



Changes to benchmarking performance in BOMA BEST Office

Starting on June 15, 2021, new questions will be added to the Office Building questionnaire to better understand the impacts of COVID-19 on energy and water consumption. When COVID-19 first hit, BOMA Canada issued guidance that all performance benchmarking had to be based on pre-COVID-19 data. Recognizing the importance of ongoing benchmarking and the need for updated data, a new approach will be used moving forward. The points assigned to energy and water performance will be redistributed in a new section titled “Pandemic Response”.

The following pages shows the changes to the questionnaire:

- New text in existing questions will **be shown in red**.
- Category 11, Pandemic Response, is entirely new.

Please contact hsutton@bomacanada.ca with any questions.



1.2 Energy Assessment

01.02.01	Do you benchmark energy performance using either the BOMA BEST or ENERGY STAR Portfolio Manager portal?	
Explanation & Evaluation	<p>Description: 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>Requirements: You must be able to generate a weather-normalized site energy use intensity on your building's Property characteristics page to obtain these points.</p> <p>You must enter at least 24-consecutive months of energy consumption data using either the BOMA BEST portal (instructions) or ENERGY STAR Portfolio Manager (instructions).</p> <ul style="list-style-type: none"> • Data must be entered in individual months. Data cannot be a bulk amount representing the complete 24-month timeframe. • Data must not be any older than the last 36 months. • Data must represent all fuel types used in the building. • Data must represent the entire building's consumption. • Data should not represent consumption during periods of major renovations. <p>Tips on benchmarking are available in this FAQ.</p> <p>Additional information: The data used to calculate the energy use intensity can include data before COVID-19 as well as data during COVID-19. There are no COVID-19 related restrictions to the age of eligible data for this question.</p>	
Scoring	BOMA BEST	10/10
	ENERGY STAR	10/10
	No	0/10



01.02.03	What is the ENERGY STAR Score achieved by this building?	
Explanation & Evaluation	<p>Description: Using the BOMA BEST or the ENERGY STAR Portfolio Manager portals, generate an ENERGY STAR Score for the building.</p> <p>Requirements: Same requirements as question 01.02.01. Specify the end date for the data period in the next question.</p> <p>Additional Information: In the case where multiple buildings are being assessed using a single questionnaire (must meet the BOMA BEST definition for single building), a single ENERGY STAR Score must be provided here. To obtain this ENERGY STAR Score, representative of the total space and the total consumption, create an additional space in BOMA BEST or in ENERGY STAR Portfolio Manager, that combines the entire complex's area and its consumption.</p>	
Scoring	ENERGY STAR Score Provided	5/5
	No ENERGY STAR Score provided	0/5

Originally worth 90 points, 85 points are redistributed in (New) Pandemic Response category

01.02.03a	What is the end date for energy consumption data used to calculate the ENERGY STAR Score indicated above?	
Explanation & Evaluation	Requirements: Must be selected to obtain the points in 01.02.03.	
	End Date	For informational purposes

I understand and agree that BOMA Canada reserves the right to perform random audits on properties submitting an ENERGY STAR Score in the context of achieving a BOMA BEST Certification. Selected properties will be notified and will be required to comply to retain ENERGY STAR Score points. The audit will include a review of all data entered. An interview with the person responsible for entering the data may also be necessary. If you do not accept the above conditions points associated with the ENERGY STAR Score will be forfeited upon verification



2.2 Water Assessment

02.02.01	Do you benchmark water performance using either the BOMA BEST or ENERGY STAR Portfolio Manager portal?	
Explanation & Evaluation	<p>Description: 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>Requirements: You must be able to generate a water use intensity on your building's Property characteristics page to obtain these points.</p> <p>You must enter at least 12-consecutive months of water consumption data using either the BOMA BEST portal (instructions) or ENERGY STAR Portfolio Manager (instructions).</p> <ul style="list-style-type: none"> • Data can be entered in a bulk amount representing the 12-month timeframe • Data must not be any older than the last 18 months • Data must represent all indoor and outdoor consumption • Data should not represent consumption during periods of major renovations <p>Tips on benchmarking are available in this FAQ.</p> <p>Additional information: The data used to calculate the water use intensity can include data before COVID-19 as well as data during COVID-19. There are no COVID-19 related restrictions to the age of eligible data for this question.</p>	
Scoring	BOMA BEST	5/5
	ENERGY STAR	5/5
	No	0/5

