

**Colorado State University Facilities Management  
Green Cleaning Program  
LEED for Existing Buildings: Operations and Maintenance  
January 1, 2017**

**SECTION 1: SCOPE**

This plan addresses environmental best practices for cleaning the interior of Colorado State University buildings maintained by Facilities Management Custodial Services. Specifically, it addresses purchasing sustainable cleaning, hard-floor and carpet products, and entryway systems; procuring sustainable cleaning equipment; developing and implementing standard operating procedures for effective cleaning; promoting and improving hand hygiene; developing guidelines for handling cleaning chemicals; developing staffing and employee training requirements; and establishing procedures for use of chemical concentrates and dilution systems.

These buildings are located at the Main, Foothills, South, ARDEC and Miscellaneous Fort Collins campuses and includes the CSU Multipurpose Stadium.

**SECTION 2: GOALS**

The goal of this Green Cleaning Program is to reduce the exposure of building occupants and maintenance personnel to potentially hazardous chemical, biological and particle contaminants, which adversely impact air quality, health, building finishes, building systems and the environment.

**SECTION 3: RESPONSIBLE PARTIES**

Jeff Sutton, Building Services Manager, Facilities Management with support from Janet Vigil and Tom Zino, Custodial Services Managers, Facilities Management, are responsible for developing and managing the implementation of the Green Cleaning Program.

Personnel involved with various elements of the green cleaning program shall carry out their tasks according to this plan, and report all relevant activities to the aforementioned parties. To ensure an effective and coordinated effort, the building staff responsible for overseeing the Green Cleaning Program shall review all proposed cleaning activities before implementation.

Green cleaning strategies for the property shall include actions performed by the following contractors:

Function	Company Name	Primary Contact	Phone
Carpet and upholstery cleaning and extraction	ServiceMaster Clean of Fort Collins and Loveland	Steve Knudson	970-482-6707
Carpet and upholstery cleaning and extraction	Total Facility Care LLC	Pete Gazlay	970-412-4346
Commercial Window Cleaning	<u>On the Spot Window Cleaning Service</u>	Neil Hanawalt	970-218-5795
Commercial Window Cleaning	Window King	James Goebel	970-391-2223

## SECTION 4: QUALITY ASSURANCE CONTROL PROCESS

The parties responsible shall periodically evaluate the success of the Green Cleaning Program. This evaluation may include producing and providing a report on an annual basis to senior management. Whenever possible, the annual report shall include an evaluation of the performance, safety, cost and environmental / public health benefits achieved as a result of its implementation.

Prior to implementation, the responsible parties shall review all proposed cleaning activities. Upon reviewing proposed activities, the responsible parties shall determine if they meet the criteria of the Green Cleaning Program and approve or reject action.

The responsible parties shall regularly communicate with all cleaning staff, and conduct regular site inspections and evaluations to ensure that the Green Cleaning Program is in place and functioning as intended. In addition to ongoing quality control measures, Custodial Services Managers will review all practices and products (typically annually) to identify opportunities for improvement and expansion of environmentally friendly practices.

## SECTION 5: CLEANING PRODUCTS

### PERFORMANCE METRICS AND MEASUREMENT

The practices listed below shall be implemented, to the extent practicable, with a target goal of 85% of products complying, based on cost. The Responsible Party shall assign staff to track purchase rates of both compliant and noncompliant products.

### PRACTICES TO OPTIMIZE USE OF SUSTAINABLE CLEANING PRODUCTS

Cleaning products and materials, including hard-floor and carpet care products, used at buildings maintained by Facilities Management Custodial Services when possible shall meet the requirements of IEQc3.3: Green Cleaning, Purchase of Sustainable Cleaning Products and Materials.

Product types subject to these requirements include, but are not limited to, bio-enzymatic cleaners, hard-floor cleaners, carpet cleaners, general-purpose cleaners, specialty cleaners, odor control, disinfectants, disposable janitorial paper products, trash bags, and hand soaps.

