
Cline Library

Northern Arizona University
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1.0 Purpose

The primary goal of the Cline Library Green Cleaning Plan is to reduce the exposure of building occupants and maintenance personnel to potentially hazardous chemical, biological, and particulate contaminants, which adversely affect air quality, human health, building finishes, building systems, and the environment by implementing and managing green cleaning operations. This plan includes the overall policy as well as specific requirements for practices, products, and logs to be used in the building.

Studies estimate transitioning to green cleaning processes, in addition to improved ventilation and cleaning procedures could create an annual productivity gain of \$30 billion to \$150 billion nationwide due to improved environmental quality. EPA studies report the common cleaning chemicals regularly cause complaints of central nervous system disorders, dizziness, irritation to the mouth, throat, eyes, skin, lungs, and GI tract, kidney damage, respiratory failure, and ataxia among other systems and illnesses. Fortunately, alternatives are now readily available and can result in greater productivity, decreased liability, and decrease in building-related illness.

2.0 Scope

This plan applies to all indoor activities generally required to clean the building core and individual office suites.

Intended to assist the building owners and facility managers in achieving a hygienic and safe indoor environment, this plan applies to the following facility operations processes:

- Cleaning standard operating procedures (SOPs) addressing the implementation and management of the green cleaning policy.
- Purchasing of cleaning products, equipment, and janitorial paper products.
- Maintaining of documentation and logs for cleaning products and tools, janitorial paper products, powered cleaning equipment, hard floor maintenance and carpet maintenance.
- Handling and storage of cleaning products, equipment, and janitorial paper products.
- Training and communication with personnel, service providers, and occupants.
- Requests for proposals (RFPs) used to identify and contract with outside service providers and vendors.

The requirements in this policy are mandatory for cleaning procedures, techniques, and logs as well as the procurement of cleaning products, paper products, and janitorial equipment in the building. These products provide various environmental benefits, including resource efficiency, reduced toxicity, durability, and recycled content. In addition to their environmental benefits, many of these products are more economical than those they replace.

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3.0 Goals

The goals of this Green Cleaning Plan include:

- Reduce the exposure of building occupants, students, and maintenance personnel to potentially hazardous chemical, biological, and particulate contaminants, which adversely affect air quality, human health, building finishes, building systems, and the environment by implementing and managing green cleaning operations.
- Purchase and document use of products and equipment that meet the sustainability criteria outlined in this policy, including items use by in-house personnel or outsourced service providers.
- Purchase and maintain janitorial equipment that reduces building contaminants, minimizes environmental impact, and work injuries.
- Assemble documentation of standard operating procedures (SOPs), product material safety data sheets (MSDS) and technical bulletins, chemical handling, and storage procedures, dilution controls, maintenance and cleaning schedules.
- Implement an ongoing training program.
- Engage cleaning service providers and vendors that can provide cleaning services in accordance with this plan.

4.0 Standard Operating Procedures (SOP's)

SOPs address the consistent implementation and management of the *Cline Library Cleaning Plan*. A focus on efficient use of chemicals and supplies, meeting hygiene goals, and protecting cleaning personnel, building occupants, systems and finishes from contaminants will guide the effective implementation of the *Green Cleaning Plan*. Because the cost of cleaning is 80-90% labor, at the core of operational effectiveness is the number of labor hours required to perform the tasks. The development of clear specifications for processes, such as cleaning restrooms, removing trash and recyclables, floor and carpet maintenance, office cleaning, and the frequency of the tasks is central to creating effective SOPs.

Any in-house personnel or outsourced service provider or vendor will adhere to the *Green Cleaning Plan* to design their operation or for selection of janitorial products and equipment. An initial evaluation will be required to identify needs and verify compliance with the plan.

The green cleaning SOPs must address the following:

1. General Cleaning Systems

- Consideration of facility usage patterns.
- Specify more frequent and intensive cleaning zones.
- Consideration portion-controlled dilution devices.
- Specify microfiber tool and wipe system use and care.
- Guidelines for safe handling, storage, and disposal of chemicals.

