ONTARIO BUILDING CODE SUPPLEMENTARY STANDARD SB-10
PROJECT INFORMATION

Project:	Location:
Building Permit Application No.:	Date:

Architectural Designer Information*	Mechanical Designer Information*	Electrical Designer Information*
Name	Name	Name
Address	Address	Address
City Province	City Province	City Province
Signature Date(YY/MM/DD)	Signature Date(YY/MM/DD)	Signature Date(YY/MM/DD)

*IF MORE DESIGNERS ARE INVOLVED, PROVIDE ADDITIONAL COPIES OF THIS FORM.

THIS CHECKLIST IS A CONVENIENCE DOCUMENT ONLY AND IS BASED ON THE ENERGY EFFICIENCY REQUIREMENTS DESCRIBED IN THE ONTARIO BUILDING CODE SUPPLEMENTARY STANDARD SB-10 DIVISION 3. THIS CHECKLIST IS NOT A SUBSTITUTE FOR COMPLYING WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE. WHILE CARE HAS BEEN TAKEN TO ENSURE ACCURACY OF THIS CHECKLIST, DESIGNERS AND BUILDING OFFICIALS MUST REFER TO THE ACTUAL WORDING AND REQUIREMENTS OF THE ONTARIO BUILDING CODE (O.REG. 350/06 AND AMENDMENTS UP TO AMENDING O.REG. 315/12).

THIS CHECKLIST IS MADE AVAILABLE FOR CODE USERS BY THE MINISTRY OF MUNICIPAL AFFAIRS AND HOUSING. USERS SHOULD ALWAYS CONSULT WITH THE AUTHORITY HAVING JURISDICTION, IF THE CHECKLIST IS GOING TO BE SUBMITTED TO THAT AUTHORITY. THE MINISTRY OF MUNICIPAL AFFAIRS AND HOUSING DOES NOT ASSUME RESPONSIBILITY FOR ERRORS OR OVERSIGHTS RESULTING FROM THE INFORMATION CONTAINED HEREIN.

PLEASE FILL IN THE ACTUAL VALUES INSTALLED AND CHECK BOXES AS THEY APPLY.

OBC SB-10 COMPLIANCE SUMMARY

Energy Efficiency Design:

There are three energy compliance options to meet the requirements of OBC SB-10 Division 3. Please select the compliance option selected for this project. The energy efficiency of all buildings must be designed to:

Compliance Path		**Forms to Complete**
(A) Achieve the energy efficiency levels attained by conforming to the ASHRAE 90.1-2013, "Energy Standard for Buildings Except Low-Rise Residential Buildings" and Chapter 2 of SB-10 (Division 3). ***This compliance path includes both prescriptive and performance path options. Please proceed to Form A.***	□ YES	FORM A
(B) Achieve the energy efficiency levels attained by conforming to the National Energy Code of Canada for Buildings 2015 and Chapter 3 of SB-10 (Division 3). ***This compliance path includes both prescriptive and performance path options. Please proceed to Form B.***	□ YES	NECB
(C) Section 7 "Energy Efficiency" of 2014 ANSI/ASHRAE/USGBC/IES 189.1, excluding Sections 7.2.b, 7.4.7.3, 7.4.8 and 7.5 as described in SB-10 (Division 3).	□ YES	FORM C

OBC SB-10 AND ASHRAE 189.1 - 2014 – COMPLIANCE SUMMARY — Form C

Project:	Location of Project:
Building Permit Application No.:	Climate Zone:

ASHRAE 90.1 – 2013 COMPLIANCE AS MODIFIED BY ASHRAE 189.1-2014		
The building design complies with the mandatory provisions of the following sections:		
ASHRAE 90.1-2013 Standard Section	Compliance Column	Form
5.4 BUILDING ENVELOPE AS MODIFIED BY SECTION 7.3 OF ASHRAE 189.1-2014	□ YES	FORM C-5.4
5.5 BUILDING ENVELOPE Prescriptive Requirements Building Envelope Trade-Off	□ YES	FORM C-5.5 or FORM C-5.6
6.4 HEATING, VENTILATING AND AIR CONDITIONING AS MODIFIED BY SECTION 7.3 OF ASHRAE 189.1-2014	□ YES	FORM C-6.4
7.4 SERVICE WATER HEATING SYSTEMS AND EQUIPMENT AS MODIFIED BY SECTION 7.3 OF ASHRAE 189.1-2014	□ YES	FORM C-7.4
8.4 POWER AS MODIFIED BY SECTION 7.3 OF ASHRAE 189.1-2014	□ YES	FORM C-8.4
9.4 LIGHTING AS MODIFIED BY SECTION 7.3 OF ASHRAE 189.1-2014	□ YES □ YES	FORM C-9.4 FORM C-9.5
10.4 OTHER EQUIPMENT AS MODIFIED BY SECTION 7.3 OF ASHRAE 189.1-2014	□ YES	FORM C-10.4
ASHRAE 189.1 SECTION 7 REQUIREMENTS	□ YES	FORM 189.1

