

LEED O+M Starter Kit

for Building Design & Construction projects



Site Management Policy



Systems O&M Plan



Purchasing, Waste and Renovation Policies



Green Cleaning Policy and IPM Plan

Pilot Credit 88: LEED O+M Starter Kit is a collection of Pilot Credits that BD+C projects can use in the Innovation in Design credit category for early pre-approval of O+M prerequisites, streamlining the path into certification in LEED v4 for Operations + Maintenance.

Prerequisites and credits in the O+M rating system are divided between Establishment and Performance requirements. Establishment requirements are physical assets and policies that can be documented and approved once, and do not generally change substantially over time. Performance requirements involve cyclical actions or ongoing tracking during the Performance Period. Many of the Establishment requirements are included in the BD+C rating systems. The O+M Starter Kit consists of the remaining Establishment policy requirements that are not in the BD+C rating systems.

Stipulations:

1. All versions and adaptations of BD+C rating systems may use the Starter Kit with the following caveats:
 - a. Core & Shell projects must provide evidence that the credits have been developed with the participation of the property management team that will be responsible for their implementation.
 - b. BD+C v4 projects cannot use the Systems O+M Manual credit because these requirements are already included in those rating systems.
2. Teams can use any number of these Pilot Credits, in any number of ID credit slots not to exceed the number of Pilot Credits attempted. (All four can be submitted within one ID credit or each can be submitted in a separate ID credit.)
3. Teams may continue to use similar, previously allowed strategies for ID credits, but streamlined approval in an eventual O+M certification will only be allowed if these Pilot Credits are used.

Pilot Credit 88: O+M Starter Kit – Site Management Policy

Intent

To preserve ecological integrity and encourage environmentally sensitive site management practices that provide a clean, well-maintained, and safe building exterior while supporting high-performance building operations and integration into the surrounding landscape.

Requirements

(These are the Establishment requirements of LEED v4 for O+M Sustainable Sites Prerequisite: Site Management Policy.)

Create and implement a site management policy that employs best management practices to reduce harmful chemical use, energy waste, water waste, air pollution, solid waste, and/or chemical runoff for all of the following operational elements on the building and grounds:

- use of low emissions maintenance equipment;
- snow and ice removal;
- cleaning of building exterior, pavement, and other impervious surfaces;
- erosion and sedimentation control (for ongoing operations and for construction activity);
- organic waste management (returned to the site or diverted from landfills);
- invasive and exotic plant species management (through monitoring and eradication);
- fertilizer use (testing soils before using fertilizer to prevent over-application of nutrients);
- irrigation management (monitor irrigation systems manually or with automated systems at least every two weeks during the operating season for appropriate water usage, system times, leaks, or breaks); and
- storage of materials and equipment.

Next Steps (for O+M certification, not required in the Pilot Credit)

The LEED v4 for O+M prerequisite only requires documentation of the policy itself. SS Credit: Site Management, though, is based in part on demonstrating that this policy has been implemented successfully. It is important to develop consistent tracking methods in order to achieve the Site Management credit.

Pilot Credit 88: O+M Starter Kit – Systems O+M Plan

Intent

To promote continuity of information to ensure that energy-efficient operating strategies are maintained and provide a foundation for training and system analysis.

Requirements

(These are the Establishment requirements of LEED v4 for O+M prerequisites Energy & Atmosphere: Energy Efficiency Best Management Practices, EA: Minimum Energy Performance, EA: Building-Level Energy Metering and Water Efficiency: Building-Level Water Metering.)

Prepare and maintain a current facilities requirements and operations and maintenance plan that contains the information necessary to operate the building efficiently. The plan must include the following:

- a current sequence of operations for the building
- the building occupancy schedule;
- equipment run-time schedules;
- setpoints for all HVAC equipment;
- setpoints for lighting levels throughout the building;
- minimum outside air requirements;
- any changes in schedules or setpoints for different seasons, days of the week, and times of day;
- a systems narrative describing the mechanical and electrical systems and equipment in the building;
and
- a preventive maintenance plan for building equipment described in the systems narrative.

Create a profile for the building in ENERGY STAR Portfolio Manager, including details based on the anticipated use of the building. Commit to entering monthly energy consumption data on an ongoing basis.

Have building-level energy meters or submeters that can be aggregated to provide building-level data representing total building energy consumption (electricity, natural gas, chilled water, steam, fuel oil, propane, etc). Utility-owned meters capable of aggregating building-level resource use are acceptable.

Have permanently installed water meters that measure the total potable water use for the building and associated grounds.

Next Steps (for O+M certification, not required in the Pilot Credit)

1. Conduct an energy audit that meets the requirements of the ASHRAE Level I walk-through assessment and develop a preliminary energy end use analysis.
2. Compile meter data into monthly and annual summaries; meter readings can be manual or automated.
3. Collect at least 12 full months of continuous measured energy data and use ENERGY STAR Portfolio Manager to generate an energy performance rating. Achieve a rating of at least 69 (or equivalent using the alternative methods described in the LEED Reference Guide for Green Building Operations & Maintenance).