02.02.03	What is the Water Use Intensity (WUI) range achieved by this building?	
Explanation & Evaluation	<p>Description: Indicate which range is representative of your building's WUI.</p> <p>Requirements: Same requirements as question 02.02.01.</p> <p>Additional Information: This question is for informational purposes only.</p>	
Scoring	Unknown / Unable to obtain	For informational purposes
	1.0 m ³ /m ² /year and above	For informational purposes
	Between 0.8 and 0.99 m ³ /m ² /year	For informational purposes
	Between 0.65 and 0.79 m ³ /m ² /year	For informational purposes
	Between 0.50 and 0.64 m ³ /m ² /year	For informational purposes
	Between 0.33 and 0.49 m ³ /m ² /year	For informational purposes
	Between 0.2 and 0.32 m ³ /m ² /year	For informational purposes
	Less than 0.2 m ³ /m ² /year	For informational purposes

Originally worth 15 points, the points for this question are redistributed in (New) Pandemic Response category



11. (NEW) PANDEMIC RESPONSE

Everything in this section is new. 100 points have been redistributed here.



11.1 DEMONSTRATION OF INTENT

There are no questions in this section.



11.2 ASSESSMENT

11.02.01	Have the values for Number of Number of Workers on Main Shift and Weekly Operating Hours been updated during the COVID-19 pandemic?	
Explanation & Evaluation	<p>Description: Updating the building use details to reflect changes that occurred as part of the response to COVID-19 is a recommended best practice to help determine trends. Tracking when changes occurred to key parameters influencing consumption will provide valuable information for benchmarking ongoing consumption and detecting trends.</p> <p>Requirements: Update “Number of Workers on Main Shift” and “Weekly Operating Hours” in the preferred online benchmarking portal.</p> <ul style="list-style-type: none"> • BOMA BEST: Enter the changes in the “Spaces” tab. Upload a screenshot with the new values and “Effective as of” date. • ENERGY STAR Portfolio Manager: Enter the changes in the Property Uses and Use Details section. Upload a screenshot with the new values and “Current as of” date. <p>Additional Information: Tips on benchmarking during COVID-19 are available in this FAQ from Natural Resources Canada.</p> <p>Definitions:</p> <ul style="list-style-type: none"> • The “Number of Workers on Main Shift” should reflect the total number of workers present during the primary shift. This is not <i>a total count</i> of workers, but rather a count of workers who are present at the same time. For example, if there are two daily eight hour shifts of 100 workers each, the Number of Workers on Main Shift value is 100. Number of Workers on Main Shift <i>may include</i> employees of the property, sub-contractors who are onsite regularly, and volunteers who perform regular onsite tasks. Number of Workers should <i>not include</i> visitors to the buildings such as clients, customers, or patients. • “Weekly Operating Hours” are the total number of hours per week where the majority of workers are present in the building. For example, if the majority of workers are in your building from 8:00 am - 6:00 pm M-F, then your Weekly operating hours should be 50 (10 hours * 5 days per week). For additional guidance refer to ENERGY STAR Portfolio Manager’s FAQ: How do I determine Weekly Operating Hours? <p>Select Not Applicable if NEITHER occupant density (i.e., Number of Workers on Main Shift) nor weekly operating hours changed as a result of the COVID-19 pandemic.</p>	
Scoring	Yes	11/11
	No	0/11
	N/A	0/0



ENERGY

11.02.02	Have at least 12-consecutive months of energy consumption data from before February 29, 2020 been entered into BOMA BEST or the ENERGY STAR Portfolio Manager portal?	
Explanation & Evaluation	<p>Description: 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>Requirements: 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"> • Data must represent 100% of the building’s GFA. • Data must be entered in individual months. • Data must not be any older than February 28, 2018. • Data must represent all fuel types used in the building. • Data must represent a 12-month period when the average occupancy for the building was at least 70%. • Data should not represent consumption during periods of major renovations. <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 here.</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>Additional Requirements: 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>	
Scoring	Yes, in BOMA BEST portal	10/10
	Yes, in ENERGY STAR Portfolio Manager	10/10
	No	0/10
	N/A	0/0

11.02.02a	What is the end date for the 12-consecutive months entered above?	
Explanation & Evaluation	Requirements: Select an end date to obtain the points in 11.02.02. The end date for energy consumption data must be on or before February 29, 2020.	
	End Date	For informational purposes