Note that the performance option under Section 7.2.b of ASHRAE 189.1-2014 may not be used, as indicated in SB-10 2017 Division 3, Chapter 1, 1.1.2.1.(1).(c). If a performance option is desired, then the applicant should instead use one of the performance compliance options available under either the ASHRAE 90.1-2013 or NECB 2015 standards per SB-10 2017 Division 3, or 13% better than SB-10 2017 Division 2 per Part 12, 12.2.1.2.(2).(a).

ASHRAE 90.1-2013– MANDATORY PROVISIONS — Form C-5.4

SECTION 5.4 MANDATORY PROVISIONS	
Building insulation has been designed to comply with section 5.4.1 of ASHRAE 90.1-.	□ YES
Building fenestration and doors have been designed to comply with section 5.4.2 of ASHRAE 90.1-2013., as modified by Section 7.4.2.3 of ASHRAE 189.1-2014.	□ YES
Building air leakage has been designed to comply with section 5.4.3 of ASHRAE 90.1-2013 as modified by Section 7.3.1.1 of ASHRAE 189.1-2014.	□ YES

ASHRAE 90.1-2013 & SB-10 – SECTION 5.5 – PRESCRIPTIVE ENVELOPE OPTION — Form C-5.5-1

Section 5.5 Overall Building Design Requirements	
The building design must comply with the following general requirements. If any of these requirements are not met, the prescriptive path cannot be pursued. Consider the building envelope trade-off compliance as per Section 7.4.2.7 of ASHRAE 189.1-2014	
Gross Wall Area: _____ m² *Vertical Fenestration Area*: _____ m² *Vertical fenestration area* is less than 40% of the *gross wall area as per Section 5.5.4.2.1 of ASHRAE 90.1-2014, as modified by Section 7.4.2.4 of ASHRAE 189.1-2014.*	□ YES
Gross Roof Area: _____ m² *Skylight Area*: _____ m² *Total skylight area does not exceed 3% of the gross roof area*	□ YES
Where the main entrance is located on the south orientation and the south-oriented wall area is larger than west-oriented wall area, and where the south-oriented wall area is larger than east-oriented wall area, per ASHRAE 90.1-2013 5.5.4.5, either: (a) total east and west vertical fenestration areas are each less than 25% of total vertical fenestration area for the whole building, or (b) east and west area-weighted SHGC is less than area-weighted SHGC for total fenestration Expanded upon by Section 7.4.2.8 of ASHRAE 189.1-2014. See Form 189.2-C. Exception (from ASHRAE 90.1-2013 Section 5.5.4.5): _____	□ YES □ N/A □ YES □ N/A
For Climate Zone 5, minimum skylight fenestration area conforms to the requirements of ASHRAE 90.1-2013 5.5.4.2.3.	□ YES □ N/A
Identify ASHRAE 90.1-2013 Table used for maximum U-Factors or minimum RSI-Values, as modified by Section 7.4.2.1 of ASHREA 189.1-2014 : _____	

Complete the table on Form C-5.5-2 to show compliance for all envelope components. Attach as many copies of this form as required to ensure that all envelope components are represented.

For all opaque surfaces, compliance must be demonstrated by meeting either:

1. *The minimum R-values of insulation added in framing cavities and continuous insulation as specified in Tables 5.5-5 to 5.5-7 as modified by Section 7.4.2 of ASHRAE 189.1-2014.*
2. *The maximum U-factor, C-factor, or F-factor for the entire assembly as specified in Tables 5.5-5 to 5.5-7 as modified by Section 7.4.2 of ASHRAE 189.1-2014. U-factor is to be determined from tables in Appendix A of ASHRAE 90.1-2013 or through calculation methods described in ASHRAE 90.1-2013 Appendix Section A9 and modified by Section 7.4.2 of ASHRAE 189.1-2014.*

For all fenestration products, compliance with U-factors, SHGC and VT must be determined for the overall fenestration product.

