



**BOMA** Building  
**BEST**<sup>®</sup> Environmental  
Standards

**BOMA BEST Sustainable  
Buildings 3.0**

**Multi-Unit Residential Buildings  
(MURB) Questionnaire**

January 2022



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## BUILDING INFORMATION

0.4 Is the building being recertified?

- Yes
- No

0.7 Specify the building's location:

- Central Business District (CBD) or inner city
- Suburban
- Rural

0.16 How many floors are there?

0.18 How many parking stalls are there?

0.19 Is there underground parking?

- Yes
- No

0.21 The property is:

- A rental occupancy
- A co-op
- A condominium
- A condo/rental tenancy

How many residential units are in the building?

0.22.1 Studio

0.22.2 One bedroom

0.22.3 Two bedroom

0.22.4 Three bedroom

0.22.5 Other

0.22.6 Total

0.29 What is the approximate total number of people living on the property?

0.44 Provide a brief general description of the building

Provide a short description of the building. Note massing, placement on the lot, landscaping, any significant physical, historical or functional characteristics, and any significant renovations or retrofits within the last 5 years.



## BEST PRACTICES

### ENERGY

BEST Practice 1	Is a Preventative Maintenance Program in place at the building?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Description:</b> Preventative maintenance recognizes that certain systems and their components require scheduled periodic maintenance, as well as overhauling or replacement after a certain age, at certain intervals, or due to specific causes. The Preventative Maintenance Program is a systematic approach that outlines what equipment under the landlord’s control must be reviewed, the corrective action that must be taken and how frequently this must occur.</p> <p><b>Requirements:</b> The Preventative Maintenance Program must outline when preventative and corrective maintenance is required to be performed on the building’s equipment. Demonstration of implementation is required. The program must have been updated in the last five (5) years. Consult the <a href="#">BEST Practice Guidelines</a> for a complete list of requirements concerning this BEST Practice.</p> <p><b>Additional Information:</b> Preventative maintenance involves inspecting and testing units for operation and faults. Corrective maintenance involves repairing a unit to bring it back to operability at its most efficient capability.</p>	
<p><b>Scoring</b></p>	Yes	Certification is permitted
	No	Certification is not permitted



BEST Practice 2	Has an ASHRAE Level 1 Energy Assessment been conducted in the last five (5) years?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Description:</b> An ASHRAE Level 1 assessment refers to a simple audit of the building’s configuration and energy systems. It focuses on the identification of the potential for energy efficiency improvements.</p> <p><b>Requirements:</b> An ASHRAE Level 1 Energy Assessment must have been conducted on the building in the last five (5) years.</p> <p>The Energy Assessment report must contain the following elements:</p> <ul style="list-style-type: none"> <li>• Analysis of energy consumption through monthly utility bill review and benchmarking. For benchmarking purposes utility bills must cover a minimum of 12 months of continuous data. If major renovations or retrofits to the building systems have occurred, use data after the time of major renovation, if possible. Major renovations include upgrades to mechanical systems, upgrades to building envelope systems and electric system upgrades including procurement of new lighting for more than 50% of the building’s lighting fixtures.</li> <li>• List major energy-consuming equipment.</li> <li>• Prioritized list of proposed low-cost and no cost energy conserving measures (ECMs) to enable greater energy efficiency.</li> <li>• Provision of estimates of financial savings the building owner will realize as a result of investing in ECMs. At a minimum, savings and cost estimates should be based on a generalized understanding of the systems.</li> </ul> <p>Data used for this assessment must represent complete building data for all building spaces and uses.</p> <p>Consult the <a href="#">BEST Practice Guidelines</a> for a complete list of requirements concerning this BEST Practice.</p> <p><b>Additional Information:</b> The BOMA-Accepted Equivalent is available for buildings where 75% or more of the building’s energy is purchased directly by tenants or if the building has been occupied for fewer than two (2) years.</p>	
<p><b>Scoring</b></p>	Yes	Certification is permitted
	BOMA Accepted Equivalent	Certification is permitted
	No	Certification is not permitted



BEST Practice 3	Is an Energy Management Plan in place at the building?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Description:</b> Energy management is the continuous process of managing behavioral, organizational and technical change to improve the building’s energy performance.</p> <p><b>Requirements:</b> The Energy Management Plan must have been reviewed and updated in the last three (3) years.</p> <p>Create a plan that identifies Energy Conservation Measures (ECM) for the building (such as those provided in the Energy Audit, as available). For each initiative, identify the following:</p> <ul style="list-style-type: none"> <li>• Whether a particular ECM will be pursued;</li> <li>• The person responsible for the implementation of the ECM;</li> <li>• The budget associated with the ECM; and</li> <li>• A timeline for completion.</li> </ul> <p>If a particular measure will not be followed-up for the building, indicate why this is the case. Although demonstration of implementation is preferable, it is not necessary. The plan can be common to a portfolio or campus of buildings however building-specific information is required.</p> <p>Consult the <a href="#">BEST Practice Guidelines</a> for a complete list of requirements concerning this BEST Practice.</p> <p><b>Additional Information:</b> In the case of Recertification, building managers are expected to demonstrate which ECMs listed in the previous Reduction Management Plan have been implemented since certification.</p> <p>The BOMA-Accepted Equivalent is available for buildings that have been occupied for fewer than two (2) years.</p>	
<p><b>Scoring</b></p>	Yes	Certification is permitted
	BOMA Accepted Equivalent	Certification is permitted
	No	Certification is not permitted



BEST Practice 4	Is an energy reduction target in place at the building?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Description:</b> Clear, long-term outcome-oriented targets can help shape expectations and create the conditions in which all actors have the confidence to develop solutions to common problems. By establishing targets and indicators, progress can be assessed, and appropriate actions taken.</p> <p><b>Requirements:</b> An energy reduction target must be identified along with a timeframe for completion.</p> <p>Targets must be put into writing, signed by senior management and reviewed annually, as well as be integrated into the Energy Management Plan.</p> <p>Consult the <a href="#">BEST Practice Guidelines</a> for a complete list of requirements concerning this BEST Practice.</p> <p><b>Additional Information:</b> The energy reduction target can be established to encompass either all utilities as a whole or divided into each type (electricity, gas) of utility under the property owner’s control.</p> <p>In the case of Recertification, building managers are expected to demonstrate what targets have been reached since certification.</p> <p>The BOMA-Accepted Equivalent is available for buildings where 75% or more of the building’s energy is purchased directly by tenants.</p>	
<p><b>Scoring</b></p>	Yes	Certification is permitted
	BOMA Accepted Equivalent	Certification is permitted
	No	Certification is not permitted



## WATER

BEST Practice 5	Has a Water Assessment been conducted in the last five (5) years?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Description:</b> A water assessment refers to a simple audit of the building’s configuration and water systems. It focuses on the identification of potential water conserving measures.</p> <p><b>Requirements:</b> A water assessment must have been conducted on the building in the last five (5) years.</p> <p>The water assessment report must contain the following elements:</p> <ul style="list-style-type: none"> <li>• Analysis of water consumption through monthly utility bill analysis and benchmarking. For benchmarking purposes utility bills must cover a minimum of 12 months of continuous data.</li> <li>• List of water-consuming equipment.</li> <li>• Prioritized list of proposed low-cost and no cost water conserving measures (WCMS) to enable greater water efficiency.</li> <li>• Provision of estimates of financial savings the building owner will realize as a result of investing in WCMS.</li> </ul> <p>Consult the <a href="#">BEST Practice Guidelines</a> for a complete list of requirements concerning this BEST Practice.</p> <p><b>Additional Information:</b> The BOMA-Accepted Equivalent is available for buildings where 75% or more of the building’s energy is purchased directly by tenants or if the building has been occupied for fewer than two (2) years.</p>	
<p><b>Scoring</b></p>	Yes	Certification is permitted
	BOMA Accepted Equivalent	Certification is permitted
	No	Certification is not permitted



BEST Practice 6	Is a Water Management Plan in place at the building?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Description:</b> Water management is the continuous process of managing behavioural, organizational and technical change to improve the building’s water performance.</p> <p><b>Requirements:</b> The Water Management Plan must have been reviewed and updated in the last three (3) years. Create a plan that identifies Water Conservation Measures (WCM) for the building (such as those provided in the Water Assessment, as available). For each initiative, identify whether a particular WCM will be pursued, the person responsible for its implementation, the associated budget and a timeline for completion. If a particular measure will not be followed-up for the building, indicate why this is the case.</p> <p>Although demonstration of implementation is preferable, it is not necessary. The plan can be common to a portfolio or campus of buildings however building-specific information is required.</p> <p>Consult the <a href="#">BEST Practice Guidelines</a> for a complete list of requirements concerning this BEST Practice.</p> <p><b>Additional Information:</b> In the case of Recertification, building managers are expected to demonstrate which WCMs listed in the previous Water Management Plan have been implemented since certification.</p> <p>The BOMA-Accepted Equivalent is available for buildings that have been occupied for fewer than two (2) years.</p>	
<p><b>Scoring</b></p>	Yes	Certification is permitted
	BOMA Accepted Equivalent	Certification is permitted
	No	Certification is not permitted



**AIR**

BEST Practice 7	Is an Indoor Air Quality Monitoring Plan in place at the building?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Description:</b> Indoor Air Quality (IAQ) is achieved through the selection of appropriate and achievable air quality goals, regular surveillance and testing to verify HVAC performance and hygiene, efficient and effective procedures for addressing occupant IAQ concerns and training for all property management and maintenance personnel.</p> <p><b>Requirements:</b> The Air Quality Monitoring Plan must contain the following elements:</p> <ul style="list-style-type: none"> <li>• Determine and state the IAQ goals for the building including targets for air quality parameters such as carbon dioxide, carbon monoxide, temperature, relative humidity, dust, volatile organic compounds and other known contaminants of concern.</li> <li>• Set a schedule for HVAC inspection and maintenance tasks to ensure good hygiene (cleanliness, no standing water, etc.).</li> <li>• Identify HVAC systems that will impact the IAQ goals listed above.</li> <li>• Create a preventative maintenance schedule for these systems (may overlap with the Preventative Maintenance Program BEST Practice). Equipment and systems should be checked at least annually.</li> <li>• Develop procedures for responding to occupant IAQ concerns, including identifying key personnel and their responsibilities, contact information, documentation, and follow-up plan (may overlap with Occupant Service Request Program BEST Practice).</li> <li>• Identify training requirements for property management and building maintenance staff relating to IAQ. and</li> <li>• Review the plan annually and update as necessary.</li> </ul> <p>Although demonstration of implementation is preferable, it is not necessary. The plan can be common to a portfolio or campus of buildings however building-specific information is required.</p> <p>Consult the <a href="#">BEST Practice Guidelines</a> for a complete list of requirements concerning this BEST Practice.</p> <p><b>Additional Information:</b> The BOMA-Accepted Equivalent is available for buildings where ventilation systems are owned and maintained exclusively by the tenants. In these cases, the building owner or manager must provide tenants with an Indoor Air Quality Monitoring Plan for their use.</p> <p>Refer to the USEPA I-BEAM for more information on developing an <a href="#">IAQ Monitoring Plan</a>.</p>	
<p><b>Scoring</b></p>	Yes	Certification is permitted
	BOMA Accepted Equivalent	Certification is permitted
	No	Certification is not permitted



**COMFORT**

BEST Practice 8	Is an Occupant Service Request Program in place?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Description:</b> Service requests for maintenance are used to identify issues pertaining to the building. Having a formal process in place allows tracking of various Key Performance Indicators such as critical equipment maintenance and critical building maintenance.</p> <p><b>Requirements:</b></p> <p>Establish an Occupant Service Request Program for the building. The Program must include the following components:</p> <ul style="list-style-type: none"> <li>• A mechanism to ensure that all service requests are reviewed and acted upon within 1-2 weeks, unless otherwise specified (e.g., critical area or critical equipment).</li> <li>• Information on the origins of the service request;</li> <li>• Information on the status of the service request (e.g., in progress, resolved, etc.); and</li> <li>• Information on the corrective action taken.</li> </ul> <p>Documentation must be kept on file for a minimum of three (3) months. Demonstration of implementation is required. The program can be common to a portfolio or campus of buildings however implementation must be building-specific.</p> <p>Consult the <a href="#">BEST Practice Guidelines</a> for a complete list of requirements concerning this BEST Practice.</p> <p><b>Additional Information:</b> Service requests can be made by all building occupants, including tenants, visitors and staff.</p>	
<p><b>Scoring</b></p>	<p>Yes</p>	<p>Certification is permitted</p>
	<p>No</p>	<p>Certification is not permitted</p>



## HEALTH AND WELLNESS

BEST Practice 9	Is a Hazardous Building Materials Management Program in place at the building?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Description:</b> The presence and condition of hazardous building materials must be identified and managed for the safety of building occupants.</p> <p><b>Requirements:</b> The Hazardous Building Materials Management Program must include:</p> <ul style="list-style-type: none"> <li>• Inventory of all building materials known or presumed to contain asbestos, lead, PCBs, silica and mercury (at a minimum);</li> <li>• Inspection of known/presumed asbestos-containing materials within the past 12 months, where present;</li> <li>• Inspection of materials known/presumed to contain lead, mercury, PCBs or other hazardous building materials or equipment within the last three (3) years, where present;</li> <li>• Corrective actions identified during the inspections completed;</li> <li>• Management protocols for unexpected disturbance of asbestos;</li> <li>• Pre-construction assessment of materials and equipment impacted by renovation activities for the presence of hazardous building materials;</li> <li>• A proactive plan for the abatement of accessible asbestos-containing materials (including in the areas above acoustic tiles) and PCB-containing equipment and ballasts;</li> <li>• Awareness training for building maintenance staff on asbestos safety; and</li> <li>• Review and updating as changes occur to the location of hazardous materials in the building, at a minimum every three (3) years.</li> </ul> <p>As with any management program, one should strive for continuous improvement. Review of the management program must occur as changes to the responsibilities, personnel, plans, quantity or condition of the materials occur.</p> <p>Demonstration of implementation is required. The program can be common to a portfolio or campus of buildings however implementation must be building-specific.</p> <p>Consult the <a href="#">BEST Practice Guidelines</a> for a complete list of requirements concerning this BEST Practice.</p>	
<p><b>Scoring</b></p>	Yes	Certification is permitted
	No	Certification is not permitted



BEST Practice 10(A)	Is a Hazardous Chemical Products Management Program in place at the building?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Description:</b> Identification and management of chemical products in use or storage at the building is essential to manage health hazards and safety risks, as well as potential environmental impacts.</p> <p><b>Requirements:</b> The Hazardous Chemical Products Management Program must include <b>all</b> following components:</p> <ul style="list-style-type: none"> <li>• Periodic inventory of in-use, base-building hazardous chemical products (at least annually, or as procurement is revised).</li> <li>• Storage of chemical products in accordance with product Safety Data Sheets.</li> <li>• Continuous and proactive review process to ensure up-to-date Safety Data Sheets for all hazardous chemical products are always available to employees, performed within the last three (3) years.</li> <li>• Chemical products labeled in accordance with WHMIS/GHS/HAZCOM.</li> <li>• Training of building maintenance staff (including safe handling and use of chemicals pertaining to their work, symbol recognition, safety data sheets, first aid and spill response, storage, and disposal).</li> <li>• Review and updating of the Program as products are changed and at least annually.</li> </ul> <p>Demonstration of implementation is required. The program can be common to a portfolio or campus of buildings however implementation must be building-specific.</p> <p>Consult the <a href="#">BEST Practice Guidelines</a> for a complete list of requirements concerning this BEST Practice.</p>	
<p><b>Scoring</b></p>	<p>Yes</p>	<p>Certification is permitted</p>
	<p>No</p>	<p>Certification is not permitted</p>



## CUSTODIAL

BEST Practice 11	Is a Green Cleaning Program in place at the building?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Description:</b> A Green Cleaning Program emphasizes the use of environmentally preferred products, maintenance of cleaning equipment and effective cleaning practices.</p> <p><b>Requirements:</b> Develop a Green Cleaning Program for the facility. It must include all following components:</p> <ul style="list-style-type: none"> <li>• 50% of all cleaning products and supplies must be certified by one of the following third-party organizations: EcoLogo, Green Seal, US EPA Safer Choice, GREENGUARD, Forest Stewardship Council (FSC), Sustainable Forestry Initiative (SFI), or Sustainable Forest Management Standard (SFMI).</li> <li>• Standard operating procedures (SOP) for cleaning activities.</li> <li>• Cleaning logs (describing the activities carried out, the times they were carried out and by whom).</li> <li>• Training for building cleaning staff.</li> <li>• Annual review and updating of the overall program to ensure it still meets the objectives.</li> </ul> <p>Where custodial services are contracted, communicate custodial goals and green cleaning initiatives to the contracted company. The contracted company must provide the building/manager with documentation showing the same information outlined in the requirements.</p> <p>Demonstration of implementation is required. The program can be common to a portfolio or campus of buildings however implementation must be building specific.</p> <p>Consult the <a href="#">BEST Practice Guidelines</a> for additional guidance on demonstrating compliance for this BEST Practice.</p> <p><b>Additional Information:</b> The BOMA-Accepted Equivalent is available for buildings where cleaning is performed exclusively or partially by individual tenants. The Green Cleaning Program must be in place for areas where the building manager or owner is responsible for cleaning, and where tenants are responsible, a guidance document must be provided educating tenants on how to develop their own Green Cleaning Program.</p>	
<p><b>Scoring</b></p>	<p>Yes</p>	<p>Certification is permitted</p>
	<p>BOMA Accepted Equivalent</p>	<p>Certification is permitted</p>
	<p>No</p>	<p>Certification is not permitted</p>



## WASTE

BEST Practice 12(A)	Is a Source Separation Program in place at the building?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Description:</b> A Source Separation Program facilitates the separation of waste at the point of generation for recycling and waste destined for disposal.</p> <p><b>Requirements:</b> The source separation program must, at a minimum, include the collection of paper, metal cans, glass, plastic containers and cardboard unless there is no regional collection service for a specific material category (demonstrate that this is the case) and the separate collection of waste destined for disposal.</p> <p>The source separation program must consist of the following components:</p> <ul style="list-style-type: none"> <li>• Facilities that are adequately sized for the collection, handling and storage of source-separated wastes. The collection and storage of the various materials destined for recycling may be co-mingled based on the requirements of the local markets as long as they are always kept separate from waste destined for disposal and as long as the separation is done at a Materials Recycling Facility and not at a transfer station.</li> <li>• The provision of information and guidance to users (e.g., signs), potential users and custodial staff describing the expectations of the program and encouraging effective source separation of waste to minimize contamination and to ensure full use of the program.</li> <li>• Measures to ensure that the source-separated collected wastes are removed by a licensed service provider and taken to destination sites designed for the proper processing and/or disposal of each material category (reports from the service provider should transparently demonstrate this).</li> <li>• Reasonable efforts are made to ensure that the separated waste is reused or recycled.</li> </ul> <p>Demonstration of implementation is required. The program can be common to a portfolio or campus of buildings however implementation must be building-specific.</p> <p><b>Additional Information:</b> The contamination of recyclable material does not disqualify this requirement, though continued contamination should be addressed in the Waste Reduction Work Plan.</p> <p>Off-site sorting such as at a transfer station from a single common receptacle does not qualify as source-separation in the context of the BOMA BEST application.</p> <p>Buildings that have achieved a certification through the 3RCertified program can answer “Yes” and show their certification to the verifier. <a href="#">3RCertified</a> is a certification program for buildings in the Industrial, Commercial and Institutional (IC&amp;I) sectors that reviews how organizations manage solid waste reduction and diversion operations. It is available across Canada.</p>	
<p><b>Scoring</b></p>	Yes	Certification is permitted
	No	Certification is not permitted



