



Submittal Tips for LEED Canada for Existing Buildings: Operations and Maintenance 2009

June 24, 2014

The following document is a collection of informal tips based on guidance that has been provided to project teams in review comments. Not all of the tips provided will be applicable to all projects. The tips do not change the credit or submittal requirements; however, some of the supporting documentation referenced in the tips can be helpful for the review. Following the tips does not ensure that a prerequisite or credit will be earned, but it may help to make the review processes smoother.

The content is applicable at the time of publication and utilizes all publically available resources published by the CaGBC including, but not limited to, LEED Rating Systems, Reference Guides and Addenda, LEED Letter Templates, Credit Interpretation Requests, supplemental guidance documents and LEED Technical Bulletins. The content of this document may be superseded by subsequent updates to CaGBC publications. Project teams are responsible for being familiar with all published LEED documents.

This document does not specifically address recertification submittal requirements.

General Material

PROJECT NARRATIVE

- **Clearly define the LEED project building.** Does the project consist of more than one tower? Is the project a candidate for Multiple Building Certification? Outline the connections between buildings and any shared infrastructure. Note that multiple building projects are subject to the certification fee schedule noted on the CaGBC website and must follow the *Application Guide for Multiple Building Projects in LEED Canada EB:O&M*.
- **Be sure to confirm the percentage of occupied space during the performance period.** Buildings having occupied floor area above 90% are deemed fully occupied. Projects having an average occupied floor area between 50 and 90% are described as having reduced occupancy and must follow the guidance outlined in the *Reduced Occupancy Guidance for LEED Canada Existing Buildings: Operations & Maintenance 2009*.
- **Include any relevant information relating to the certification history of the building.** Was the building previously certified under a design and construction rating system or an existing buildings certification? If so, include the scorecard from the previous certification. Projects seeking recertification must follow the *LEED Canada for Existing Buildings: Operations and Maintenance Recertification Guidance*.

GENERAL SUBMITTAL MATERIAL

- **Ensure the Project Info tab of the LEED letter templates has been completed in full.** Ensure the building floor area and occupancy values noted are consistent with those reflected in the applicable prerequisites and credits. Remember to provide a narrative and/or calculations to explain any discrepancies.
- **Ensure that the Team List tab of the LEED letter templates has been completed in full** including the LEED Consultant, Property Manager, Property Owner and any additional consultants such as an energy specialist, commissioning agent, or IAQ testing professional.
- **Was the project registered on or after September 1, 2012?** If so, the project must meet the criteria outlined in the *Minimum Program Requirements (MPRs) for LEED Canada Rating Systems*, and must include the Minimum Program Requirements Declaration form signed by the project owner available on the CaGBC website. The owner is defined as the person directly employed by the organization holding title to the project building and recognized by law as having rights, responsibilities, and ultimate control over the building.

- **Provide photos, a site plan or other available materials.** There are very few drawing submittal requirements for LEED Canada EB:O&M 2009 projects as design documents and drawings can be challenging to obtain for existing buildings. Therefore, photos of each elevation and the main entrance are required. The project team should also provide photos of building features such as landscaping, hardscape areas, common spaces such as building atriums and pedestrian connections between buildings, and interior areas under the owner's/property manager's control. As well, providing site plans, drawings and any other relevant information to help document and clarify the project scope and context can help reduce requests for clarification during the certification review.