1. *Fenestration shall have a U-factor and SHGC not greater than those specified in Tables 5.5-5 to 5.5-7 as modified by section 7.4.2.1 and 7.4.2.6 of ASHRAE 189.1-2014.*
2. *Where automatic daylighting controls are required in accordance with Section 9.4.1.1(e) or (f), fenestration shall have a ratio of VT divided by SHGC not less than that specified in Tables 5.5-5 through 5.5-7 for the appropriate fenestration area.*
3. *U-factor to be determined through CSA or NFRC rating or by using ASHRAE 90.1-2013 Appendix A default values.*

ASHRAE 90.1-2013 & SB-10 – SECTION 5.5 – PRESCRIPTIVE ENVELOPE OPTION Form C-5.5-2

Please complete the following table to include information on all walls, roofs, doors, and floors used in the design.

OPAQUE BUILDING ENVELOPE COMPONENTS

Opaque Element - Description(1)	Space Conditioning Category (2)	Class of Construction (3)	Criteria Max. U-Value(4) or Min RSI	Design U-Value(4) or RSI	Area Weighted Avg. Used(5)?
	□ NR □ R □ SH				□ Y □ N
	□ NR □ R □ SH				□ Y □ N
	□ NR □ R □ SH				□ Y □ N
	□ NR □ R □ SH				□ Y □ N
	□ NR □ R □ SH				□ Y □ N
	□ NR □ R □ SH				□ Y □ N
	□ NR □ R □ SH				□ Y □ N
	□ NR □ R □ SH				□ Y □ N
	□ NR □ R □ SH				□ Y □ N
	□ NR □ R □ SH				□ Y □ N

Please complete the following table to include information on all fenestration products used in the design.

FENESTRATION ENVELOPE COMPONENTS

Fenestration - Description(1)	Space Conditioning Category (2)	Class of Construction (3)	U-Value(4)		SHGC(6)		VT/SHGC		Area Weighted Average Used(5)?
			Crit.	Des.	Crit.	Des.	Crit.	Des.	
	□ NR □ R □ SH								□ Y □ N
	□ NR □ R □ SH								□ Y □ N
	□ NR □ R □ SH								□ Y □ N
	□ NR □ R □ SH								□ Y □ N
	□ NR □ R □ SH								□ Y □ N
	□ NR □ R □ SH								□ Y □ N
	□ NR □ R □ SH								□ Y □ N
	□ NR □ R □ SH								□ Y □ N
	□ NR □ R □ SH								□ Y □ N

(1) Indicate if Element is a Wall, Roof, Floor, Door, Window or Skylight and a Tag or Description (eg Wall – W1).

(2) Select from Non-residential (NR), Residential (R), or Semiheated (SH).

(3) Select from the subclasses of roofs, walls, floors, doors and fenestration provided in Tables 5.5-5 to 5.5-7 (eg. Steel Framed for walls), as modified by Sections 7.4.2.1 and 7.4.2.2 of ASHREA 189.1-2014. Note that curtain wall systems are considered a steel framed wall.

(4) F-Factors can be used for floors and C-Factors for below Grade Walls as applicable.

(5) Elements of the same type, space category, and class of construction can be averaged using area weighting to show compliance only if U-Values are used.

(6) Design SHGC may be higher than the criteria if one of the exceptions from ASHRAE 90.1-2013 5.5.4.4.1 or 5.5.4.4.2 is applicable as modified by 7.4.2.6 of ASHRAE 189.1-2014. Please use the space below to identify the fenestration elements (if any) which an exception for SHGC is being claimed.

(7) Design VT/SHGC ratio may be lower than the criteria if one of the exceptions from ASHRAE 90.1-2013 5.5.4.6 is applicable. Please use the space below to identify the fenestration elements (if any) which an exception for VT/SHGC is being claimed.

SHGC and VT/SHGC EXCEPTIONS

Fenestration Element	SHGC or VT/SHGC exception from ASHRAE 90.1-2013 5.5.4.4.1, 5.5.4.4.2, or 5.5.4.6

ASHRAE 90.1-2013 & SB-10 – SECTION 5.5 –BUILDING ENVELOPE TRADE-OFF OPTION Form C-5.6

Note that this option may only be pursued using the procedure described in ASHRAE 90.1-2013 Section 5.6 as modified by the requirements of Section 7.4.2.7 and 7.4.2.1 of ASHRAE 189.1-2014.