BEST Practice 13	Has a Waste Audit been completed for the building in the past three (3) years?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Requirements:</b> Following the <a href="#">BOMA BEST Waste Auditing Requirements</a>, the Waste Audit must address:</p> <ul style="list-style-type: none"> <li>• The time period and duration of the waste sampling;</li> <li>• The sample size (representing at least 10% of the total building’s waste and recycling materials);</li> <li>• Details specific to each collected waste stream; and</li> <li>• How the waste data was categorized, evaluated and analyzed based on its composition (the site must be equipped with a minimum number of work tables, precise scales and mobile containers for weighing the waste).</li> </ul> <p>The resulting Waste Audit Report must include:</p> <ul style="list-style-type: none"> <li>• Summary of the sampling protocol and methodology used.</li> <li>• Annualization of daily waste as well as other waste stream such as construction, renovation and demolition (CRD) waste and hazardous materials.</li> <li>• Total of each waste stream and overall total.</li> <li>• Diversion rate.</li> <li>• Capture rate.</li> <li>• Summary of recommendations for improving waste diversion.</li> </ul> <p>The audit must be performed by a person with adequate qualifications as well as suitable training and experience.</p> <p>Consult the <a href="#">BEST Practice Guidelines</a> for a complete list of requirements concerning this BEST Practice.</p> <p><b>Additional Information:</b> In the case of tenant-managed waste streams, these need not be included in the waste audit however best practices recommend that tenants provide annual generation and disposal weight reporting for all materials that they collect independent of the building system to calculate current diversion. If tenant-managed waste streams are included, both the divertible materials and disposal material must be included. If tenant-managed waste streams are included in the diversion rate, they must also be included in the audit.</p> <p>The Waste Audit must be performed at the building and must not be based on generalized waste facility averages.</p> <p>Buildings that have achieved a certification through the 3RCertified program can answer “Yes” and show their certification to the verifier. <a href="#">3RCertified</a> is a certification program for buildings in the Industrial, Commercial and Institutional (IC&amp;I) sectors that reviews how organizations manage solid waste reduction and diversion operations. It is available across Canada.</p>	
<p><b>Scoring</b></p>	Yes	Certification is permitted
	No	Certification is not permitted



BEST Practice 14	Is a Waste Reduction Work Plan in place at the building?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Description:</b> A waste reduction plan is an action plan prepared to reflect the updated waste audit.</p> <p><b>Requirements:</b> The Waste Reduction Work Plan must consist of the following components:</p> <ul style="list-style-type: none"> <li>• The Waste Reduction Work Plan must be prepared in conjunction with the waste audit (conducted in the past three (3) years). Its content should reflect the updated audit. The waste reduction work plan must address all recycling streams in the building, describing ways to increase recycling levels and reduce the waste generated.</li> <li>• The Waste Reduction Work Plan must include, to the extent that is reasonable, plans to address the 3Rs (Reduce, Reuse, and Recycle) hierarchy: Reduction first, followed by Reuse and then Recycling. The waste reduction work plan may fit under a larger waste management plan but must be action oriented and include identification and planning for the prevention, reduction and diversion of each identified waste stream.</li> <li>• The Waste Reduction Work Plan sets out, for each initiative or action, those who will implement that action or initiative, timelines for implementation and the expected results. The results should be expressed as a specific diversion target and can be an overall target for all combined waste categories or a target per waste material category.</li> <li>• The Waste Reduction Work Plan must be available and communicated to all members of management, the maintenance, custodial and contracted cleaning staff, and all tenants or occupants including food service providers and other retail tenants (for example via the building’s website or intranet service, posting in waste and recycling depot, or in the tenant manual).</li> </ul> <p>The Waste Reduction Work Plan must be reviewed every three (3) years to reflect changes in the building strategy, challenges and achievement. In the case of a BOMA BEST Recertification, previous Waste Reduction Work Plans must be reviewed to examine whether previous goals and objectives have been met.</p> <p>Although demonstration of implementation is preferable, it is not necessary. The plan can be common to a portfolio or campus of buildings however building-specific information is required.</p> <p><b>Additional Information:</b> The Waste Reduction Work Plan targets the collection programs for which the building manager or owner is responsible.</p> <p>Buildings that have achieved a certification through the 3RCertified program can answer “Yes” and show their certification to the verifier. <a href="#">3RCertified</a> is a certification program for buildings in the Industrial, Commercial and Institutional (IC&amp;I) sectors that reviews how organizations manage solid waste reduction and diversion operations. It is available across Canada.</p>	
<p><b>Scoring</b></p>	Yes	Certification is permitted
	No	Certification is not permitted



## STAKEHOLDER ENGAGEMENT

BEST Practice 15	Is an overarching Environmental Policy guiding the building’s management?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Description:</b> An Environmental Policy or vision establishes the direction building management wishes to take regarding future improvements in the building’s environmental performance. Such formal statements can guide decision making and establish credible leadership to adequately address environmental issues that could result in improved operations, reductions in operational expenses, and improved management-tenant relationships.</p> <p><b>Requirements:</b> Create an overarching Environmental Policy (or vision) which contains the following components:</p> <ul style="list-style-type: none"> <li>• A specific objective or vision statement for each of the ten (10) categories in the BOMA BEST assessment. In each case, provide a clear objective or vision regarding what your organization (or building) hopes to achieve within a specified timeline (e.g., achieve a 5% reduction in energy consumption in five years; perform the building’s first air quality audit, etc.).</li> <li>• Enter the vision statement for each assessment category in the space provided in the online portal.</li> </ul> <p><b>Additional Information:</b> The statements provided for each category can pull directly from objectives established in previous questions in this BOMA BEST assessment. This BEST Practice seeks to bring them together into an overarching document.</p> <p>Demonstration of implementation is not required, nor is building-specific information. The policy can be common to a portfolio or campus of buildings.</p>	
<p><b>Scoring</b></p>	Yes	Certification is permitted
	No	Certification is not permitted



BEST Practice 16	Is an Occupant Environmental Communication Program in place at the building?	
<p><b>Explanation &amp; Evaluation</b></p>	<p>This question is a BEST Practice and is required for all levels of certification. Documentation demonstrating this BEST Practice must be uploaded.</p> <p><b>Description:</b> Increasing building occupant awareness and engagement in environmental and sustainable practices can have a significant positive or negative impact on the performance of the building. Improving the environmental performance of the building can lead to many positive outcomes for building management, staff and tenants, including but not limited to lower operational costs, lower utility bills, improved indoor air quality, improved management-tenant relationships, etc.</p> <p><b>Requirements:</b> The Occupant Environmental Communication Program must address the following components:</p> <ul style="list-style-type: none"> <li>• Selecting the communication strategies that will be used;</li> <li>• Selecting the activities that will be encouraged;</li> <li>• Identifying responsible individuals among management for moving each aspect of the plan forward; and</li> <li>• Creating a timeline for implementation.</li> </ul> <p>Demonstrate that at least two (2) communication strategies have been implemented in the past 12 months.</p> <p>The program can be common to a portfolio or campus of buildings however implementation must be building-specific.</p> <p>Consult the <a href="#">BEST Practice Guidelines</a> for a complete list of requirements concerning this BEST Practice.</p> <p><b>Additional Information:</b> <i>Occupants</i> are the permanent/regular occupants of the building, such as tenants and staff. If the building is owner-occupied, surveys should be directed to staff. Visitors to the building are not considered occupants.</p>	
<p><b>Scoring</b></p>	Yes	Certification is permitted
	No	Certification is not permitted



# 1. ENERGY

## 1.1 Energy Consumption

<b>1.1 .1</b>	<b>Will you be entering energy consumption information for 100% of your building's GFA?</b>	
<b>Explanation &amp; Evaluation</b>	To receive points for energy consumption in BOMA BEST you are required to enter consumption data for all energy sources (electricity, heating fuel, etc.) within 100% of your building's interior floor area - not simply the net or Gross Leasable Area. If you do not have 100% of your building's energy consumption data, you will not be eligible to receive any points in this section	
<b>Scoring</b>	Yes	Eligible to receive points based on performance
	No	0/5

<b>1.1.2</b>	<b>What is the calculated weather-normalized site Energy Use Intensity (EUI) for this building (in GJ/m<sup>2</sup>)?</b>	
<b>Explanation &amp; Evaluation</b>	<p>Benchmarking informs organizations about how much energy they use and where they use it. It allows organizations to identify opportunities to optimize energy use and reduce operating costs.</p> <p>You must be able to generate a weather-normalized site energy use intensity on your building's <a href="#">Property characteristics page</a> to obtain these points.</p> <p>You must enter at least <b>24-consecutive months</b> of energy consumption data using either the BOMA BEST portal (<a href="#">instructions</a>) or ENERGY STAR Portfolio Manager (<a href="#">instructions</a>).</p> <ul style="list-style-type: none"> <li>• Data must be entered in individual months. Data <b>cannot</b> be a bulk amount representing the complete 24-month timeframe</li> <li>• Data must not be any older than the last 36 months</li> <li>• Data must represent all fuel types used in the building</li> <li>• Data must represent the entire building's consumption</li> <li>• Data should not represent consumption during periods of major renovations</li> </ul> <p>Tips on benchmarking are available in this <a href="#">FAQ</a>.</p> <p>Provide the EUI in GJ/m<sup>2</sup>. Include up to two decimals.</p>	
<b>Scoring</b>	Enter EUI in field	

<b>1.1.4</b>	<b>Select the appropriate range representative of your property's weather-normalized site EUI (for scoring purposes)</b>	
<b>Scoring</b>	Unknown / Unable to obtain	0
	0.890 GJ/m <sup>2</sup> /yr and above	0
	Between 0.850 and 0.889 GJ/m <sup>2</sup> /yr	5
	Between 0.810 and 0.849 GJ/m <sup>2</sup> /yr	5
	Between 0.770 and 0.809 GJ/m <sup>2</sup> /yr	5
	Between 0.740 and 0.769 GJ/m <sup>2</sup> /yr	5
	Between 0.700 and 0.739 GJ/m <sup>2</sup> /yr	5
	Between 0.660 and 0.699 GJ/m <sup>2</sup> /yr	5
	Between 0.620 and 0.659 GJ/m <sup>2</sup> /yr	5
	Between 0.580 and 0.619 GJ/m <sup>2</sup> /yr	5
	Between 0.540 and 0.579 GJ/m <sup>2</sup> /yr	5
	Less than 0.540 GJ/m <sup>2</sup> /yr	5



## 1.2 Energy Features

### 1.2.1 Lighting

<b>1.2.1</b>	<b>Does the building incorporate any of the following high-efficiency lighting features?</b>
<b>Explanation &amp; Evaluation</b>	Indicate which features apply to your building, and the percentage that has been implemented throughout the building.

<b>1.2.1.3</b>	<b>LED or compact fluorescent lamps in common areas, property exterior or parking areas</b>	
<b>Explanation &amp; Evaluation</b>	Indicate the percentage of installed LED or compact fluorescent lamps compared to the total number of bulbs, including incandescent lamps.	
<b>Scoring</b>	70%-100%	8/8
	40%-69%	4/8
	Under 40%	0/8

<b>1.2.1.6</b>	<b>LED or compact fluorescent lamps in garage areas</b>	
<b>Explanation &amp; Evaluation</b>	Indicate the percentage of installed LED or compact fluorescent lamps compared to the total number of bulbs, including incandescent lamps. Where there are no garage areas mark "not applicable".	
<b>Scoring</b>	70%-100%	2/2
	40%-69%	1/2
	Under 40%	0/2
	N/A	0/0

<b>1.2.1.8</b>	<b>EXIT signs with Light-Emitting Diodes (LED)?</b>	
<b>Explanation &amp; Evaluation</b>	Indicate the percentage of installed LED-type exit lights compared to the total number of exit lights, including those that use incandescent bulbs.	
<b>Scoring</b>	70%-100%	2/2
	40%-69%	1/2
	Under 40%	0/2

<b>1.2.1.21</b>	<b>Energy efficient lighting within residents' suites?</b>	
<b>Explanation &amp; Evaluation</b>	Estimate the percentage of resident suites that have installed energy efficient lighting in their suites or that are taking advantage of a management incentive program to use energy efficient lighting.	
<b>Scoring</b>	70%-100%	1/1
	40%-69%	0.5/1
	Under 40%	0/1



<b>1.2.1.22.1</b>	<b>Motion detectors on lights in model suites, exit stairways, laundry rooms, waste chute rooms, common area restrooms and other appropriate common areas</b>	
<b>Explanation &amp; Evaluation</b>	Where motion detectors are not permitted by local property code, mark "not applicable".	
<b>Scoring</b>	Over 5 detectors	2/2
	1-5 detectors	1/2
	No detectors	0/2
	N/A	0/0

**Does the building incorporate any of the following high-efficiency lighting features for the parking area and exterior lighting?**

<b>1.2.1.24</b>	<b>Daylight sensors</b>	
<b>Explanation &amp; Evaluation</b>	Exterior lighting controlled with photovoltaic sensors (photocells or daylight sensors) ensures that lighting operates only at night.	
<b>Scoring</b>	Yes	2/2
	No	0/2

<b>1.2.1.25</b>	<b>Timers to control exterior lighting</b>	
<b>Explanation &amp; Evaluation</b>	Time clocks, computerized lighting control systems or the building's mechanical control systems need to be adjusted to account for different seasonal daylight hours.	
<b>Scoring</b>	Yes	2/2
	No	0/2



## 1.2.2 Major HVAC Equipment

1.2.2.1	Are the majority of boilers 20 years old or more?	
<b>Explanation &amp; Evaluation</b>	This applies only to active boilers presently used for building heating. The average life cycle of a boiler is 25 years. A boiler older than 20 years may need to be replaced. If there are no boilers, mark "not applicable".	
<b>Scoring</b>	Yes	For informational purposes only
	No	For informational purposes only
	N/A	For informational purposes only

1.2.2.2.1	What percentage of heating boilers have a combustion efficiency rate of 85% or higher?	
<b>Explanation &amp; Evaluation</b>	For each boiler provide a copy of preventative maintenance procedures and combustion efficiency test results performed within the last year. Combustion efficiency tests must include analysis of temperature and CO <sub>2</sub> or O <sub>2</sub> levels of the flue gases as well efficiency measurements for at least two firing rates (e.g. low fire and high fire). Electric boilers that meet outlined efficiency requirements are also eligible for points under this question.	
<b>Scoring</b>	50%-100%	12/12
	25%-49%	8/12
	Under 25%	0/12
	N/A	0/0

1.2.2.3	Do the boilers have a control system that allows them to operate through a wide range of loads?	
<b>Explanation &amp; Evaluation</b>	A built-in control system that regulates the air-fuel mixture in the burner makes the boiler more efficient for handling varying loads and delivering the desired burner output. If there are no boilers, mark "not applicable".	
<b>Scoring</b>	Yes	2/2
	No	0/2
	N/A	0/0

1.2.2.5.1	What percentage (by capacity) of chillers in the facility are high-efficiency?	
<b>Explanation &amp; Evaluation</b>	High efficiency" means chillers with a full-load efficiency in the range of 0.46 - 0.65 kW/ton (or a COP equal to or greater than 5.4) in contrast to old CFC-11 or CFC-12 chillers that have an efficiency in the range of 0.72 - 0.90 kW/ton. For minimum performance levels, consult NRCAN Energy Efficiency Regulations Higher Efficiency Requirements for Chillers Bulletin on Amending the Standards May 2010. If there is no central cooling plant nor chillers, mark "Not Applicable".	
<b>Scoring</b>	50%-100%	6/6
	25%-49%	3/6
	Under 25%	0/6
	N/A	0/0



### 1.2.3 Controls

1.2.3.1 Is temperature setback implemented?		
<b>Explanation &amp; Evaluation</b>	A simple way to reduce heating/cooling energy consumption is to match temperature to occupancy patterns by adjusting thermostats or by installing automatic controls and programming the equipment. Generally, any controller that can automatically set temperature lower in the heating season can also automatically set temperature higher in the cooling season.	
<b>Scoring</b>	Yes	2/2
	No	0/2

1.2.3.2 Is temperature/weather compensation implemented?		
<b>Explanation &amp; Evaluation</b>	Outdoor reset controls use outside air temperature as the basis for determining an ideal "target" water temperature to be supplied to the terminal units in systems that use water as a heating medium. Generally, any controller that can automatically set temperature lower in the heating season can also automatically set temperature higher in the cooling season. Mark "not applicable" where there is no hot water heating system.	
<b>Scoring</b>	Yes	2/2
	No	0/2
	N/A	0/0

1.2.3.3 Is there a Building Automation System?		
<b>Explanation &amp; Evaluation</b>	A Building Automation System (BAS) can control HVAC (Heating, Ventilating, Air Conditioning), lighting and other systems to optimize their start-up and performance, improve the interaction of mechanical subsystems, improve occupant comfort, and lower energy use. The computer and controllers in the BAS can be networked to the internet or serve as a stand-alone system. Some can also provide off-site building control. The computer and controllers in the BAS can be networked to the internet or serve as a stand-alone system.	
<b>Scoring</b>	Full	3/3
	Partial	1/3
	None	0/3

1.2.3.7 Are there programmable thermostats in tenant spaces?		
<b>Explanation &amp; Evaluation</b>		
<b>Scoring</b>	Yes	2/2
	No	0/2



## 1.2.4 Hot Water

1.2.4.1.1	What is the predominant type of heating system used for Domestic Hot Water (DHW)?
Scoring	<ul style="list-style-type: none"> <li>Natural gas fuel oil</li> <li>Electric</li> <li>Small commercial type or centralized heating boilers</li> <li>Instantaneous natural gas</li> <li>Instantaneous electric</li> <li>Other</li> </ul>

1.2.4.3	Does the building have high-efficiency water heating equipment?	
Explanation & Evaluation	"High efficiency" heating equipment means condensing water heaters, "tankless" (instantaneous) water heaters, heat pump water heaters or solar water heating technology, or electrical heaters in areas where hydroelectric production consists of more than 60% of the total generating capacity. This includes regions in BC, Manitoba, Quebec and Newfoundland.	
Scoring	Yes	5/5
	No	0/5