SUSTAINABLE SITES

SSc2 Building Exterior and Hardscape Management Plan

- Be sure that the plan adheres to the Plan Model described in the Introduction of the LEED Canada EB:O&M 2009 Reference Guide. Note that the Plan Model differs from the Policy Model outlined in the same document.
- Remember to specify a responsible party - an individual or team who is accountable for the implementation of the Building Exterior and Hardscape Management Plan. At a minimum, include the name of the individual(s) or job title(s) responsible for overseeing the plan. If a responsible party is a contractor or consultant be sure to list the in-house person to whom that person reports.
- Remember to describe the quality assurance/quality control processes used to ensure that each element of the plan is being successfully implemented.
- Be sure to include goals for each aspect of the plan that are quantitative thresholds. For example, the plan could specify the target percentage of paints (measured by volume) used that meet low-VOC criteria.
- Remember to include performance measurement methods for each aspect of the plan, including how actual outcomes and sustainability performance for each element of the plan will be measured and tracked over time. The selected metrics will allow the project team to quantify the extent to which environmentally preferred practices are used. An example of a performance metric is the amount of GS-11 compliant paint (measured by volume) applied to the building exterior.
- Remember to establish sustainability criteria for cleaning products used on the building exterior based on the requirements of IEQc3.3 Green Cleaning - Purchase of Sustainable Cleaning Products and Materials.
- Remember to include specific VOC limits for paints and sealants in the plan. The plan must specify that paints used on the building exterior comply with the VOC limits of Green Seal's GS-11. Sealants used on the building exterior must comply with SCAQMD Rule #1168, and all sealants used as fillers must comply with Bay Area Air Quality Management District Regulation 8, Rule 51. Note that specific VOC limits must be included in the plan even if they are not regularly used if it is possible that such products will be used, for example, during building maintenance or re-sealing.

- Be sure to clearly indicate to what extent compliant practices for each aspect of the plan were utilized during the performance period. Note that compliance for this credit is based on the full implementation of an appropriate building exterior and hardscape management plan during the performance period, but allowances are made for project teams to utilize some non-compliant practices if full implementation of a compliant plan is not feasible.
- Remember to use compliant practices for each element of the plan at least 80% of the time during the performance period. Note the following when determining compliance:
 - Deicers containing sodium chloride or other chlorides are not compliant deicers, as stated in the Reference Guide.
 - Window washing products and products used to clean the building exterior must meet the requirements of IEQc3.3 Green Cleaning - Purchase of Sustainable Cleaning Products and Materials.
 - Measuring purchases (such as the purchased quantity of de-icing agents, paints, or similar) does not allow the project team to determine whether compliant practices were utilized at least 80% of the time during the performance period and thus is not sufficient to document credit compliance.
- Don't forget to include a narrative that describes how and to what extent the best management practices employed for each operational element of the plan reduce environmental impacts compared with standard practices.

SSc3 Integrated Pest Management, Erosion Control, and Landscape Management Plan

- Be sure that the plan adheres to the Plan Model described in the Introduction of the LEED Canada EB:O&M 2009 Reference Guide. Note that the Plan Model differs from the Policy Model outlined in the same document.
- Remember to specify a responsible party, i.e. an individual or team who is accountable for the implementation of the Integrated Pest Management, Erosion Control, and Landscape Management Plan. At a minimum, include the name of the individual(s) or job title(s) responsible for overseeing the plan. If a responsible party is a contractor or consultant be sure to list the in-house person to whom that person reports.
- Be sure to include goals for each aspect of the plan that are quantitative thresholds. For example, the plan could specify the target percentage of fertilizers used (measured by weight, volume, or cost) that contain organic ingredients.

- Remember to include performance measurement methods for each aspect of the plan, including how actual outcomes and sustainability performance for each element of the plan will be measured and tracked over time. The selected metrics will allow the project team to quantify the extent to which environmentally preferred practices are used. An example of a performance measurement could be the quantity of fertilizer (measured by weight) used.
- Remember to describe the quality assurance/quality control processes used to ensure that each element of the plan is being successfully implemented.
- Be sure to describe the types of rodent baits permitted for use at the project building and appropriate universal notification. According to the Reference Guide, rodent baits are not considered least toxic under any circumstance because of their high toxicity. Rodent baits shall only be used if they are solid blocks placed in locked outdoor dispensers. No second-generation (single-feed) rodent baits shall be used if the building is adjacent to parkland, wild areas, or other spaces where wildlife may be unintentionally affected.
- Remember to specify the circumstances under which an emergency application of pesticides can be conducted and describe the universal notification system in place to notify building occupants of the application of a pesticide.
- Be sure to include ongoing erosion and sedimentation control measures and measures in the event of future construction projects in the plan. All buildings, even in urban settings, require measures for preventing erosion and sedimentation. This includes ongoing erosion and sedimentation control, including cleaning out storm drains, maintaining sidewalks, removing detritus, etc., as well as erosion and sedimentation control for potential construction projects such as sidewalk construction.
- Remember to address both the diversion of landscape waste and the measures for minimizing the use of chemical fertilizers in the plan.
- Don't forget that the erosion and sedimentation control and IPM portions of the plan must be implemented 100% of the time during the performance period.
- Don't forget that environmentally preferred practices for chemical fertilizer use must be utilized at least 80% of the time during the performance period. Measuring purchases of fertilizers does not allow the project team to determine whether compliant practices were utilized at least 80% of the time during the performance period and thus is not sufficient to document credit compliance.