Calculated EPF for proposed building*: _____
Calculated EPF for budget building*: _____

Envelope performance factor (EPF) for proposed building is less than or equal to the envelope performance factor of the budget building.	□ YES
All components of the building envelope shown on architectural drawings or installed in existing buildings have been separately described and modeled in the proposed building design, with exception for envelope assemblies that cover less than 5% of the total area of its corresponding assembly type, and whose area can be included with another similar assembly (based on thermal properties and orientation) as noted in Section 5.6.1.1.	□ YES
A software program* incorporating the requirements of ASHRAE 90.1-2013 as modified by SB-10 has been used to calculate the EPF. A report from this software is attached. Name of software: _____	□ YES

**Note that the EPF must be calculated by a simulation program which includes the requirements of ASHRAE 90.1-2013.*

SECTION 6 HVAC – 6.4 MANDATORY PROVISIONS & 6.5 PRESCRIPTIVE REQUIREMENTS Form C-6.4		
Reference		Standard Compliance
	Mandatory Provisions	
6.4.1	Equipment shown in 6.8.1-1 through 6.8.1-13 meets the minimum performance as modified by Section 7.4.3.1 in ASHRAE 189.1-2014 at the specified rating conditions in accordance with the test procedures in the tables.	□ YES □ N/A
	Permission: : If the building design complies with the prescriptive requirements of ASHRAE 189.1-2014 Standard Renewables Approach as per Section 7.4.1.1.1, then the building design equipment is to comply with Section 6.4.1 of ASHRAE 90.1-2013 requirements. Section 7.4.3.1 of ASHRAE 189.1-2014 can be disregarded.	□ YES □ N/A
6.4.2.1	Load calculations for heating and cooling systems are done as per ASHRAE Standard 183-2007 for selection of all equipment and systems.	□ YES □ NO
6.4.2.2	Pressure drop through each device and pipe segment in the critical circuit at design conditions has been calculated in accordance with generally accepted engineering standards and handbooks.	□ YES □ NO
6.4.3	Mandatory controls requirements are met by all the equipment in the building as outlined in Section 6.4.3, as modified by Section 7.4.3.2 of ASHRAE 189.1-2014.	□ YES □ NO
6.4.4.1	Ductwork, piping, and equipment insulation meets the requirements of Section 6.4.4.1, as modified by Section 7.4.3.8 of ASHRAE 189.1-2014.	□ YES □ NO
6.4.4.2	Construction documents specify sealing and pressure testing of ductworks and plenums as per Section 6.4.4.2.	□ YES □ NO
6.4.5	Site-assembled or site-constructed walk-in coolers and freezers shall conform to the requirements of Section 6.4.5.	□ YES □ NO
6.4.6	All refrigerated display cases shall conform to the requirements of Section 6.4.6., including Section 6.4.1.1 and Tables 6.8.1-1 through 6.8.1-13 as modified by Section 7.4.3.1 of ASHRAE 189.1-2014.	□ YES □ N/A
	Permission: : If the building design complies with the prescriptive requirements of ASHRAE 189.1-2014 Standard Renewables Approach as per Section 7.4.1.1.1, then the building design equipment is to comply with Section 6.4.6 of ASHRAE 90.1-2013 requirements. Section 7.4.3.1 of ASHRAE 189.1-2014 can be disregarded.	□ YES □ N/A
	Prescriptive Requirements	
6.5.1	Each cooling system that has a fan employs either airside or waterside economizer unless exempt.	□ YES □ N/A □ NO
6.5.1.1	Airside economizers are capable of modulating outdoor air dampers to provide up to 100% design airflow for cooling and the system provides relief capacity for such airflow.	□ YES □ N/A □ NO
6.5.1.2.1	Waterside economizers are capable of cooling supply air up to 100% of the expected system cooling load at the conditions listed under Section 6.5.1.2.1, unless exempt.	□ YES □ N/A □ NO
6.5.1.2.2	Waterside economizer systems with pressure drop greater than 45kPa are isolated from main cooling loop to reduce pumping input in the normal cooling mode.	□ YES □ N/A □ NO
6.5.1.3	Economizer systems incorporate integrated economizer controls per ASHRAE 90.1-2013 6.5.1.3	□ YES □ N/A □ NO
6.5.1.4	Economizer operation does not increase the building heating energy use during normal operation, except as allowed under ASHRAE 90.1-2013 6.5.1.4	□ YES □ N/A □ NO
6.5.1.5	Systems with hydronic cooling and humidification systems designed to maintain inside humidity at a dew-point temperature greater than 2°C use a water economizer if required by ASHRAE 90.1-2013 6.5.1.	□ YES □ N/A □ NO
6.5.2	Simultaneous heating and cooling is limited with compliant zone, hydronic system, dehumidification, and humidification controls as per Section 6.5.2, as modified by 7.4.3.4 of ASHRAE 189.1-2014.	□ YES □ N/A □ NO
6.5.3	Cooling system fan controls comply with the requirements of 6.5.3.2 and 6.5.3.3.	□ YES □ N/A □ NO
6.5.3.1	HVAC fan system power complies with Section 6.5.3.1 of ASHRAE 90.1-2013, as modified by Sections 7.5.3.5.1 and 7.5.3.5.2 of ASHRAE 189.1-2014.	□ YES □ N/A □ NO
6.5.4.1	Boiler systems with design input of ≥ 293 kW comply with the turndown ratio specified in Table 6.5.4.1.	□ YES □ N/A □ NO
6.5.4.2	Pumping systems greater than 7.5 kW employ compliant variable flow controls, unless exempt	
6.5.4.3	Chilled water plants with more than one chiller and boiler plants with more than one boiler reduce loop water flow automatically whenever a chiller or boiler is shut down and isolated.	□ YES □ N/A □ NO
6.5.4.4	Hydronic systems exceeding design capacity of 88 kW include controls to reset supply water temperature based on building loads or outdoor air temperature, unless exempt.	□ YES □ N/A □ NO
6.5.4.5	Hydronic heat pumps and unitary air-conditioners include automatic water shutoff when the compressor is off (unless units are employing water economizer) and those having total pump system power greater than 3.7 kW have variable speed control.	□ YES □ N/A □ NO
6.5.4.6	Chilled water and condenser water pipe is sized according to Table 6.5.4.6.	□ YES □ N/A □ NO

