

Knapp-Sanders Building, Chapel Hill, NC
Green Cleaning Policy and Program Plan
LEED for Existing Buildings: Operations and Maintenance
Effective February 1, 2015

SECTION 1: SCOPE

This Policy and Plan addresses environmental best practices for cleaning the interior of the Knapp-Sanders Building. 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; collecting and addressing occupant feedback; and establishing procedures for use of chemical concentrates and dilution systems.

This building is located at 400 South Road, Chapel Hill, North Carolina.

SECTION 2: GOALS

The goal of this Green Cleaning Policy and Plan 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

Herb Richmond, the UNC Assistant Director of Housekeeping, with support from Lee Colavito, Director of Facilities and Distribution Services, is responsible for developing and managing the implementation of the Green Cleaning Policy and Plan.

Personnel involved with various elements of the green cleaning program shall carry out their tasks according to this policy, 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 Policy and Plan 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
Housekeeping	UNC Housekeeping Services	Herb Richmond	919-962-6586
Floor Care	UNC Housekeeping Services	Mark Platou	919-962-6586

SECTION 4: QUALITY ASSURANCE CONTROL PROCESS

The party(ies) responsible shall periodically evaluate the success of the Green Cleaning Policy and Plan. 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 party(ies) shall review all proposed cleaning activities. Upon reviewing proposed activities, the responsible party(ies) shall determine if they meet the criteria of the Green Cleaning Policy and approve or deny action.

The responsible party(ies) shall regularly communicate with all cleaning staff, and conduct regular site inspections and evaluations to ensure that the Green Cleaning Policy and Plan is in place and functioning as intended. In addition to ongoing quality control measures, Herb Richmond 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 30% 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 Knapp-Sanders Building shall, when possible, 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 and 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
LaundryPac® No. 940	Portion Pac Chemical Corporation	
pH Neutral Germicidal Detergent No. 201N & 264N	Portion Pac Chemical Corporation	
MopPacLite® pH Neutral Floor Cleaner No.1804	Portion Pac Chemical Corporation	Green Seal-37
ScrubPac® Heavy Duty All Purpose Detergent No.104	Portion Pac Chemical Corporation	Green Seal-37

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 equipment comply by June 30, 2015.

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, 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—is equipped with vacuums, guards and/or other devices for capturing fine particulates, and operates with a sound level less than 70dBA.
- Propane-powered floor equipment has high-efficiency, low-emission engines with catalytic converters and mufflers that meet California Air Resources Board (CARB) or Environmental Protection Agency (EPA) standards for the specific engine size, and operate with a sound level of less than 90dBA.
- Automated scrubbing machines are equipped with variable-speed feed pumps and onboard chemical metering to optimize the use of cleaning fluids. Alternatively, the scrubbing machines use only tap water with no added cleaning products.
- 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
Vacuum	Pro-Team/Supercoach back pack vac	CRI Gold Label

Auto Scrubber	Tenant/T3	
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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 Knapp-Saunders Building 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, Knapp-Saunders Building has reduced the frequency of stripping or removing coatings to annually 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 Knapp-Saunders Building are equipped with walk-off mats, grilles and grates.

- Walk-off mats at all primary entrances shall be cleaned weekly. These systems shall be a minimum of 10 feet long in the direction of travel.
- Grates and Grilles shall be vacuumed and surface cleaned weekly. Grille/grate wells shall also be cleaned during this process and mopped weekly.
- The walk-off mats shall be professionally cleaned on a weekly basis and thoroughly vacuumed onsite on a daily basis. The flooring beneath the mats shall be vacuumed and mopped on a weekly basis as well.
- Secondary entrances shall also have walk-off mats of 10–12 feet in length to capture initial 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 restroom facilities, including those in guest rooms, public areas and back-of-house spaces shall include appropriate hand soaps. (See Section 5.)
- Per regulations, hand-hygiene notices will be placed in all employee rest rooms.
- Campus-wide Gojo soap will be used. Gojo soap is a mild, biodegradable foam soap formulation. Certified by EcoLogo to meet their hand cleaner standard EL UL 2784. Dermatologist tested and shown to be mild.