- Be sure the IPM portion of the plan includes a definition of least toxic pesticide is consistent with the definition outlined in the LEED Canada EB:O&M 2009 Reference Guide Addenda. Least toxic pesticides are considered to be products that meet San Francisco's Tier III hazard criteria as shown in the San Francisco Pesticide Hazard Screening List.
- Remember that the IPM portion of the plan must describe integrated pest methods as the first step in eliminating pests. The plan must utilize integrated methods, site or pest inspections, pest population monitoring, evaluation of the need for pest control and one or more pest control methods, including sanitation, structural repairs, mechanical, and living biological controls, and other nonchemical methods as the first step in eliminating pests.
- Be sure to verify whether the chemicals listed in the IPM portion of the plan as approved are least toxic according to the San Francisco Pesticide Hazard Screening List. If it is unclear or the product is not least toxic, remember to issue universal notification at least 72 hours prior to applying these chemicals. Chemical-based pesticides that do not appear on the Pesticide Hazard Screen List are not automatically assumed to be least toxic.
- Remember to check the pesticide application log provided for the project to ensure that non-least toxic pesticides were not applied to the building site or grounds during the performance period without universal notification.

SSc4 Alternative Commuting Transportation

FORMAL COMMUTE REDUCTION PROGRAM (OPTION A)

- Remember to include a summary table of the employee commute data collected to meet program requirements and showing compliance with the credit criteria and number of points pursued.
- Be sure that a narrative is provided describing the data collection methodology and protocols, as well as the metrics used by the program to determine the reduction in conventional commute trips. Don't forget that the narrative must establish that the program collects and analyzes employee commute data in a technically sound fashion.

OCCUPANT COMMUTE SURVEY (OPTION B)

- Be sure that the data is technically sound according to the SCAQMD data collection methodology. Note that:
 - Non-respondents must be considered conventional commuters. A non-respondent is an individual who was approached or presented with a survey and declined to complete the survey.
 - No bias can be present in the selection of individuals to be surveyed.
 - The evaluation of commute behavior must be for a specific time period (five consecutive business days). Credit compliance cannot be based on the assessment of the occupants' typical modes of transit. Compliance can only be based on actual behaviour over a specific five-day period.
- Be sure that the total number of regular building occupants is consistent between SSc4 and the project info tab of the LEED letter templates. Note that the number of building full-time equivalent employees listed may differ from the number of regular building occupants used in SSc4, but any notable differences should be quantified and explained.
- Remember to count carpooling employees appropriately as having made a fraction of a trip according to the number of other riders in the vehicle rather than zero trips.
- Don't forget that projects may not extrapolate the commuting behaviour of the respondents to the non-respondents unless the response rate is 80% or more of the regular building occupants. Alternatively, projects may use the compliance approach outlined in CIR 917 to extrapolate the results for lower response rates and may compile the results in the USGBC's EBOM SSc4 Alternative Commuting Survey Results Calculator that is available online.
- Remember that employees who did not commute due to an absence such as a vacation or sick day should not be included in the calculations for those days. Occupants who do not commute to work due to an absence should be noted but not included in the results.
- Remember that the random sample size, if used, must be calculated using the formula described in the Calculations section of SSc4 in the Reference Guide. The random sample must also be representative of the building population. If feasible, use systematic sampling for subpopulations within the building, stratified by occupant, employer/tenant, or another characteristic believed to be relevant to commuting behavior. If the building population cannot be stratified because data are lacking, systematic sampling based on an alphabetical or other random list is acceptable. Be sure to provide documentation demonstrating the methodology by which the sampling population was selected.