1.2.4.5	Are domestic hot water temperatures maintained between 49°C (120°F) and 52°C (125°F)?	
Explanation & Evaluation	Measure temperatures at the taps. Temperatures between 49°C (120°F) and 52°C (125°F) are generally sufficient for killing legionella bacteria and are not high enough to cause scalding. Many factory settings are much higher than required. Since the dials of water heaters are calibrated only approximately, some trial and error and testing of the water temperature at the tap may be needed.	
Scoring	Yes	5/5
	No	0/5

## 1.2.5 Other Energy Efficiency Features

Are there variable speed drives on the majority (i.e. more than 50%) of each of the following fan and pump systems?				
Explanation & Evaluation	Variable speed drives control the motor speed by varying the frequency of the electrical supply to match actual load conditions. This reduces energy consumption, improves fan or pump control, and extends the life of the equipment. Mark "not applicable", where the systems are not present. Answer "Yes" only if there are variable speed drives on more than 50% of the system.			
Scoring		Yes	No	N/A
	1.2.5.1 Main supply air systems	1/1	0/1	0/0
	1.2.5.2 Main chilled water pump and/or condenser water systems	1/1	0/1	0/0
	1.2.5.3 Heating pump systems	1/1	0/1	0/0
	1.2.5.4 Domestic water booster pumps	1/1	0/1	0/0
	1.2.5.5 Cooling tower fan motors	1/1	0/1	0/0



1.2.5.6	What percentage of motors on fans and pumps are high-efficiency?	
<b>Explanation &amp; Evaluation</b>	The motor's nameplate usually indicates whether the motor is high efficiency. High-efficiency motors (HEMs) generally use 1 - 4% less electricity than standard motors, are more reliable, last longer, have extended winding and bearing life, result in lower transformer loading, cope well with short-term overloads and withstand higher voltage fluctuations or phase imbalances.	
<b>Scoring</b>	50%-100%	2/2
	25%-49%	1/2
	Under 25%	0/2

**Are there other energy efficiency measures such as the following?**

1.2.5.8	What percentage of motors on fans and pumps are high-efficiency?	
<b>Explanation &amp; Evaluation</b>	A heat-recovery system captures heat from building exhaust air and reuses some of the energy to precondition the incoming outside air before supplying it to the building. This could be in the form of an air-to-air heat exchanger, glycol heat-recovery loop, heat wheel or heat pipe. Where heat recovery has been investigated and found to be unfeasible, mark "not applicable".	
<b>Scoring</b>	Yes	2/2
	No	1/2
	N/A	0/0

1.2.5.15	Cogeneration (building or district scale)	
<b>Explanation &amp; Evaluation</b>	Cogeneration is the simultaneous production of heat and electrical or mechanical power. It is achieved by capturing and recycling the rejected heat that escapes from an electricity generation or a manufacturing process in the building. Cogeneration can be used to reduce peak demand. Where cogeneration has been investigated and found to be unfeasible, mark "not applicable".	
<b>Scoring</b>	Yes	3/3
	No	0/3
	N/A	0/0

1.2.5.18	Energy Star in-suite appliances	
<b>Explanation &amp; Evaluation</b>	Management should have a policy to replace appliances with Energy Star rated appliances on a systematic basis.	
<b>Scoring</b>	50%-100%	2/2
	25%-49%	1/2
	Under 25%	0/2

1.2.5.19	Natural gas dryers?	
<b>Explanation &amp; Evaluation</b>	If there are no dryers or natural gas supply is not available for the property, mark "not applicable".	
<b>Scoring</b>	Yes	1/1
	No	0/1
	N/A	0/0



## 1.2.6 Low-Impact Electricity

1.2.6.1	Are renewable energy certificates, low-impact electricity or carbon offsets purchased for the building?	
<b>Explanation &amp; Evaluation</b>	<p>To be considered eligible, the building must use one of the following methods to reduce the carbon intensity associated with the building’s energy consumption. For a given method, all components listed must be in place:</p> <ul style="list-style-type: none"> <li>a) Eligible low-impact electricity or RECs:               <ul style="list-style-type: none"> <li>▪ Must be purchased from a credible vendor (e.g., generator, aggregator, distributor, etc.) certified under the EcoLogo or Green-e Energy National Standard.</li> <li>▪ Must have been purchased in the last 12 months.</li> <li>▪ Must be specifically attributed to the building.</li> </ul> </li> <li>b) Eligible carbon offsets:               <ul style="list-style-type: none"> <li>▪ Must be purchased from a high-quality carbon offset project developed to meet an approved voluntary or regulatory industry requirement:                   <ul style="list-style-type: none"> <li>i. List of approved voluntary (non-compliance) offset standards:                       <ul style="list-style-type: none"> <li>○ Verra (includes VCS – Verified Carbon Standard; CCB – Climate, Community &amp; Biodiversity Standard; SD Vista – Sustainable Development Verified Impact Standard)</li> <li>○ Gold Standard</li> <li>○ Plan Vivo</li> <li>○ CAR (Climate Action Reserve – Climate Reserve Tonnes)</li> <li>○ UK Woodland Carbon Code</li> <li>○ CDM (UN Clean Development Mechanism)</li> <li>○ Green-e Certified Carbon Offsets</li> </ul> </li> <li>ii. List of approved compliance market (required under legislation) offset standards include <u>but are not limited to</u>:                       <ul style="list-style-type: none"> <li>○ EU-ETS (European Emission Trading Scheme)</li> <li>○ B.C. (British Columbia) Carbon Registry</li> <li>○ WCI (Western Climate Initiative)</li> </ul> </li> </ul> </li> <li>▪ Must have been purchased in the last 12 months.</li> <li>▪ Must be specifically attributed to the building.</li> </ul> </li> </ul> <p>Carbon offsets purchased in voluntary markets must meet one of the standards listed here. However, carbon offsets purchased for compliance markets can be from other compliance market standards not listed here. Carbon offsets may be purchased at the portfolio level but must be retired against a specific building so that they cannot be claimed against another building. If not known, check "no".</p> <p><a href="#">EcoLogo</a>  <a href="#">Green-e Energy National Standard</a>  <a href="#">Verra</a> (Global carbon registry)  <a href="#">HIS Markit</a> (Global voluntary carbon registry)</p>	
<b>Scoring</b>	Yes	4/4
	No	0/4



**Does the building utilize any of the following renewable on-site energy sources?**

<b>Explanation &amp; Evaluation</b>	Renewable energy sources do not deplete natural resources.			
	<b>1.2.6.3.1 Active Solar</b> - This is generally used to increase the temperature of large volumes of water or air in commercial, residential and industrial buildings (e.g. solar wall or solar DHW panels).			
	<b>1.2.6.4.1 Wind</b> - This is generally used to generate electricity to offset electricity purchased from the electric utility.			
	<b>1.2.6.5.1 Photovoltaic</b> - Photovoltaic cells convert the sun's energy to usable electricity.			
	<b>1.2.6.6.1 Ground Source "Heat Pump"</b> - Using the temperature differential between above ground and below ground (or ground water), fluid is circulated in an underground (or underwater) loop. The energy collected is used for air and/or water heating. The system can be reversed in summer to provide cooling instead of heating.			
	<b>1.2.6.7.1 Bio-mass</b> - Fuel such as round wood, wood and agricultural waste, prepared wood fuels, landfill gas and digester gas are burned using high-efficiency combustion to provide space and/or water heating.			
<b>Scoring</b>	Renewable on-site resources	One Renewable resource	Two or more renewable resources	No renewable resources
	1.2.6.3.1 Active Solar	3/4	4/4	0/4
	1.2.6.4.1 Wind	3/4	4/4	0/4
	1.2.6.5.1 Photovoltaic	3/4	4/4	0/4
	1.2.6.6.1 Ground Source "Heat Pump"	3/4	4/4	0/4
	1.2.6.7.1 Bio-mass	3/4	4/4	0/4

**Enter percentage of total annual energy requirements supplied from above sources.**

<b>Scoring</b>	Over 10%	4/4
	10% or less	2/4
	0%	0/4



## 1.2.7 Envelope

Has the current performance of the building envelope been assessed in the last 5 years in terms of the following?			
<b>Explanation &amp; Evaluation</b>	An assessment of the current performance and condition of the envelope should consider the issues of relative humidity temperature and interior pressure.		
	<p><b>1.2.7.1 Water infiltration and condensation</b> - Consider the differences in temperature on the inner and outer surface of the building, and conditions that might promote condensation on the surface of thermal bridges, i.e. the mould and mildew "control points".</p> <p><b>1.2.7.2 Moist air transfer</b> - Consider the envelope permeability and the ability of materials to withstand, without deterioration, periods of freezing and thawing.</p> <p><b>1.2.7.3 Air flow</b> - Consider the air pressure differences and air-leakage characteristics of the envelope.</p> <p><b>1.2.7.4 Heat transfer</b> - Assess the thermal resistance and quantity of heat transferred through of the envelope.</p>		
<b>Scoring</b>		Yes	No
	1.2.7.1 Water infiltration and condensation	1/1	0/1
	1.2.7.2 Moist air transfer	1/1	0/1
	1.2.7.3 Air flow	1/1	0/1
	1.2.7.4 Heat transfer	1/1	0/1

1.2.7.5.1 Are windows energy efficient?		
<b>Explanation &amp; Evaluation</b>	Energy-efficient windows consist of, at a minimum, double-glazed window panes with frames spacers that have high thermal integrity.	
<b>Scoring</b>	Yes	5/5
	No	0/5

1.2.7.6.1 Does the property have appropriate shading on south and west facing elevations to reduce the cooling load?		
<b>Explanation &amp; Evaluation</b>	Appropriate shading may include shade created by near-by building(s) and/or high structure(s). Mark "not applicable" if there are no windows or where windows are located on the north face of the buildings (no direct sunlight).	
<b>Scoring</b>	Yes	3/3
	No	0/3
	N/A	0/0

1.2.7.9 Do pedestrian entrances from the outdoors use double doors with a vestibule or revolving doors and where there are vestibule heaters, do the set points avoid excessive or continuous heating?		
<b>Scoring</b>	Yes	1/1
	No	0/1



<b>Has the building envelope been air-sealed in the following areas?</b>	
<b>Explanation &amp; Evaluation</b>	Seal all exterior joints in the building envelope and around penetrations of the building envelope for the utility services. Stack effect and air leakage through the building envelope can cause significant heat loss and deterioration of the building envelope. One indication of a leaky building can be observed in the winter, when occupants in the lower levels complain of draft and cold and those in upper levels complain of over-heating.

<b>1.2.7.11</b>	<b>The top part of the building?</b>	
<b>Explanation &amp; Evaluation</b>	Seal roof-to-wall connections and exterior openings of mechanical penthouse and floors in the upper part of the building.	
<b>Scoring</b>	Yes	4/4
	No	0/4

<b>1.2.7.12</b>	<b>The bottom part of the building?</b>	
<b>Explanation &amp; Evaluation</b>	Seal exterior openings and floor slab-to-wall connections and service core of the parking areas, entrance doors and the floors in the lower third of the building.	
<b>Scoring</b>	Yes	3/3
	No	0/3

<b>1.2.7.13</b>	<b>Vertical shafts and elevators?</b>	
<b>Explanation &amp; Evaluation</b>	Seal service ducts and conduit penetrations, including excessive cable holes in the elevator shafts. In buildings with no vertical shaft or no elevators mark "not applicable".	
<b>Scoring</b>	Yes	2/2
	No	0/2
	N/A	0/0

<b>1.2.7.14</b>	<b>Has a comprehensive Building Condition Report been produced within the last 5 years?</b>	
<b>Explanation &amp; Evaluation</b>	A building condition assessment conducted at least every 5 years helps to ensure that issues are addressed before they turn into major problems. This also provides advance notice to owners, enabling them to plan a short, medium and long-term budget for repairs. In a building older than 10 years, the building envelope assessment should comprise a review of foundation, roof (for leaks), exterior walls (for cracking in the sealing and corrosion in exterior panel hangers), exterior windows, and infrared thermal imaging as needed. Systems to be assessed include plumbing systems, electrical systems, security systems, fire alarm systems, and mechanical systems. In buildings less than 10 years old and not requiring a Building Condition Report, mark "not applicable".	
<b>Scoring</b>	Yes	4/4
	No	0/4
	N/A	4/4



<b>1.2.7.15</b>	<b>Were the recommendations of the Building Condition Report for the walls and windows carried forward into a Capital or Building Maintenance Plan?</b>	
<b>Explanation &amp; Evaluation</b>	A In buildings less than 10 years old and not requiring a Building Condition Report, mark "not applicable". In buildings 10 years or older, with no report done within the last 5 years, mark "no".	
<b>Scoring</b>	Yes	4/4
	No	0/4
	N/A	4/4

<b>1.2.7.16</b>	<b>Were the recommendations of the Building Condition Report for the roof carried forward into a Capital Plan?</b>	
<b>Explanation &amp; Evaluation</b>	In buildings less than 10 years old and not requiring a Building Condition Report, mark "not applicable". In buildings 10 years or older, with no report done within the last 5 years, mark "no".	
<b>Scoring</b>	Yes	6/6
	No	0/6
	N/A	6/6

## 1.2.8 Energy Innovation

<b>1.2.8.2.1</b>	<b>Are there other energy-saving systems or measures?</b>	
<b>Explanation &amp; Evaluation</b>	"Large impact" refers to technologies that have reduced energy use/carbon emissions by more than 10% of previous levels. "Small impact" refers to less than 10% reduction. Energy-saving systems or measures could include deep-lake cooling, solar absorption chillers, CO2 demand ventilation, displacement ventilation, dehumidification methods, high-performance fume hoods, thermal mass storage, or demand-response capability such as participation in a program for off-peak scheduling of significant building electricity loads.	
<b>Scoring</b>	Large impact	4/4
	Small impact	2/4
	None	0/4

## 1.3 Energy Management

### 1.3.3 Energy Management, Monitoring and Targeting

<b>1.3.3.2.1</b>	<b>Is there a documented protocol for the regular review of energy consumption by a qualified and designated person to identify anomalies or excessive consumption and take corrective action as needed?</b>	
<b>Explanation &amp; Evaluation</b>	Monthly energy bills must be reviewed and monitored by the designated Energy Manager to identify anomalies or excessive consumption. Whenever a review has been done, this must be logged.	
<b>Scoring</b>	Not actively done	0/3
	By onsite staff using in-house spreadsheets	1.5/3
	By onsite staff using third party tools	1.5/3
	By an Energy Manager	3/3
	By a contracted energy company	3/3



<b>1.3.3.4.1</b>	<b>Is there evidence of movement towards these energy targets over time?</b>	
<b>Explanation &amp; Evaluation</b>	Review energy data for the past 3 years. If there is no energy data or no set targets, mark "no". MEASUREMENT AND VERIFICATION uses measurements to reliably determine what savings have been achieved as a result of an energy management/conservation program or a specific energy efficiency project. The savings are determined by monitoring consumption during an ongoing energy program or before-and-after implementation of a project. Appropriate adjustments should be made to account for changes in conditions such as weather or occupancy.	
<b>Scoring</b>	Yes	4/4
	No	0/4

<b>1.3.3.5</b>	<b>Have steps been taken to analyze and reduce peak electrical demand?</b>	
<b>Explanation &amp; Evaluation</b>	Peak demand is the highest demand for energy during a time cycle. An electric bill consists of two major components: the demand charge and the energy consumption charge. Demand charges show the highest rate at which electricity is being consumed during peak-utility-service hours, typically measured by the service provider in 15- or 30-minute intervals during peak hours. Because demand charges form a significant portion of a monthly electric bill, peak load management strategies that lower a facility's demand during those peak demand periods can result in significant facility cost savings. Many electricity utility companies now offer cost incentives for buildings that participate in 'demand limiting' programs that require buildings to limit their peak demand in response to specific time-based utility request.	
<b>Scoring</b>	Yes	4/4
	No	0/4

### 1.3.4 Energy Training

<b>1.3.4.1.1</b>	<b>Is there a continuing education plan for operations staff including new employees, on how to implement energy monitoring, equipment preventive maintenance, and energy efficiency measures?</b>	
<b>Explanation &amp; Evaluation</b>	Training can be in-house or external. Training needs should be identified, for example, for new staff, and whenever there are system upgrades. For new employees, this would comprise an introduction to the building's energy goals and energy efficiency operations. For current staff, the training would consist of ongoing, regular updates.	
<b>Scoring</b>	Yes	5/5
	No	0/5

### 1.3.5 Financial Resources

<b>1.3.5.1.1</b>	<b>Does the operating budget include items that relate to improving energy efficiency OR is the building participating in a program for energy efficient upgrades?</b>	
<b>Explanation &amp; Evaluation</b>	This can consist of an energy efficiency improvement budget for operations and capital improvements or participation in a program that provides financial assistance for energy upgrades.	
<b>Scoring</b>	Yes	5/5
	No	0/5



### 1.3.6 Sub-Metering

1.3.6.2.1 Have sub-meters been installed to measure and record occupants' energy usage?		
<b>Explanation &amp; Evaluation</b>	Submetering, whereby occupants pay for the actual energy that they consume, increases their motivation to conserve energy and rewards those who do so. Sub-metering also allows property owners to keep the cost of rent reasonable and fair for all units regardless of how much energy they consume.	
<b>Scoring</b>	50%-100%	6/6
	25%-49%	4/6
	Under 25%	0/6

Have sub-meters been installed to measure the following major energy uses OR is the Building Automation System (BAS) used to track these energy uses?	
<b>Explanation &amp; Evaluation</b>	Mark "not applicable" where the particular energy use is not present in the facility.

1.3.6.4 Cooling plant		
<b>Scoring</b>	Yes	0.5/0.5
	No	0/0.5
	N/A	0/0

1.3.6.5 Cooling towers		
<b>Scoring</b>	Yes	0.5/0.5
	No	0/0.5
	N/A	0/0

1.3.6.6 Food court/restaurants		
<b>Scoring</b>	Yes	1/1
	No	0/1
	N/A	0/0

1.3.M.1.3 Other uses		
<b>Scoring</b>	Yes	0.5/0.5
	No	0/0.5
	N/A	0/0



### 1.3.7 Documented Operating Instructions

1.3.7.1	Are there readily available operating instructions covering standard control settings and/or basic trouble-shooting for all major equipment and related sub-systems?	
<b>Explanation &amp; Evaluation</b>	There must be a user-friendly, accessible operating manual that lists all the building systems along with a description of their function, and standard control settings and/or basic trouble shooting. For each system, the standard control settings should be outlined for each day from Monday to Sunday plus holidays, and each time-of-day, as well as for the modes of operation - for example, occupied vs. unoccupied; day vs. night, etc. While an electronic manual may be available, there could also be a printed copy in an accessible location. Thus, in the event that computers are down or regular staff is not available, someone who is not entirely familiar with the system can still take over. The manual needs to be updated as systems are revised and serviced. In addition to the manual, a best practice is to post an instruction sheet of operating parameters (e.g. temperature set points, pressures, operating schedule) for each piece of equipment in the room.	
<b>Scoring</b>	Yes	5/5
	No	0/5

### 1.3.8 Maintenance and Conditioning

Does the regular mechanical systems maintenance schedule include the following tasks?	
<b>Explanation &amp; Evaluation</b>	The maintenance schedules must be documented, and records maintained. The following operations and maintenance tasks must be performed bi-annually, or as recommended by the manufacturer, or in accordance with ASHRAE/IES Standard 100-2006R, Energy Efficiency in Existing Buildings.