Pilot Credit 88: O+M Starter Kit – Purchasing, Waste and Renovation Policies

Intent

To reduce the environmental harm from materials purchased, used, and disposed of in the operations, maintenance and upgrades of buildings.

Requirements

(These are the Establishment requirements of LEED v4 for O+M prerequisites Materials & Resources: Ongoing Purchasing and Waste Policy, MR: Facility Maintenance and Renovations Policy and Water Efficiency: Indoor Water Use Reduction.)

Environmentally preferable purchasing

Have in place an environmentally preferable purchasing (EPP) policy for products purchased during regular operations of the building. Include at a minimum:

- Ongoing Purchases

- o The five most purchased product categories based on total annual purchases.
- o Paper, toner cartridges, binders, batteries, and desk accessories.
- o Lamps (indoor and outdoor, hard-wired and portable fixtures)
- o Food (required for Schools and Hospitality projects only)
- Durable Goods Purchases
- o Office equipment, appliances, and audiovisual equipment
- o Electric powered equipment

The policy should address the criteria in the following credits:

- Materials and Resources Credit: Purchasing—Ongoing
- Materials and Resources Credit: Purchasing—Lamps

The policy must cover at least those product purchases within the building and site management's control.

Solid Waste Management

Establish storage locations for recyclable materials, including mixed paper, corrugated cardboard, glass, plastics, and metals. Establish safe storage areas for batteries and mercury-containing lamps. Have in place an environmentally preferable solid waste management policy that addresses reuse, recycling, or composting of products purchased during regular operations of the building. Include at a minimum:

- Ongoing waste
 - o The five most purchased product categories based on total annual purchases.
 - o Food (required for Schools and Hospitality projects only)
- Durable goods waste
 - o Office equipment, appliances, and audiovisual equipment
 - o Electric powered equipment
 - Hazardous Waste
 - o Safe disposal of batteries and lamps (indoor and outdoor, hard-wired and portable fixtures)

The policy must cover at least those product purchases within the building and site management's control.

Facility Maintenance and Renovations Policy

Have in place a facility maintenance and renovation policy that includes guidelines for renovation and maintenance activities, using LEED rating system strategies, to be implemented at the discretion of building owners, operators, or tenants. Renovation activities include building improvements and tenant fit-outs. Maintenance activities include general repair and replacement. The policy must cover at least those product purchases within the building and site management's control. The policy must address purchasing, waste management and indoor air quality.

Purchasing Policy for Maintenance and Renovations

Have in place a purchasing policy for product and materials purchased for facility maintenance and renovation activities. Include at a minimum:

- Base building elements permanently or semi-permanently attached to the building (mechanical, electrical and plumbing components and specialty items such as elevators are excluded). Exclude fixtures, and equipment, which are not considered base building elements;
- Furniture and furnishings as well as components and parts needed to maintain them

The policy should address the criteria in the following credits: MR Credit: Purchasing—Facility Maintenance and Renovation

Waste Management Policy for Maintenance and Renovations

Have in place a waste management policy addressing the following: · Facility maintenance waste: The policy should address safe storage and recycling and diversion of waste associated with maintenance activities.

- Renovation waste: The policy should describe the procedure for creating an individual plan for each renovation project. Each renovation project should establish waste diversion goals, target five materials for diversion, approximate the volume of waste anticipated, and identify waste diversion strategies to be used.

Indoor Air Quality Policy for Maintenance and Renovations

Have in place an indoor air quality policy for facility maintenance and renovation activities addressing the criteria below. For maintenance activities implement the policy as applicable. For renovation activities create an individual plan for each renovation project as outlined in the policy.

- Follow the recommended control measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 2nd edition (2007), ANSI/SMACNA 008–2008, Chapter 3
 - Protect stored on-site and installed absorptive materials from moisture damage.
 - Do not operate permanently-installed air handling equipment during construction unless filtration media with a minimum efficiency reporting value (MERV) of 8, as determined by ASHRAE 52.2–2007, with errata (or equivalent filtration media class of F5 or higher, as defined by CEN Standard EN 779–2002, Particulate Air Filters for General Ventilation, Determination of the Filtration Performance), are installed at each return air grille and return or transfer duct inlet opening such that there is no bypass around the filtration media.
- Develop a procedure to, before occupancy, replace all filtration media with the final design filtration media.
- Develop a plan to determine whether a flush-out or air quality testing is needed after construction ends and all interior finishes are installed but before occupancy.