IEQc3.3: Green Cleaning, Purchase of Sustainable Cleaning Products and Materials Criteria:

- The cleaning products meet one or more of the following standards for the appropriate category:
  - Green Seal GS-37, for general-purpose, bathroom, glass and carpet cleaner use for industrial and institutional purposes
  - Environmental Choice CCD-110, for cleaning and degreasing compounds
  - Environmental Choice CCD-146, for hard-surface cleaners
  - Environmental Choice CCD-148, for carpet and upholstery care.
- Disinfectants, metal polish, floor finishes, strippers or other products not addressed by GS-37 or Environmental Choice CCD-110, 146, or 148 shall meet at least one of the following standards for the appropriate category:
  - Green Seal GS-40, for industrial and institutional floor-care products
  - Environmental Choice CCD-112, for digestion additives for cleaning and odor control
  - Environmental Choice CCD-113, for drain or grease-trap additives
  - Environmental Choice CCD-115, for odor-control additives
  - Environmental Choice CCD-147, for hard-floor care
  - California Code of Regulations maximum allowable VOC levels for the specific product category.
- Disposable janitorial paper products and trash bags meet the minimum requirements of one or more of the following programs for the applicable product category:
  - U.S. EPA Comprehensive Procurement Guidelines for Janitorial Paper and Plastic Trash Can Liners
  - Green Seal GS-09, for paper towels and napkins
  - Green Seal GS- 01, for tissue paper
  - Environmental Choice CCD-082, for toilet tissue
  - Environmental Choice CCD-086, for hand towels

- Janitorial paper products derived from rapidly renewable resources or made from tree-free fibers.
- Hand soaps meet one or more of the following standards:
  - No antimicrobial agents (other than as a preservative) except where required by health codes and other regulations (i.e., food service and health care requirements)
  - Green Seal GS-41, for industrial and institutional hand cleaners
  - Environmental Choice CCD-104, for hand cleaners and hand soaps.

**APPROVED PRODUCT LIST**

The products listed below are approved for use. Products beyond those listed here must be submitted for approval prior to use.

Product Type	Manufacturer/Product Name	Sustainability Criteria Met
Toilet Tissue	Wausau Mosinee EcoSoft 61990	Green Seal™ GS-01
Hand Towels	Wausau Mosinee 31040 DublNature Controlled Roll Towel	Green Seal™ GS-09
Disinfectant Cleaner	Hillyard Connect #3 Non-Acid Restroom Disinfectant / Cleaner	
Disinfectant Cleaner	Hillyard #19 Non-Acid Restroom Disinfectant / Cleaner for use in automated restroom cleaning equipment	
Neutral Floor Cleaner	Hillyard Connect #4 Neutral Floor Cleaner	
Heavy Duty Floor Cleaner	Hillyard #34 Recoat Prep	
Glass Cleaner	Hillyard Connect #1 Glass & Surface Cleaner	
Defoamer	Hillyard Defoamer II	
Degreaser	Hillyard MRD 2	
Degreaser	Hillyard #5 Spray & Wipe Degreaser	
Toilet Bowl Cleaner	Hillyard Mild Bowl & Porcelain Cleaner	
Hand Soap	Hillyard Green Premium Foam Soap	Green Seal™ GS-41
Hair and Body Wash	Hillyard Affinity Foaming Hair & Body Wash	

**SECTION 6: CLEANING EQUIPMENT**

**PERFORMANCE METRICS AND MEASUREMENT**

All newly acquired cleaning equipment shall comply with the criteria listed below. The Responsible Party shall assign staff to track the percentage of all equipment that meets the criteria, based on cost or number of pieces of equipment, with a target of 20% of the current equipment compliant by fiscal year end.

**PRACTICES TO OPTIMIZE USE OF SUSTAINABLE CLEANING EQUIPMENT**

**Purchase Criteria**

All new equipment acquisitions shall comply with the requirements of IEQc3.4: Green Cleaning, Sustainable Cleaning Equipment:

- Vacuum cleaners meet the requirements of the Carpet and Rug Institute “Green Label” Testing Program— Vacuum Cleaner Criteria and are capable of capturing 96% of particulates 0.3 microns in size and shall operate with a sound level less than 70dBA.
- Carpet extraction equipment for restorative and deep cleaning is certified by the Carpet and Rug Institute’s “Seal of Approval” Testing Program for deep-cleaning extractors.
- Powered floor equipment—e.g., electric and battery-powered floor buffers and burnishers—are equipped with vacuums, guards and/or other devices for capturing fine particulates, and operates with a sound level less than 70dBA.

- Automated scrubbing machines are equipped with variable-speed feed pumps and / or a foam cleaning system to minimize water consumption. Battery-powered equipment is equipped with environmentally preferable gel batteries.
- Powered equipment is ergonomically designed to minimize vibration, noise and user fatigue.
- Equipment is designed with safeguards, such as rollers or rubber bumpers, to reduce potential damage to building surfaces.