1.3.8.2	Check boiler systems and measurements of boiler efficiency	
<b>Explanation &amp; Evaluation</b>	To monitor for proper combustion efficiency, carry out efficiency tests at least annually and calibrate burners so that delivered efficiency meets manufacturer specifications. If there are no boilers, mark "not applicable".	
<b>Scoring</b>	Yes	1/1
	No	0/1
	N/A	0/0

1.3.8.3	Check the correct operation of ventilation and cooling controls	
<b>Explanation &amp; Evaluation</b>	This involves checking that all setpoints are adjusted to meet efficiency requirements. If there is no HVAC, mark "not applicable".	
<b>Scoring</b>	Yes	4/4
	No	0/4
	N/A	0/0



<b>1.3.8.4</b>	<b>Check temperature and humidity controls to ensure they are set correctly and are responding as intended</b>	
<b>Explanation &amp; Evaluation</b>	There must be bi-annual evaluations of the control systems.	
<b>Scoring</b>	Yes	2/2
	No	0/2

<b>1.3.8.5</b>	<b>Check air supply grilles to ensure they are not blocked and are delivering air as required</b>	
<b>Explanation &amp; Evaluation</b>	Mark "not applicable" where there are no air grilles.	
<b>Scoring</b>	Yes	3/3
	No	0/3
	N/A	0/0

<b>1.3.8.6</b>	<b>Check for refrigerant leaks</b>	
<b>Explanation &amp; Evaluation</b>	For systems using refrigerant, maintain the refrigerant charge per the manufacturer's requirements. Keep refrigerant leakage under 5%. If there is no cooling plant, mark "not applicable".	
<b>Scoring</b>	Yes	1/1
	No	0/1
	N/A	0/0

<b>1.3.8.7</b>	<b>Check cooling towers</b>	
<b>Explanation &amp; Evaluation</b>	This must include reviewing water treatment, bleed control and cycles of concentration, water temperatures, pump operation and sequencing, and sump during operation. If there are no cooling towers, mark "not applicable".	
<b>Scoring</b>	Yes	1/1
	No	0/1
	N/A	0/0

<b>1.3.8.8</b>	<b>Schedule filter replacement</b>	
<b>Explanation &amp; Evaluation</b>	Replace or clean filters in accordance with manufacturer's recommended schedule or design pressure drop. Ensure correct size and type of filter. If there is no air handling unit, mark "not applicable".	
<b>Scoring</b>	Yes	4/4
	No	0/4
	N/A	0/0

<b>1.3.8.9</b>	<b>Clean and sterilize wet regions in the air conditioning system and check for accumulation of dirt</b>	
<b>Explanation &amp; Evaluation</b>	If there is no air handling unit, mark "not applicable".	
<b>Scoring</b>	Yes	2/2
	No	0/2
	N/A	0/0



<b>1.3.8.10</b>	<b>Periodic caulking inspection and repair program of building envelope</b>	
<b>Explanation &amp; Evaluation</b>	High performance weather stripping on doors and sealing around windows combined with regular checking and maintenance increases their thermal performance.	
<b>Scoring</b>	Yes	2/2
	No	0/2

<b>1.3.8.12</b>	<b>Periodic check and repairs of all exterior doors and windows, and associated</b>	
<b>Explanation &amp; Evaluation</b>	High performance weather stripping on doors combined with regular checking and maintenance increases their thermal performance.	
<b>Scoring</b>	Yes	1/1
	No	0/1

<b>1.3.8.15</b>	<b>Is there fault detection and diagnostic capability to verify and maintain operational performance of rooftop HVAC equipment?</b>	
<b>Explanation &amp; Evaluation</b>	Incorporate fault detection and diagnostic (FDD) capabilities in all rooftop manufactured HVAC equipment to monitor equipment performance in following categories: refrigerant charge, airflow, economizer option, and cycling duration operations. Where there are no rooftop units, mark "not applicable".	
<b>Scoring</b>	Yes	2/2
	No	0/2
	N/A	0/0

## 1.4 Transportation

### 1.4.1 Public Transportation

<b>1.4.1.1</b>	<b>What is the building's walkability index?</b>	
<b>Explanation &amp; Evaluation</b>	Enter the walkability score for your building from <a href="http://www.walkscore.com">www.walkscore.com</a> .	
<b>Scoring</b>	Over 80%	15/15
	65%-80%	8/15
	Under 65%	0/15

<b>1.4.1.2</b>	<b>Does the building have access to public transit within 500 meters?</b>	
<b>Explanation &amp; Evaluation</b>	Good access to public transport is defined as at least one bus or streetcar stop, or train or underground station within 500 metres of the building. Where the building is located outside the public transportation network mark "not applicable".	
<b>Scoring</b>	Yes	15/15
	No	0/15
	N/A	0/0



<b>1.4.1.3</b>	<b>Is there service at least every 15 minutes during rush hour?</b>	
<b>Explanation &amp; Evaluation</b>	Commuters expect public transit service at least every 15 minutes during rush-hour periods. Where the building is located outside the public transportation network mark "not applicable".	
<b>Scoring</b>	Yes	15/15
	No	0/15
	N/A	0/0

## 1.4.2 Cycling Facilities

<b>1.4.2.3</b>	<b>Are there bicycle racks for a minimum of 5% of occupants OR is there a bicycle rack vacancy of 10% at all times?</b>	
<b>Explanation &amp; Evaluation</b>	Providing bicycle facilities for minimum 5% of occupants encourages the use of bicycles as an alternate form of transportation.	
<b>Scoring</b>	Yes	8/8
	No	0/8

<b>1.4.2.4</b>	<b>Are the majority of bike racks protected from inclement weather?</b>	
<b>Explanation &amp; Evaluation</b>	Sheltering bicycles from rain further encourages cycling.	
<b>Scoring</b>	Yes	2/2
	No	0/2

## 1.4.3 Innovation – Other Measures

<b>1.4.3.1.1</b>	<b>Are there other measures to reduce car dependency (e.g. initiatives that support car-pooling, preferred parking spaces for car poolers, nearby auto share services)?</b>	
<b>Explanation &amp; Evaluation</b>	Encourage residents to car pool by providing information on benefits and facilitating communication among occupants. Providing a reduced price on transit passes for all building occupants greatly encourages them to use public transport. Locating car-share services on the premises gives building occupants flexibility in the way they commute. Improving the site access for pedestrians and bikes using signage and/or landscaping can also help to decrease car dependency.	
<b>Scoring</b>	Yes	5/5
	No	0/5



## 2. WATER

### 2.1 Water Consumption

<b>2.1.1</b>	<b>Will you be entering water consumption information for 100% of your building's GFA?</b>	
<b>Explanation &amp; Evaluation</b>	To receive points for water consumption in BOMA BEST you are required to enter consumption data for all water sources within 100% of your building's interior floor area - not simply the net or Gross Leasable Area. If you do not have 100% of your building's water consumption data, you will not be eligible to receive any points in this section.	
<b>Scoring</b>	Yes	See below for available scores
	No	0/5

<b>2.1.2</b>	<b>What is the calculated Water Use Intensity (WUI) for the building (in m<sup>3</sup>/m<sup>2</sup>/year)?</b>	
<b>Explanation &amp; Evaluation</b>	<p>Benchmarking informs organizations about how much water they use and where they use it. It allows organizations to identify opportunities to optimize water use and reduce operating costs.</p> <p>You must be able to generate a water use intensity on your building's <a href="#">Property characteristics page</a> to obtain these points.</p> <p>You must enter at least <b>12-consecutive months</b> of water consumption data using either the BOMA BEST portal (<a href="#">instructions</a>) or ENERGY STAR Portfolio Manager (<a href="#">instructions</a>).</p> <ul style="list-style-type: none"> <li>• Data can be entered in a bulk amount representing the 12-month timeframe</li> <li>• Data must not be any older than the last 18 months</li> <li>• Data must represent all indoor and outdoor consumption</li> <li>• Data should not represent consumption during periods of major renovations</li> </ul> <p>Tips on benchmarking are available in this <a href="#">FAQ</a>.</p> <p>Provide the WUI in m<sup>3</sup>/m<sup>2</sup>/yr. Include up to two decimals.</p>	
<b>Scoring</b>	Enter WUI	

<b>2.1.4</b>	<b>Select the appropriate range representative of your property's WUI (for scoring purposes)</b>	
<b>Scoring</b>	Unknown / Unable to obtain	0
	8.03 m <sup>3</sup> /m <sup>2</sup> /yr and more	0
	Between 6.205 and 8.029 m <sup>3</sup> /m <sup>2</sup> /yr	5
	Between 5.475 and 6.204 m <sup>3</sup> /m <sup>2</sup> /yr	5
	Less than 5.475 m <sup>3</sup> /m <sup>2</sup> /yr	5

### 2.2 Water Efficiency Features

Does the building incorporate any of the following high-efficiency water features?

<b>2.2.1</b>	<b>Low flow toilets that use equal to or less than 4.8 Litres/flush</b>	
<b>Scoring</b>	70%-100%	7/7
	40%-69%	3.5/7
	Under 40%	0/7



<b>2.2.4 Faucets for residential use with flow equal to or less than 5.7 Litres/min at 60 psi and/or proximity detectors</b>		
<b>Scoring</b>	70%-100%	8/8
	40%-69%	4/8
	Under 40%	0/8

<b>2.2.5 Low flow shower heads (equal to or less than 7.6 Litres/min)</b>		
<b>Scoring</b>	70%-100%	5/5
	40%-69%	2.5/5
	Under 40%	0/5

<b>2.2.6 Water efficient washing machines (front loading)</b>		
<b>Scoring</b>	70%-100%	3/3
	40%-69%	1.5/3
	Under 40%	0/3

<b>2.2.9.1 Does all landscaping minimize the need for irrigation?</b>		
<b>Explanation &amp; Evaluation</b>	Landscaping that requires low or no supplemental irrigation, known as xeriscaping, involves the use of plant species that require little watering and techniques that help reduce the amount of water needed for irrigation. If the building and paved parking areas cover more than 80% of the site area, i.e. where there is no land available for landscaping, mark "not applicable".	
<b>Scoring</b>	Yes	3/3
	No	0/3
	N/A	0/0

<b>Does the building use non-potable water for irrigation?</b>		
<b>Explanation &amp; Evaluation</b>	If the building and paved parking areas cover more than 80% of the site area, i.e. there is no land available for landscaping, mark "not applicable".	
<b>Scoring</b>	Yes	See options in following question
	No	0/3
	N/A	0/0



Are the following non-potable sources of water used for irrigation?		
<b>Explanation &amp; Evaluation</b>	<p><b>2.2.10 Rainwater</b> - Rainwater is water collected in cisterns for irrigation. These can be located either inside or outside the building. A green roof that uses no irrigation also qualifies as a rainwater capture system.</p> <p><b>2.2.11 Externally supplied recycled water</b> - Some municipalities supply externally recycled water.</p> <p><b>2.2.12 Grey Water</b> - Grey water is treated wastewater from sinks and showers (not toilets) that has had soils and undesirable bacteria removed. While a grey water system often requires an outside treatment field and dual plumbing, some systems are designed to be located inside the building.</p>	
<b>Scoring</b>	2.2.10 Rainwater	3/3
	2.2.11 Externally supplied recycled water	3/3
	2.2.12 Grey water	3/3

Do you use water-efficient technology for irrigation?		
<b>Explanation &amp; Evaluation</b>	If the building and paved parking areas cover more than 80% of the site area, i.e. there is no land available for landscaping, mark "not applicable".	
<b>Scoring</b>	Yes	See options in following question
	No	0/4
	N/A	0/0

Is the following water efficient technology used for irrigation?		
<b>Scoring</b>	2.2.13 Drip irrigation	4/4
	2.2.14 Root-fed irrigation	4/4
	2.2.15 Moisture sensors	4/4
	2.2.16 Other water efficient technology	4/4

## 2.3 Water Management

2.3.2 Is there a documented protocol for the regular review of water bills to identify and investigate all occurrences of excessive or unusual water use?		
<b>Explanation &amp; Evaluation</b>	Water use must be monitored on a regular, scheduled basis. Monthly water bills must be carefully reviewed and compared to water meter readings for anomalies or excessive consumption, and action must be taken to identify the causes of undesirable trends. Whenever a review has been done, this must be logged. Mark "not applicable" where water is not metered.	
<b>Scoring</b>	Yes	4/4
	No	0/4
	N/A	0/4

2.3.5.1 Are there water-use reduction targets?		
<b>Explanation &amp; Evaluation</b>	Water usage targets must be defined and recorded. Targets can be expressed as a volume or percent reduction over a specific period of time, or as a percentage reduction in Litres/person.	
<b>Scoring</b>	Yes	4/4
	No	0/4



<b>2.3.6</b>		
<b>Are there regular procedures for checking and fixing water leaks?</b>		
<b>Explanation &amp; Evaluation</b>	Periodic checks for leaks can be done by recording the water meter reading before and after a set time period when there is no water use. (For example: taking a meter reading at night and again the following morning). Mark "not applicable" if there is no water meter, or no opportunity to monitor the water meter over extended periods.	
<b>Scoring</b>	Yes	3/3
	No	0/3
	N/A	0/0

## 2.4 Innovation – Other Measures

<b>2.4.1.1</b>		
<b>Are there other water-saving features or measures?</b>		
<b>Explanation &amp; Evaluation</b>	Other water-saving features could include low-flow cleaning.	
<b>Scoring</b>	Yes	2/2
	No	0/2



### 3. WASTE REDUCTION AND SITE

#### 3.1 Waste Reduction and Recycling

##### 3.1.1 Recycling, Handling and Storing Recyclables

3.1.1.3	Are there collection points for sorting paper, glass, metal and plastic in the areas where waste is generated?	
<b>Explanation &amp; Evaluation</b>	Recycling rates increase when collection points are located near the area where waste is being generated. All collection should separate recyclables from waste garbage as per local or hauler requirements.	
<b>Scoring</b>	Yes	5/5
	No	0/5

Is there a provision for central collection / storage for the following?			
<b>Explanation &amp; Evaluation</b>	Recycling rates increase when collection points are located near the area where waste is being generated. All collection should separate recyclables from waste garbage as per local or hauler requirements.		
<b>Scoring</b>		Yes	No
	3.1.1.5 Batteries	1/1	0/1
	3.1.1.6 Compact fluorescent lamps	1/1	0/1
	3.1.1.8 Electronic waste	1/1	0/1
	Total available points:	3/3	0/3

3.1.1.12	Does the building have a composting program for organic waste?	
<b>Explanation &amp; Evaluation</b>	Composting may be done on-site or off-site at a special centralized facility. Mark "not applicable" where there are no facilities available to divert compost.	
<b>Scoring</b>	Yes	5/5
	No	0/5
	N/A	0/0

##### 3.1.2 Waste Reduction Program

3.1.2.2	Is regular monitoring of waste conducted?	
<b>Explanation &amp; Evaluation</b>	This is done by recording the weight or volume of waste that is leaving the building.	
<b>Scoring</b>	Yes	5/5
	No	0/5



3.1.2.3		What is the current waste diversion rate?	
Explanation & Evaluation	<p>The Diversion Rate is the proportion by weight of all waste diverted from disposal (i.e. landfill or incineration) to the total weight of all waste material generated, expressed as a percentage. This number must not include contaminated waste.</p> <p>The following activities are considered diversion actions: actions to prevent waste materials from being generated, actions to reduce material generation, reuse (internal or external), source-separated recycling, composting (on-site or off-site.) Materials that are treated with thermal applications (incineration or EFW) are <b>not</b> considered diverted.</p> <p>The diversion rate can be determined through various methods and combinations such as hauler records, waste audit, etc.</p> <p>Determine the building's diversion rate based on the following calculation: <math>[A / (A+B)] \times 100</math></p> <p><b>A</b> = Annual weight of all materials currently diverted from disposal</p> <p><b>B</b> = Annual weight of all materials currently sent for disposal (includes landfill, incineration and EFW)</p> <p>Express the annual weight in metric tonnes or kilograms.</p> <p>The diversion rate must be based on 12 months of data. Data cannot be older than the past three (3) years.</p> <p>Only include materials for which there is an established market in the calculation.</p> <p><i>Annual weight of all materials currently diverted from disposal</i> includes daily generated waste, but also all other materials diverted from building activities such as e-waste, batteries, lamps, scrap metal, wood debris, etc., that may not be captured by the waste audit.</p> <p><i>Annual weight of all materials currently sent for disposal</i> does not include hazardous waste such as hazardous industrial waste, chemicals, PCBs, or waste that is ignitable, corrosive, reactive, pathological, leachate or radioactive. It can include construction, renovation and demolition project waste if it was also included in the waste audit.</p>		
	Scoring	90% or more	10/10
		80%-89%	9/10
		70%-79%	8/10
		60%-69%	7/10
		50%-59%	6/10
		40%-49%	5/10
		30%-39%	4/10
		20%-29%	3/10
		10%-19%	2/10
Under 10%		0/10	
Unknown	0/10		

3.1.2.8.1		Are there waste-reduction targets?
Explanation & Evaluation	Targets can be expressed as a waste quantity by weight or percent reduction.	
Scoring	Yes	5/5
	No	0/5



## 3.2 Site

### 3.2.1 Site Pollution

3.2.1.1	Is the building site free of contamination?	
<b>Explanation &amp; Evaluation</b>	There must be evidence that the site is free of contamination or that it has been remediated to an acceptable level.	
<b>Scoring</b>	Yes	See options in 3.2.2.1a
	No	See options in 3.2.1.5.1
	Unknown	0/20

3.2.1.1a	If the site is known to be free of contamination, which of the following is this based on?	
<b>Explanation &amp; Evaluation</b>	<p><b>3.2.1.2 Document Search</b> - A document search has been conducted and there is no reason to suspect that the site is contaminated (i.e. it has never had underground storage tanks (USTs) or outside storage tanks (ASTs), it was always an office or other facility that did not use chemicals, it is not situated near gas stations or other problem industries, there have been no previous potential problem businesses on the site).</p> <p><b>3.2.1.3 Phase 1 Environmental Assessment</b> - A Phase 1 Environmental Site Assessment has been conducted that proves the site to be free of contamination.</p> <p><b>3.2.1.4 Confirmation Phase 2 Environmental Site Assessment or Phase 3 Clean Up Report</b> - The site was once contaminated, but has been remediated to an acceptable level, as indicated by a Phase 3 Cleanup Report.</p>	
<b>Scoring</b>	3.2.1.2 Document Search	20/20
	3.2.1.3 Phase 1 Environmental Assessment?	20/20
	3.2.1.4 Confirmation Phase 2 Environmental Site Assessment or Phase 3 Clean Up Report?	20/20
	None	15/20