WATER EFFICIENCY

WEp1 Water Metering and Minimum Indoor Plumbing Fixture and Fitting Efficiency

- Remember to provide a copy of the water audit report, including the water-use breakdown for water consuming systems.
- Remember to verify that the occupancy values listed under WEp1 are consistent with those reflected in the project info tab of the LEED letter templates.
- Don't forget to include visitors in the calculations. Most building types have visitors.
- Remember that the fixture usage groups will represent sub-populations within the building that use a specific subset of building fixtures. Separate fixture usage groups should NOT be created for each fixture type (toilets, urinals, lavatories, etc.).
- Remember that the building's gender ratio must be assumed to be 50% male and 50% female unless a different ratio can be demonstrated based on actual occupant numbers, with clear supporting documentation.
- Remember to include kitchen and break room sinks on the form, if they are present in the building.
- If urinals are not present in the building, the fixture group occupancy must be set to 100% female.
- Remember to upload manufacturer's or supplier's data verifying the flush/flow rates for each fixture type. If manufacturer's or supplier's data are unavailable, the project team has specified flush or flow rates for each fixture type using measured rates for at least a 20% sample of each flush fixture type.
- Be sure to provide meter calibration documentation for meters owned by the project building. Project teams may consult CIR 1072 for alternative means of demonstrating that calibration requirements have been met.

WEc3 Water Efficient Landscaping

- Sites with no permanent irrigation system and existing established landscaping may use the alternative compliance pathway outlined in CIR 722.

THEORETICAL PERFORMANCE CALCULATION (OPTION B)

- Remember to provide detail on the input values for the Theoretical Irrigation Calculation. Information should be provided from the responsible party to justify the selected values for Species Factor (ks), Density Factor (kd), and Microclimate Factor (kmc), for each different vegetation type in the baseline and design case.
- Remember to provide appropriate supporting documentation for Irrigation Efficiency (IE) and Controller Efficiency (CE) strategies. Further detail is provided in CIR 1070.

ENERGY AND ATMOSPHERE

EAp2 Minimum Energy Efficiency Performance

- Don't forget that calibration reports must be provided for all of the building-owned meters.

ENERGY STAR RATING (OPTION A)

- When pursuing this path, be sure to verify all of the following:
 - The monthly energy use summaries must directly correspond to the energy bills provided for the energy source/meter.
 - The building occupancy and square footage must be consistent between the Statement of Energy Performance, Project Info tab of the LEED letter templates and other credits and prerequisites.
 - The operating hours must not differ significantly between the Statement of Energy Performance and ENERGY STAR Data Verification Checklist and the Building Operating Plan.
 - Supporting spaces within the building must be categorized correctly within Portfolio Manager.
 - All energy meters serving the building must be accounted for in Portfolio Manager.
 - A summary of the monthly energy use during the performance period must be provided for any excluded areas.
 - Remember to include a narrative explaining how the space attributes and actual operational variables used to generate the ENERGY STAR Rating were derived.
 - The number of personal computers (PC's) documented in Portfolio Manager must not be significantly higher than the number of building occupants. Large differences can be explained through a narrative.

BUILDINGS NOT ELIGIBLE FOR AN ENERGY STAR RATING (OPTION B AND C)

- Don't forget to provide a narrative indicating why the project building is ineligible for an ENERGY STAR rating. Don't forget that if the building is eligible for an ENERGY STAR rating, Option A must be used.
- Don't forget to input the building's source, not site, energy use intensity from Portfolio Manager into the Energy Efficiency Performance Option B&C Calculator.
- Don't forget to refer to the definitions in the Portfolio Manager help menu on the ENERGY STAR website for additional information about each space type.