6.5.5	Open-circuit cooling towers have fans meeting the energy efficiency requirements of Section 6.5.5.3 and have flow turndown in compliance with 6.5.5.4.	□ YES □ N/A □ NO
6.5.5.2	All heat rejection equipment provide fan controls that comply with Section 6.5.5.2, with variable speed drives on fan motors ≥ 5.6 kW.	□ YES □ N/A □ NO
6.5.6.1	Exhaust air energy recovery is provided for fan systems meeting the conditions listed on Table 6.5.6.1. Energy recovery bypass is available to permit air economizer operation as per Section 6.5.1.1., as modified by Section 7.4.3.6 of ASHRAE 189.1-2014.	□ YES □ N/A □ NO
6.5.6.2	Condenser heat recovery system for heating or preheating hot water is provided, unless exempt.	□ YES □ N/A □ NO
6.5.7.1	Kitchen exhaust systems are designed as per Section 6.5.7.1, as modified by Section 7.4.3.7 of ASHRAE 189.1-2014.	□ YES □ N/A □ NO
6.5.7.1.5	Specifications call for performance testing of kitchen exhaust systems.	□ YES □ N/A □ NO
6.5.7.2	Laboratory fume hoods with a total exhaust system flow > 2,360 L/S comply with the variable air volume control requirements of 6.5.7.2.	□ YES □ N/A □ NO
6.5.8.1	Heating of unenclosed spaces is done by radiant heating, except loading docks with air curtains.	□ YES □ N/A □ NO
6.5.9	Cooling equipment with hot-gas bypass controls is designed with multiple steps of unloading or continuous capacity modulation, with capacity limits as indicated in Table 6.5.9 for VAV systems. Constant volume units do not have hot gas bypass.	□ YES □ N/A □ NO
6.5.10	All conditioned spaces with a door to the exterior have door switches interlocked with heating and cooling controls per Section 6.5.10, unless exempt.	□ YES □ N/A □ NO
6.5.11	Refrigeration systems that are comprised of refrigerated display cases, walk-in coolers, or walk-in freezers connected to remote compressors, remote condensers, or remote condensing units meet the requirements of Sections 6.5.11.1 through 6.5.11.2.	□ YES □ N/A □ NO