3.2.1.5.1	If the site is known to be contaminated, are efforts being made to clean it up?	
<b>Explanation &amp; Evaluation</b>	If the site is known to be contaminated, efforts to clean up the site include conducting an engineering assessment of potential hazards, developing cost estimates to eliminate the problem, and hiring a contractor for removal and cleanup. Evidence of the management of the risk with regular inspections and leak detectors approved by the Dept. of Environment is also acceptable.	
<b>Scoring</b>	Yes	10/20
	No	0/20



### 3.2.2 Site Enhancement

Does building exterior management include the following best practices:			
<b>Explanation &amp; Evaluation</b>	<b>3.2.2.1 Selection of maintenance equipment that minimizes energy, water and noise</b> - Best practices include using equipment that minimizes use of energy and water and reduces noise emissions (for example, using brooms, rakes, shovels, ice picks etc.). Where conventional mechanical maintenance equipment is needed, it should be phased out when it reaches the end of its useful life and replaced with environmentally preferable equipment that performs well in terms of energy and water efficiency, emissions and noise levels.		
	<b>3.2.2.2 Building Exterior/Façade Cleaning</b> - Best practices include use of high pressure water with no added chemicals to impact vegetation and groundwater. Window cleaning should utilize pH neutral products. Low VOC sealants should be used on the building's exterior should be used "as-needed" as part of the preventive maintenance program.		
	<b>3.2.2.3 Sidewalk/Hardscape Cleaning</b> - Products, equipment and procedures should minimize the use of harmful chemicals, energy waste, water waste, air pollution, solid waste and/or chemical runoff. The building's sidewalks should be swept frequently and cleaned as needed with a GS-37 certified chemical. Parking garages should be cleaned with a propane-powered sweeper.		
<b>Scoring</b>		Yes	No
	3.2.2.1 Selection of maintenance equipment that minimizes energy, water and noise	2/2	0/2
	3.2.2.2 Building Exterior/Façade Cleaning	2/2	0/2
	3.2.2.3 Sidewalk/Hardscape Cleaning	2/2	0/2

3.2.2.4	Does the site use "moderate to high drought tolerant plants" that are also included in a local or regional "native species" plant list OR Does the site include a native butterfly garden?	
<b>Explanation &amp; Evaluation</b>	Plant lists include those from universities, water agencies, government or nursery grower's associations. Mark "not applicable" where there is no landscaping.	
<b>Scoring</b>	Yes	14/4
	No	0/4
	N/A	0/0

3.2.2.5	Does the site contribute to a wildlife corridor where adjacent sites include naturalized landscaping?	
<b>Explanation &amp; Evaluation</b>	Mark "not applicable" where adjacent sites do not provide conditions to establish a contiguous wildlife corridor.	
<b>Scoring</b>	Yes	3/3
	No	0/3
	N/A	0/0

3.2.2.7	Is outdoor lighting designed to minimize night-time light pollution?	
<b>Explanation &amp; Evaluation</b>	All exterior fixtures that exceed 2,500 lux need to be shielded such that they do not directly emit any light at a vertical angle of more than 90 degrees from straight down.	
<b>Scoring</b>	Yes	3/3
	No	0/3



<b>3.2.2.8</b>	<b>Are bird-friendly measures in place that include measures to mitigate daytime collisions AND nighttime collisions?</b>	
<b>Explanation &amp; Evaluation</b>	Measures for mitigating daytime collisions include (at a minimum) applying primary window treatments to all glass building facades up to 16 metres. Primary (exterior) treatments must cover 85% of window surfaces if it represents more than a 2 m <sup>2</sup> area of contiguous glass. When appropriate, the remaining 15% should be treated with secondary (internal or other exterior) treatments if it represents more than a 2 m <sup>2</sup> area of contiguous glass. Measures for mitigating nighttime collisions include "lights-out" programs AND shielding or projecting light downward on the building exterior. Review the <a href="#">Bird-Friendly Guidelines – Details</a> for more details on these requirements.	
<b>Scoring</b>	Yes	3/3
	No	0/3

<b>3.2.2.9.1</b>	<b>Are there measures to reduce the heat island effect including trees or high albedo paving or a combination of trees and high albedo paving on at least 20% of non-permeable landscaping?</b>	
<b>Explanation &amp; Evaluation</b>	The heat island effect can be reduced by increasing the heat reflectance of paved areas using material of SRI of 25 or higher, and by providing tree-shade or other shading of hardscapes.	
<b>Scoring</b>	Yes	5/5
	No	0/5

<b>3.2.2.10</b>	<b>What percentage of the roof is covered with high albedo surfacing?</b>	
<b>Explanation &amp; Evaluation</b>	The heat island effect can be reduced by the introduction of white (high albedo) roofs having a Solar Reflectance Index (SRI) of 70 or higher for low slope roofs or SRI of 25 or higher for steep slope roofs.	
<b>Scoring</b>	70%-100%	3/3
	40%-69%	2/3
	Under 40%	1/3
	None	0/3

<b>3.2.2.11</b>	<b>What percentage of available roof space forms a green roof?</b>	
<b>Explanation &amp; Evaluation</b>	The heat island effect can be reduced by the introduction of vegetated (green) roofs. A green roof is an extension of an above-grade roof, building on top of a human-made structure that allows vegetation to grow in a growing medium. Green roofs can be either extensive (shallow growth media with low and hardy, typically alpine, dryland or indigenous plants) or intensive (deeper growing medium which can accommodate shrubs and trees). Components of a green roof can include: vegetation, growing media, moisture retention mat, drainage panel and filter fabric, root barrier, waterproofing membrane and a protection board. Applicants should be able to produce construction or design drawings for the green roof and must allow access for the verifier to visually inspect the green roof.	
<b>Scoring</b>	70%-100%	5/5
	40%-69%	3/5
	Under 40%	1/5
	None	0/5



## 4. EMISSIONS AND EFFLUENTS

### 4.1 Air Emissions

#### 4.1.1 Boiler Emissions

4.1.1	What percentage of the building's boilers have low NOx emission rates?	
<b>Explanation &amp; Evaluation</b>	<p>A low-NOx emitting boiler which uses gaseous fuel produces the following emissions:</p> <ul style="list-style-type: none"> <li>• 26 g/GJ for boilers with capacity of 10.5-105 GJ/hr;</li> <li>• 40 g/GJ for boilers with capacity above 105 GJ/hr;</li> </ul> <p>If there are no boilers, mark "not applicable".</p> <p>Electric and condensing boilers are considered low-NOx emitting boilers.</p> <p>Typically, the burners are set up to achieve the required NOx emission rates during initial commissioning. A third-party testing company will sometimes attend and test to confirm. During the annual combustion setup/tune, NOx emission rates should be checked again and adjusted to maintain permitted levels.</p> <p>The BOMA BEST program requires a copy of the initial (if the boiler has been in use for no longer than one year), or most recent, annual combustion analysis test report, which must include NOx emission rates. Combustion analysis testing must be performed annually. For additional guidelines please refer to the Canadian Council of Ministers of the Environment document titled National Emission guidelines for commercial/industrial boilers and heaters, released in 1998.</p> <p>Point synergy exists between this question and question 1.2.2.2.1 "What percentage of boilers have combustion efficiency greater than 85%?" The applicant is encouraged to review the performance requirements of question 1.2.2.2., and, if pursuing points in that category, it is recommended that applicants combine combustion testing services so that they meet the requirements of both questions.</p>	
<b>Scoring</b>	75%-100%	23/23
	50%-74%	20/23
	25%-49%	17/23
	Under 25%	0/23
	None	0/23
	N/A	0/0

4.1.2	Are records kept of the cleaning and calibration of burners, monitoring of controls, and analysis of flue gas?	
<b>Explanation &amp; Evaluation</b>	<p>To help maintain proper combustion efficiency, carry out efficiency tests annually as a minimum, preferably more often, and calibrate burners so that the delivered efficiency meets manufacturer specifications. If there are no boilers, mark "not applicable".</p>	
<b>Scoring</b>	Yes	7/7
	No	0/7
	N/A	0/0



## 4.2 Emissions – Ozone Depletion

### 4.2.1 Refrigerants

What percentage of your building's refrigerants have an ODP below 0.014?		
<b>Explanation &amp; Evaluation</b>	<p>The "Ozone-depleting potential (ODP)" of a substance means the measure of its contribution to ozone depletion relative to that of CFC11 - the higher the value, the more damaging it is to the ozone layer. Include refrigerants from packaged or window A/C units (where applicable), if owned by the building. Indicate the percentage use of refrigerants based on the total cooling capacity of the chillers utilizing each refrigerant. If there are no ozone depleting substances (ODS), mark "not applicable".</p> <p>Ozone depleting potential of refrigerants surveyed: R11/CFC 11 (ODP = 1.0); R12/CFC 12 (ODP = 1.0); R22/HCFC22 (ODP = 0.05); HCFC123 (ODP = 0.014); HFC134 (ODP = 0); R410A (ODP = 0); R410B (ODP = 0)</p>	
<b>Scoring</b>	Less than 10%	0/10
	10%	1/10
	20%	2/10
	30%	3/10
	40%	4/10
	50%	5/10
	60%	6/10
	70%	7/10
	80%	8/10
	90%	9/10
	100%	10/10
	N/A	10/10

4.2.1.10 Are there automatic refrigerant leak detectors?		
<b>Explanation &amp; Evaluation</b>	<p>There should be refrigerant sensors in machinery rooms where refrigerant vapour from a leak may be concentrated. In well-ventilated areas, leak detection should consist of air-sampling lines connected to specific parts of the refrigeration system, such as the compressor housing. If there are no ODS, mark "not applicable".</p>	
<b>Scoring</b>	Yes	10/10
	No	0/10
	N/A	10/10

4.2.1.11 If the building has on-site ozone-depleting substances (ODS), are there recovery facilities or services that comply with federal guidelines and requirements?		
<b>Explanation &amp; Evaluation</b>	<p>Recovery can be to a system receiver or to a certified recycling or recovery machine provided by third party operator. Refrigerant recovery should take place prior to opening equipment for maintenance, service, repair or disposal. It should be done according to procedures set out in the Air-Conditioning, Heating &amp; Refrigeration Institute (AHRI) Standard 740, "Refrigerant Recovery/Recycling Equipment". If there are no ODS, mark "not applicable".</p>	
<b>Scoring</b>	Yes	5/5
	No	0/5
	N/A	5/5



## 4.2.2 Management of Ozone Depleting Refrigerants

4.2.2.6	Is there a maintenance contract for the cooling system with a certified contractor?	
<b>Explanation &amp; Evaluation</b>	A "Certified Contractor" is one who is recognized by the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI) as qualified to handle ODS. The contract should be for regular maintenance and monitoring of the refrigeration system, the distribution piping, and the leak detection system. If there are no ODS, mark "not applicable".	
<b>Scoring</b>	Yes	3/3
	No	0/3
	N/A	3/3

## 4.3 Emissions – Water Effluents

### 4.3.1 Wastewater Effluents

4.3.1	Are floor drains protected in areas where chemicals are stored?	
<b>Explanation &amp; Evaluation</b>	At a minimum, there must be containment of chemicals used in building operations, for example, oils, solvents, rust inhibitors, biocides, and pesticides. This can consist of secondary containment with plastic trays to store the materials. Where there are no chemicals in the building, mark "not applicable".	
<b>Scoring</b>	Yes	5/5
	No	0/5
	N/A	5/5

4.3.2	Are roof drains connected to sanitary or combined sewers?	
<b>Explanation &amp; Evaluation</b>	Disconnecting roof drains from sanitary or combined sewers avoids unnecessary loading of wastewater treatment facilities.	
<b>Scoring</b>	Yes	5/5
	No	0/5

4.3.3.1	Are storm management measures implemented to manage the quantity and/or quality of water run-off from roofs and hard surfaces, such as parking areas?	
<b>Explanation &amp; Evaluation</b>	Storm water management includes managing the quantity and quality of storm water run-off. Best management practices can be structural or operational. Structural measures include: rainwater catchment, flow control structures which channel the overflow into the pervious areas; green roofs; integrating "soft" structures such as ponds, swales or wetlands to work with existing or "hard" drainage structures such as pipes and concrete channels; creating above or below-ground retention ponds to treat polluted storm water; or installing control devices to remove contaminants before they pollute surface or groundwater. Operational practices include managing hazardous materials to prevent release of pollutants into the environment (source control).	
<b>Scoring</b>	Yes	8/8
	No	0/8



<b>4.3.6</b>	<b>Are there documented procedures to ensure that glycol discharges from the flushing of cooling coils are minimized or eliminated?</b>	
<b>Explanation &amp; Evaluation</b>	Used glycol and water from cooling towers should be tested to ensure that they meet local sewer-use by-laws before being discharged into the drain system. Ethylene glycol, used as an anti-corrosion agent and in freezing point depressants in air conditioning systems, is toxic to humans and animals. Mark "not applicable" if glycol is not being used.	
<b>Scoring</b>	Yes	4/4
	No	0/4
	N/A	0/0

<b>4.3.7.1</b>	<b>Are there documented policies for snow and ice management that aim to minimize damage to the environment by minimizing contaminated run-off?</b>	
<b>Explanation &amp; Evaluation</b>	Snow should be removed from building entrances and high-traffic exterior walkways using manual snow shovels and brooms. Only when heavy snowfall exceeds the ability to manually remove snow and ice should this be done with mechanical snow brushes and snow blowers. Prompt removal of snow should reduce the need for de-icer. Certified environmentally friendly de-icers should be specified. During extreme cold, sand should be used as an abrasive, and the application of de-icing agents discontinued. Unused de-icing agents should be carefully stored to eliminate the potential for chemical runoff.	
<b>Scoring</b>	Yes	3/3
	No	0/3

## 4.4 Emissions – Hazardous Materials

### 4.4.2 Asbestos

<b>4.4.2.2</b>	<b>Is all friable asbestos encapsulated to prevent the fibres from becoming air-borne?</b>	
<b>Explanation &amp; Evaluation</b>	The presence of asbestos-containing materials does not itself constitute a health hazard, provided the asbestos is intact. Friable asbestos can crumble. Encapsulating it avoids the health hazards, which can occur when asbestos fibres become airborne. If the building was completed after 1981, mark "not applicable".	
<b>Scoring</b>	Yes	3/3
	No	0/3
	N/A	3/3



<b>4.4.2.3</b>	<b>Is there a documented asbestos management plan that includes training and the precautions to be taken during repairs and renovations?</b>	
<b>Explanation &amp; Evaluation</b>	<p>The management plan should include the provision for regular inspections of all friable asbestos in the building and training for anyone who may have some responsibility for, or contact with, asbestos. During repairs or renovations, asbestos that was originally stable may be disturbed and become hazardous. When asbestos is being removed, building occupants must be notified; the work area must be isolated and clearly identified and, in some circumstances, pressure sealed and provided with an air-filtration system. Workers (including building staff and contractors) must be fully trained to use specially designed protective clothing and equipment to handle the asbestos in the prescribed manner. Once removed, the asbestos must be packaged in a rigid, impermeable, sealed container of sufficient strength to accommodate the weight of the friable asbestos waste, or it should be double bagged within two 6mm polyethylene bags. The final disposal of asbestos waste must be at an approved sanitary or designated industrial landfill site. If the building was completed during a period when legislation was in place forbidding the use of asbestos (e.g. after 1981) or there is no asbestos mark "not applicable".</p>	
<b>Scoring</b>	Yes	4/4
	No	0/4
	N/A	4/4

### 4.4.3 Radon

<b>4.4.3.1.1</b>	<b>Are radon levels below 200 Bq/m<sup>3</sup>?</b>	
<b>Explanation &amp; Evaluation</b>	<p>Radon is a colourless, odourless, naturally occurring radioactive gas present in soil, rock and water. In indoor environments, radon gas can penetrate the building envelope and accumulate in hazardous concentration levels. Radon is a risk in <b>all</b> parts of the country (Health Canada, C-NRPP).</p> <p>Radon levels must be assessed through a radon risk assessment. Radon testing must occur in all occupied areas where the floors or walls are in direct contact with the ground or a crawl space. Health Canada defines an occupied area as one that is, or may be, occupied by an individual for four (4) hours per day. If none of the ground contact floors are occupied, test all occupied rooms on the first occupied floor level above.</p> <p>Long term measurement of these areas is required for a minimum of 91 days. The professional accredited by the Canadian National Radon Proficiency Program (C-NRPP) will determine the valid 91-day testing period for the building during the heating season.</p> <p>Measurement devices approved by C-NRPP must be used. The radon risk assessment report must be signed by an individual certified by the Canadian National Radon Proficiency Program (<a href="http://www.C-NRPP.ca">www.C-NRPP.ca</a>). Final analysis must be completed by a laboratory certified by C-NRPP. Note, not all measurement protocols require laboratory analyses (e.g., E-PERM Electrets) so long as the analyst is accredited to conduct that analysis through C-NRPP.</p> <p>The <a href="#">Guide for Radon Measurements in Public Buildings</a> recommends an action level of 200 Becquerel per cubic meter (Bq/m<sup>3</sup>) to minimize health hazards due to indoor radon exposure. If radon levels are unknown, select "No".</p>	
<b>Scoring</b>	Yes	5/5
	No	0/5



#### 4.4.4 PCBs

<b>4.4.4.1</b>	<b>Are there any PCBs present in the building?</b>	
<b>Explanation &amp; Evaluation</b>	Until the early 1980s, PCBs were used in fluorescent lamp ballasts for interior lighting and in some high-intensity discharge (HID) ballasts for exterior lighting. There are also electrical transformers and capacitors still in operation that contain PCBs. If the building was constructed after 1980 there is little likelihood that PCBs are present.	
<b>Scoring</b>	Yes	-
	No	5/5

<b>4.4.4.3</b>	<b>Is there a PCB management plan that designates responsibilities, requires inventory of all materials containing PCBs, including transformers, as well as records showing locations of major PCB-containing equipment, stipulates storage requirements, and describes a strategy for phasing out and disposing of PCB-containing equipment?</b>	
<b>Explanation &amp; Evaluation</b>	If there are no PCBs mark "not applicable". Mark "yes" only if the plan contains <b>all</b> the above elements.	
<b>Scoring</b>	Yes	2/2
	No	0/2

<b>4.4.4.4</b>	<b>Are there procedures in place to ensure that: all PCB containing materials are safely stored; regular inspection of storage sites is conducted by designated persons; and staff training includes spill response procedures?</b>	
<b>Explanation &amp; Evaluation</b>	If there are no PCBs mark "not applicable". Mark "yes" only if there are procedures for <b>all</b> the above.	
<b>Scoring</b>	Yes	3/3
	No	0/3

#### 4.4.5 Storage Tanks

<b>4.4.5.1</b>	<b>Are there any above-ground (AST) or under-ground (UST) storage tanks?</b>	
<b>Explanation &amp; Evaluation</b>	Most tank systems are used for storing heating fuel, but some are also used to store fuel for electric generators and vehicles; solvents, lubricants and hazardous substances, such as corrosive or noxious chemicals.	
<b>Scoring</b>	Yes	See following question
	No	20/20