EAc3.2 & 3.3 Performance Measurement: System-Level Metering

- Remember to document that the calibration requirements of this credit have been met, including documentation specifying procedures and the recommended interval for recalibration, and a summary calibration report dated within the manufacturer's recommended interval.
- Be sure that all energy meters are at the system level and that manually read meters do not contribute to credit compliance. Remember to describe each meter in sufficient detail, including the meter type and location and the meter data recording process or system, including the data logging intervals and schedule.
- Remember to provide documentation indicating which specific equipment and building systems are monitored by each energy submeter and what percentage of total building energy use is monitored by each submeter. This documentation should enable the reviewer to verify which specific systems and equipment are submetered, whether at least 40% or 80% of the total expected annual energy consumption of the building is metered at the system level, and whether at least 80% of largest energy use categories has been submetered. Verify that information has been reported consistently across all LEED prerequisites and credits. The provided energy use breakdown must not contain a different value for the total annual energy use than EAp2, EAc1, or EAc2.1.

EAc5 Enhanced Refrigerant Management

PERFORMANCE CALCULATION (OPTION B)

- Remember that all refrigerant-containing base building systems in the project building must be listed; this includes all commercial refrigeration and supplemental air conditioning equipment containing 0.23 kilograms (0.5 pounds) or more of refrigerant.
- Remember to provide a narrative explaining the source and derivation of the inputs entered in the LEED letter template, including explanations for any alternative values used for equipment life or end-of-life refrigerant loss.
- Be sure that the refrigerant leakage rate for each piece of equipment has been based on actual leakage rates experienced in the project building.
- Don't forget that the minimum refrigerant leakage rate allowable in the credit calculations is 0.5%, even if no refrigerant was added to the equipment. Remember that documentation must be provided showing that leakage rates were tracked (such as inspection/maintenance reports done during the performance period), to verify that no leaks were detected, or projects should assume a default value of 2%.

MATERIALS AND RESOURCES

MRp1 Sustainable Purchasing Policy

- Remember that the Policy must follow the Policy Model outlined in the Introduction of the LEED Canada EB:O&M 2009 Reference Guide, including a time period, responsible parties, and quantitative purchasing goals and performance metrics for each aspect of the policy. At a minimum, the responsible party portion of the plan should indicate the name of the individual(s) or job title(s) responsible for overseeing the policy.
- Remember that the Sustainable Purchasing Policy must address MRc1 Sustainable Purchasing: Ongoing Consumables and at least one additional credit (MRc2, MRc3, or MRc4) besides MRc1.
- Be sure that the quantitative goals outlined in the policy meet the individual credit requirements.

MRp2 Solid Waste Management Policy

- Remember that the Policy must follow the Policy Model outlined in the Introduction of the LEED Canada EB:O&M 2009 Reference Guide, including a time period, responsible parties, and quantitative purchasing goals and performance metrics for each aspect of the policy. At a minimum, the responsible party portion of the plan should indicate the name of the individual(s) or job title(s) responsible for overseeing the policy. As an example, a goal could be set for a specific percentage of each waste category (by weight or volume) to be diverted.
- Be sure that the quantitative goals outlined in the policy meet the individual credit requirements.
- Remember to address furniture disposal as part of the “durable goods” category. The durable goods category includes, but is not limited to, both electronics and furniture.
- Don’t forget that the policy must have a goal of recycling all of the mercury containing lamps that are discarded.

MRc4 Sustainable Purchasing - Reduced Mercury in Lamps

- Remember that the lighting purchasing plan must include indoor, outdoor, hard-wired, and portable fixtures.
- Be sure that the mercury content documentation is consistent with the declared values listed in the LEED letter template. Please note that the rated life data point must be the 3-hour instant start ballast value (except for T-5 lamps) and that the rated light output per bulb data point must be the mean lumens value. Refer to the Calculations section of MRc4 of the Reference Guide for more information.

- Remember that any mercury-free lamp types must be at least as energy efficient (in lumens per watt) as their mercury-containing counterparts. Note that incandescent lamps are typically not as energy efficient as fluorescent lamps and so should most likely not be included in credit calculations. Be sure to provide supporting documentation.
- Don't forget that the purchases made during the performance period must demonstrate that the purchasing plan was implemented. Any lamp that was purchased during the performance period must be included in the purchasing plan. Be sure to provide a narrative to explain any differences between the purchasing plan and the purchases made during the performance period.
- Remember to provide cut sheets for at least 20% of the sustainable materials that clearly confirm the mercury content, lumen output, and rated life.

