are used to reduce the amount of dirt, dust, pollen and other particles entering the building at all public entrances. These items must be cleaned on a regular schedule to ensure good indoor air quality and the reduction of bacterial growth.

Entryway maintenance is performed a minimum of once a week.

- Sweep or vacuum entry and matting (daily).
- Roll up and remove matting.
- Place wet floor signs as the situation dictates.
- Damp mop entryway. This reduces the potential for moisture to lead to bacterial and fungal growth when floor mats get wet.
- Replace mats and remove wet floor signs when area is dry.

Floor Care

All floors are swept, dust mopped or auto-scrubbed a minimum of once weekly.

Resilient Tile Floors

When wear paths begin to develop in the finish on resilient tile floors, the floor is “top scrubbed” removing a layer of finish, dirt and debris. The floor is then recoated using an uncertified (zinc based) floor finish. All resilient tile floors are maintained with five coats of floor finish. Top scrubbing is a green preferred procedure that avoids the use of toxic strippers.

When floors cannot be restored using the top scrubbing method, a complete stripping of all wax finish is performed using a non-certified (ammonia) based finish remover. A minimum of five coats of finish is then applied according to manufacturer specifications and application timelines.

Carpet Care

Carpets are deep cleaned once a year using sustainable powered carpet cleaning equipment certified by the Carpet and Rug Institute (CRI). The cleaning contract company (DTZ) should use machines that use less water, fewer chemicals and have advanced ergonomic features compared to non-certified equipment. Carpets are pre-sprayed before cleaning.

Standards: CRI's Green Label Program

Green Globes: Source Control: Volatile Organic Compounds

Where small repairs/maintenance may take place:

Ensure that adhesives and sealants (not including carpet adhesives) comply with prescribed limits of VOCs as per the Green Globes for New Construction Technical Reference Manual and/or have third-party certifications showing compliance to predetermined indoor air quality standard.

Ensure that carpets and under-carpet adhesives comply with the Carpet and Rug Institute's (CRI) Green Label Plus certification program.

Ensure that paints comply with prescribed limits of VOCs as per the Green Globes for New Construction Technical Reference Manual, and/or have third-party certifications showing compliance to predetermined indoor air quality standards.

Ensure that all floors, floor coverings, and other interior products comply with prescribed limits of VOCs as per the Green Globes for New Construction Technical Reference Manual, and/or have third-party certifications showing compliance to predetermined indoor air quality standards.

Pest Control

The management of pests inside the buildings must be maintained. Extermination methods, inspections and specifications of circumstances under which pesticides are to be applied must be documented and evaluated for their sustainability regarding chemical use – least-toxic pesticides should be used. There should be campus wide communication of pesticide application. An

application as well as records monitoring pest locations should be created and maintained. Carleton University often contracts out the use and application of pesticides and the company should be made aware of the current standards in place.

Standards:

Green Globes: Source Control

Use integrated pest management strategies, including: outdoor air inlets that have insect screens of 18x14 mesh for plenum systems feeding multiple air handlers, structural and mechanical openings that are fitted with permanent protection (e.g. screens, sealants, etc.). Ensure that all screens are cleaned and in good condition.

Implement advertising signs and other assemblies affixed to the building façade that are designed and constructed in a way that reduces bird habitation, and penetrations in the façade that are sealed to prevent entry by birds and other creatures, mullions and ledges are less than 2.5 cm (1 in) deep to discourage bird roosting, a sealed storage area for food/kitchen solid waste and recycling. Ensure that these strategies are cleaned and in good condition.

Safe Handling and Storage

Cleaning staff should receive training and information on Hazard Communication Program. The extent of the information will be dependent on their work environment and chemicals that they may encounter. The hazard communication training will be provided by cleaning contractor management (DTZ), or the manufacturing representative. Documentation is kept for the chemical type, volume and concentration used in each process.

Cleaning staff are required to put on the necessary personal protective equipment (PPE) whenever using cleaning chemicals. Cleaning staff should be trained in the safe handling of chemicals, including review of the Material Safety Data Sheets (MSDS) for each chemical. The training includes instructions to not mix different chemicals, and first-aid actions to take in event of accidental chemical contact with skin or eyes.