Is there a storage tank management plan, which ensures legal compliance and includes the following operation and maintenance procedures?			
<b>Explanation &amp; Evaluation</b>	<p>Choose as many procedures as apply.</p> <p><i>Tank system registration and reporting as required by the authority having jurisdiction:</i> Owners of an existing storage tank system are required to register all storage tanks of the system with the authority having jurisdiction in a manner and timeframe prescribed by the authority having jurisdiction. Federal and Provincial authorities having jurisdiction for tank registration are listed at <a href="http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&amp;n=61B26EE8-1&amp;offset=16&amp;toc=show">http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&amp;n=61B26EE8-1&amp;offset=16&amp;toc=show</a>.</p> <p><i>Inventory (reconciliation) control:</i> Inventory (reconciliation) control.</p> <p><i>Tank upgrading and replacement schedule:</i> The components that are subject to upgrade are leak detection, secondary containment, corrosion protection, overfill protection and spill containment. Mark "yes" if tanks were already replaced or upgraded.</p> <p><i>System testing:</i> System tests include leak tests and dipping for diesel in water and for water in diesel.</p> <p><i>Filling, transferring operations and spill protection:</i> The Technical Guidelines and Codes of Practice may require property managers to install systems for spill containment, overfill protection, secondary containment, dispenser sump and leak detection. Various systems are available for both above-ground and under-ground storage tank systems.</p> <p><i>Emergency preparedness:</i> An emergency preparedness plan should identify response personnel who are to be trained, and their responsibilities in the event of a leak or spill.</p> <p><i>Record keeping:</i> All inspections, maintenance, alterations and upgrades should be documented.</p> <p><i>Tank closure, abandonment or removal:</i> A storage tank system must be properly decommissioned when replaced or taken out of service.</p>		
	<b>Scoring</b>		Yes
	4.4.5.2 Tank system registration and reporting as required by the authority having jurisdiction	2.5/2.5	0/2.5
	4.4.5.3 Inventory (reconciliation) control	2.5/2.5	0/2.5
	4.4.5.4 Tank upgrading and replacement schedule	2.5/2.5	0/2.5
	4.4.5.5 System testing	2.5/2.5	0/2.5
	4.4.5.6 Filling, transferring operations and spill protection	2.5/2.5	0/2.5
	4.4.5.7 Emergency preparedness	2.5/2.5	0/2.5
	4.4.5.8 Record keeping	2.5/2.5	0/2.5
	4.4.5.9 Tank closure, abandonment or removal	2.5/2.5	0/2.5
	Total available points:	20/20	0/20



## 4.5 Emissions – Hazardous Products and WHMIS

### 4.5.1 WHMIS Program

<b>4.5.1.1</b>	<b>Are Safety Data Sheets (SDS), spill clean-up kits, and safety equipment such as eye-wash stations located in an accessible place near the chemical storage areas?</b>	
<b>Explanation &amp; Evaluation</b>	Safety Data Sheets (SDS) contain information about the properties and safe handling of each hazardous product.	
<b>Scoring</b>	Yes	3/3
	No	0/3

### 4.5.2 Health & Safety and Management of Hazardous Products

<b>4.5.2.1</b>	<b>Are chemicals and hazardous materials stored under appropriate conditions in secure locations?</b>	
<b>Explanation &amp; Evaluation</b>	Hazardous chemicals used in buildings include oils, biocides, solvents, insecticides, pesticides and herbicides. They should be stored in rooms with proper ventilation, controlled temperatures, drain protection and adequate shelf space. Containers should be capped to avoid possible spills and fumes, properly labelled and kept in securely locked areas.	
<b>Scoring</b>	Yes	3/3
	No	0/3

<b>4.5.2.4</b>	<b>Is there a designated person responsible for managing hazardous products?</b>	
<b>Explanation &amp; Evaluation</b>	The designated person should be responsible for: (1) advising workers of potential and actual hazards (2) ensuring that workers use the prescribed protective equipment devices, and (3) taking every reasonable precaution for the protection of workers. Responsible person(s) may work off-site overseeing several buildings.	
<b>Scoring</b>	Yes	3/3
	No	0/3

<b>4.5.2.5</b>	<b>Are there inventory and records of the hazardous products/waste, including their removal and disposal?</b>	
<b>Explanation &amp; Evaluation</b>	The inventory must identify the hazardous waste streams, the operations in the building that produce them, how and where the hazardous waste is handled and stored, and who is responsible for it. The records should show that the organization tracks the hazardous waste from the facility through a provincially licensed or certified carrier to a waste disposal facility that is also licensed or certified by the province to accept hazardous waste.	
<b>Scoring</b>	Yes	4/4
	No	0/4



### 4.5.3 Pesticides

<b>4.5.3.1</b>	<b>Are there suitable measures to ensure that food or food waste is well contained and that there are no unprotected openings, to minimize access by rodents?</b>	
<b>Explanation &amp; Evaluation</b>	One way to minimize pesticides usage indoors is through the planned elimination of food sources and pest habitats.	
<b>Scoring</b>	Yes	1/1
	No	0/1

<b>4.5.3.2.1</b>	<b>Do landscaping practices minimize the use of pesticides, herbicides, fertilizers and petroleum-based products?</b>	
<b>Explanation &amp; Evaluation</b>	"Pesticide" means insecticides, herbicides, fungicides, rodenticides, disinfectants, anti-foulants and plant growth regulators. Alternatives to pesticides include use of local, resistant plants in landscaping, trap plants, introduction of beneficial insects, companion planting and low toxicity pesticides. If there is no landscaping, mark "not applicable".	
<b>Scoring</b>	Yes	1/1
	No	0/1
	N/A	0/0

<b>4.5.3.3</b>	<b>Are pest-control inspections performed monthly?</b>	
<b>Explanation &amp; Evaluation</b>	There should be a log showing records of inspections. Where there is no landscaping or where pest management is not required, mark "not applicable".	
<b>Scoring</b>	Yes	1/1
	No	0/1
	N/A	0/0

<b>4.5.3.4</b>	<b>Do pest control contracts require that the staff be licensed and use integrated pesticide management methods?</b>	
<b>Explanation &amp; Evaluation</b>	The contract should require that records be kept on the type and frequency of applications of pesticides, alternative pest management approaches, compliance with legislation, and communication to tenants to notify them of pesticide applications in locations that they use. Where there is no landscaping (e.g. where the building footprint and parking cover more than 100% of the site area) or where pest management is not required, mark "not applicable".	
<b>Scoring</b>	Yes	2/2
	No	0/2
	N/A	0/0



## 5. INDOOR ENVIRONMENT

### 5.1 Indoor Air Quality

#### 5.1.1 Indoor Air Quality – Ventilation System

<b>5.1.1.1</b>	<b>What type of ventilation system is in each dwelling unit?</b>	
<b>Scoring</b>	<ul style="list-style-type: none"> <li>Natural ventilation</li> <li>Corridor air supply system</li> <li>Central ventilation system to all dwelling units</li> </ul>	

<b>5.1.1.2</b>	<b>Are air intakes located far from sources of pollution such as parking areas, bus stops, cooling towers or stagnant water?</b>	
<b>Explanation &amp; Evaluation</b>	If intakes are on the roof, check for stagnant pools of water, insects and pigeon droppings. If intakes are near the ground level, check for sources of vehicle emissions (parking and idling), industrial or commercial pollution. Check for proximity to sources of contaminants such as cooling towers (which give off spray) and building envelope penetrations such as gas vents or oil fill pipes. Note the wind direction with regard to these potential sources of contaminants.	
<b>Scoring</b>	Yes	3/3
	No	0/3

<b>5.1.1.3</b>	<b>Are all air intakes located at least 9 metres (30 feet) away from building exhaust outlets?</b>	
<b>Explanation &amp; Evaluation</b>	Separating air intakes from exhaust avoids "re-entrainment" (short-circuiting) of exhaust air. Also consider the prevailing direction of the wind relative to the intakes and exhaust.	
<b>Scoring</b>	Yes	3/3
	No	0/3

<b>5.1.1.4</b>	<b>Are all air intakes checked regularly to ensure that the openings are protected and free from obstruction?</b>	
<b>Explanation &amp; Evaluation</b>	As part of the regular HVAC maintenance system, check that the grilles on the fresh-air supply inlets are free from obstruction by leaves, snow, insects and pigeon droppings. At minimum, do this in the spring after snow has melted, and during fall when there are more leaves and debris.	
<b>Scoring</b>	Yes	5/5
	No	0/5

<b>5.1.1.9</b>	<b>Is there free-standing water which cannot drain away in the condensate drip trays?</b>	
<b>Explanation &amp; Evaluation</b>	Verify that there is no free-standing water in the air-conditioning ductwork, particularly in the condensate drip trays of cooling coils, downstream from humidifiers, which can result in contamination of ducts by bacteria and fungi. If there is no air-conditioning, mark "not applicable".	
<b>Scoring</b>	Yes	3/3
	No	0/3
	N/A	3/3



<b>5.1.1.10</b>	<b>Are there signs of corrosion, loose material (such as damaged filter bags) or sound attenuation material in any of the air-handling units (AHU)?</b>	
<b>Explanation &amp; Evaluation</b>	Inspect the air-handling units (air-mixing chambers, coils and fan blades) and duct interiors including any crawlspaces, tunnels or other areas that are used as ducts or which may be in contact with the ventilation air stream. If there are no air-handling units, mark "not applicable".	
<b>Scoring</b>	Yes	0/2
	No	2/2
	N/A	2/2

<b>5.1.1.17</b>	<b>Is there at least one operable window provided for each habitable room, except bathrooms and kitchens?</b>	
<b>Explanation &amp; Evaluation</b>	The recommended ASHRAE ventilation rates are is 2.5 L/s/person (5 CFM/person) plus (+) 0.3 L/s/m <sup>2</sup> (0.06 CFM/ft <sup>2</sup> ).	
<b>Scoring</b>	Yes	4/4
	No	0/4

<b>5.1.1.18</b>	<b>Does every dwelling unit have an adequate supply of air with no blockages?</b>	
<b>Explanation &amp; Evaluation</b>	Verify that air pathways in the original ventilation system design continue to function. Watch out for operable windows that can't be opened; ventilation systems between suites and corridors that are blocked off; supplies and returns that are closed intentionally to correct drafts; and dirt or other blockage that prevent air movement	
<b>Scoring</b>	Yes	6/6
	No	0/6

<b>5.1.1.19</b>	<b>Are exhaust systems, particularly the bathroom and kitchen exhausts, operating effectively?</b>	
<b>Explanation &amp; Evaluation</b>	Use a smoke pencil or light tissue paper to confirm that air is flowing sufficiently into the exhaust grilles and check that the grilles are not blocked by lint build-up. Bathroom and kitchen fans are an important part of the dwelling unit's ventilation system. They remove odors, which improves indoor air quality. They also remove moisture, which can increase the level of humidity. High humidity can damage building materials. Worse, high humidity can cause mold growth, which can harm occupants' health.	
<b>Scoring</b>	Yes	4/4
	No	0/4



## 5.1.2 Indoor Air Quality – Filtration System

5.1.2.1		Are filters rated at minimum efficiency of MERV 8 (Minimum Efficiency Reporting Value)?
<b>Explanation &amp; Evaluation</b>	The efficiency of filters is usually indicated on filter packages. Filters remove and prevent airborne particles from clogging heating/cooling fins or radiators, which can affect performance in the air flow system and damage to heat exchanger systems. Filtration also improves the occupants' breathable environment by removing microbes, pollen, dust, and mites. It protects a facility's interior, equipment and contents (including items of artistic historic or cultural value) from air-borne particle damage, helps to reduce fire hazards, and can even improve shelf life of food by reducing airborne mould. Filters should be cleaned regularly. Some companies now specialize in filter cleaning. The use of MERV 8 signifies best practices beyond the minimum required filtration of MERV 1 to 4 for residential buildings.	
<b>Scoring</b>	Yes	4/4
	No	0/4

5.1.2.2		Are there manometers or pressure sensors to indicate when filters should be cleaned or changed?
<b>Explanation &amp; Evaluation</b>	A manometer, which measures the pressure drop across the filters, indicates when these need cleaning or replacing. Manometers connected to BAS give even better warning. Mark "not applicable" if there are no manometers, but a regular filter inspection and replacement program.	
<b>Scoring</b>	Yes	3/3
	No	0/3
	N/A	3/3

5.1.2.3		Is there easy access for cleaning and inspecting filters?
<b>Explanation &amp; Evaluation</b>	Providing good access makes it easier to visually check whether air is bypassing the filters and whether the filters are properly installed. Relocate objects that are impeding access to the HVAC equipment. Maintain service lighting.	
<b>Scoring</b>	Yes	2/2
	No	0/2

5.1.2.4		Do filters fit snugly within the filter supports?
<b>Explanation &amp; Evaluation</b>	Verify that there is a snug fit, that the filters are the right size and that they are installed in the correct direction.	
<b>Scoring</b>	Yes	2/2
	No	0/2



### 5.1.3 Indoor Air Quality – Humidification System

5.1.3.1	Does the building have a humidification system (indicate type)?	
<b>Explanation &amp; Evaluation</b>	Where more than one type of system is being used, select the type that is most prevalent. The humidification load is based upon the amount of outdoor air entering the space either through the ventilation system or from infiltration through the envelope including doors and windows. Humidification systems are needed to correct low relative humidity problems which could impact occupant comfort, electronic equipment and building contents.	
<b>Scoring</b>	Yes, steam	3/3
	Yes, spray	3/3
	Yes, other (including dehumidification)	3/3
	No	0/3

5.1.3.2	If steam humidification is used, is clean steam rather than treated boiler water utilized?	
<b>Explanation &amp; Evaluation</b>	The steam must not be provided from a source using chemical water treatment, such as the central heating plant, because of potential air contamination from boiler additives used to control scale and corrosion. Independent steam generation, using potable water in equipment such as re-boilers, instantaneous electric, or gas fired steam generators is required. Water treatment in HVAC equipment must, at all times, meet local provincial and/or federal guidelines and regulations.	
<b>Scoring</b>	Yes	12/12
	No	0/12

5.1.3.3	If spray humidification is used, is the system rigorously maintained and free of rust, algae, or loose contaminants of any kind?	
<b>Explanation &amp; Evaluation</b>	<p>Poor maintenance of spray humidification systems may increase the likelihood of microbial growth and legionella. A Risk Management Plan must include documented records of inspection with respect to:</p> <ul style="list-style-type: none"> <li>• Preventing standing water in drain pans;</li> <li>• Limiting water droplet carryover;</li> <li>• Minimizing stagnant water in humidifier and water spray sumps.</li> </ul> <p>For more guidance on creating this risk management plan, please review the Hazard Analysis and Critical Control Point (HACCP) risk management plan in ASHRAE Standard 188, Prevention of Legionellosis Associated with Building Water Systems.</p> <p>Water treatment in HVAC equipment must, at all times, meet local provincial and/or federal guidelines and regulations.</p>	
<b>Scoring</b>	Yes	12/12
	No	0/12



## 5.1.4 Indoor Air Quality – Cooling Towers

5.1.4.1 Are the cooling towers located away from fresh air intakes and flue outlets?		
<b>Explanation &amp; Evaluation</b>	Check the relative positions of ventilation intakes to cooling tower drift, and the prevailing wind direction. If there are no cooling towers, mark "not applicable".	
<b>Scoring</b>	Yes	2/2
	No	0/2
	N/A	2/2

5.1.4.2 Are cooling towers equipped with drift eliminators?		
<b>Explanation &amp; Evaluation</b>	Drift eliminators remove water droplets generated by the cooling tower. This saves water and reduces the risk of downdraft spray that could contain Legionella. Eliminators can be internal or external to the cooling tower. If there are no cooling towers, mark "not applicable".	
<b>Scoring</b>	Yes	5/5
	No	0/5
	N/A	5/5

Is there a maintenance program for cooling towers which includes the following?		
<b>Explanation &amp; Evaluation</b>	There should be at least monthly inspections of cooling towers that include checking for evidence of slime or mold (which could indicate an elevated level of bacteria), regular treatment of the cooling tower water, and complete cleaning and disinfection of each cooling tower at least every six months. If there are no cooling towers, mark "not applicable".	

5.1.4.3 At least monthly inspection of cooling towers for evidence of mould or slime, which could indicate elevated levels of bacteria		
<b>Scoring</b>	Yes	2/2
	No	0/2
	N/A	2/2

5.1.4.4 Regular treatment of the cooling tower water		
<b>Scoring</b>	Yes	2/2
	No	0/2
	N/A	2/2

5.1.4.5 Complete cleaning of each cooling tower at least every six months		
<b>Scoring</b>	Yes	1/1
	No	0/1
	N/A	1/1



## 5.1.5 Indoor Air Quality – Parking and Receiving

5.1.5.1		Are enclosed parking areas mechanically ventilated?	
Explanation & Evaluation	Closed garages are generally underground and require mechanical ventilation to avoid carbon monoxide, oil and gas fumes becoming concentrated in the garage and entering the building. Open or partially open garages, which are typically above-grade, may not need mechanical ventilation. If there are no enclosed parking areas, mark "not applicable".		
	Scoring	Yes	3/3
		No	0/3
		N/A	0/0

5.1.5.2		Is there an "Idle Free" area adjacent to the entrance?	
Explanation & Evaluation	Permanent signs denoting "Idle Free Zone" discourage residents and visitors from sitting at the entrance to the building with car engines running while waiting for others.		
	Scoring	Yes	2/2
		No	0/2

5.1.5.3.1		Are there measures to prevent intake of exhaust fumes into the building interior from the loading dock and parking areas?	
Explanation & Evaluation	Measures include posting notices to turn off vehicles, having well-sealed doors between the parking and occupied areas and increasing exhaust ventilation in the garage and loading docks. If there is no loading dock nor parking areas, mark "not applicable".		
	Scoring	Yes	4/4
		No	0/4
		N/A	0/0

Is there a carbon monoxide detection and monitoring system in the following places?				
Explanation & Evaluation	<b>5.1.5.5 In enclosed parking garages</b> - Control of garage ventilation fans using a carbon monoxide detection system reduces energy use by operating the fans only as required to dispel CO build-up. If there are no enclosed parking areas, mark "not applicable".			
	<b>5.1.5.6 Near gas or fuel-fired heating boilers</b> - If there are no gas or fuel-fired boilers, mark "not applicable".			
Scoring		Yes	No	N/A
	5.1.5.5 In enclosed parking garages	3/3	0/3	0/0
	5.1.5.6 Near gas or fuel-fired heating boilers	3/3	0/3	0/0
	Total available points:	6/6	0/6	0/0



## 5.1.6 Indoor Air Quality – Control of Pollutants at Source

Have there been ongoing observations or complaints of symptoms of mould or excess moisture such as the following?	
<b>Explanation &amp; Evaluation</b>	Check for visual or odour clues in the following areas: crawl spaces, sub-floor cavities and service tunnels, cold surfaces such as under windows and in corners formed by exterior walls, un-insulated cold-water piping, bathrooms, indoor areas in the vicinity of known roof or wall leaks, floors and ceilings under plumbing, duct interiors near humidifiers, cooling coils, outdoor air-intakes and under carpets.