**Record-keeping**

A log shall be kept for all powered cleaning equipment to document the date of purchase and all repair and maintenance activities. Vendor cut sheets for all equipment used onsite shall be stored onsite. When cleaning equipment replacement is necessary, acquisition dates and supporting documentation shall be retained to demonstrate that all newly acquired equipment complies with the specifications.

**APPROVED EQUIPMENT LIST**

The equipment listed below is approved in the event of new equipment acquisition. Equipment beyond that listed here must be submitted for approval prior to acquisition.

Equipment Type	Manufacturer/Model	Sustainability Criteria Met
Backpack Vacuum	ProTeam Super QuarterVac HEPA	CRI Gold Certified
Carpet Extractor	Windsor Clipper Duo	CRI Platinum Certified
Walk-Behind Floor Scrubber	Tennant T2	
Walk-Behind Floor Scrubber	Nobles Speed Scrub w/FaST system	Green Seal GS-37 (in FaST mode)

**SECTION 7: HARD-FLOOR AND CARPET MAINTENANCE**

**PERFORMANCE METRICS AND MEASUREMENT**

Floor-care maintenance shall consistently be performed according to written protocols, without exception. QC checks will be used to ensure 100% adoption.

**PRACTICES TO OPTIMIZE HARD-FLOOR AND CARPET MAINTENANCE**

- The floor and carpet maintenance program at buildings maintained by the Building Services Group of Facilities Management (BSG) is designed to use few, or no, harmful chemicals; remove and eliminate irritating dust, dirt and other contaminants; and protect and preserve floors.
- To minimize chemical use, BSG has reduced the frequency of stripping or removing coatings to three to five years and is able to maximize the floor’s longevity, thereby conserving cleaning and floor restoration materials and minimizing occupants’ exposure to harmful chemicals.
- A written floor maintenance plan and log shall be maintained, which details the number of coats of floor finish being applied as the base and other applications (top coat), along with all relevant maintenance/restoration practices and the dates and duration of these activities.

**SECTION 8: ENTRYWAY SYSTEMS**

**PERFORMANCE METRICS AND MEASUREMENT**

Protocols promoting effective use of entryway systems shall be wholly adopted. Quality control checks shall be used to ensure 100% adoption.

PRACTICES TO OPTIMIZE USE AND MAINTENANCE OF ENTRYWAY SYSTEMS

All entryways and entrances into buildings cleaned by BSG are equipped with walk-off mats or recessed grates.

- Walk-off mats at all primary entrances shall be cleaned daily. These systems shall be a minimum of 10 feet long in the direction of travel as building configuration allows.
- Where recessed grates are used they shall be surface cleaned daily. Grille/grate wells shall also be cleaned seasonally.
- Where walk off mats are used in primary entrances they shall be vacuumed daily and extracted annually at minimum or as frequently as required in inclement weather to maintain a safe and clean environment. The flooring beneath the mats shall be vacuumed and mopped or scrubbed on a weekly basis as well.
- Secondary entrances shall also have walk-off mats of 10–12 feet in length as building configuration allows to capture loose particles entering the building. These mats must be vacuumed daily, and the floor beneath shall be vacuumed and mopped on a weekly basis.

**SECTION 9: HAND HYGIENE**

PERFORMANCE METRICS AND MEASUREMENT

Protocols promoting hand hygiene shall be wholly adopted. QC checks will be used to ensure 100% adoption.

PRACTICES TO OPTIMIZE HAND HYGIENE

All public restroom facilities shall include appropriate hand soaps. (See Section 5.)

**SECTION 10: HANDLING AND STORAGE OF CLEANING CHEMICALS**

PERFORMANCE METRICS AND MEASUREMENT

Protocols governing safe handling and storage of cleaning chemicals shall be wholly adopted. QC checks will be used to ensure 100% adoption.

PRACTICES TO OPTIMIZE HANDLING AND STORAGE OF CLEANING CHEMICALS

The following protocols have been established to mitigate spills, leaks and mismanagement.

**Storage**

- Cleaning chemicals are stored in locked janitorial closets that meet Facilities Management Building Construction Standards requirements for minimum size, door access, size and location of mop sink, plumbing, electrical, ventilation and shelving requirements.
- Chemicals shall be stored below normal eye level but off the floor.

**Chemical Dilution systems**

(See Section 11)

**SDS Storage**

- The cleaning chemical supplier is required to provide accurate Safety Data Sheets for all chemicals delivered to the building and to maintain a toll-free hotline that can be called in the event of spills or accidents to access safety data and protocols.
- SDS's are filed in clearly labeled binders and available digitally in the Custodial Supervisor's office to which each building is assigned as well as in the Custodial Services main office in Facilities Services Center North
- Notices as to how and where Safety Data Sheets can be accessed are clearly posted on the inside of the door of every janitor closet where chemicals are stored.