Cleaning staff must report accidents and spills immediately. All accidents must be documented and investigated. Cleaning staff are also required to inform their supervisor of any adverse reactions to using chemicals.

Chemicals are stored in dedicated storage rooms and custodial closets away from heat, sunlight and foodstuffs. All containers and spray bottles are clearly labeled. The transfer or storage of cleaning chemicals in unmarked containers, food containers or drink containers is prohibited.

Training and education provided to employees and others will be documented with detailed records maintained by the location and copy of all training records on file in the location's office.

Standards:

Green Globes: Janitorial Equipment

Provide designated storage areas for hazardous materials / janitorial supplies with full height, floor-to-floor walls and mechanical ventilation.

Waste

Waste and recycling collections and handling are integral to ensure Carleton meets its overall waste objective of 60% of waste diverted from landfill.

Green Globes: Waste - Operational Waste

Address operations-related recycling programs through the development of waste handling and storage facilities.

APPA: Waste Reduction - Recycling, Handling and Storing Recyclable Materials

Ensure there are separate storage/handling facilities for used paper products, glass, metal and plastic.

Ensure there are collection points for sorting paper, glass, metal and plastic in the areas where waste is generated.

PRODUCTS

Currently, many green products are already being used to clean the 44 buildings at Carleton. Products may vary from mild cleaning soap and general cleaning capability products to hard strippers and waxing agents. Equipment ranges from buffers and polishers to walk-behinds and ride-ons. Each product shall clean common soils and surfaces in its category effectively, at the most dilute/least concentrated manufacturer-recommended dilution level for routine cleaning, as measured by the following applicable standard test methods.

Aqueous Ozone

Carleton University and DTZ uses several aqueous ozone units which converts water into aqueous ozone that acts as a cleaner. The unit is produced by Tersano and their website states “The unit produces a continuous flow of approximately 3 gallons of aqueous ozone per minute which is then easily transferred for use in mop buckets, floor cleaners and auto scrubbers. It provides residue-free performance for a longer lasting clean and low slip/fall hazard on even the smoothest floors.” The unit eliminates the need for ordering cleaning products, decreases waste and bottles and is a very effective cleaner. Carleton University uses this system as well as other products outlined below.

Standards and Labels

Sustainable cleaning products vary between a multi-surface cleaner to gum remover to detergent. Wherever feasible, Carleton University would like to use materials that meet Green Seal, Ecologo or Environmental Choice. Equipment may vary from a mop to a vacuum to a carpet extractor. Wherever feasible, Carleton University would like to use equipment that meets the Carpet and Rug Institutes ‘Green Label’ Testing Program. The standards/labels indicate excellence in sustainability and are explained below.

Green Seal

The Green Seal website states, “Our sustainability standards for products, services, and companies are based on life-cycle research, and are developed in an open, transparent, and stakeholder-involved process. Green Seal standards provide criteria and guidelines for manufacturers, service providers, and companies to work toward sustainability and Green Seal certification. Green Seal has 31 issued standards that cover over 375 product and service categories. The standards includes product performance requirements and environmental and health requirements such as reduced toxicity, hazardous ingredients, and volatile organic compounds (VOCs). The standard can serve as a tool to help companies begin to take action to improve their products and is available for Green Seal certification.”

Environmental Choice and Ecologo

Industry Canada website states, “The Canadian EcoLogo (also known as Environmental Choice) helps you identify products and services that have been independently certified to meet strict environmental standards that reflect their entire life cycle — from manufacturing to disposal. EcoLogo standards are designed so that only the top 20% of products available on the market can achieve certification. More than 7,000 products — from paint to paper — carry this logo.”

Carpet and Rug Institutes ‘Green Label’ Testing Program

The CRI’s website states, “In 1992, CRI launched its Green Label program to test carpet, cushions and adhesives to help specifiers identify products with very low emissions of Volatile Organic Compounds (VOCs). Subsequently, CRI launched the Green Label Plus programs for carpets, adhesives and cushions. These enhanced programs set higher standards for IAQ and ensure that customers are purchasing the very lowest emitting products on the market. Using scientifically established standards, the Green Label Plus program symbolizes the carpet industry’s commitment to a better environment for living, working, learning and healing. CRI’s Green Label vacuum certification program has merged with CRI’s Seal of Approval program to combine the stringent standards of carpet cleaning effectiveness and indoor air quality into one program.”