MRc6 Solid Waste Management - Waste Stream Audit

- Remember to provide a copy of the waste stream audit report, including a description of the audit procedure, a description of the sample of waste audited, and a rationale demonstrating that the audited sample is representative of the building's typical waste stream.
- Remember that all ongoing consumables waste generated during the audit period (typically one day) must be physically sorted and measured using the methodology described in the Reference Guide.
- Don't forget to record the waste stream audit results in Table 1 of the LEED letter template, noting that the entries are the results of the audit (typically one day), not estimates or annual totals extrapolated from the audit results.

MRc7 Solid Waste Management – Ongoing Consumables

- Remember that if waste diversion has not been tracked over the performance period, this credit cannot be earned. Extrapolation based on the waste audit or other indirect measurements of ongoing consumables are not acceptable for demonstrating credit compliance.
- Don't forget to provide a narrative description of the quality control program that is in place to ensure that ongoing consumables are not leaving the project building or associated grounds in uncontrolled or unmonitored channels of the waste stream.
- Don't forget to provide a description of the battery recycling program and the methods used to estimate battery diversion performance.

- Ensure that only ongoing consumables waste has been reported in the LEED letter template. Materials that may be considered ongoing consumables or durable goods can be counted under either category provided consistency is maintained with MRc8, with no contradictions exclusions or double-counting. Consistency must also be maintained with MR credits 1 and 5.

MRc8 Solid Waste Management – Durable Goods

- Be sure to include in the LEED letter template any furniture waste generated during the Performance Period.
- Don't forget to provide a narrative description of the quality control program that is in place to ensure that durable goods, including both electronics and furniture, are not leaving the project building or associated grounds in uncontrolled or unmonitored channels of the waste stream.
- Ensure that only durable goods waste has been reported in the LEED letter template. Materials that may be considered ongoing consumables or durable goods can be counted under either category provided consistency is maintained with MRc7, with no contradictions exclusions or double-counting. Consistency must also be maintained with MR credit 2.

INDOOR ENVIRONMENTAL QUALITY

EQp1 Minimum Indoor Air Quality Performance

- Remember to provide an exhaust system testing report for each separate type of exhaust system, including restroom exhaust systems. All exhaust systems are required to be tested. The test must include verification of each exhaust fan's operation (will the fan operate?), proper function (voltage or amperage), controls (to ensure the fan is under control), and sequence of operations (to ensure that either manual or digital controls are operating according to the desired schedule).
- Don't forget to provide a narrative summarizing the ventilation maintenance program, as well as copies of periodic system maintenance status reports or maintenance logs for all ventilation components.
- Remember to verify that the total square footage and occupancy listed in the calculations do not differ significantly from the values listed in the project info tab of the LEED letter template. Some differences in square footage are reasonable, given that only occupiable space is included in EQp1, but a narrative description is required to address large square footage differences.
- Be sure to verify that the outside airflows listed in the LEED letter template table and those listed on the supporting documentation are consistent.
- Remember that the outdoor air supply at the system level must be individually measured.
- Remember to identify a sufficient number of potentially critical zones in the supporting Option A Ventilation Rate Procedure (VRP) calculations. Zone level data must be used to calculate the required outdoor air at the system level. The documentation must include sufficient information to show that all potentially critical occupiable zones have been accounted for in the calculations.