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

- Chemicals received from vendors are shipped by the case, with four boxes of 120 -150 packets per box.
- Cases are stored in a “Bulk Storeroom” within Knapp-Saunders, until needed.
- As needed, cases of chemicals are signed out of the bulk storeroom and placed into a locked cabinet, within Knapp-Saunders.
- The locked cabinet is called a “control cabinet” and one box of chemical is used at a time to fill distribution trays.
- Distribution trays are small white boxes that hold 3-5 packets of Portionpac chemicals that the Housekeepers use during their shift.
- Housekeepers dilute one packet per 32oz. bottle or 64oz bottle. When using floor equipment, Housekeepers dilute one packet per tank.
- Housekeepers are trained to call this the “Rule of one,” meaning they use one packet per one bottle, bucket or tank.
- Empty packets are kept in the distribution tray and returned to the Crew Leader at the end of their shift.
- The Crew Leader records the number of empty packets collected and then discards the empty packets.
- At the end of each month, the Zone Manager will collect the supply log from the bulk storage and the recorded information from the control cabinet and complete a supply form and a monthly usage form to reorder only consumed product.
- Forms are reviewed by the Assistant Director to manage compliance to the cleaning system.

Chemical Dilution systems

(See Section 11)

MSDS Storage

- The cleaning chemical supplier is required to provide accurate MSDSs for all chemicals delivered to the building.
- MSDSs are filed, in duplicate, in the chemical storage room and the employee check-in area, in clearly labeled binders.
- The cleaning chemical supplier maintains a toll-free hotline that can be called in the event of spills or accidents to access safety data and protocols.
- Portionpac Chemicals and MSDS sheets are color coded to match the color of the chemical and the spray bottle

Emergency Procedures

- Whenever a Housekeeper thinks they may have been harmed, they are to inform a Crew Leader or Manager.
- Management must assist with seeking immediately medical attention.
- Management must complete and submit all forms related to the injury or “near miss” event.
- Training is provided that indicates how to seek medical attention and how to submit proper injury related forms.

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:

Product Type	Manufacturer/Product Name	Sustainability Criteria Met
LaundryPac® No. 940	Portion Pac Chemical Corporation	
pH Neutral Germicidal Detergent No. 201N & 264N	Portion Pac Chemical Corporation	
MopPacLite® pH Neutral Floor Cleaner No.1804	Portion Pac Chemical Corporation	Green Seal-37
ScrubPac® Heavy Duty All Purpose Detergent No.104	Portion Pac Chemical Corporation	Green Seal-37

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

- **UNC Housekeeping Services use of Portionpac Chemicals consists of the following process:**
- **Chemicals received from Portionpac are shipped by the case, with four boxes of 120 -150 packets per box.**
- **Cases are stored in a “Bulk Storeroom” within Knapp-Saunders, until needed.**
- **As needed, cases of chemicals are signed out of the bulk storeroom and place into a locked cabinet, within Knapp-Saunders.**
- **The locked cabinet is called a “control cabinet” and one box of chemical is used at a time to fill distribution trays.**
- **Distribution trays are small white boxes that hold 3-5 packets of Portionpac chemicals that the Housekeepers use during their shift.**
- **Housekeepers dilute one packet per 32oz. bottle or 64oz bottle. When using floor equipment, Housekeepers dilute one packet per tank.**
- **Housekeepers are trained to call this the “Rule of one,” meaning they use one packet per one bottle, bucket or tank.**
- **Empty packets are kept in the distribution tray and returned to the Crew Leader at the end of their shift.**
- **The Crew Leader records the number of empty packets collected and then discards the empty packets.**
- **At the end of each month, the Zone Manager will collect the supply log from the bulk storage and the recorded information from the control cabinet and complete a supply form and a monthly usage form to reorder only consumed product.**
- **Forms are reviewed by the Assistant Director to manage compliance to the cleaning system.**