Sustainable Cleaning Products

Sustainable cleaning products are products that have as little impact on the environment as possible. This can range from raw production, manufacturing, transportation, use and waste. Here sustainable cleaning products are those that do not fall under, paper, floor care and lines. This means anything from detergent to gum remover. Currently, not all products and equipment meet one of the above standards. Below is a chart of performance metrics and targets in regards to sustainable cleaning products.

Item	Performance Indicator	Target
Purchase of cleaning and maintenance products that meet sustainability criteria as applicable.	Percentage of conforming products purchased per year (on a cost basis)	60%

Below is a list of current products being used and whether they meet the standards listed above.

Purpose	Suggested Standard	Current Product	Does Product Meet Suggested Standard
Multi Surface Cleaner	Green Seal	Alpha HP Multi Surface Cleaner	Yes

Abrasive Cleaner	Green Seal, Environmental Choice and/or Ecologo	Clean and Green Cream Cleanser	No
Detergent	Ecologo	Clean-It Laundry Detergent	Yes
Bathroom Cleaner	Green Seal	Crew Bathroom and Scale	Yes
Multi Surface	Green Seal, Environmental Choice and/or Ecologo	Emerel	No
Stainless Steel Cleaner	Green Seal, Environmental Choice and/or Ecologo	ES 78 Stainless Steel Cleaner	No
Acid Detergent	Green Seal, Environmental Choice and/or Ecologo	Facto PM 20	No
Glass and Multi-Purpose Cleaner	Green Seal	Glance NA	Yes
Gum Remover	Green Seal, Environmental Choice and/or Ecologo	Gum Remover	No
Surface Cleaner	Green Seal	Stride HC	Yes
Bathroom Cleaner	Green Seal, Environmental Choice and/or Ecologo	Swish Clean-It Scale Remover	No
Gum Remover	Green Seal, Environmental Choice and/or Ecologo	Swish Gum Remover	No

Paper Products

Paper products sustainability are also evaluated on raw production, manufacturing, transportation, use and waste. Paper products vary as the waste left behind is different than that of a multi-surface cleaner. It is important to know which products have recycled content and which ones can be recycled. This should be covered in training as well. Currently, not all paper products meet one of the above standards. Below is a chart of performance metrics and targets in regards to sustainable cleaning products.

Item	Performance Indicator	Target
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Purchase of disposable janitorial paper that meet sustainability criteria as applicable.	Percentage of conforming products purchased per year (on a cost basis)	90%
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Below is a list of current products being used and whether they meet 1 of the 3 standards listed above.

Purpose	Suggested Standard	Current Product	Does Product Meet Suggested Standard
Bath Tissue	Green Seal	Minimax White Bath Tissue 102220	Yes
Towel	Green Seal	Embassy Ultra Long RL Towel White 101283	Yes

Floor Care

Floor care products often have a higher degree of dangerous or toxic chemicals because floors experience intense use throughout the day and it is imperative to have products that clean them thoroughly. All chemicals should be properly diluted and managed as to minimize chemical use. Currently, not all floor care products meet one of the above standards. Below is a chart of performance metrics and targets in regards to sustainable cleaning products.

Item	Performance Indicator	Target
Purchase of floor care products that meet sustainability criteria as applicable.	Percentage of conforming products purchased per year (on a cost basis)	60%

Below is a list of current products being used and whether they meet 1 of the 3 standards listed above.

Purpose	Suggested Standard	Current Product	Does Product Meet Suggested Standard
Carpet Cleaner	CRI's Green Label Program	Aromx 80	No
Carpet Cleaner	CRI's Green Label Program	Aromx 81	No

Floor Stripper	Green Seal, Environmental Choice and/or Ecologo	Attac Stripper	No
Floor Cleaner	Green Seal, Environmental Choice and/or Ecologo	Deep Scrub	No
Floor Stripper	Green Seal, Environmental Choice and/or Ecologo	Extreme UHS Floor Stripper	No
Floor Finish	Green Seal, Environmental Choice and/or Ecologo	High Millage Floor Finish	No
Sealer	Green Seal, Environmental Choice and/or Ecologo	Plaza Plus Sealer/ Finish	No
Floor Cleaner	Green Seal, Environmental Choice and/or Ecologo	PROFI Floor Cleaner/Oil and Grease Remover	No
Salt Remover	Green Seal, Environmental Choice and/or Ecologo	Winterinse	Yes
Floor Cleaner	Green Seal, Environmental Choice and/or Ecologo	WiWax	No

Liners

Carleton University continues to investigate opportunities for reducing the size and number of liners being used. Recycled content liners are preferred. Currently, not all liners meet one of the above standards. Below is a chart of performance metrics and targets in regards to sustainable cleaning products.