5.1.6.1	Stained ceilings or walls	
<b>Scoring</b>	Yes	0/4
	No	4/4

5.1.6.2	Musty odours	
<b>Scoring</b>	Yes	0/4
	No	0/4

5.1.6.3	Damp or musty carpets	
<b>Scoring</b>	Yes	0/3
	No	3/3

5.1.6.5	Do common areas, including social rooms and kitchens, and chemical storage facilities have effective local exhaust?	
<b>Explanation &amp; Evaluation</b>	Some special-use areas may require additional local exhaust to prevent air pollutants from accumulating in or spreading beyond a local area. Fans should operate continuously when the source is present, not only when the room is occupied. Test the exhaust effectiveness with chemical smoke or light tissue paper.	
<b>Scoring</b>	Yes	6/6
	No	0/6

5.1.6.6	Are there grates or mats at all high-volume occupant entryways into the building throughout the year?	
<b>Explanation &amp; Evaluation</b>	Grates and walk-off mats help remove moisture and dirt from people's shoes at the entrance of buildings. This helps to protect floors from wear-and-tear. Mats need to be kept throughout the year. If only in the winter, these mats will not capture the summer dust and particulate matter.	
<b>Scoring</b>	Yes	4/4
	No	0/4



<b>5.1.6.7.1</b>	<b>Are there documented measures to control pollutants at source in common areas such as social rooms, kitchens, chemical storage and general storage areas?</b>	
<b>Explanation &amp; Evaluation</b>	<p>There should be evidence that at least five of the following measures are being implemented:</p> <ul style="list-style-type: none"> <li>• In washrooms that are not frequently used, toilets are flushed, and water run in the sinks to ensure water does not stagnate in the supply lines. This is logged;</li> <li>• Gas appliances are vented and there is a regular schedule for checking leaks. This is logged;</li> <li>• Waste bins are located to avoid odours entering the building and are regularly checked for cleanliness;</li> <li>• Signs are posted prohibiting vehicles from idling their engines;</li> <li>• There is an annual inventory of materials and supplies and scheduled clean-up to avoid the accumulation of junk, materials, boxes or other miscellaneous objects. This is logged.</li> <li>• Storage rooms are well organized and are easy to access for floor cleaning.</li> </ul>	
<b>Scoring</b>	Yes	4/4
	No	0/4

<b>5.1.6.10</b>	<b>Is the building designated non-smoking (including prohibition of vaping and e-cigarettes)?</b>	
<b>Scoring</b>	Yes	2/2
	No	0/2

<b>5.1.6.11</b>	<b>If the building is designated non-smoking, is there a designated smoking area outside that is away from entrances and will limit the spread of smoke to the inside of the building?</b>	
<b>Explanation &amp; Evaluation</b>	<p>Banning smoking, vaping, and e-cigarettes is the most effective way to avoid environmental tobacco smoke. Outside smoking areas should be no closer than 9 m from building entrances and other air intakes. Indoor designated smoking areas must be designed to contain, capture and remove environmental tobacco smoke (ETS) from the building. The area should be exhausted to the outdoors with no recirculation of ETS-containing air to the remainder of the building. It should be enclosed with impermeable partitions and operated at a negative pressure compared to the rest of the building of at least 7 Pa. The performance of designated smoking areas should be verified as per the tracer gas testing methods. If the building is not designated non-smoking, mark "not applicable". Non-smoking designation refer to common areas / hallways only.</p>	
<b>Scoring</b>	Yes	2/2
	No	0/2
	N/A	0/0



<b>5.1.6.12.1</b>	<b>Is there a standard checklist that includes items connected to indoor air quality that must be discussed (as applicable, depending on the project) with architects, engineers, contractors, and other professionals prior to renovations and repairs?</b>	
<b>Explanation &amp; Evaluation</b>	<p>The checklist should include all of the following items to be discussed as appropriate:</p> <ul style="list-style-type: none"> <li>• Procedures must be in place to avoid releasing throughout the building, dust and hazardous products used in construction.</li> <li>• Adhesives, sealants and paints must have a VOC content that meets or exceeds the local VOC limit requirements or Green Seal requirements.</li> <li>• Non-carpet finished flooring must be environmentally certified. Carpet and carpet cushions should meet the requirements of an Environmental Carpet Testing Program.</li> <li>• Composite panels and agri-fibre products must contain no added urea-formaldehyde resins. Best management practices call for the use of paints and sealants with the smallest environmental impact regarding air pollution and chemical runoff.</li> </ul> <p>Discussion is essential to avoid design features that could interfere with ventilation or thermal comfort, or which could result in the selection of inappropriate materials or systems. Renovation procedures must also be discussed to avoid the release dust and fumes from sealants, finishes, carpets and furnishings that emit volatile organic compounds (VOCs). Paints must meet the GS-11 VOC limits of 50 grams/Litre for flat topcoats, 100 grams/Litre for non-flat topcoats, 100 grams/Litre for primers or undercoats, 100 grams/Litre for floor paint, 250 grams/Litre for anti-corrosive coatings, 50 grams/Litre for reflective wall coatings and 100 grams/Litre for reflective roof coatings. Exterior sealants must adhere to South Coast Air Quality Management Rule 1168 limits of 150 grams/Litre for outdoor carpet adhesives, 100 grams/Litre for wood flooring adhesives, 65 grams/Litre for ceramic tile adhesives, 50 grams/Litre for VCT and asphalt tile adhesives, 50 grams/Litre for panel adhesives, 50 grams/Litre for cove base adhesives, 70 grams/Litre for multi-purpose construction adhesives, 100 grams/Litre for structural glazing adhesives and 250 grams/Litre for single ply roof membrane adhesives.</p>	
<b>Scoring</b>	Yes	5/5
	No	0/5

<b>5.1.6.13</b>	<b>Does the building's water system maintenance program include measures to eliminate the occurrence of Legionella?</b>	
<b>Explanation &amp; Evaluation</b>	<p>ASHRAE Standard (SPC188) Prevention of Legionellosis Associated with Building Water Systems establishes absolute requirements for the prevention of legionellosis associated with building water systems. The standard requires Hazard Analysis and Critical Control Point (HACCP) risk management to be used to reduce the potential of legionellosis associated with buildings. Having point-of-use water heaters OR by maintaining water temperatures between 50 and 55°C and avoiding stratification and dead legs in water circulation systems may a simplest way of meeting the standard.</p>	
<b>Scoring</b>	Yes	2/2
	No	0/2



## 5.1.7 Dwelling Unit Indoor Air Quality

5.1.7.1 Do the dwelling units allow for cross ventilation?		
<b>Explanation &amp; Evaluation</b>	When wind hits one side of a building (windward side), the air will speed up in order to flow around the building to the opposite (leeward side). This creates a positive pressure on the windward side and a negative pressure on the leeward side. If windows are open in the building on both the windward and leeward side, air will be forced through the building.	
<b>Scoring</b>	Yes	4/4
	No	0/4

5.1.7.2 Do all installed stoves have outside vented fume hoods?		
<b>Explanation &amp; Evaluation</b>	Range hoods remove odors, steam, filter grease and pollutants.	
<b>Scoring</b>	Yes	5/5
	No	0/5

5.1.7.3 Are the dryer and/or bathroom vents separate and ventilated from the outside?		
<b>Explanation &amp; Evaluation</b>	Laundry rooms that have driers and/or bathroom may have an operable window or a separate exhaust ventilation.	
<b>Scoring</b>	Yes	5/5
	No	0/5

5.1.7.4 Have there been complaints from occupants concerning stale, dry, or humid air, and/or odor transfer?		
<b>Explanation &amp; Evaluation</b>	Occupant data falls into two categories: complaints of discomfort or other symptoms (e.g. teary eyes, chills) and perceptions of building conditions (e.g., odors, draftiness). Investigators can gather valuable information about potential indoor air problems from listening to occupants.	
<b>Scoring</b>	Yes	0/5
	No	5/5

5.1.7.6 Do kitchen storage units minimize off gassing, particularly by formaldehyde-containing materials?		
<b>Explanation &amp; Evaluation</b>	Off-gassing is the release of chemicals from non-metallic substances under ambient or greater pressure conditions. Off-gassing occurs continuously but can be limited by the complete curing of polymeric material.	
<b>Scoring</b>	Yes	5/5
	No	0/5



5.1.7.7 Do dwelling units contain low VOC materials, particularly paints and wood finishes?		
<b>Explanation &amp; Evaluation</b>	Construction materials and furnishings contain a number of chemicals and many of these products off-gas volatile organic compounds (VOCs). These chemicals - particularly VOCs - may affect the health and comfort of the general population and are often linked to health problems in children and other special populations. Because of this, many low- and no-VOC building materials are now available. Low-VOC building materials include less-polluting paints, adhesives, solvents, cleaning agents, caulks, wood products, carpet and sealants.	
	<b>Scoring</b>	
	Yes	4/4
	No	0/4

## 5.1.8 Indoor Air Quality Management

5.1.8.2 Has the building had an indoor air quality audit in the past year?		
<b>Explanation &amp; Evaluation</b>	The audit must be detailed enough for management to gain a comprehensive understanding of all the factors that could influence the building's indoor air quality. The audit must consist of a walkthrough inspection of the building and must report on a review of the following: a list of responsible staff and/or contractors, evidence of training, and job descriptions, HVAC design data, manuals and operating instructions including control settings and operating schedules, HVAC maintenance and calibration records, testing and balancing reports, inventory of locations where occupancy, equipment, or building use has changed, identification of areas where positive or negative pressures should be maintained, a record of locations that need monitoring or correction, and an inventory of HVAC system components needing repair, adjustment, or replacement.	
	<b>Scoring</b>	
	Yes	8/8
	No	0/8



Are there documented procedures for maintaining good indoor air quality that include the following?			
<b>Explanation &amp; Evaluation</b>	<p>Building management must have heating, ventilation and air conditioning (HVAC) procedures and a preventive maintenance program in place.</p> <p><b>5.1.8.3 Scheduled HVAC maintenance</b> - There must be daily, weekly and monthly schedules including a coil-cleaning program.</p> <p><b>5.1.8.4 Preventive maintenance</b> - This must include a scheduled program for monitoring, cleaning and/or replacing HVAC components such as outside air intakes, outside air dampers, air filters, drain pans, heating and cooling coils, the interior of air handling units, fan motors and belts, air humidification, controls and cooling towers.</p> <p><b>5.1.8.5 Housekeeping procedures including care and maintenance of floors</b> – The program must include the following:</p> <ol style="list-style-type: none"> <li>1) Identify all areas that should be cleaned</li> <li>2) Specify the products that are to be used</li> <li>3) The appropriate application for each product</li> <li>4) Provide a cleaning schedule.</li> </ol> <p>A floor care program typically includes the use of finishes, strippers and cleaners.</p> <ul style="list-style-type: none"> <li>• <b>Floor finishes</b> provide a protective coating that increases stain and water resistance and makes cleaning easier. Many floor finishes contain zinc, which is highly toxic to aquatic life. They must be free of zinc or other metals and a VOC concentration no more than 7% by weight.</li> <li>• <b>Floor strippers</b> must have no more than 7% VOC when diluted for use as directed. All products must avoid ammonia, ammonium hydroxide, or ammonium salts, dibutyl phthalate or alkylphenol ethoxylates. Products must have phosphorus concentration of 0.5% or less by weight, a pH no higher than 11.5 and a flash point above 150°F. Choose products in recyclable or refillable containers.</li> </ul> <p>Education in floor care is important. Even an environmentally preferable product may still pose a health hazard or environmental risk. Education of janitorial workers in proper floor cleaning and maintenance methods can reduce the number of floor-care products used over the long term. There are techniques that make it possible to use of smaller quantities of the product. For example, regular wet-mop, dust, and vacuum will help to preserve the finish and avoid too-frequent stripping. Floor-maintenance schedules should be based on wear patterns rather than simply following a calendar schedule. Follow label directions for proper dilution amounts and procedures. A stripped floor should be thoroughly rinsed to neutralize the surface prior to applying the new floor finish.</p> <p><b>5.1.8.6 Mould management</b> - The program must include the following:</p> <ol style="list-style-type: none"> <li>1) Procedures for preventing moisture/water or mold growth conditions;</li> <li>2) A regular inspection routine that makes it possible to detect moisture and mold growth early to minimize property damage and liability; and</li> <li>3) Procedures for responding to moisture/water or mold growth conditions.</li> </ol> <p><b>5.1.8.7.1 Procedures for unscheduled maintenance</b> - Procedures for unscheduled maintenance must be documented in the event of equipment failures which may require the prolonged deactivation or modification of the building's HVAC equipment.</p>		
<b>Scoring</b>		Yes	No
	5.1.8.3 Scheduled HVAC maintenance	2/2	0/2
	5.1.8.4 Preventive maintenance	2/2	0/2
	5.1.8.5 Housekeeping procedures including care and maintenance of floors	2/2	0/2
	5.1.8.6 Mold management	2/2	0/2
	5.1.8.7.1 Procedures for unscheduled maintenance	2/2	0/2
	<b>Total available points:</b>	<b>10/10</b>	<b>0/10</b>



<b>5.1.8.10</b>	<b>Is the operations staff sufficiently trained to implement an indoor air quality program to address occupant concerns?</b>	
<b>Explanation &amp; Evaluation</b>	The training should be adequate to enable staff to identify, prevent and solve indoor air quality problems. Indoor air quality problems can be complex. Staff should also have a clear understanding of when it is advisable to call in a professional and the authorization to do so.	
<b>Scoring</b>	Yes	2/2
	No	0/2

## 5.3 Lighting

### 5.3.1 Lighting Features

<b>5.3.1.7</b>	<b>Does the floor plan of the building potentially allow for 80% of a typical living area to have access to day-lighting?</b>	
<b>Explanation &amp; Evaluation</b>	Although occupants may erect barriers that prevent daylight from penetrating in the area, consider whether the building plan could allow easy access to daylight.	
<b>Scoring</b>	Yes	5/5
	No	0/5

### 5.3.2 Lighting Management

<b>5.3.2.2</b>	<b>Is there a planned schedule of cleaning light fixtures?</b>	
<b>Explanation &amp; Evaluation</b>	Cleaning luminaires can increase light output and quality, resulting in the need for fewer lamps and significant energy savings over the life of the facility. Where lighting does not warrant this approach, such as when fixtures are easy to reach, or the type of fixtures do not require additional attention, mark "not applicable".	
<b>Scoring</b>	Yes	4/4
	No	0/4
	N/A	0/0



5.3.2.3	Is there a group-relamping schedule that is based on lighting power density?	
<b>Explanation &amp; Evaluation</b>	Lamps that are changed before they burn out produce greater light output, resulting in better quality light. Group relamping at planned intervals can also reduce labour costs to between one-fifth and one-tenth of the cost per lamp for spot relamping. (Spot relamping is the replacement of individual lamps when they burn out.) The time needed for someone to replace a single lamp includes the time a maintenance worker spends determining which particular lamp is to be replaced, getting the new lamp, placing the ladder, opening the fixture, replacing the lamp (and hopefully cleaning the fixture), returning the ladder, and disposing of the old lamp. This time is much greater than the time involved for replacing each lamp in an organized replacement of all lamps at once. In a group relamping plan, all lamps are replaced at a preplanned point in the life of the group of lamps. The most economical time to relamp can be predicted on the basis of the known rate of burnouts. Ordinarily, the most economical group-relamping period is at about 70 to 80 percent of rated life. when depreciation of lamp quality is appreciable and with a view to the required lighting levels for various tasks. The Operations Manager / Staff should create a re-lamping schedule based on the expected intervals at which lighting output falls below a certain level. Where fixtures are easy to reach and group relamping is not necessary, mark "not applicable".	
<b>Scoring</b>	Yes	3/3
	No	0/3
	N/A	0/0

## 5.4 Noise

5.3.2.2	Is there sufficient acoustic privacy?	
<b>Explanation &amp; Evaluation</b>	If it is common to receive complaints from residents that there is significant noise transfer from adjacent suites, then the answer to this question should be "No".	
<b>Scoring</b>	Yes	5/5
	No	0/5



## 6. ENVIRONMENTAL MANAGEMENT SYSTEMS

### 6.1 Environmental Management System (EMS) Documentation

Are there stated goals and targets documented in the policy manual with respect to each of the following?		
<b>Explanation &amp; Evaluation</b>	Goals and specific targets to improve or maintain the facility's environmental performance should be documented as part of the "environmental vision" for the building.	

6.1.2	Energy conservation and CO <sub>2</sub> reduction	
<b>Scoring</b>	Yes	3/3
	No	0/3

6.1.3	Water conservation	
<b>Scoring</b>	Yes	3/3
	No	0/3

6.1.4	Waste reduction and recycling	
<b>Scoring</b>	Yes	3/3
	No	0/3

6.1.5	Environmental purchasing	
<b>Scoring</b>	Yes	2/2
	No	0/2

6.1.6	Reduction in use and proper handling of hazardous products	
<b>Scoring</b>	Yes	2/2
	No	0/2

6.1.7	Training and education	
<b>Scoring</b>	Yes	2/2
	No	0/2

6.1.8.1	Are there action plans to improve the environmental and energy performance of the building?	
<b>Explanation &amp; Evaluation</b>	The action plans should outline broad range of implementation strategies, timelines, training and resources needed to achieve stated targets. They should be reviewed, revised and updated on a regular, scheduled basis. These are not to be confused with specific energy reduction measures identified in energy audit.	
<b>Scoring</b>	Yes	5/5
	No	0/5



## 6.2 Environmental Purchasing

6.2.1	<b>Does building management have a written environmental-purchasing policy?</b>	
<b>Explanation &amp; Evaluation</b>	The environmental purchasing plan should: assign responsibilities; ensure that those who do purchasing have adequate training; refer to products used by in-house staff; stipulate requirements for cleaning contractors; and provide education to tenants.	
<b>Scoring</b>	Yes	6/6
	No	0/6

6.2.2.1	<b>Is there a list of preferred products used in housekeeping and building maintenance?</b>	
<b>Explanation &amp; Evaluation</b>	Staff need a list of feasible environmentally friendly substitutes and their suppliers. Because products are frequently discontinued and new products introduced to the market, the list should be regularly reviewed and updated.	
<b>Scoring</b>	Yes	7/7
	No	0/7

6.2.3.1	<b>Does the procurement policy include a requirement to purchase energy efficient building equipment and appliances?</b>	
<b>Explanation &amp; Evaluation</b>	The policy must include the requirement that any purchases of appliances and HVAC should involve consulting the EnerGuide and/or purchase of Energy Star rated products.	
<b>Scoring</b>	Yes	6/6
	No	0/6

6.2.4	<b>Are Safety Data Sheets (SDS) reviewed by staff who purchase hazardous products?</b>	
<b>Explanation &amp; Evaluation</b>	Those responsible for purchasing must ensure that up-to-date Safety Data Sheets (SDS) for controlled products are reviewed and are available to employees. They must not be dated more than 3 years before the receiving date.	
<b>Scoring</b>	Yes	6/6
	No	0/6

## 6.3 Emergency Response

6.3.1	<b>Are procedures documented and staff trained to deal with and obtain prompt assistance for emergencies such as fire, spills, power failures and illness?</b>	
<b>Explanation &amp; Evaluation</b>	Procedures must be detailed for quick and effective action in the event of an emergency. They should include up-to-date contacts to obtain assistance promptly and to report the emergency. There should also be a protocol to assess the risks of re-occupying a building in the case of evacuation.	
<b>Scoring</b>	Yes	5/5
	No	0/5



<b>6.3.2</b>		<b>Is there an Emergency Plan outlining emergency procedures, reporting, and record-keeping?</b>
<b>Explanation &amp; Evaluation</b>	The Plan must designate accountability with respect to ensuring regulatory compliance, record-keeping and reporting. It should identify the building's vulnerabilities to emergency situations; indicate how to prevent or mitigate potential effects; describe staff response; and provide a blueprint for recovery. The plan should be condensed into an Emergency Plan handbook.	
<b>Scoring</b>	Yes	5/5
	No	0/5

<b>6.3.4</b>		<b>Is there easy-to-access equipment on-site to deal with environmental emergencies, such as spills?</b>
<b>Explanation &amp; Evaluation</b>	The environmental Emergency Plan must require that equipment such as spill control kits, absorbents, and personal protection equipment be on-site for quick and easy access.	
<b>Scoring</b>	Yes	4/4
	No	0/4

<b>6.3.5</b>		<b>Are there contingency plans for both short-term and long-term power failures?</b>
<b>Explanation &amp; Evaluation</b>	Planning for power failures must address the following elements: communication to tenants; security; provision of emergency power and water; and, if necessary, evacuation.	
<b>Scoring</b>	Yes	3/3
	No	0/3

<b>6.3.6</b>		<b>Is there an up-to-date site map showing the location of environmentally significant features such as shut-off valves, underground and above ground storage tanks etc.?</b>
<b>Explanation &amp; Evaluation</b>	This is helpful for first responders. Site plans must identify environmentally significant features such as hazardous waste storage rooms, PCB-containing equipment, sanitary and storm sewer lines, CFC equipment, storage tanks as well as emergency equipment.	
<b>Scoring</b>	Yes	3/3
	No	0/3

## 6.4 Tenant Awareness

<b>Are there ongoing communications to tenants/occupants on the environmental measures that they can implement in the building to contribute to the following?</b>	
<b>Explanation &amp; Evaluation</b>	Guidance on energy and environmental issues should be provided in the Tenants' Manual.