**Emergency Procedures**

**Refer to Facilities Management Safety Manual**

## **SECTION 11: USE OF CHEMICAL CONCENTRATES AND DILUTION SYSTEMS**

### **PERFORMANCE METRICS AND MEASUREMENT**

Dilution systems and chemical concentrates shall be wholly utilized for the following product types:

- All Hillyard Connect system chemicals
- All Hillyard Arsenal and Arsenal Jr. products

### **PRACTICES TO OPTIMIZE USE OF CHEMICAL CONCENTRATES AND DILUTION SYSTEMS**

Chemical concentrates and dilution systems are used according to the procedures below to minimize risk to staff and occupants, and to conserve resources.

#### **Dilution System Description**

Chemical dilution systems are either Hillyard Connect™, Hillyard Arsneal™ or Hillyard Arsenal Jr.™

#### **Protocol for Use**

All custodial chemicals that are supplied in concentrate form and in a container designed to utilize a dilution control device such as Hillyard Connect™, Hillyard Arsneal™ or Hillyard Arsenal Jr.™ shall be dispensed through those devices. Dilution control devices and containers shall not be tampered with or disabled. Chemical concentrates not designed to be dispensed through a dilution control device must be manually diluted according to the manufacturer's specifications on the label.

## **SECTION 12: CONTAINMENT AND TREATMENT OF LABORATORY CHEMICALS-Not applicable**

## **SECTION 13: VULNERABLE BUILDING OCCUPANTS**

To protect vulnerable building occupants, such as pregnant women, children, asthmatics, elderly occupants, individuals with allergies and highly sensitive individuals, cleaning staff from BSG shall use only low/no VOC cleaning products; they shall perform routine cleaning and floor restoration activities after working hours when the majority of occupants have left the building as staffing permits; the staff shall limit the number of cleaning chemicals used in the building; and they shall maintain a high level of cleanliness thus minimizing the presence of irritants.

## **SECTION 14: STAFFING AND TRAINING**

### **PERFORMANCE METRICS AND MEASUREMENT**

All cleaning personnel shall receive regular training. Vendors shall supply evidence of compliance with training requirements prior to contract award or renewal.

### **PRACTICES TO OPTIMIZE STAFFING AND TRAINING**

All cleaning staff and managers shall receive environmental safety and health training, addressing, at minimum, hazards associated with the use, disposal and recycling of cleaning chemicals, dispensing equipment and packaging.

#### **Training Topics**

- Employee safety and health compliance as it relates to the cleaning program
- Regulatory compliance standards—OSHA, EPA, and other local, state, and federal rules and regulations
- Unsafe attitudes and conditions in the work place through Job Safety Analysis—OSHA JSA or JHA (Job Hazard Analysis)
- Employee performance improvement, such as accident prevention and record-keeping
- Compliance with health and safety rules, and regulation and confidentiality issues
- Safe chemical storage and handling
- Disposal and recycling of cleaning chemicals, dispensing equipment and packaging

#### **Annual Training Hours**

All workers shall receive 4 hours of training quarterly

**Staffing Plan**

To meet cleaning objectives within the building, minimum staffing requirements must be met. Factors such as occupancy rates, seasonal variations and other considerations should be taken into account when adjusting the staffing plan. Under typical conditions, total cleaning staff time shall be not less than 8 hours per day. Generally 158 staff members work 8 hours per day to meet these requirements.

**SECTION 15: OCCUPANT FEEDBACK AND EVALUATION OF NEW TECHNOLOGIES**

**PERFORMANCE METRICS AND MEASUREMENT**

All guests and employees shall have a mechanism by which to provide feedback on cleaning practices.

**PRACTICES TO OPTIMIZE OCCUPANT FEEDBACK AND EVALUATE NEW TECHNOLOGIES AND PROCEDURES**

Building occupants have the ability to report indoor air quality issues as well as cleaning quality issues to the Facilities Management dispatch operation and work control unit which is then tracked through Facilities Management's integrated work management system. . In addition, management regularly researches and integrates new green cleaning technologies into the building's green cleaning procedures.

**SECTION 16: TIME PERIOD**

This policy shall take effect on January 1, 2017 and shall continue indefinitely or until amended and/or replaced by a subsequent green cleaning policy.