Protocol for Use

- **UNC Housekeeping Services use of Portionpac Chemicals consists of the following process:**
- **Chemicals received from Portionpac are shipped by the case, with four boxes of 120 -150 packets per box.**
- **Cases are stored in a “Bulk Storeroom” within Knapp-Saunders, until needed.**
- **As needed, cases of chemicals are signed out of the bulk storeroom and place into a locked cabinet, within Knapp-Saunders.**
- **The locked cabinet is called a “control cabinet” and one box of chemical is used at a time to fill distribution trays.**
- **Distribution trays are small white boxes that hold 3-5 packets of Portionpac chemicals that the Housekeepers use during their shift.**
- **Housekeepers dilute one packet per 32oz. bottle or 64oz bottle. When using floor equipment, Housekeepers dilute one packet per tank.**
- **Housekeepers are trained to call this the “Rule of one,” meaning they use one packet per one bottle, bucket or tank.**
- **Empty packets are kept in the distribution tray and returned to the Crew Leader at the end of their shift.**
- **The Crew Leader records the number of empty packets collected and then discards the empty packets.**
- **At the end of each month, the Zone Manager will collect the supply log from the bulk storage and the recorded information from the control cabinet and complete a supply form and a monthly usage form to reorder only consumed product.**
- **Forms are reviewed by the Assistant Director to manage compliance to the cleaning system.**

Maintenance

- **UNC Housekeeping Services use of Portionpac Chemicals consists of the following process:**

- Chemicals received from Portionpac are shipped by the case, with four boxes of 120 -150 packets per box.
- Cases are stored in a “Bulk Storeroom” within Knapp-Saunders, until needed.
- As needed, cases of chemicals are signed out of the bulk storeroom and place into a locked cabinet, within Knapp-Saunders.
- The locked cabinet is called a “control cabinet” and one box of chemical is used at a time to fill distribution trays.
- Distribution trays are small white boxes that hold 3-5 packets of Portionpac chemicals that the Housekeepers use during their shift.
- Housekeepers dilute one packet per 32oz. bottle or 64oz bottle. When using floor equipment, Housekeepers dilute one packet per tank.
- Housekeepers are trained to call this the “Rule of one,” meaning they use one packet per one bottle, bucket or tank.
- Empty packets are kept in the distribution tray and returned to the Crew Leader at the end of their shift.
- The Crew Leader records the number of empty packets collected and then discards the empty packets.
- At the end of each month, the Zone Manager will collect the supply log from the bulk storage and the recorded information from the control cabinet and complete a supply form and a monthly usage form to reorder only consumed product.
- Forms are reviewed by the Assistant Director to manage compliance to the cleaning system.

SECTION 12: CONTAINMENT AND TREATMENT OF LABORATORY CHEMICALS

PERFORMANCE METRICS AND MEASUREMENT

For any drain that handles laboratory-type liquids, containment drains must be provided that will appropriately treat the liquid waste.

PRACTICES TO OPTIMIZE USE OF CONTAINMENT DRAINS IN LABORATORY SPACES

Containment drains are installed and used, as necessary, according to the procedures below, to minimize risk to staff and occupants, and to mitigate contamination of natural resources.

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 UNC Housekeeping Services 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; 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.

Annual Training Hours

All workers shall receive 1-2 hours of training monthly.

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 6 hours per day. Generally, 5 staff members work 5 - 7 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

Knapp Building has implemented an electronic collection system for gathering occupants' feedback about the green cleaning program. Occupants are encouraged to alert the management to any issues relating to the green cleaning program. 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 01/05/2015 and shall continue indefinitely or until amended and/or replaced by a subsequent green cleaning policy.