- Remember that ASHRAE 62.1-2007 requires the breathing zone outdoor airflow (V_{bz}) ventilation rates to be met at all of the operating conditions. For variable air volume (VAV) systems that provide both heating and cooling functions, the worst-case ventilation design scenario often occurs in heating mode when the zone primary airflow, (V_{pz}) is at its minimum setting and the supply air temperature is at its highest setting. Typically under these conditions, the zone air distribution effectiveness (E_z) is required to be 0.8 per ASHRAE 62.1-2007, Table 6.2 and the D_s value must represent the ratio of the flow at the worst-case condition analyzed (typically the minimum supply for each zone and the minimum supply airflow at the system level) for the flow at design conditions. These requirements are especially important for the critical zone, since this zone drives the design of the system level ventilation flow rates. Be sure that it is apparent which zone, for each unit serving multiple zones, is the critical zone and is therefore driving the design outdoor air intake flow (V_{ot}) at the air handler.
- Remember that all values of occupancy used to define minimum outside airflow requirements must be based on the maximum occupancy expected during normal facility operation and not on design occupancy, minimum occupancy, or unusual or emergency conditions. According to the *Reduced Occupancy Guidance for LEED Canada Existing Buildings: Operations & Maintenance 2009*, the default values for occupancy listed in ASHRAE standard 62.1-2007 should be used only for completely vacant spaces.
- Remember, that if the systems are incapable of providing the required airflow, to provide sufficient documentation to demonstrate that building AHUs are incapable of supplying the outdoor airflow required by 62.1-2007.

EQp3 Green Cleaning Policy

- Remember the Policy must follow the Policy Model outlined in the Introduction of the LEED Canada EB:O&M 2009 Reference Guide, including a time period, responsible parties, and quantitative goals and performance metrics for each aspect of the policy. As an example, a goal could be set for a specific percentage of cleaning product purchases (by cost) to satisfy the criteria of IEQc3.3 Green Cleaning: Purchase of Sustainable Cleaning Products and Materials. The responsible party portion would include the name of the individual(s) or job title(s) responsible for overseeing the policy.
- Be sure that the quantitative goals outlined in the policy meet the individual credit requirements.
- Don't forget to include sufficient information on the established guidelines surrounding staffing and training of maintenance personnel including the training of maintenance personnel in the hazards of use, disposal, and recycling of cleaning chemicals, dispensing equipment, and packaging, including the subjects and frequency of the training sessions.

- Don't forget to address the establishment of standard operating procedures for the cleaning system, including procedures for how an effective cleaning and hard floor and carpet maintenance system will be consistently utilized, managed, and audited.
- Don't forget to address guidelines regarding the safe handling and storage of cleaning chemicals, including the safe handling and storage of cleaning chemicals used in the building and a plan for managing hazardous spills or mishandling incidents.
- Be sure to include provisions for collecting occupant feedback and continuous improvement to evaluate new technologies, procedures, and processes.
- Remember to include standard operating procedures that specifically address cleaning to protect vulnerable building occupants. These procedures may identify likely occupants who are disproportionately affected by cleaning practices and propose methods to minimize impacts on those groups. These methods may include adjustments to cleaning procedures, frequencies, or timing.

EQc3.1 Green Cleaning - High Performance Cleaning Program

- Projects teams may wish to use one document to meet the requirements of EQp3 and EQc3.1. However, remember that the one document must completely address the requirements of both the Policy and Plan Model in the Introduction of the LEED Canada EB:O&M 2009 Reference Guide.
- Remember to establish quantitative goals and performance metrics for each applicable aspect of the program, in particular for cleaning products and equipment. As an example, a goal could be set for a specific percentage of cleaning product purchases (by cost) to satisfy the criteria of IEQc3.3 Green Cleaning: purchase of Sustainable Cleaning Products and Materials.
- Be sure to specify a responsible party, an individual or team who is accountable for the implementation of the program. At a minimum, include the name of the individual(s) or job title(s) responsible for overseeing the plan. If a responsible party is a contractor or consultant be sure to list the in-house person to whom that person reports.
- Don't forget to establish quality assurance/quality control processes used to ensure that each element of the program is being successfully implemented.
- Don't forget to address the staffing plan, including the number of custodial/maintenance staff that are working at any given time during operating hours. Demonstrate that this number of staff is sufficient to cover the specific needs of the project building.

EQc3.2 Green Cleaning – Custodial Effectiveness Assessment

- Be sure that the total area of space included in the calculations does not differ significantly from the building area reported in the project info tab of the LEED letter templates. Some differences in area are reasonable, given that not all space types (mechanical rooms, for example) are required to be included in the APPA audit, but significant differences should be explained in greater detail.
- Remember to audit a sufficient number of rooms; equivalent to at least 10% of the number of rooms each space type and 10% of total floor area cleaned must be audited. For any space types where 10% consists of fewer than five rooms, include all of the rooms.
- Don't forget that if using a single auditor, the person must be independent from the project. If a single audit takes place, it must be conducted by an independent third party (not the current cleaning service provider or contractor).