<b>6.4.2</b>		<b>Energy conservation including plug load reduction</b>
<b>Explanation &amp; Evaluation</b>	An inexpensive way to reduce energy costs is by developing energy efficiency procedures and personal habits. Provide information to occupants on energy use and means of saving energy (such as information on turning off lights and equipment in unoccupied spaces, after normal office hours and the correct use of blinds).	
<b>Scoring</b>	Yes	3/3
	No	0/3



<b>6.4.3</b>	<b>Water conservation</b>	
<b>Scoring</b>	Yes	3/3
	No	0/3

<b>6.4.4</b>	<b>Waste reduction and recycling</b>	
<b>Explanation &amp; Evaluation</b>	This can include promotional materials such as brochures and newsletters to keep occupants informed about how they can reduce the amount of waste being sent to landfill through such things as recycling and composting.	
<b>Scoring</b>	Yes	3/3
	No	0/3

<b>6.4.5</b>	<b>Proper handling, storage and disposal of toxic products</b>	
<b>Explanation &amp; Evaluation</b>	The information must be of a general nature and should communicate that each toxic product has its own characteristics, which require proper handling, storage and disposal.	
<b>Scoring</b>	Yes	3/3
	No	0/3

<b>6.4.9</b>	<b>Has an occupant satisfaction survey been completed in the last 3 years?</b>	
<b>Explanation &amp; Evaluation</b>	An occupant satisfaction survey enables property managers to prioritize efforts and maximize the performance of their assets.	
<b>Scoring</b>	Yes	5/5
	No	0/5



## 7. PANDEMIC RESPONSE

**Why?** This section seeks to better understand how building operations have changed as a result of the worldwide COVID-19 pandemic.

These new questions recognize and reward building managers who perform ongoing and active review of all operations to optimize for new building use patterns, balancing the need for energy and water efficiency with health and safety measures. Building managers are encouraged to continuously engage with building operators, HVAC specialists, tenants, and other pertinent stakeholders to ensure the building is running optimally for the conditions.

**Disclaimer:** BOMA Canada does not represent, warrant, or guarantee that these questions include any and all best practices that may be necessary in order to mitigate the risk of COVID-19 transmission or increase indoor air quality in any particular circumstances. To mitigate risks of COVID-19 in your building, you must, in every circumstance, seek the advice of your own professional advisors.



## 7.1 Assessment

### ENERGY

7.1.1	Have at least 12-consecutive months of energy consumption data from <u>before</u> February 29, 2020 been entered into BOMA BEST or the ENERGY STAR Portfolio Manager portal?	
<b>Explanation &amp; Evaluation</b>	<p><b>Description:</b> Data from before February 29, 2020 reflects the energy performance of the building before the COVID-19 pandemic. This data is useful for evaluating the impact of the COVID-19 pandemic on the energy performance of the building.</p> <p><b>Requirements:</b> Demonstrate that either online portal includes at least 12 individual months of data from <u>before</u> February 29, 2020.</p> <ul style="list-style-type: none"> <li>• Data must represent 100% of the building’s GFA.</li> <li>• Data must be entered in individual months.</li> <li>• Data must not be any older than February 28, 2018.</li> <li>• Data must represent all fuel types used in the building.</li> <li>• Data must represent a 12-month period when the average occupancy for the building was at least 70%.</li> <li>• Data should not represent consumption during periods of major renovations.</li> </ul> <p>Buildings using ENERGY STAR Portfolio Manager must attach a copy of the building’s “ENERGY STAR Data Verification Checklist” for the relevant 12-month period (does not need to be signed by a verified by a licensed professional). Download instructions <a href="#">here</a>.</p> <p>Buildings using the BOMA BEST Online Portal for data entry must attach a screenshot of the energy data entries for the relevant 12-month period.</p> <p>Specify the end date for the data period in the next question.</p> <p><b>Additional Requirements:</b> Select Not Applicable if the building had been occupied for fewer than 12 months at 70% occupancy as of February 2020; or if the building manager has been managing the property for fewer than 12 months.</p>	
<b>Scoring</b>	Yes, in BOMA BEST portal	15/15
	Yes, in ENERGY STAR Portfolio Manager	15/15
	No	0/15
	N/A	0/0

7.1.1a	What is the end date for the 12-consecutive months entered above?	
<b>Explanation &amp; Evaluation</b>	<p><b>Requirements:</b> Select an end date to obtain the points in 7.1.1. The end date for energy consumption data must be on or before February 29, 2020.</p>	
	End Date	For informational purposes



7.1.2	Have at least 12-consecutive months of <u>current</u> energy consumption data been entered into BOMA BEST or the ENERGY STAR Portfolio Manager portal?	
<b>Explanation &amp; Evaluation</b>	<p><b>Description:</b> Updating building performance benchmarking portals with utility data as it becomes available supports efforts to optimize energy use and reduce operating costs by allowing atypical trends to be identified and resolved quickly. Current building data also reflects the energy performance of the building during the COVID-19 pandemic. This data is useful for evaluating the impact of the COVID-19 pandemic on the energy performance of the building.</p> <p><b>Requirements:</b> Demonstrate that either online portal includes data for the most current 12-month period. The end date must be no older than 3 months before the building’s verification date.</p> <ul style="list-style-type: none"> <li>• Data must represent 100% of the building’s GFA.</li> <li>• Data must be entered in individual months.</li> <li>• Data must represent all fuel types used in the building.</li> <li>• Data should not represent consumption during periods of major renovations.</li> </ul> <p>Buildings using ENERGY STAR Portfolio Manager must attach a copy of the building’s “ENERGY STAR Data Verification Checklist” for the relevant 12-month period (does not need to be signed by a verified by a licensed professional). Download instructions <a href="#">here</a>.</p> <p>Buildings using the BOMA BEST Online Portal for data entry must attach a screenshot of the energy data entries for the relevant 12-month period.</p> <p>Specify the end date for the data period in the next question.</p>	
<b>Scoring</b>	Yes, in BOMA BEST portal	15/15
	Yes, in ENERGY STAR Portfolio Manager	15/15
	No	0/15

7.1.2a	What is the end date for the 12-consecutive months entered above?	
<b>Explanation &amp; Evaluation</b>	<p><b>Requirements:</b> Select an end date to obtain the points in 7.1.2. The end date of the 12-consecutive months of energy consumption data must be no older than 3 months before the building’s verification date.</p>	
	End Date	For informational purposes



<b>7.1.3</b>	<b>Has the difference been analyzed between the building’s current energy consumption and the consumption before the COVID-19 pandemic?</b>	
<b>Explanation &amp; Evaluation</b>	<p><b>Requirements:</b> For each fuel type used for major building systems, indicate in the sections below if the consumption increased or decreased between typical operations before the COVID-19 pandemic and operations during the pandemic, and by what percentage value. Energy consumed for back-up power equipment (e.g., diesel generators) does not need to be considered. If a fuel type is not used at the building, select “Fuel Type Not Applicable”.</p> <p>To meet the requirements:</p> <ul style="list-style-type: none"> <li>• Provide supporting documentation demonstrating the analysis used to determine the percentage change in energy consumption for each fuel type.</li> <li>• Percentage change values must be entered for each fuel type used at the building. Once the trend direction is selected, a space will appear to enter the value. A positive percentage change value indicates an increase in current energy consumption relative to before the COVID-19 pandemic. A negative percentage change value indicates a decrease in current energy consumption relative to the COVID-19 pandemic.</li> <li>• Where change in consumption is above 10%, a 1-2 sentence description must be included indicating the expected cause.</li> </ul> <p><b>Additional Requirements:</b> Select Not Applicable if the building had been occupied for fewer than 12 months at 70% occupancy as of February 2020; or if the building manager has been managing the property for fewer than 12 months.</p>	
<b>Scoring</b>	Yes	12/12
	No	0/12
	N/A	0/0

	Consumption Increased	Consumption Decreased	Unchanged	Unknown	Fuel Type Not Applicable
Electricity					
Natural Gas					
District Steam					
Chilled Water					
Diesel					
Propane					
Other energy sources					

Enter consumption percentage change. If above 10%, enter description of expected cause.



## WATER

7.1.4	Have at least 12-consecutive months of water consumption data from <u>before</u> February 29, 2020 been entered into BOMA BEST or the ENERGY STAR Portfolio Manager portal?	
<b>Explanation &amp; Evaluation</b>	<p><b>Description:</b> Data from before February 29, 2020 reflects the water performance of the building from before the COVID-19 pandemic. This data is useful for evaluating the impact of the COVID-19 pandemic on the water performance of the building.</p> <p><b>Requirements:</b> Demonstrate that either online portal includes at least 12 individual months of data from before February 29, 2020.</p> <ul style="list-style-type: none"> <li>• Data must represent 100% of the building’s GFA.</li> <li>• Data must represent all indoor and outdoor consumption.</li> <li>• Data must not be any older than February 28, 2018.</li> <li>• Data must represent a 12-month period when the average occupancy for the building was at least 70%.</li> <li>• Data should not represent consumption during periods of major renovations.</li> </ul> <p>Buildings using either ENERGY STAR Portfolio Manager or the BOMA BEST Online Portal for data entry must attach a screenshot of the water data entries for the relevant 12-month period.</p> <p>Specify the end date for the data period in the next question.</p> <p><b>Additional Requirements:</b> Select Not Applicable if the building had been occupied for fewer than 12 months at 70% occupancy as of February 2020; or if the building manager has been managing the property for fewer than 12 months.</p>	
<b>Scoring</b>	Yes, in BOMA BEST portal	9/9
	Yes, in ENERGY STAR Portfolio Manager	9/9
	No	0/9
	N/A	0/0

7.1.4a	What is the end date for the 12-consecutive months entered above?	
<b>Explanation &amp; Evaluation</b>	Select an end date to obtain the points in 7.1.4. The end date for water consumption data must be on or before February 29, 2020.	
	End Date	For informational purposes



<b>7.1.5</b>	<b>Have at least 12-consecutive months of <u>current</u> water consumption data been entered into BOMA BEST or the ENERGY STAR Portfolio Manager portal?</b>	
<b>Explanation &amp; Evaluation</b>	<p><b>Description:</b> Updating building performance benchmarking portals with utility data as it becomes available supports efforts to optimize water use and reduce operating costs by allowing atypical trends to be identified and resolved quickly. Current building data also reflects the water performance of the building during the COVID-19 pandemic. This data is useful for evaluating the impact of the COVID-19 pandemic on the water performance of the building.</p> <p><b>Requirements:</b> Demonstrate that either online portal includes data for the most current 12-month period. The end date must be no older than 3 months before the building’s verification date.</p> <ul style="list-style-type: none"> <li>• Data must represent 100% of the building’s GFA.</li> <li>• Data must represent all indoor and outdoor consumption.</li> <li>• Data should not represent consumption during periods of major renovations.</li> </ul> <p>Buildings using either ENERGY STAR Portfolio Manager or the BOMA BEST Online Portal for data entry must attach a screenshot of the water data entries for the relevant 12-month period.</p> <p>Specify the end date for the data period in the next question.</p>	
<b>Scoring</b>	Yes, in BOMA BEST portal	9/9
	Yes, in ENERGY STAR Portfolio Manager	9/9
	No	0/9

<b>7.1.5a</b>	<b>What is the end date for the 12-consecutive months entered above?</b>	
<b>Explanation &amp; Evaluation</b>	Select an end date to obtain the points in 7.1.5. The end date of the 12-consecutive months of water consumption data must be no older than 3 months before the building’s verification date.	
	End Date	For informational purposes



<b>7.1.6</b>	<b>Has the difference been analyzed between the building’s current water consumption and the consumption before the COVID-19 pandemic?</b>	
<b>Explanation &amp; Evaluation</b>	<p><b>Requirements:</b> Indicate if the water consumption increased or decreased between typical operations before the COVID-19 pandemic and operations during the pandemic, and by what percentage value.</p> <p>To meet the requirements:</p> <ul style="list-style-type: none"> <li>• Provide supporting documentation demonstrating the analysis used to determine the percentage change in water consumption.</li> <li>• Percentage change values must be entered. Once the trend direction is selected, a space will appear to enter the value. A positive percentage change value indicates an increase in current water consumption relative to before the COVID-19 pandemic. A negative percentage change value indicates a decrease in current water consumption relative to the COVID-19 pandemic.</li> <li>• Where change in consumption is above 10%, a 1-2 sentence description must be included indicating the expected cause.</li> </ul> <p><b>Additional Requirements:</b> Select Not Applicable if the building has been occupied for fewer than 12 months at 70% occupancy as of February 2020; or if the building manager has been managing the property for fewer than 12 months.</p>	
<b>Scoring</b>	Yes	7/7
	No	0/7
	N/A	0/0

	Consumption Increased	Consumption Decreased	Unchanged	Unknown	Water Type Not Applicable
Indoor Water Use					
Outdoor Water Use					

Enter consumption percentage change. If above 10%, enter description of expected cause.



## 7.2 Operations and Maintenance

7.2.1	Has the building's relative humidity (RH) set point been revised to mitigate the transmission of infectious aerosols?	
<b>Explanation &amp; Evaluation</b>	<p><b>Description:</b> As per ASHRAE's Epidemic Task Force, <a href="#">Building Readiness Guide</a>, maintaining the space relative humidity between 40% and 60% decreases the bio-burden of infectious particles in the space and decreases the infectivity of many viruses in the air. In cold climates, maintaining a 40% RH inside the building could cause unwanted condensation in the building envelope, so humidity should be maintained at the maximum level possible as recommended by an architect and or building science engineer.</p> <p><b>Requirements:</b> Demonstrate through building automation system logs or other documentation that the relative humidity set point for HVAC systems was revised to mitigate the transmission of infectious aerosols. To qualify,</p> <ul style="list-style-type: none"> <li>• The setpoint must have been revised after the start of the COVID-19 pandemic. AND</li> <li>• The setpoint must be determined by an architect, engineer, or other qualified professional. AND</li> <li>• HVAC systems must be operated to maintain RH within this range.</li> </ul> <p>If the relative humidity set point could not be revised, provide documentation supporting the reason why the set point was not changed.</p> <p><b>Additional Information:</b> Select Not Applicable if equipment used for ventilation is owned, managed, and maintained solely by tenants.</p>	
<b>Scoring</b>	Yes	4/4
	Relative humidity set point was already in this range prior to the pandemic	4/4
	Assessed but could not implement (select reason)	2/4
	No	0/4
	N/A	0/0

(if selected "Assessed but could not implement") Select the reason most applicable for the building:

- Lack of system specificity
- Management decision not to change operations
- Lack of available operational resources
- Other (Describe)



### 7.3 Building Systems

7.3.1		Have real-time air quality sensors been installed since the start of the COVID-19 pandemic?	
Explanation & Evaluation	<p><b>Description:</b> Real-time air quality monitoring can identify areas for improvement in indoor air quality and provide benchmarks to ensure air quality remains high over time.</p> <p><b>Requirements:</b> Demonstrate through purchase orders, installation records, maintenance work orders or other documentation that air quality sensors were installed after the start of the COVID-19 pandemic. At least one (1) sensor must be installed within a regularly occupied space in the building, and must:</p> <ul style="list-style-type: none"> <li>• Provide real-time monitoring of indoor air quality metrics, with a data output interval of at least once every 10 minutes; AND</li> <li>• Measure at least three (3) of the following: PM2.5, PM10, carbon dioxide, carbon monoxide, ozone, nitrogen dioxide, total VOCs, formaldehyde.</li> </ul>		
	Scoring	Yes	4/4
	Air quality sensors were installed prior to the pandemic	4/4	
	No	0/4	

7.3.2		Are air sanitation measures in place in main HVAC systems or in 50% or more of return-air systems?	
Explanation & Evaluation	<p><b>Description:</b> Outdoor air conditions, as well as interior contaminant recirculation, may warrant investment in greater air purification measures. Standalone or integrated air sanitation devices such as ultraviolet germicidal irradiation, or photocatalytic oxidation filtration systems can be employed to reduce the presence of VOCs, mould, ozone, bacteria and viruses. These measures would supplement (not necessarily replace) MERV rated filtration.</p> <p><b>Requirements:</b> One or more of the following air sanitation measures must be in place in main HVAC systems or in a majority of return-air systems:</p> <ul style="list-style-type: none"> <li>• Ultraviolet germicidal irradiation for air filtration</li> <li>• Photocatalytic oxidation filtration</li> <li>• Activated carbon filtration</li> </ul> <p>Units must be maintained as per manufacturer specifications, including recommendations on carbon testing (annually at a minimum) and replacement schedule (carbon units should be replaced annually if no testing can be done).</p>		
	Scoring	Yes	5/5
	No	0/5	

Date implemented
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