Item	Performance Indicator	Target
Purchase of liners that meet sustainability criteria as applicable.	Percentage of conforming products purchased per year (on a cost basis)	60%

Below is a list of current products being used and whether they meet 1 of the 3 standards listed above.

Purpose	Suggested Standard	Current Product	Does Product Meet Suggested Standard
Liner	Green Seal, Environmental Choice and/or Ecologo	Waxed Craft Liners 5084	No

Equipment

Carleton University is committed to maintaining the use of low-impact cleaning equipment and when possible plans to upgrade equipment that reduces building contaminants and minimizes environmental impacts. Where possible, Carleton University will reuse products until the equipment does not perform up to standard. The university will then look to purchasing equipment with recycled content. Currently, not all equipment meets one of the above standards. Below is a chart of performance metrics and targets in regards to sustainable cleaning products.

Item	Performance Indicator	Target
Purchase of equipment that meet sustainability criteria as applicable – recycled content or are reusable.	Percentage of conforming products purchased per year (on a cost basis).	80%

Below is a list of current equipment being used and whether they meet 1 of the 3 standards listed above.

Purpose	Suggested Standard	Current Product	Does Product Meet Suggested Standard
Spray Bottle	Recycled Content and/or reusable.	Crew Spray and Foam Gun 361716	Reusable.
Mop	Recycled Content and/or reusable.	Finish Mop 20202	Reusable.
Brush	Recycled Content and/or reusable.	Grout Brush 60306	Reusable.
Brush	Recycled Content and/or reusable.	Swivel Scrub Brush SB100	Reusable.
Mop	Recycled Content and/or reusable.	White Mop - Large 1223	Reusable.

Brush	Recycled Content and/ or reusable.	Toilet Brushes 6310	Reusable.
Broom	Recycled Content and/ or reusable.	Magnetic Bristle Broom	Reusable.
Spray Bottle	Recycled Content and/ or reusable.	Swish Spray Bottle 9126M	Reusable.
Duster	Recycled Content and/ or reusable.	Lambs wool Duster 28" 1008A	Reusable.

Powered Equipment

Carleton University is committed to maintaining the use of low-impact powered cleaning equipment and when possible plan to upgrade equipment that reduces building contaminants and minimizes environmental impacts. Currently, not all power equipment meets one of the above standards. Below is a chart of performance metrics and targets in regards to sustainable cleaning products.

Item	Performance Indicator	Target
Purchase of vacuum that meet sustainability criteria as applicable.	Percentage of vacuum cleaners that are certified by the Carpet Rug Institute "Green Label" Testing Program vacuum cleaners	80%
Purchase of powered equipment that meet sustainability noise criteria as applicable.	Powered equipment, including electric and battery powered floor buffers and burnishers operates with a sound level less than 70dBa	100%
Purchase of propane-powered equipment that meet sustainability criteria as applicable.	Propane-powered floor equipment has high, low emission engines with catalytic converters and mufflers that meet the California Air Resources Board (CARB) or the U.S. Environmental Protection Agency (EAP) standards for specific engine size.	90%
Purchase of battery-powered equipment that meet sustainability criteria as applicable.	Battery-powered equipment is equipped with environmentally preferable gel batteries	100%

Purchase of automated machines that meet sustainability criteria as applicable.	Automated scrubbing machines are equipped with variable-speed feed pumps and on-board chemical metering to optimize the use of cleaning fluids.	90%
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Below is a list of current powered equipment being used and whether they meet 1 of the 3 standards listed above.