EQc3.3 Green Cleaning – Purchase of Sustainable Cleaning Products and Materials

- Remember to provide cut sheets for at least 20% of the sustainable materials, which clearly confirm the sustainability criteria.
- Don't forget to provide copies of at least two random audits conducted during the performance period, confirming the use of the purchased sustainable cleaning products and materials on site (including janitorial paper and trash bag products).

EQc3.5 Green Cleaning – Indoor Chemical and Pollutant Source Control

- Remember to label all entries and exits from the project building. Please note that entryway systems are required at building service and loading dock entrances and at building entrances from attached or underground parking garages. Entryways that do not have installed entryway systems should be clearly marked as emergency exits or entries to private offices, as applicable. Please note that in order to meet the requirements of this credit, all building entrances that are in use must have a compliant entryway system in place.
- In the provided floor plans, remember to confirm the lengths of the entryways systems on the floor plans which should be illustrated to scale. Each must be at least 3 meters (10 feet) in length in the primary direction of travel. Alternatively, project teams are welcome to provide photos to illustrate the type and length of entryway system installed.
- Don't forget that typical building carpeting does not satisfy the requirements of EQc3.5, as it is not designed to effectively capture dirt, dust, pollen, and other particles entering the building.

- If the project is excluding a space from the credit which is under separate management and control, remember to provide a narrative detailing the excluded area with justification.

EQc3.6 Green Cleaning – Indoor Integrated Pest Management

- Be sure that the pesticide application log provided is legible. If needed, provide a legible, transcribed copy of the pesticide log.
- Be sure that the pesticide application log includes all of the information required to demonstrate credit compliance, such as pesticide names, active ingredients, and EPA numbers, along with application date(s) and information on the specific location(s) in each space where the pesticide was applied (i.e. crack and crevice application vs. General spray). This log must also describe how and when universal notification requirements were met for any non-least toxic pesticides, including pesticide applications in emergency situations.
- Don't forget to describe the universal notification system to notify building occupants of the application of a pesticide. These universal notification procedures will require notice of not less than 72 hours before application (under normal conditions) and 24 hours after application (in emergency conditions) of a pesticide other than a least-toxic pesticide.
- Remember to specify the circumstances under which an emergency application of pesticides can be conducted.
- Remember to describe the integrated methods, site or pest inspections, pest population monitoring, evaluation of the need for pest control and one or more pest control methods, including sanitation, structural repairs, mechanical, and living biological controls, and other nonchemical methods as the first step in eliminating pests.
- Be sure to describe the types of rodent baits permitted for use at the project building and appropriate universal notification. According to the Reference Guide, rodent baits are not considered least toxic under any circumstance because of their high toxicity. Rodent baits shall only be used if they are solid blocks placed in locked outdoor dispensers. No second-generation (single-feed) rodent baits shall be used if the building is adjacent to parkland, wild areas, or other spaces where wildlife may be unintentionally affected.
- Remember to verify that the plan's definition of least toxic pesticide is consistent with the definition outlined in the LEED Canada EB:O&M 2009 Reference Guide Addenda. Least toxic pesticides are considered to be products that meet San Francisco's Tier III hazard criteria as shown in the San Francisco Pesticide Hazard Screening List.

- Be sure to verify whether the chemicals listed in the IPM portion of the plan as approved are least toxic according to the San Francisco Pesticide Hazard Screening List. If it is unclear or the product is not least toxic, remember to issue universal notification at least 72 hours prior to applying these chemicals. Chemical-based pesticides that do not appear on the Pesticide Hazard Screening List are not assumed to be least toxic.
- If any non-least toxic pesticides were used during the performance period, provide evidence that universal notification took place. If pesticides other than least toxic pesticides are used, the project team must exercise universal notification.