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- Schedules and procedures for general cleaning, entryway systems, hard floor cleaning and maintenance, carpet maintenance, washroom cleaning, and any special surface types

2. Procedures Modifications

- Promptly address the needs of disproportionately affected and/or vulnerable building occupants. This may include but is not limited to occupants with pre-existing health conditions such as asthma and allergies, children, pregnant women, the elderly and infirm, people sensitive to chemical exposures or odors, individuals with reduced immunity, and other occupants, visitors, or employees that may have a higher sensitivity or special needs.
- Methods may include adjustments to cleaning procedures, product choices, frequencies, timing, and increased ventilation, or similar adaptations.
- Adaptations must be documented in writing and logged in the Safety Manual.

3. Safety Manual

- A current copy of the *Cline Library Green Cleaning Plan*.
- Manufacturer's material safety data sheets (MSDSs) and technical bulletins.
- Emergency contact information.
- Chemical handling and storage procedures.
- Dilution controls and use of dispensing equipment.
- Step-by-step instructions for proper use of each product available.
- Documentation of procedure modifications implemented.

4. Cleaning Product Log

- Date of purchase.
- Item purchased.
- Product category
 - Cleaning tools and wipes
 - General cleaning products
 - Bathroom cleaning products
 - Hard floor products
 - Carpet care products
 - Janitorial paper products and trash bags
 - Janitorial equipment
- Product green certification number or other confirmation of compliance with Cline Library standards.
- Cost of item.
- Quantity purchased.
- Product documentation, technical bulletins, and MSDS to be included in the Safety Manual.

5. Powered Equipment Log

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- Date of purchase/equipment age.
- Equipment type.
- Brand, make, and model.
- Cost per item.
- Product green certification number or other confirmation of compliance with Cline Library standards.
- Recommended interval of routine or periodic maintenance tasks.
- Product literature and manufacturer's specification sheets for each type of equipment.
- Date of repair and maintenance, initials of responsible personnel.
- Documentation of quarterly maintenance program that inspects and maintains performance of equipment.
- Vacuums will be equipped with the proper filter or bag; filters will be changed or cleaned consistently with the manufacturer's recommendations.

6. Hard Floor Maintenance System and Log

- Written maintenance plan. Including Frequency of vacuuming or damp mopping, auto scrubbing, deep scrubbing, and application of hard topcoat.
- Log for tracking of hard floor maintenance:
 1. Coats are applied as base and topcoats.
 2. Relevant maintenance and restoration practices and dates.
 3. Interval between stripping and recoat cycles.

7. Carpet Maintenance System and Log

A complete and effective carpet maintenance program should include three maintenance categories: preventative, daily and periodic, as well as constant attention to safety and the proper and effective use of chemicals, carpet extraction machines, and vacuum cleaners.

- Identify areas of heavy soiling, including:

Track-off Regions—Areas where carpet collects tracked-in soil from the outdoors or from hard-surface floors. Track-off regions average 90 square feet at building entrances, 10 square feet at internal doorways, and 40 square feet in corridors 6 feet wide.

Congested Channels—A concentrated channel of foot traffic, such as doorway, stairwell, or drinking fountain area. A congested channel averages 3 feet around a doorway to 10 feet around elevators.

Traffic Lanes—Areas with the largest amount of foot traffic.

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Please refer to the [Carpet and Rug Institute's Carpet Maintenance Guidelines](http://carpet-rug.com/pdf_word_docs/040504_CM_Guidelines.pdf), which includes Maintenance Guidelines, a spot removal chart, and further guidance.

http://carpet-rug.com/pdf_word_docs/040504_CM_Guidelines.pdf

- Log for tracking of relevant maintenance and restoration practices and dates.