Purpose	Suggested Standard	Current Product	Does Product Meet Suggested Standard
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 102301060	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 102402421	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 101901946	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 102402444	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 102402438	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 102402457	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 102402466	HEPA filters used

Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 102402461	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 102402450	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 102301038	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 102402454	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 102301058	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 101901704	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 101901949	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 102402449	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 102402459	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (NaceCare) 102402426	HEPA filters used

Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (Tenant) 900275700002485	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (Tenant) 900275700002448	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (Tenant) 900275700000103	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (Tenant) 900275700002486	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (Tenant) 900275700002488	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (Tenant) 900275700002443	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (Tenant) 900275700001781	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (Tenant) 900275700000114	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (Tenant) 900275700001852	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (Tenant) 900275700002444	HEPA filters used

Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (Tenant) 900275700002447	HEPA filters used
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Vacuum (Tenant) 900275700001833	HEPA filters used
Apostry Cleaner (Tennant)	CRI's Green Label Program. Operates with a sound level less than 70dBa.	Apostry Cleaner (Tennant)	
Apostry Cleaner (Tennant)	CRI's Green Label Program. Operates with a sound level less than 70dBa.	Apostry Cleaner (Tennant)	
Carpet Extractor	CRI's Green Label Program. Operates with a sound level less than 70dBa.	Carpet Extractor 15000004036SFR	
Carpet Extractor	CRI's Green Label Program. Operates with a sound level less than 70dBa.	Carpet Extractor (1160) No #	
Carpet Extractor	CRI's Green Label Program. Operates with a sound level less than 70dBa.	Carpet Extractor (1120) 500008939SHU	
Carpet Extractor	CRI's Green Label Program. Operates with a sound level less than 70dBa.	Carpet Extractor (1260) 10005-10358824	
Carpet Extractor	CRI's Green Label Program. Operates with a sound level less than 70dBa.	Carpet Extractor (1500) 610291-1038380	
Carpet Extractor	CRI's Green Label Program. Operates with a sound level less than 70dBa.	Carpet Extractor 250 PSI 900762-10474791	

Carpet Extractor	CRI's Green Label Program. Operates with a sound level less than 70dBa.	Carpet Extractor 250 PSI 900762-10474793	
Carpet Extractor	CRI's Green Label Program. Operates with a sound level less than 70dBa.	Carpet Extractor 100 PSI 900748-10486547	
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wide Area Vacuum 900746-10474830	
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wide Area Vacuum (3280) 900745-105691	
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wide Area Vacuum (3280) 900745-105693	
Hydro Blower	Operates with a sound level less than 70dBa.	Hydro Blower 0911024592	
Hydro Blower	Operates with a sound level less than 70dBa.	Hydro Blower 0312026092	
Hydro Blower	Operates with a sound level less than 70dBa.	Hydro Blower 0312026260	
Hydro Blower	Operates with a sound level less than 70dBa.	Hydro Blower 0312026083	
Hydro Blower	Operates with a sound level less than 70dBa.	Hydro Blower 0312026086	
Hydro Blower	Operates with a sound level less than 70dBa.	Hydro Blower 0312026084	
Hydro Blower	Operates with a sound level less than 70dBa.	Hydro Blower 0312026060	
Hydro Blower	Operates with a sound level less than 70dBa.	Hydro Blower 0312026095	
Hydro Blower	Operates with a sound level less than 70dBa.	Hydro Blower 0312026093	
Steam Cleaner	Operates with a sound level less than 70dBa.	Steam Cleaner 012016136	

Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	Ride On Scrubber T7-10509175	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	Ride On Scrubber T7-10509174	
Sweeper	Operates with a sound level less than 70dBa.	Ride on Sweeper 62003997	
Sweeper	Operates with a sound level less than 70dBa.	Ride on Sweeper 1960796	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	19" Walk behind Scrubber 081914070	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	19" Walk behind Scrubber 741510487415	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	19" Walk behind Scrubber 081914067	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	19" Walk behind Scrubber 10487414	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	19" Walk behind Scrubber 10509001	

Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	28" Walk behind Scrubber 1840399	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	28" Walk behind Scrubber 1950238	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	28" Walk behind Scrubber 10487414	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	28" Walk behind Scrubber 10509001	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	28" Walk behind Scrubber 10488962	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	28" Walk behind Scrubber 10488911	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	28" Walk behind Scrubber 10553075	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa. Operates with a sound level less than 70dBa.	28" Walk behind Scrubber 10481793	

Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	28" Walk behind Scrubber 10488960	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	28" Walk behind Scrubber 55510553076	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	Ride On Scrubber (grey) 1000004583	
Scrubber	Variable-speed feed pumps and on-board chemical metering. Operates with a sound level less than 70dBa.	Walk behind Scrubber 38 LX 1233122	
Pressure Washer	Operates with a sound level less than 70dBa.	Pressure Washer 103492	
Pressure Washer	Operates with a sound level less than 70dBa.	Pressure Washer 103490	
Pressure Washer	Operates with a sound level less than 70dBa.	Pressure Washer 101902	
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wet Vac 15 Gallon 900762-10473776	
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wet Vac 15 Gallon 994309871	
Vacuum	CRI's Green Label Program and HEPA	Wet Vac 15 Gallon 609605-10417597	
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wet Vac 15 Gallon 609605-10441859	

Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wet Vac 16 Gallon 900747-10484554	
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wet Vac 16 Gallon 900747-10483599	
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wet Vac 16 Gallon 900747-10483973	
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wet Vac 16 Gallon 900747-10483976	
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wet Vac 16 Gallon 900747-10484555	
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wet Vac 16 Gallon 900747-10484552	
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wet Vac 16 Gallon 900747-10484553	
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wet Vac 16 Gallon 900747-10483602	
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wet Vac Nacecare 080914567	
Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wet Vac Nacecare 080914572	

Vacuum	CRI's Green Label Program and HEPA. Operates with a sound level less than 70dBa.	Wet Vac Nacecare 080914573	
Buffer	Operates with a sound level less than 70dBa.	2 Speed Buffer 1206AUGDS	
Buffer	Operates with a sound level less than 70dBa.	2 Speed Buffer G10711	
Buffer	Operates with a sound level less than 70dBa.	2 Speed Buffer 1806AUGDS	
Buffer	Operates with a sound level less than 70dBa.	2 Speed Buffer FLC09	
Buffer	Operates with a sound level less than 70dBa.	Buffer 1629870	
Buffer	Operates with a sound level less than 70dBa.	Buffer 1386975	
Buffer	Operates with a sound level less than 70dBa.	Buffer MMUX 1118	
Buffer	Operates with a sound level less than 70dBa.	Buffer DPAE 1891	
Buffer	Operates with a sound level less than 70dBa.	Buffer 900181-10358279	
Buffer	Operates with a sound level less than 70dBa.	Buffer 900181-10341264	
Buffer	Operates with a sound level less than 70dBa.	Buffer 23537	
Buffer	Operates with a sound level less than 70dBa.	Buffer 1291015	
Burnisher	Operates with a sound level less than 70dBa.	Burnisher 86012X51063	
Burnisher	Operates with a sound level less than 70dBa.	Burnisher 1319603	
Burnisher	Operates with a sound level less than 70dBa.	Burnisher 1401159	
Burnisher	Operates with a sound level less than 70dBa.	Burnisher 1492795	
Burnisher	Operates with a sound level less than 70dBa.	Burnisher No #	

Further Standards

Personal Cleaning

In some cases employees may choose to have and use MILD cleaning products of their own e.g. dusters, surface cleaner etc. Where employees outside the cleaning team have cleaning products of their own, they must:

- Clear the product with supervisor.
- The product should be Green Seal, Environmental Choice and/or Ecologo unless not applicable.
- The product should only be used in the employee's personal office. If used outside the employee's workspace permission from other staff members should be obtained.
- Proper application of the product should be understood. Product should only be used for intended use.
- Application of chemicals to the cloth rather than spraying the surface to be cleaned where applicable.
- Use a reusable product e.g. cloth, duster etc. for application.

These guidelines will ensure the workplace has healthy high performance cleaning and a more productive indoor environment with fewer burdens to our natural resources.

Continued Improvement

All the standards and guidelines will be upheld by all the management and custodial staff. This standard is meant to evolve alongside best practices and other standards and policies as appropriate. New environmentally friendly products and equipment should be evaluated for use as they are introduced to the market. Carleton University and DTZ will work together to find products, equipment and implement practices that most closely comply with the standards outlined above. Product and equipment lists should change and evolve as new standards and best practices are released. It is suggested the Carleton University Green Cleaning Standard should be evaluated and modified as applicable each year.