11.02.03	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?	
Explanation & Evaluation	<p>Description: 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>Requirements: 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"> • Data must represent 100% of the building’s GFA. • Data must be entered in individual months. • Data must represent all fuel types used in the building. • Data should not represent consumption during periods of major renovations. <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 here.</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>	
Scoring	Yes, in BOMA BEST portal	10/10
	Yes, in ENERGY STAR Portfolio Manager	10/10
	No	0/10

11.02.03a	What is the end date for the 12-consecutive months entered above?	
Explanation & Evaluation	<p>Requirements: Select an end date to obtain the points in 11.02.03. 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



11.02.04	Has the difference been analyzed between the building’s current energy consumption and the consumption before the COVID-19 pandemic?	
Explanation & Evaluation	<p>Requirements: 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"> • Provide supporting documentation demonstrating the analysis used to determine the percentage change in energy consumption for each fuel type. • 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. • Where change in consumption is above 10%, a 1-2 sentence description must be included indicating the expected cause. <p>Additional Requirements: 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>	
Scoring	Yes	15/15
	No	0/15
	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

11.02.05	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?	
Explanation & Evaluation	<p>Description: 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>Requirements: 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"> • Data must represent 100% of the building’s GFA. • Data must represent all indoor and outdoor consumption. • Data must not be any older than February 28, 2018. • Data must represent a 12-month period when the average occupancy for the building was at least 70%. • Data should not represent consumption during periods of major renovations. <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>Additional Requirements: 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>	
Scoring	Yes, in BOMA BEST portal	5/5
	Yes, in ENERGY STAR Portfolio Manager	5/5
	No	0/5
	N/A	0/0

11.02.05a	What is the end date for the 12-consecutive months entered above?	
Explanation & Evaluation	<p>Requirements: Select an end date to obtain the points in 11.02.05. The end date for water consumption data must be on or before February 29, 2020.</p>	
	End Date	For informational purposes



11.02.06	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?	
Explanation & Evaluation	<p>Description: 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>Requirements: 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"> • Data must represent 100% of the building’s GFA. • Data must represent all indoor and outdoor consumption. • Data should not represent consumption during periods of major renovations. <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>	
Scoring	Yes, in BOMA BEST portal	5/5
	Yes, in ENERGY STAR Portfolio Manager	5/5
	No	0/5

11.02.06a	What is the end date for the 12-consecutive months entered above?	
Explanation & Evaluation	<p>Requirements: Select an end date to obtain the points in 11.02.06. 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.</p>	
	End Date	For informational purposes



11.02.07	Has the difference been analyzed between the building's current water consumption and the consumption before the COVID-19 pandemic?	
Explanation & Evaluation	<p>Requirements: 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"> • Provide supporting documentation demonstrating the analysis used to determine the percentage change in water consumption. • 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. • Where change in consumption is above 10%, a 1-2 sentence description must be included indicating the expected cause. <p>Additional Requirements: 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>	
Scoring	Yes	8/8
	No	0/8
	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.



11.3 OPERATIONS AND MAINTENANCE

11.03.01	Has the interior lighting schedule for leased tenant spaces been updated to align with reduced occupant density and/or reduced weekly operating hours?	
Explanation & Evaluation	<p>Description: To optimize energy performance, the lighting schedule should match time of day when spaces in the building are occupied.</p> <p>Requirements: Demonstrate through building automation system logs, lighting control system programming or other documentation that the lighting schedule was revised, after the start of the COVID-19 pandemic, to decrease the lighting operating hours. Alternatively, demonstrate that the majority of the lighting system for tenant-occupied spaces is controlled by occupancy sensors rather than by a time-of-day schedule. If the lighting schedule was not revised, provide documentation supporting the reason why the schedule was not changed.</p> <p>Additional Information: Occupant density is calculated as the Number of Workers on Main Shift divided by the gross floor area of the building. If the Number of Workers on Main Shift in the building decreases, occupant density decreases.</p> <p>Select Not Applicable if NEITHER occupant density nor weekly operating hours changed as a result of the COVID-19 pandemic; or if efforts by the building manager to implement operational changes outside of lease obligations were not accepted by tenants.</p>	
Scoring	Yes	4/4
	Assessed but could not implement (select reason)	2/4
	No	0/4
	N/A (select reason)	0/0

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

- Lack of system granularity
- Management decision not to change operations
- Lack of available operational resources
- Did not explore due to contractual/lease limitation
- Other (Describe)

(if selected “N/A”) Select the reason:

- No changes in occupant density or weekly operating hours as a result of the pandemic
- Efforts by the building manager to implement operational changes outside of lease obligations were not accepted by tenants (Describe)