5.0 Entryway Systems

A significant percentage of dust and dirt enters the building when tracked in at entryways. The Cline Library has installed a minimum of ten feet of carpeted entryway system at the first floor entrance. Cline Library custodial personnel maintain the walk-off carpet system.

- Entryway systems are to be vacuumed daily to remove dirt and debris and are steam cleaned on an as needed basis.
- The system is to be made of a fast drying Poly Propylene blend, which minimizes the need to replace mats during inclement weather.

6.0 Environmentally Preferable Products and Equipment

Environmental preferable purchasing includes human health and environmental impact with traditional concerns of cost and performance. In selecting environmentally preferable cleaning products the overall impact of cleaning materials and maintenance methods, including manufacturing processes, installation, operation, long-term maintenance, and disposal should be considered.

NAU Center for Aquatics and Tennis policy requires communication of the Product Requirements to vendors and service suppliers when soliciting, renewing, or requesting contracts.

Environmentally preferable purchase of green cleaning products includes, but is not limited to:

- Cleaning tools and wipes
- General cleaning products
- Dish cleaners
- Bathroom cleaning products
- Hard floor products
- Carpet care products
- Janitorial paper products and trash bags
- Janitorial equipment

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7.0 Cleaning Product and Equipment Specifications

A minimum of 30% of the total annual purchases of the products listed below (by cost) meet at least one of the sustainability criteria listed below. The *Cline Library* has a goal of exceeding 30% and encourages 100% of cleaning products purchased meet LEED requirements. The in-house personnel will track purchases in order to document the percentage of cleaning products purchased comply with the requirements below. An undiluted product must be certified by the appropriate standard referenced below, or pre-approved and fully documented as certified by a third party approved by Cline Library Administration.

General Specifications and Preferences

- Fragrance and dye free product selections are specified whenever possible.
- Products manufactured by companies that have a company-wide environmental or sustainability policy is preferred.
- All primary packaging must be recyclable and non-chlorinated. Manufacturers should encourage return and refilling their packages. Secondary packaging made with postconsumer recycled material is preferred.
- ANSI formatted Material Safety Data Sheets are preferred to support consistency and improved access to information.
- Products must be labeled for proper use including recommendations for protective equipment and include appropriate safety training.
- Each product must be diluted with tap water below 50 degrees and must clean common soils and surfaces in its category effectively.

Products must meet at least one of the following criteria:

1. Cleaning Wipes, Tools, and Mop Systems

- Reusable, color-coded microfiber equipment with recycled content is the preferred system .Procedures for the proper care and laundering is required.

2. General Cleaning Products

- Green Seal GS-37, for general-purpose, bathroom, glass and carpet cleaners used 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
- Environmental Choice CCD-146, for dish cleaners

3. Disinfectants, Metal Polish, Floor Finishes, Strippers, or Other Products

- 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

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- Environmental Choice CCD-115, for odor control additives
 - Environmental Choice CCD-147, for hard floor care
4. **Disposable janitorial paper products and trash bags** must meet the minimum requirements of one or more of the following programs for the applicable product category:
- US 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.
 - Preference for limiting paper dispensers and two-roll product dispensers.
5. **Hand Soaps** must meet one or more of the following standards:
- No fragrances or dyes.
 - No antimicrobial agents except where required by health codes and other regulations.
 - Green Seal GS-41, for industrial and institutional hand cleaners
 - Environmental Choice CCD-104, for hand cleaners and hand soaps
 - Preference for hands-free dispensers.
6. **Powered Cleaning Equipment**
- Preference for equipment cleaned with water only, and/or ergonomically designed to minimize vibration, noise, and user fatigue, and/or designed with safeguards, such as rollers or rubber bumpers, to reduce potential damage to building surfaces.
 - Vacuum cleaners, preferably backpack type, certified by the Carpet and Rug Institute “Green Label” Testing Program, and operate with a sound level of less than 70dBA; Searchable online at <http://www.carpet-rug.org/commercialcustomers/green-building-and-the-environment/green-label-plus/>
 - Carpet extraction equipment used for restorative deep cleaning is certified by the Carpet and Rug Institute’s “Seal of Approval” Testing Program for deep-cleaning extractors.
 - Powered floor maintenance equipment, including electric and battery-powered floor buffers and furnishers equipped with vacuums, guards and/or other devices for capturing fine particulates.
 - Floor buffing pads that eliminate chemical stripping agents.
 - Powered floor maintenance equipment, which operates with a sound level of less than 70dBA.