ASHRAE 90.1-2013 & SB-10- SECTION 7 SERVICE WATER HEATING Form C-7.4

SECTION 7 SERVICE WATER HEATING – 7.4 MANDATORY PROVISIONS AND 7.5 PRESCRIPTIVE REQUIREMENTS		
Reference	Item	Standard Compliance
7.4.1	Load calculations for heating and cooling systems are done in accordance with manufacturer's published sizing guidelines or generally accepted engineering standards and handbooks for selection of all equipment and systems.	□ YES □ NO
7.4.2	Equipment used solely for heating potable water, pool heaters, and hot water storage tanks meets or exceeds the efficiency requirements and testing criteria of Table 7.8, as modified by Section 7.4.4.1 of ASHRAE 189.1-2014, unless exempt.	□ YES □ N/A □ NO
	Permission: : If the building design complies with the prescriptive requirements of ASHRAE 189.1-2014 Standard Renewables Approach as per Section 7.4.1.1.1, then the building design equipment is to comply with Section 7.4.2 of ASHRAE 90.1-2013 requirements. Section 7.4.3.1 of ASHRAE 189.1-2014 can be disregarded.	□ YES □ N/A □ NO
	List exemption:	
7.4.3	The following service hot water piping is insulated to levels shown in Table 6.8.3-1: a. Recirculating system piping, including piping of a circulating tank type water heater. b. The first 2.4m of outlet piping for a constant temperature non-recirculating storage system. c. Inlet pipe between storage tank and heat trap in a non-recirculating storage system. d. Pipes that are externally heated (e.g. heat tracing).	□ YES □ N/A □ NO
7.4.4.1	All water-heating systems have temperature controls that are adjustable down to 49°C or lower. • Exception: Equipment that must be protected from corrosion, as per manufacturer's installation instructions.	□ YES □ N/A □ NO
7.4.4.2	Systems designed with pipe heating systems such as heat trace have temperature or time controls to disable during extended periods without hot water demand.	□ YES □ N/A □ NO
7.4.4.3	Public lavatories have outlet temperature controls that limit the discharge temperature to 43°C.	□ YES □ N/A □ NO
7.4.4.4	Tanks with remote heaters have circulation pump controls to limit operation of circulation pumps to a maximum of five minutes after the end of the heating cycle.	□ YES □ N/A □ NO
7.4.5.1	Pool heaters have readily accessible ON/OFF switch without adjusting the thermostat setting. Gas-fired heaters do not have standing pilot lights.	□ YES □ N/A □ NO
7.4.5.2	Per SB-10 7.4.5.2, heated exterior public pools and public spas shall be equipped with pool covers, unless over 60% of their energy for heating (computed over an annual operating season) is derived from site-recovered or site-solar energy.	□ YES □ N/A □ NO
7.4.5.3	Pool heaters and circulation pumps have time switches, unless exempt.	□ YES □ N/A □ NO
7.4.6	Heat traps are provided to all vertical risers serving storage water heaters and storage tanks.	□ YES □ N/A □ NO
	Prescriptive Requirement	
7.5	Boiler systems that provide space heating as well as service water heating meet the conditions of Sections 7.5.1 and 7.5.2.	□ YES □ N/A □ NO
7.5.3	Gas service hot-water systems with a total installed gas water-heating input capacity of 293 kW or greater, shall have a minimum input capacity-weighted average thermal efficiency of 90%, unless exempt.	□ YES □ N/A □ NO

ASHRAE 90.1 & SB-10- SECTION 8,9 &10 POWER, LIGHTING AND OTHER EQUIPMENT

SECTION 8 POWER – MANDATORY PROVISIONS		Form C-8.4
Reference	Item	Standard Compliance
8.4.1	Feeder conductors and branch conductors are sized as per Section 8.4.1.	□ YES □ NO
8.4.2	At least 50% of all 125 volt 15- and 20-Ampere receptacles (installed in conference rooms, rooms used primarily for printing and/or copying functions, breakrooms, classrooms, and individual workstations), and at least 25% of branch circuit feeders (installed for modular furniture not shown on the construction documents), are provided with automatic receptacle controls that function on a) time-of-day schedule or b) occupant sensor or c) occupancy signal from another control or alarm system, with exceptions as listed, as modified by SB-10.	□ YES □ N/A □ NO
8.4.3	Unless exempted, measurement devices are shown in design documents to monitor the total electrical energy, as well as the electrical energy use separately for HVAC systems, interior lighting, exterior lighting, and receptacle circuits. For buildings with tenants, these systems are separately monitored for the total building and (excluding shared systems) for each individual tenant. Data recording and storage capabilities meet the requirements of 8.4.3.2.	□ YES □ N/A □ NO
8.4.4	Low Voltage Dry-Type Distribution Transformers meet nominal efficiencies shown in Table 8.1, unless exempt.	□ YES □ N/A □ NO

SECTION 9 LIGHTING– MANDATORY PROVISIONS CHECKLIST		Detailed Form C-9.4
Reference	Item	Standard Compliance
9.4.1.1	For each space in the building, all of the lighting control functions indicated in ASHRAE 90.1-2013 Table 9.6.1, for the appropriate space type in column A, have been implemented, as described by Section 9.4.1.1: a. Local Control b. Restricted to manual ON c. Restricted to partial automatic ON d. Bilevel lighting control e. Automatic daylight responsive controls for sidelighting f. Automatic daylight responsive controls for toplighting g. Automatic partial OFF (full OFF complies) h. Automatic full OFF i. Scheduled shutoff	□ YES □ NO
9.4.1.2	Lighting for parking garages is controlled by automatic shutoff controls meeting the requirements outlined in Section 9.4.1.1i,	□ YES □ N/A □ NO
	Lighting for parking garages is controlled by one or more devices that reduce lighting power of each luminaire by at least 30% when there is no activity within a zone for at most 30 minutes. Each lighting zone for this requirement cannot exceed 334 m^2, except daylight transition zones and ramps without parking.	□ YES □ N/A □ NO
	Daylight transition zones in parking garages are controlled separately. These are automatically controlled to reduce by at least 50% from sunset to sunrise.	□ YES □ N/A □ NO
	Parking garage luminaires within 6m of perimeter walls that have a net opening-to-wall ratio of at least 40% automatically reduce power in response to daylight, except daylight transition zones and ramps without parking.	□ YES □ N/A □ NO
9.4.1.3	Additional control is provided to the special applications listed in Section 9.4.1.3	□ YES □ N/A □ NO
9.4.1.4	Exterior lights are shut off by an automatic photosensor when available daylight is sufficient, unless exempt.	□ YES □ N/A □ NO
	All building façade and landscape lighting is automatically shut off overnight as per 9.4.1.4, as modified by Sections 7.4.6.4 and 7.4.6.5 of ASHRAE 189.1-2014.	□ YES □ NO
	Exterior lighting not for façade or landscape, including for signage, is automatically controlled to reduce lighting power by at least 30% overnight or during inactive periods as per 9.4.1.4, as modified by Sections 7.4.6.4 and 7.4.6.5 of ASHRAE 189.1-2014.	□ YES □ NO
9.4.2	Exterior building lighting power complies with ASHRAE 90.1-2013 9.4.2 as modified by Section 7.4.6.1.2 of ASHARE 189.1-2014.	□ YES □ NO
9.4.3	Third party functional testing of all lighting control devices and systems is specified in the construction documents.	□ YES □ NO

SECTION 9 LIGHTING – INSTALLED LIGHTING POWER COMPLIANCE		Form C-9.5
Reference		Standard Compliance
9.4.2	Exterior Lighting Zone _____ (Table 9.4.2-2) Modified by Section 7.4.6.1.2 of ASHRAE 189.1-2014. **Total Installed Exterior Lighting Power _____ W ≤ value of exterior LPA _____W *** List any exemptions that apply:	□ YES □ N/A □ NO
	Prescriptive Requirements	
9.5, 9.6	**9.5 INTERIOR LIGHTING POWER ALLOWANCE BY BUILDING TYPE** Calculation of Interior Lighting Power Allowance (ILPA) by Building Type based on Table 9.5.1*, as modified by Section 7.4.6.1.1 of ASHRAE 189.1-2014. Building Type _____ Gross Lighted Area _____ m^2 Lighting Power Density _____ W/m^2 **Total Installed Interior Lighting Power _____ W ≤ value of Interior LPA _____ W ***	□ YES □ N/A □ NO
	9.6 INTERIOR LIGHTING POWER ALLOWANCE BY SPACE FUNCTION Calculation of Interior Lighting Power Allowance (ILPA) for each space based on Table 9.6.1– *, as modified by Section 7.4.6.1.1 of ASHRAE 189.1-2014. **Total Installed Interior Lighting Power _____ W ≤ value of Interior LPA _____ W *** List any exemptions that apply:	□ YES □ N/A □ NO

***** Calculation worksheets (FORM 9.5.2 and FORM 9.5.3) are available.

SECTION 10 OTHER EQUIPMENT - MANDATORY PROVISIONS		Form C-10.4
Reference	Item	Standard Compliance
10.4.1	Electric motors are in compliance with ASHRAE 90.1-2013 Tables 10.8-1, 10.8-2, 10.8-3 and 10.8-6, as applicable	□ YES
10.4.2	Service water pressure booster pumps have pressure sensors to vary pump speed and/or start and stop pumps.	□ YES □ N/A
	No devices are installed to reduce the pressure of all of the water supplied by any booster system or pump, except for safety devices.	□ YES □ N/A
	Booster pumps shut off when there is no service water flow.	□ YES □ N/A
10.4.3	All elevator cab lighting systems have efficacy of not less than 35 lumens per Watt.	□ YES □ N/A
	Elevator cab ventilation fans for elevators without air conditioning consume less than 0.7 W·s/L at maximum speed.	□ YES □ N/A
	Cab interior light and ventilation is de-energized when elevators are stopped and unoccupied with doors closed for over 15 minutes.	□ YES □ N/A
10.4.4	Escalators and moving walks automatically slow to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	□ YES □ N/A
10.4.5	The building is designed to facilitate future installation of means to measure and monitor energy use by each energy type described in Section 10.4.5.1, per SB-10 10.4.5.3.	□ YES □ N/A

ASHRAE 90.1 & SB-10- SECTION 7 SERVICE WATER HEATING — Form 189.1

ASHRAE 189.1-2014 - MANDATORY PROVISIONS		
Reference	Item	Standard Compliance
7.3.1	The building project is designed to comply with ASHRAE 90.1-2013 Section 5.4, 6.4, 7.4, 8.4, 9.4, and 10.4 as modified by Section 7 of ASHRAE 189.1-2014 as per Section 7.3.1 of ASHRAE 189.1-2014.	□ YES
7.3.2	Building project design complies with the on-site renewable energy system requirements of Section 7.3.2 of ASHRAE 189.1-2014.	□ YES □ N/A
7.3.3	The building project energy consumption management system complies with Section 7.3.3 of ASHRAE 189.1-2014	□ YES

ASHRAE 189.1-2014 – PRESCRIPTIVE REQUIREMENTS		
Reference	Item	Standard Compliance
7.4.1	As per Section 7.4.1 of ASHRAE 189.1-2014, the building project design complies with all requirements of Section 7.4 of ASHRAE 189.1-2014. For all other criteria, the building project complies with ASHRAE 90.1-2013.	□ YES
7.4.1.1	As per Section 7.4.1.1 he building project shall contain on-site renewable energy systems. Building project complies with either path: PATH 1 (Section 7.4.1.1.1) - Standard Renewables Approach: Baseline On-Site Renewable Energy Systems OR PATH 2 (Section 7.4.1.12) - Alternate Renewables Approach: Reduced On-Site Renewable Energy Systems and Higher-Efficiency Equipment	□ PATH 1 □ PATH 2
7.4.2.2	Single-rafter roof insulation complies with Section 7.4.2.2 of ASHRAE 189.1-2014	□ YES □ N/A
7.4.2.3	High-speed doors comply with Section 7.4.2.3 of ASHRAE 189.1-2014.	□ YES □ N/A
7.4.2.5	For climate zones 1 through 5, the building project complies with shading projection requirements of Section 7.4.2.5 of ASHRAE 189.1-2014.	□ YES □ N/A
	If applicable, list exceptions to 7.4.2.5:	
7.4.2.8	The building project's vertical fenestration orientation complies with Sections 7.4.2.8	□ YES □ N/A
	List exceptions to 7.4.2.8:	
7.4.3.9	Hotel/Motel guest rooms comply with Section 7.4.3.9 (including all subsections) of ASHRAE 189.1-2014.	□ YES □ N/A
7.4.4.2	Pools heated to more than 32°C (90°F) will be insulated as per Section 7.4.4.2 of ASHRAE 189.1-2014	□ YES □ N/A
	If applicable, list exceptions to 7.4.4.2:	
7.4.5.1	Building project complies with automatic system requirements of Section 7.4.5.1 of ASHRAE 189.1-2014.	□ YES □ N/A
	If applicable, list exceptions to 7.4.5.1:	
7.4.6.2	The building project's occupancy sensor controls comply with Section 7.4.6.2 of ASHRAE 189.1-2014.	□ YES □ N/A
	If applicable, list exceptions to 7.4.6.2:	
7.4.6.3	Automatic controls for Egress and Security lighting comply with Section 7.4.6.3 of ASHRAE 189.1-2014.	□ YES □ N/A
7.4.7.1	Path 2 Only: Alternate Renewables Approach Building project comply with applicable equipment efficiency requirements in Normative Appendix B. ENERGY STAR requirements can be disregarded for SB-10.	□ YES □ N/A
7.4.7.2	Supermarket building projects with floor area of 2,500 m² (25,000 ft²) or greater shall comply with heat recovery requirements of Section 7.4.7.2 of ASHRAE 189.1-2014.	□ YES
7.4.7.4	All residential thermostats comply with section 7.4.7.5 of ASHRAE 189.1-2014.	□ YES
7.4.7.5	All refrigerated display cases comply with section 7.4.7.5 of ASHRAE 189.1-2014.	□ YES