Indoor Water Fixture and Fitting Replacement Policy

Implement a fixture and fitting replacement and retrofit policy specifying that all newly installed toilets, urinals, private lavatory faucets, and showerheads that are eligible for labeling be WaterSense labeled (or a local equivalent for projects outside the U.S.).

Next Steps (for O+M certification, not required in the Pilot Credit)

In order to meet the LEED v4 for O+M MR Prerequisite: Ongoing Purchasing and Waste Policy, conduct a waste stream audit of ongoing consumables at least once every five years or track diversion of ongoing waste and demonstrate a 75% diversion rate.

Develop consistent methods to collect purchasing and waste data on a regular basis. Tracking performance with the elements of these policies is necessary for the achievement of all Materials & Resources credits.

Pilot Credit 88: O+M Starter Kit – Green Cleaning Policy and IPM Plan

Intent

To reduce levels of chemical, biological, and particulate contaminants that can compromise air quality, human health, building finishes, building systems, and the environment.

Requirements

(*These are the* Establishment requirements of LEED v4 for O+M Indoor Environmental Quality Prerequisite: Green Cleaning Policy and EQ Credit: Integrated Pest Management.)

Green Cleaning Policy

Have in place a green cleaning policy for the building and site addressing the green cleaning credits, goals and strategies, and personnel listed below. At a minimum, the policy must cover green cleaning procedures, materials, and services that are within the building and site management's control, and include the organization responsible for cleaning the building and building site.

Address the requirements of the following credits:

- EQ Credit: Green Cleaning—Purchase of Cleaning Products and Materials
- EQ Credit: Green Cleaning—Cleaning Equipment

Goals and Strategies

- Establish standard operating procedures addressing how an effective cleaning and hard floor and carpet maintenance system will be consistently used, managed, and audited.
- Address protection of vulnerable building occupants during cleaning.
- Address selection and appropriate use of disinfectants and sanitizers.
- Develop guidelines addressing the safe handling and storage of cleaning chemicals used in the building, including a plan for managing hazardous spills and mishandling incidents.
- Develop goals and strategies for reducing the toxicity of the chemicals used for laundry, ware washing, and other cleaning activities.
- Develop goals and strategies for promoting the conservation of energy, water, and chemicals used for cleaning.
- Develop strategies for promoting and improving hand hygiene.

Personnel

- Develop requirements for maintenance personnel. Specifically address contingency planning to manage staffing shortages under a variety of conditions to ensure that basic cleaning services are met and critical cleaning needs are addressed. Include a process to obtain occupant and custodial staff input and feedback after contingency plans are implemented.
- Determine the timing and frequency of training for maintenance personnel in the hazards of use, disposal, and recycling of cleaning chemicals, dispensing equipment, and packaging.

Integrated Pest Management

Have in place an integrated pest management (IPM) plan for the building and grounds within the project boundary. The IPM plan must include the following elements.

- Identification of an IPM team. Identify roles for building management, pest management contractors, maintenance staff, and liaisons with building occupants.
- Provisions for identifying and monitoring pests. Specify inspections, pest population monitoring, and a reporting system that allows occupants, maintenance staff, and others to report evidence of pest infestations.
- Action thresholds for all pests likely encountered in the building. Also describe a process for modifying action thresholds, if necessary, through active communication between occupants and the IPM team.
- Nonchemical pest preventive measures, either designed into the structure or implemented as part of pest

management activities.

- Pest control methods to be used when action thresholds are exceeded. For each pest, list all potential control methods considered and adopt the lowest-risk options, considering the risks to the applicator, building occupants, and the environment. The plan must preferentially require nonchemical approaches, with pesticides registered for the site applied only if those approaches fail. Give preference to the use of least-risk pesticides based on inherent toxicity and exposure potential. If a pesticide that is not in the least-risk category is selected, document the reason.
- A mechanism for documentation of inspection, monitoring, prevention, and control methods and for evaluation of the effectiveness of the IPM plan. Specify the metrics by which performance will be measured, and describe the quality assurance process to evaluate and verify successful implementation of the plan.
- A strategy for communications between the IPM team and the building occupants (for schools, faculty and staff). This strategy should include education about the IPM plan, participation in problem solving, feedback mechanisms (e.g., a system for recording pest complaints), and provision for notification of pesticide applications. At a minimum, the facility manager must notify any building occupant or employee who requests it and post a sign at the application site, which must remain in place for 24 hours. Notifications must include the pesticide name, EPA registration number, treatment location, and date of application. Applications of least-risk pesticides do not require notification. For an emergency application of a pesticide, anyone who requested notice must be notified within 24 hours of the application and given an explanation of the emergency.

Next Steps (for O+M certification, not required in the Pilot Credit)

Develop consistent methods to collect cleaning purchase data on a regular basis. Tracking performance with the elements of these policies is necessary for the achievement of some Indoor Environmental Quality credits. Implement the strategies set forth in the IPM plan. Maintain records of pest control measures.