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- Propane-powered floor equipment has high-efficiency, low-emissions engines with catalytic converters and mufflers that meet the California Air Resources Board (CARB) or EPA standards for the specific engine size.
- There is no propane powered floor equipment used onsite
- Automated scrubbing machines equipped with variable-speed feed pumps and on-board chemical metering to optimize the use of cleaning fluids.
- Battery powered equipment is to use rechargeable batteries.
- Equipment has rubber bumpers to reduce potential damage to building surfaces

8.0 Cleaning Product and Equipment Specifications

The following guidelines are designed to reduce hazards, improve safety, and encourage efficiency:

- Instructions for use, manufacturer's material safety data sheets (MSDSs) and technical bulletins must be readily available and/or posted. A Safety Manual must be on hand and include contact information for hazardous events and step-by-step instructions for proper use of each product available.
- Technical bulletins must provide full disclosure of ingredients including disclosure of all ingredients, both hazardous and nonhazardous, that make up 1% or more of the undiluted product and concentration ranges for each of the disclosed ingredients.
- Chemical handling and storage must always be conducted in a manner that limits opportunities for accidental spills, leaks, and other mishaps including securely closing containers when not in use, ventilation of cleaning storage rooms, and preference for dispensing equipment which minimizes worker exposure.
- Protocols for height of storage, separating volatile chemicals, identification of chemicals that require the use of gloves and other handling guidelines must be followed.
- Appropriate dilution controls must be adhered to.
- Education on procedures to minimize exposures and impacts for managing hazardous spills, mishandling, and other incidents must be provided.

Chemical Storage and Disposal Guidelines

All cleaning products and equipment are to be stored in designated janitorial closets, with access limited to custodial personnel only. The bulk of cleaning products is stored in a central storage facility on campus and are delivered on a weekly or as needed to other buildings. All janitorial closets are equipped with MSDS Sheets for all chemicals; First Aid Kits; Bio-Hazardous Waste Kits; gloves; and Safety glasses.

Recycling and Disposal of Products

Products should be used until containers are completely empty. Any excess product must be disposed of according to the manufacturer's instructions. Recyclable packaging

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must be recycled, at a minimum, and include paper, cardboard, plastics, metal, and glass.

9.0 Training

The goal of training and education is to reduce the impact of cleaning products and practices on custodial workers, building occupants, and the environment. All custodial personnel are to attend an initial training session upon hire, which review chemical handling practices and proper equipment use. All custodial personnel are to attend recurring training sessions twice annually.

Product and equipment training may be provided through the product manufacturer or vendor, as needed. The training program must achieve the following:

- Review of this plan, terminology, and updates to policy or procedures.
- Instruction on Safety Manual including reading manufacturers material safety data sheets (MSDSs) and technical bulletins, where to locate emergency contact information, and clarification of any questions as to the implementation of this policy.
- Instruction manuals must be reviewed and available for all janitorial equipment.
- Ensure that personnel are fully informed and educated on the goals and priorities driving the product/equipment choices and procedures; help personnel understand the environmental and health issues associated with the products and equipment they are using.
- Step-by-step instruction for the use of cleaning products.
- Training for use of chemical concentrates and appropriate dilution systems.
- Training for any dispensing equipment.
- Instruction on maintenance, disposal, and recycling of cleaning products and packaging.
- Proper use and care of cleaning equipment.
- Standard operating procedures (SOPs).
- Training for use of RFP policy and procedures must be provided to the appropriate personnel.

10.0 Responsible Parties

The Office of the Dean shall implement this policy within Cline Library in coordination with other appropriate organization personnel, including but not limited to, Custodial Services for Cline Library, Cline Library Purchasing Officer, Cline Library employees, parties purchasing materials on Cline Library's behalf and/or companies contracted to provide goods to Cline Library.

To ensure an effective and coordinated effort, the building staff responsible for overseeing the Green Cleaning Policy and Program shall review all proposed cleaning activities before implementation.

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Required activities include:

1. Administration and evaluation of the *Green Cleaning Plan*.
2. Assist building ownership in recruiting, screening and selection of any additional service providers or vendors.
3. Schedule and attend training sessions.
4. Management of inventory.
5. Maintenance of equipment and supplies
6. Design of schedules and operations including periodic, daily, biweekly and weekly tasks.
7. Review of schedule with building ownership to clarify procedures, identify problems, and perform inspections.
8. Receive and address suggestions of service providers, vendors, occupants and building ownership.
9. Offer suggestions to building ownership as to how the green cleaning program can be less costly and more efficient.
10. Notify building ownership of any hazardous conditions.
11. Make a daily inspection of the buildings and grounds, correct problems as appropriate, and notify the building ownership immediately in emergency situations and in writing for routine items.
12. 24-hour emergency availability.
13. Perform an annual review of cleaning effectiveness, approved products, assembled documentation, SOPs, maintenance systems, cleaning schedules, and logbooks.

11.0 Occupant Feedback

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

Cline Library will implement an electronic collection system for gathering feedback about the green cleaning program, and other sustainable initiatives for the building. Occupants are encouraged to alert management to any issues relating to the green cleaning program.

12.0 Time Period

This policy shall take effect on March 1, 2014 and shall continue indefinitely or until amended and/or replaced by subsequent sustainable purchasing policy. This policy is applicable throughout the ownership and management of the building and should be updated as new procedures and processes are developed.

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13.0 Auditing and Quality Assurance Period

Continuous improvement and evaluation of new technologies, procedures and processes is an ongoing process. Green cleaning policies and procedures will be continually fine-tuned and adjusted to respond to issues and opportunities that arise. Beyond an ongoing dedication to improvement, a comprehensive annual evaluation will be completed, and the resulting improvements will be updated in this policy. An annual comprehensive evaluation will include:

- Evaluation of cleaning staffing plan
- Space analysis
- Equipment audit
- Analysis of products
- Trash collection, disposal and recycling
- Carpet, upholstery and floor maintenance and refinishing
- Emergency cleanup protocols and services
- Evaluation of assistance available from suppliers and other third parties
- Evaluation of strategies for the education and training of staff for long-term program success and communication with ownership, management and occupants
- Periodic auditing of the appearance level of the facility will be performed.
- Walk-through visual inspection of a sample of rooms reflecting APPA Leadership in Educational Facilities “Custodial Staffing Guidelines”
- Achieve a minimum Audit Overall Appearance Level score of 3 or less by averaging the aggregate audit rating for each space type. (Divide the total Average Score for Space Type by the number of APPA Category space types).
- APPA recommends audit of at least five spaces for any space type with more than 5 spaces; where 10% of the room is greater than 5, 10% of rooms should be audited.
- Performed by an independent third party with relevant experience, or the average of audits performed by two individual working separately and independently to assess the same spaces and rooms using APPA procedures.
- Identify areas that fall below the owner’s expected standard and improvement to the cleaning program accordingly.

14.0 Hand Hygiene

Hand cleaners are designed to remove both organic and inorganic soil from the skin. Hand cleaner and hand soaps used must make no antibacterial, disinfecting, antiseptic or sanitizing product claims. The use of antimicrobial hand products and waterless hand sanitizers is also minimized. Strategies for promoting and improving hand hygiene include ongoing education about hand washing and signage.