11.03.02	Has the HVAC schedule for leased tenant spaces been updated to align with reduced occupant density and/or reduced weekly operating hours?	
Explanation & Evaluation	<p>Description: To optimize energy performance, the HVAC schedule should match time of day when spaces in the building are occupied. Operation of HVAC systems outside of the building’s typical occupied hours, for example for a pre-occupancy flush out or night-time purge, is not considered for this question.</p> <p>Requirements: Demonstrate through building automation system logs or other documentation that the HVAC schedule during the building’s typical occupied hours was revised, after the start of the COVID-19 pandemic, to decrease the HVAC operating hours. If the HVAC schedule was not revised, provide documentation supporting the reason why the schedule was not changed.</p> <p>Additional Information: Select Not Applicable if HVAC equipment is owned, managed, and maintained solely by tenants; or if NEITHER occupant density nor weekly operating hours changed as a result of the COVID-19 pandemic; or if efforts by the building manager to implement operational changes outside of lease obligations were not accepted by tenants.</p>	
Scoring	Yes	4/4
	Assessed but could not implement (select reason)	2/4
	No	0/4
	N/A (select reason)	0/0

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

- Lack of system granularity
- Management decision not to change operations
- Lack of available operational resources
- Did not explore due to contractual/lease limitation
- Other (Describe)

(if selected “N/A”) Select the reason:

- No changes in occupant density or weekly operating hours as a result of the pandemic
- Efforts by the building manager to implement operational changes outside of lease obligations were not accepted by tenants (Describe)



11.03.03	Have space temperature set points been revised for vacant tenant spaces?	
Explanation & Evaluation	<p>Description: To optimize energy performance, a temperature setback (i.e., reducing the space temperature set point during the heating season and increasing the set point during the cooling season) can be implemented for vacant spaces. For this question, “vacant” means the space is not leased to a tenant.</p> <p>Requirements: Demonstrate through building automation system logs or other documentation that space temperature set points were revised for any spaces that became vacant after the start of the COVID-19 pandemic. If space temperature set points were not revised, provide documentation supporting the reason why the set points were not changed.</p> <p>Additional Information: Select Not Applicable if heating and cooling equipment is owned, managed, and maintained solely by tenants; or no spaces became vacant during the COVID-19 pandemic.</p>	
Scoring	Yes	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 granularity
- Management decision not to change operations
- Lack of available operational resources
- Other (Describe)



11.03.04	Has the building’s relative humidity (RH) set point been revised to a value between 40% RH and 60 RH%?	
Explanation & Evaluation	<p>Description: As per ASHRAE’s Epidemic Task Force, Building Readiness Guide, 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>Requirements: Demonstrate through building automation system logs or other documentation that the relative humidity set point for HVAC systems was revised to be between 40% RH and 60% RH after the start of the COVID-19 pandemic. If this humidity range cannot be maintained for all outdoor temperature conditions, provide documentation demonstrating that an architect, building science engineer or other qualified professional has determined an appropriate humidity setpoint range for the building and that the HVAC systems are operated to maintain RH within this range.</p> <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>Additional Information: Select Not Applicable if equipment used for ventilation is owned, managed, and maintained solely by tenants.</p>	
Scoring	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 granularity
- Management decision not to change operations
- Lack of available operational resources
- Other (Describe)



11.03.05	Are MERV 13 filters in place to filter recirculated air for HVAC systems?	
Explanation & Evaluation	<p>Description: As per ASHRAE’s Epidemic Task Force, Building Readiness Guide, it is recommended that:</p> <ul style="list-style-type: none"> • Building’s HVAC systems use a combination of filters and air cleaners that achieve MERV 13 or better levels of performance for air recirculated by HVAC systems. Recirculation refers to indoor air that is returned to and filtered by the HVAC system, then redistributed within the building. • Building’s HVAC systems operate to provide the code required or design levels of outdoor air for ventilation when the building is occupied, typically based on ASHARE 62.1. <p>Requirements: Demonstrate through building maintenance logs, balancing reports, purchase orders or other documentation that both of the following are met:</p> <ol style="list-style-type: none"> 1. MERV 13 filters (or higher) are provided to filter recirculated air for all HVAC systems after the start of the COVID-19 pandemic. Filter level demonstration requirements are provided in question 03.04.01. Alternatively, demonstrate that a combination of filters and air cleaners achieve MERV 13 or better levels of performance for air recirculated by HVAC systems. Refer to ASHRAE’s Building Readiness Guide for additional guidance on this approach. AND 2. An evaluation of the building’s HVAC systems was completed within the last 3 years confirming that HVAC systems are operating to provide outdoor air flow rates that meet the requirements of ASHRAE 62.1 when the building is occupied. <p>If filters could not be replaced, provide documentation supporting the reason why.</p> <p>Additional Information: Select Not Applicable if HVAC equipment is owned, managed, and maintained solely by tenants.</p>	
Scoring	Yes	4/4
	MERV 13 filters were already in place 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:

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



11.03.06	Has the amount of outdoor air provided for ventilation of occupied spaces been increased?	
Explanation & Evaluation	<p>Description: As per ASHRAE’s Epidemic Task Force, Building Readiness Guide, increasing outdoor air above code/design as much as the HVAC system or space conditions can accommodate is a mitigation strategy to be evaluated in order to reduce the amount of air recirculated back into the space. This may necessitate disabling demand control ventilation to provide maximum outdoor air. Increasing outside air for ventilation can increase energy use.</p> <p>Requirements: Demonstrate through building automation system logs or other documentation that both of the following have been met:</p> <ol style="list-style-type: none"> 1. HVAC systems have been adjusted, after the start of the COVID-19 pandemic, to provide the maximum amount of outdoor air for ventilation that the HVAC system or space conditions can accommodate. AND 2. An evaluation of the potential impacts of this change on building performance (for example, energy performance, heating/cooling system capacity and building pressurization) was performed by a qualified Testing and Balancing (TAB) firm, building commissioning provider, or design professional. <p>If the amount of outdoor air provided for ventilation could not be changed, provide documentation supporting the reason why.</p> <p>Additional Information: Select Not Applicable if HVAC equipment is owned, managed, and maintained solely by tenants.</p>	
Scoring	Yes	4/4
	HVAC systems were providing the maximum amount of outdoor air to spaces 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:

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



11.4 BUILDING SYSTEMS

11.04.01	Have real-time air quality sensors been installed since the start of the COVID-19 pandemic?	
Explanation & Evaluation	<p>Description: 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>Requirements: 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"> • Provide real-time monitoring of indoor air quality metrics, with a data output interval of at least once every 10 minutes; AND • Measure at least three (3) of the following: PM2.5, PM10, carbon dioxide, carbon monoxide, ozone, nitrogen dioxide, total VOCs, formaldehyde. 	
	Scoring	
	Yes	4/4
	Air quality sensors were installed prior to the pandemic	4/4
	No	0/4

11.04.02	Has a formal process for monitoring the number of occupants in the building been implemented since the start of the COVID-19 pandemic?	
Explanation & Evaluation	<p>Description: Monitoring the number of occupants in a building or space can support energy and water performance benchmarking and assist in optimizing the HVAC system operation.</p> <p>Requirements: Demonstrate through that a formal process for monitoring the number of occupants in the building was implemented after the start of the COVID-19 pandemic. A formal process may be manual (e.g., building occupant counts completed by building management) or automatic (e.g., people counters used to measure the number of people traversing each major entrance). The process must be documented (e.g., as a standard operating procedure) and must be completed on an ongoing, regular, basis.</p>	
	Scoring	
	Yes	4/4
	Formal process was in place prior to the pandemic	4/4
	No	0/4

(If “yes” is selected) Select the frequency of occupant monitoring:

- Hourly or more frequently
- Daily
- Monthly
- Other (specify)



11.04.03	Have any waste, energy or water efficiency projects been implemented since the start of the COVID-19 pandemic?	
Explanation & Evaluation	<p>Description: Many building upgrades can be challenging to implement when occupants are in the building. Typically, upgrades that require access to tenant space must be completed overnight or during weekends, which can make them impractical because these projects tend to last longer due to limited working hours and higher overnight delivery costs.</p> <p>Requirements: The project must be linked to improving energy efficiency, water efficiency, or waste reduction and diversion in the building. Provide an invoice, photographs, or other documentation demonstrating that demonstrating the project is complete. Provide a description of the project that was implemented and why it was feasible to implement while the occupant density of the building was lower.</p> <p>Additional Information: Select Not Applicable if NEITHER occupant density nor weekly operating hours changed as a result of the COVID-19 pandemic.</p>	
Scoring	Yes	4/4
	No	0/4
	N/A	0/0

(If “Yes” is selected) Describe why it was feasible to implement: