Schedule E to By-law 3229-2023

Applications and forms prescribed by regulation under the Building Code Act and the Township of Brock

1. Application for a Permit to Construct or Demolish.
2. Schedule One Designer Form.
3. Energy Efficiency Design Summary Form (Residential).
4. Energy Efficiency Design Summary Form (Commercial).
5. Commitment to General Review.
6. Model Home Certification Form.
7. Agent Authorization Form.
8. Application for Building Permit Extension
9. Alternative Solutions Application

Application for a Permit to Construct or Demolish

This form is authorized under subsection 8(1.1) of the *Building Code Act,1992*

For use by Principal Authority	
Application number:	Permit number (if different):
Date received:	Roll number:

Application submitted to: TOWNSHIP OF BROCK

(Name of municipality, upper-tier municipality, board of health or conservation authority)

A. Project information

Building number, street name		Unit number	Lot/con.
Municipality	Postal code	Plan number/other description	
Project value est. $		Area of work (m^2)	

B. Purpose of application

☐ New construction ☐ Addition to an existing building ☐ Alteration/repair ☐ Demolition ☐ Conditional Permit

Proposed use of building	Current use of building

Description of proposed work

C. Applicant

Applicant is: ☐ Owner or ☐ Authorized agent of owner

Last name	First name	Corporation or partnership	
Street address		Unit number	Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number	Fax	Cell number	

D. Owner (if different from applicant)

Last name	First name	Corporation or partnership	
Street address		Unit number	Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number	Fax	Cell number	

E. Builder (optional)

Last name	First name	Corporation or partnership (if applicable)	
Street address		Unit number	Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number	Fax	Cell number	

F. Tarion Warranty Corporation (Ontario New Home Warranty Program)

i. Is proposed construction for a new home as defined in the *Ontario New Home Warranties Plan Act*? If no, go to section G.	☐ Yes	☐ No
ii. Is registration required under the *Ontario New Home Warranties Plan Act*?	☐ Yes	☐ No

iii. If yes to (ii) provide registration number(s): _____

G. Required Schedules

i) Attach Schedule 1 for each individual who reviews and takes responsibility for design activities.

ii) Attach Schedule 2 where application is to construct on-site, install or repair a sewage system.

H. Completeness and compliance with applicable law

i) This application meets all the requirements of clauses 1.3.1.3 (5) (a) to (d) of Division C of the Building Code (the application is made in the correct form and by the owner or authorized agent, all applicable fields have been completed on the application and required schedules, and all required schedules are submitted).	☐ Yes	☐ No
Payment has been made of all fees that are required, under the applicable by-law, resolution or regulation made under clause 7(1)(c) of the *Building Code Act, 1992*, to be paid when the application is made.	☐ Yes	☐ No
ii) This application is accompanied by the plans and specifications prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992.*	☐ Yes	☐ No
iii) This application is accompanied by the information and documents prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the *Building Code Act, 1992* which enable the chief building official to determine whether the proposed building, construction or demolition will contravene any applicable law.	☐ Yes	☐ No
iv) The proposed building, construction or demolition will not contravene any applicable law.	☐ Yes	☐ No

I. Declaration of applicant

I _____ declare that:
(print name)

1. The information contained in this application, attached schedules, attached plans and specifications, and other attached documentation is true to the best of my knowledge.
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

_____ _____
Date Signature of applicant

Personal information contained in this form and schedules is collected under the authority of subsection 8(1.1) of the *Building Code Act, 1992*, and will be used in the administration and enforcement of the *Building Code Act, 1992.* Questions about the collection of personal information may be addressed to: a) the Chief Building Official of the municipality or upper-tier municipality to which this application is being made, or, b) the inspector having the powers and duties of a chief building official in relation to sewage systems or plumbing for an upper-tier municipality, board of health or conservation authority to whom this application is made, or, c) Director, Building and Development Branch, Ministry of Municipal Affairs and Housing 777 Bay St., 2nd Floor. Toronto, M5G 2E5 (416) 585-6666.

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information

Building number, street name			Unit no.	Lot/con.
Municipality	Postal code	Plan number/ other description		

B. Individual who reviews and takes responsibility for design activities

Name		Firm		
Street address			Unit no.	Lot/con.
Municipality	Postal code	Province	E-mail	
Telephone number ( )	Fax number ( )		Cell number ( )	

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 of Division C]

❑ House	❑ HVAC – House	❑ Building Structural
❑ Small Buildings	❑ Building Services	❑ Plumbing – House
❑ Large Buildings	❑ Detection, Lighting and Power	❑ Plumbing – All Buildings
❑ Complex Buildings	❑ Fire Protection	❑ On-site Sewage Systems

Description of designer's work

D. Declaration of Designer

I _____ declare that (choose one as appropriate):
(print name)

❑ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4 of Division C. of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: _____

Firm BCIN: _____

❑ I review and take responsibility for the design work and am qualified in the appropriate category as an "other designer" under subsection 3.2.5 of Division C, of the Building Code.

Individual BCIN: _____

Basis for exemption from registration: _____

❑ The design work is exempt from the registration and qualification requirements of the Building Code.

Basis for exemption from registration andqualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

_____ _____
Date Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7.(1) d). of Division C, Article 3.2.5.1 of Division C, and all other persons who are exempt from qualification under Subsections 3.2..4. and 3.2.4 of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

Energy Efficiency Design Summary: Prescriptive Method

(Building Code Part 9, Residential)

This form is used by a designer to demonstrate that the energy efficiency design of a house complies with the building code using the prescriptive method described in Subsection 3.1.1. of SB-12. This form is applicable where the ratio of gross area of windows/sidelights/skylights/glazing in doors and sliding glass doors to the gross area of peripheral walls is not more than 22%.

For use by Principal Authority	
Application No:	Model/Certification Number

A. Project Information

Building number, street name		Unit number	Lot/Con
Municipality	Postal code	Reg. Plan number / other description	

B. Prescriptive Compliance [indicate the building code compliance package being employed in this house design]

SB-12 Prescriptive (input design package): Package:_____ Table:_____

C. Project Design Conditions

Climatic Zone (SB-1):	Heating Equipment Efficiency	Space Heating Fuel Source		
□ Zone 1 (< 5000 degree days)	□ ≥ 92% AFUE	□ Gas	□ Propane	□ Solid Fuel
□ Zone 2 (≥ 5000 degree days)	□ ≥ 84% < 92% AFUE	□ Oil	□ Electric	□ Earth Energy

Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		Other Building Characteristics
Area of walls =_____m^2 **or**_____ft^2	W, S & G % = _____	□ Log/Post&Beam □ ICF Above Grade □ ICF Basement □ Slab-on-ground □ Walkout Basement □ Air Conditioning □ Combo Unit □ Air Sourced Heat Pump (ASHP) □ Ground Sourced Heat Pump (GSHP)
Area of W, S & G = _____m^2 **or**_____ft^2	Utilize window averaging: □Yes □No	

D. Building Specifications [provide values and ratings of the energy efficiency components proposed]

Energy Efficiency Substitutions

□ ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5) & (6))

□ Combined space heating and domestic water heating systems (3.1.1.2.(7) / 3.1.1.3.(7))

□ Airtightness substitution(s)	□ Table 3.1.1.4.B	Required:_____ Permitted Substitution:
Airtightness test required (Refer to Design Guide Attached)	□ Table 3.1.1.4.C	Required:_____ Permitted Substitution: _____
		Required: Permitted Substitution:

Building Component	Minimum RSI / R values or Maximum U-Value(1)		Building Component	Efficiency Ratings
Thermal Insulation	Nominal	Effective	**Windows & Doors** Provide U-Value(1) or ER rating	
Ceiling with Attic Space			Windows/Sliding Glass Doors	
Ceiling without Attic Space			Skylights/Glazed Roofs	
Exposed Floor			**Mechanicals**	
Walls Above Grade			Heating Equip.(AFUE)	
Basement W alls			HRV Efficiency (SRE% at 0° C)	
Slab (all >600mm below grade)			DHW Heater (EF)	
Slab (edge only ≤600mm below grade)			DW HR (CSA B55.1 (min. 42% efficiency))	# Showers____
Slab (all ≤600mm below grade, or heated)			Combined Heating System	

(1) U value to be provided in either W/(m^2•K) or Btu/(h•ft^2 F) but not both.

E. Designer(s) [name(s) & BCIN(s), if applicable, of person(s) providing information herein to substantiate that design meets the building code]

Qualified Designer Declaration of designer to have reviewed and take responsibility for the design work.

Name	BCIN	Signature

Guide to the Prescriptive Energy Efficiency Design Summary Form

This form must accurately reflect the information contained on the drawings and specifications being submitted. Refer to Supplementary Standard SB-12 for details about building code compliance requirements. Further information about energy efficiency requirements for new buildings is available from the provincial building code website or the municipal building department.

The building code permits a house designer to use one of four energy efficiency compliance options:

1. Comply with the *SB-12 Prescriptive* design tables (this form is for this option (Option 1)),
2. Use the *SB-12 Performance* compliance method, and model the design against the prescriptive standards,
3. Design to *Energy Star, or*
4. Design to *R2000* standards.

COMPLETING THE FORM

B. Compliance Options

Indicate the compliance option being used.

- *SB-12 Prescriptive* requires that the building conforms to a package of thermal insulation, window and mechanical system efficiency requirements set out in Subsection 3.1.1. of SB-12. Energy efficiency design modeling and testing of the building is not required under this option. Certain substitutions are permitted. In which case, the applicable airtightness targets in Table 3.1.1.4.A must be met.

C. Project Design Conditions

Climatic Zone: The number of degree days for Ontario cities is contained in Supplementary Standard SB-1
Windows, Skylights and Glass Doors: If the ratio of the total gross area of windows, sidelights, skylights, glazing in doors and sliding glass doors to the total gross area of walls is more than 17%, higher efficiency glazing is required. If the ratio is more than 22%, the *SB-12 Prescriptive* option may not be used. The total area is the sum of all the structural rough openings. Some exceptions apply. Refer to 3.1.1.1. of SB-12 for further details.
Fuel Source and Heating Equipment Efficiency: The fuel source and efficiency of the proposed heating equipment must be specified in order to determine which *SB-12 Prescriptive* compliance package table applies.
Other Building Conditions: These construction conditions affect *SB-12 Prescriptive* compliance requirements.

D. Building Specifications

Thermal Insulation: Indicate the RSI or R-value being proposed where they apply to the house design. Under the *SB-12 Prescriptive* option, alternative ICF wall insulation is permitted in certain conditions where other design elements meet higher standards. Refer to SB-12 for further details. Where effective insulation values are being used, the Authority Having Jurisdiction may require supporting documentation.

BUILDING CODE REQUIREMENTS FOR AIRTIGHTNESS IN NEW HOUSES

All houses must comply with increased air barrier requirements in the building code. Notice of air barrier completion must be provided and an inspection conducted prior to it being covered.

The air leakage rates in Table 3.1.1.4.A are not requirements. This provision is a voluntary provision for when credits for airtightness are claimed. Credit for air tightness allows the designer to substitute the requirements of compliance packages as set out in Table 3.1.1.4.B or 3.1.1.4.C. Neither the air leakage test nor compliance with airtightness targets given in Table 3.1.1.4.A are required, unless credit for airtightness is claimed. Table 3.1.1.4.A provides airtightness targets in three different metrics; ACH, NLA, NLR. Any one of them can be used.

OBC Reference Default Air Leakage Rates (Table 3.1.1.4.A)

Building Type	Airtightness Targets				
	ACH @ 50 Pa	NLA @ 10 Pa		NLR @ 50 Pa	
Detached dwelling	2.5	1.26 cm^2/m^2	1.81 $in^2/100ft^2$	0.93 $L/s/m^2$	0.18 $cfm50/ft^2$
Attached dwelling	3.0	2.12 cm^2/m^2	3.06 $in^2/100ft^2$	1.32 $L/s/m^2$	0.26 $cfm50/ft^2$

The building code requires that a blower door test be conducted to verify the air tightness of the house during construction if the *SB-12 Prescriptive* option with airtightness credit being applied. Results of the airtightness test may need to be submitted to the Authority Having Jurisdiction. Airtightness of less than 2.5 ACH @ 50 Pa (or NLA or NLR equivalent) in the case of detached houses, or 3.0 ACH @ 50 Pa (or NLA or NLR equivalent) in the case of attached houses is necessary to meet the required energy efficiency standard.

E. House Designer

The building code requires designers providing information about whether a building complies with the building code to have a BCIN. Exemptions apply to architects, engineers and owners designing their own house.

Form authorized by OHBA, OBOA, LMCBO. Revised November 30, 2016.

Energy Efficiency Design Summary:
Performance & Other Acceptable Compliance Methods

(Building Code Part 9, Residential)

This form is used by a designer to demonstrate that the energy efficiency design of a house complies with the building code using the Performance or Other Acceptable Compliance Methods described in Subsections 3.1.2. and 3.1.3. of SB-12,

This form must accurately reflect the information contained on the drawings and specifications being submitted. Refer to Supplementary Standard SB-12 for details about building code compliance requirements. Further information about energy efficiency requirements for new buildings is available from the provincial building code website or the municipal building department.

For use by Principal Authority	
Application No:	Model/Certification Number

A. Project Information

Building number, street name		Unit number	Lot/Con
Municipality	Postal code	Reg. Plan number / other description	

B. Compliance Option [indicate the building code compliance option being employed in thishouse design]

☐ *SB-12 Performance** [SB-12 - 3.1.2.]	* Attach energy performance results using an approved software (see guide)
☐ *ENERGY STAR®** [SB-12 - 3.1.3.]	* Attach Builder Option Package [BOP] form
☐ *R-2000®* *[SB-12 - 3.1.3.]	* Attach R-2000 HOT2000 Report

C. Project Building Design Conditions

Climatic Zone (SB-1):	**Heating Equipment Efficiency**	**Space Heating Fuel Source**
□ Zone 1 (< 5000 degree days)	□ ≥ 92% AFUE	□ Gas □ Propane □ Solid Fuel
□ Zone 2 (≥ 5000 degree days)	□ ≥ 84% < 92% AFUE	□ Oil □ Electric □ Earth Energy
Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		**Other Building Characteristics**
Area of walls =_____m^2 **or**_____ft^2	W, S & G % = _____	□ Log/Post&Beam □ ICF Above Grade □ ICF Basement □ Slab-on-ground □ Walkout Basement □ Air Conditioning □ Combo Unit □ Air Source Heat Pump (ASHP) □ Ground Source Heat Pump (GSHP)
Area of W, S & G = _____m^2 **or**_____ft^2		
SB-12 Performance Reference Building Design Package indicating the prescriptive package to be compared for compliance		
SB-12 Referenced Building Package (input design package): Package:_____Table:_____		

D. Building Specifications [provide values and ratings of the energy efficiency components proposed, or attach *ENERGY STAR* BOP form

Building Component	**Minimum RSI / R values or Maximum U-Value(1)**		**Building Component**	**Efficiency Ratings**	
Thermal Insulation	Nominal	Effective	**Windows & Doors** Provide U-Value(1) or ER rating		
Ceiling with Attic Space			Windows/Sliding Glass Doors		
Ceiling without Attic Space			Skylights/Glazed Roofs		
Exposed Floor			**Mechanicals**		
Walls Above Grade			Heating Equip.(AFUE)		
Basement W alls			HRV Efficiency (SRE% at 0° C)		
Slab (all >600mm below grade)			DHW Heater (EF)		
Slab (edge only ≤600mm below grade)			DW HR (CSA B55.1 (min. 42% efficiency))		# Showers____
Slab (all ≤600mm below grade, or heated)			Combined Space / Dom. Water Heating		

(1) U value to be provided in either W/(m^2•K) or Btu/(h•ft^2•F) but not both.

E. Performance Design Verification [Subsection 3.1.2. Performance Compliance]

The annual energy consumption using Subsection 3.1.1. SB-12 Reference Building Package is_____GJ (1 GJ =1000MJ)

The annual energy consumption of this house as designed is_____GJ

The software used to simulate the annual energy use of the building is:_____

The building is being designed using an air tightness baseline of:

- ☐ OBC reference ACH, NLA or NLR default values (no depressurization test required)
- ☐ Targeted ACH, NLA or NLR. Depressurization test to meet_____ACH50 or NLR or NLA

- ☐ Reduction of overall thermal performance of the proposed building envelope is not more than 25% of the envelope of the compliance package it is compared against (3.1.2.1.(6)).
- ☐ Standard Operating Conditions Applied (A-3.1.2.1 - 4.6.2)
- ☐ Reduced Operating Conditions for Zero-rated homes Applied (A-3.1.2.1 - 4.6.2.5)

- ☐ On Site Renewable(s): Solar:_____
  Other Types: _____

F. ENERGY STAR or R-2000 Performance Design Verification [Subsection 3.1.3. Other Acceptable Compliance Methods]

- ☐ The NRCan "ENERGY STAR for New Homes Standard Version 12.6" technical requirements, applied to this building design result in the building performance meeting or exceeding the prescriptive performance requirements of the Supplementary Standard SB12 (A-3.1.3.1).

- ☐ The NRCan,"2012 R-2000 Standard " technical requirements, applied to this building design result in the building performance meeting or exceeding the prescriptive performance requirements of theSupplementary Standard SB12 (A-3.1.3.1).

Performance Energy Modeling Professional
Energy Evaluator/Advisor/Rater/CEM Name and company: Accreditation or Evaluator/Advisor/Rater License #

***ENERGY STAR* or R-2000**
Energy Evaluator/Advisor/Rater/ Name and company: Evaluator/Advisor/Rater License #

G. Designer(s) [name(s) & BCIN(s), if applicable, of person(s) providing information herein to substantiate that design meets the building code]

Qualified Designer: Declaration of designer to have reviewed and take responsibility for the design work.		
Name	BCIN	Signature

Guide to the Energy Efficiency Design Summary Form for Performance & Other Acceptable Compliance Methods

COMPLETING THE FORM

B. Compliance Options

Indicate the compliance option being used.

- *SB-12 Performance* refers to the method of compliance in Subsection 3.1.2. of SB-12. Using this approach the designer must use recognized energy simulation software (such as HOT2000 V10.51 or newer), and submit documents which show that the annual energy use of the proposed building is equal to or less than a prescriptive (referenced) building package.
- *ENERGY STAR* houses must be designed to *ENERGY STAR* requirements and verified on completion by a licensed energy evaluator and/or service organization. The *ENERGY STAR* BOP form must be submitted with the permit documents.
- *R-2000* houses must be designed to the *R-2000 Standard* and verified on completion by a licensed energy evaluator and/or service organization. The HOT2000 report must be submitted with the permit documents.

C. Project Design Conditions

Climatic Zone: The number of degree days for Ontario cities is contained in Supplementary Standard SB-1
Windows, Skylights and Glass Doors: If the ratio of the total gross area of windows, sidelights, skylights, glazing in doors and sliding glass doors to the total gross area of walls is more than 17%, higher efficiency glazing is required. The total area is the sum of all the structural rough openings. Some exceptions apply. Refer to 3.1.1.1. of SB-12 for further details.
Fuel Source and Heating Equipment Efficiency: The fuel source and efficiency of the proposed heating equipment must be specified in order to determine which *SB-12 Prescriptive* compliance package table applies.
Other Building Conditions: These construction conditions affect *SB-12 Prescriptive* compliance requirements.

D. Building Specifications

Thermal Insulation: Indicate the RSI or R-value being proposed where they apply to the house design. Refer to SB-12 for further details.

E. Performance Design Summary

A summary of the performance design applicable only to the *SB-12 Performance* option.

F. ENERGY STAR or R-2000 Performance Method

Design to ENERGY STAR or R-2000 Standards.

G. House Designer

The building code requires designers providing information about whether a building complies with the building code to have a BCIN. Exemptions apply to architects, engineers and owners designing their own house.

BUILDING CODE REQUIREMENTS FOR AIRTIGHTNESS IN NEW HOUSES

All houses must comply with increased air barrier requirements in the building code. Notice of air barrier completion must be provided and an inspection conducted prior to it being covered.
The air leakage rates in Table 3.1.2.1. are not requirements. The Table is not intended to require or suggest that the building meet those airtightness targets. They are provided only as default or reference values for the purpose of annual energy simulations, should the builder/owner decide to perform such simulations. They are given in three different metrics; ACH, NLA, NLR. Any one of them can be used. They can be used as a default values for both a reference and proposed building or, where an air leakage test is conducted and credit for airtightness is claimed, the airtightness values in Table 3.1.2.1. can be used for the reference building and the actual leakage rates obtained from the air leakage test can be used as inputs for the proposed building.

OBC Reference Default Air Leakage Rates (Table 3.1.2.1.)

Detached dwelling	3.0 ACH50	NLA 2.12 cm^2/m^2	NLR 1.32 $L/s/m^2$
Attached dwelling	3.5 ACH50	NLA 2.27 cm^2/m^2	NLR 1.44 $L/s/m^2$

The building code requires that a blower door test be conducted to verify the air tightness of the house during construction if the *SB-12 Performance* option is used and an air tightness of less than 3.0 ACH @ 50 Pa (or NLA or NLR equivalent) in the case of detached houses, or 3.5 ACH @ 50 Pa (or NLA or NLR equivalent) in the case of attached houses is necessary to meet the required energy efficiency standard.

ENERGY EFFICIENCY LABELING FOR NEW HOUSES

ENERGY STAR and R-2000 may issue labels for new homes constructed under their energy efficiency programs. The building code does not currently regulate or require new home labeling.

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	□ YES	

ONTARIO BUILDING CODE SUPPLEMENTARY STANDARD SB-10
PROJECT INFORMATION – ADDITIONAL DESIGNER SIGNATURES

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

Designer Information (Other)*:	**Designer Information (Other)*:**	**Designer Information (Other)*:**
Specialty	Specialty	Specialty
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)

*AS APPLICABLE TO SB-10 2017 PROVISIONS AND REQUIREMENTS.

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. 332/12 AND AMENDMENTS UP TO AMENDING O.REG. 194/14 AND MINISTER RULING M-16-S-27.).

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.

OBC SB-10 AND ASHRAE 90.1 - 2013 – COMPLIANCE SUMMARY — Form A

Project:	Location of Project:
Building Permit Application No.:	Climatic Zone (*SB-10 Division 3 Section 1.3*):

ASHRAE 90.1 – 2013 COMPLIANCE AS MODIFIED BY OBC SB-10 DIVISION 3

The building design complies with the mandatory provisions of the following sections regardless of the compliance path:

ASHRAE 90.1-2013 Standard Section	Compliance Column	Form
5.4 BUILDING ENVELOPE AND SB-10 DIVISION 3	□ YES	FORM 5.4
6.4 HEATING, VENTILATING AND AIR CONDITIONING	□ YES	FORM 6.3 or FORM 6.4
7.4 SERVICE WATER HEATING SYSTEMS AND EQUIPMENT	□ YES	FORM 7.4
8.4 POWER	□ YES	FORM 8.4
9.4 LIGHTING	□ YES	FORM 9.4
10.4 OTHER EQUIPMENT AND SB-10 DIVISION 3	□ YES	FORM 10.4

METHOD OF COMPLIANCE

Building Design must comply with either the Prescriptive Requirements or the Energy Cost Budget Method. Indicate which method was selected.

Compliance Method	Compliance Column	Form
PRESCRIPTIVE COMPLIANCE	□ YES	COMPLETE SECTION A-1
ENERGY COST BUDGET METHOD	□ YES	COMPLETE SECTION A-2

A-1: PRESCRIPTIVE COMPLIANCE – ASHRAE 90.1-2013 AND OBC SB-10

The building design complies with the Prescriptive Compliance requirements of the following sections:

Standard Section Reference		Compliance Column	Form
Sec 5 BUILDING ENVELOPE Building Envelope Trade-Off (5.6 of 90.1)	Prescriptive Requirements (5.5 of 90.1)	□ YES □ YES	FORM 5.5 or FORM 5.6
Sec 6 HVAC SYSTEMS Mandatory + Prescriptive Path Option	Simplified Approach for HVAC Systems	□ YES □ YES	FORM 6.3 or FORM 6.4
Sec 7 SERVICE WATER HEATING	Prescriptive Path Option	□ YES	FORM 7.4
Sec 9 LIGHTING	Prescriptive Requirements	□ YES	FORM 9.5

A-2: ENERGY COST BUDGET METHOD – ASHRAE 90.1-2013 AND OBC SB-10

	Compliance Column	Form
The building design complies with the provisions of Section 11 of ASHRAE 90.1-2013, based on Division 3 of SB-10.	□ YES	FORM 11

ASHRAE 90.1-2013 AND OBC SB-10 DIVISION 3– MANDATORY PROVISIONS Form 5.4

SECTION 5.4 MANDATORY PROVISIONS	
Building insulation has been designed to comply with section 5.4.1 of ASHRAE 90.1-2013 as modified by Chapter 2 of OBC SB-10.	□ YES
Building fenestration and doors have been designed to comply with section 5.4.2 of ASHRAE 90.1-2013 as modified by Chapter 2 of OBC SB-10.	□ YES
Building air leakage has been designed to comply with section 5.4.3 of ASHRAE 90.1-2013 as modified by Chapter 2 of OBC SB-10.	□ YES

ASHRAE 90.1-2013 & SB-10 – SECTION 5.5 – PRESCRIPTIVE ENVELOPE OPTION Form 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 or the Energy Cost Budget Method Described in Chapter 11 of ASHRAE 90.1-2013:	
Gross Wall Area: _____m² *Vertical Fenestration Area*: _____m² *Vertical fenestration area* is less than 40% of the *gross wall area*	□ 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 Exception (from ASHRAE 90.1-2013 Section 5.5.4.5): _____	□ YES □ N/A □ YES □ N/A
Where electric space heating provides more than 10 per cent of the heating capacity, the building envelope shall comply with the requirements of Table SB 5.5-7 of SB-10, regardless of its climatic location	□ 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 SB-10 Table used for maximum U-Factors or minimum RSI-Values : _____	

Complete the table on Form 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 SB5.5-5 to SB5.5-7.*
2. *The maximum U-factor, C-factor, or F-factor for the entire assembly as specified in Tables SB5.5-5 to SB5.5-7. 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.*

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 SB-10 Tables SB5.5-5 to SB5.5-7.*
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 SB5.5-5 through SB5.5-7 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 defaultvalues.*

ASHRAE 90.1-2013 & SB-10 – SECTION 5.5 – PRESCRIPTIVE ENVELOPE OPTION Form 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 SB5.5-5 to SB5.5-7 (eg. Steel Framed for walls). 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. 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 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 Chapter 2 of SB-10

Calculated EPF for proposed building*: _
Calculated EPF for budgetbuilding*: _____

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 as modified by SB-10.*

ASHRAE 90.1-2013 & SB-10- SECTION 6.3 HVAC SIMPLIFIED APPROACH Form 6.3

If simplified HVAC method is used complete this form, otherwise proceed to Form 6.4.

Number of Stories:	Gross floor area: m²

Reference		Standard Compliance
6.3.1	The building is 2 stories or less in height and has a gross floor area less than 2,300 m².	□ YES
6.3.2	All of the requirements in Section 6.3 as outlined below must be met by each HVAC system in the facility.	
6.3.2.a	System serves a single HVAC zone.	□ YES
6.3.2.b	The equipment meets the variable flow requirements of Section 6.5.3.2.1.	□ YES □ N/A
6.3.2.c	If a cooling is installed, it is provided by a unitary packaged or split-system air conditioner that is either air-cooled or evaporatively cooled and meets the efficiency requirements shown in Tables 6.8.1-1, 6.8.1-2, and 6.8.1-4.	□ YES □ N/A
6.3.2.d	The system has an air economizer with outside airflow capacity and controls as required per Section 6.5.1., unless exempt.	□ YES □ N/A
6.3.2.e	Heating is provided by a unitary packaged or split-system heat pump, a fuel-fired furnace, an electric resistance heater or a baseboard system connected to a boiler. All heating equipment meets the efficiency requirements shown in Table 6.8.1-2, 6.8.1-4, 6.8.1-5, and 6.8.1-6 as modified by SB-10 Table SB 6.8.1-2017.	□ YES □ N/A
6.3.2.f	System meets the exhaust air energy recovery requirements of Section 6.5.6.1 as modified by SB-10, unless exempt.	□ YES □ N/A
6.3.2.g	The system is controlled by a manual changeover or dual setpoint thermostat.	□ YES
6.3.2.h	Heat pumps equipped with auxiliary internal electric resistance heaters (if any) have controls to prevent supplemental heater operation when the heating load can be met by the heat pump alone, unless exempt.	□ YES □ N/A
6.3.2.i	The system controls do not permit reheat or any other form of simultaneous heating and cooling for humidity control.	□ YES □ N/A
6.3.2.j	Systems are provided with a time switch that (1) can start and stop the system under different schedules for seven different day-types per week; (2) is capable of retaining programming and time setting during a loss of power for a period of at least 10 h; (3) includes an accessible manual override that allows temporary operation of the system for up to 2 h; (4) is capable of temperature setback down to 13° C during off hours; and (5) is capable of temperature setup to 32° C during off hours unless exempt.	□ YES □ N/A
6.3.2.k	Piping is insulated in accordance with values given in Table 6.8.3A and 6.8.3B. Insulation exposed to weather is suitable for outdoor service (i.e. protected by aluminum, sheet metal, etc. or painted with a coating that is water retardant and provides shielding from solarradiation).	□ YES □ N/A
6.3.2.l	Ductwork and plenums are insulated in accordance with Tables 6.8.2A and 6.8.2B and sealed in accordance with Section 6.4.4.2.1.	□ YES □ N/A
6.3.2.m	Specifications call for ducted air systems to be balanced.	□ YES □ N/A
6.3.2.n	Outdoor air intake and exhaust systems meet the controls requirements of Section 6.4.3.4.	□ YES □ N/A
6.3.2.o	Where separate heating and cooling equipment serve the same temperature zone, thermostats are interlocked to prevent simultaneous heating and cooling.	□ YES □ N/A
6.3.2.p	Systems with a design supply air capacity greater than 5,000 L/s have optimum start controls.	□ YES □ N/A
6.3.2.q	In spaces larger than 50m² and with design occupancy ≥ 25 people per 100m², the system complies with the demand control ventilation requirements in Section 6.4.3.8, unless exempt.	□ YES □ N/A
6.3.2.r	The system complies with the door switch requirements of Section 6.5.10.	□ YES □ N/A

SECTION 6 HVAC – 6.4 MANDATORY PROVISIONS AND 6.5 PRESCRIPTIVE REQUIREMENTS Form 6.4		
Reference		Standard Compliance
	Mandatory Provisions – Complete only if simplified HVAC method is not used.	
6.4.1	Equipment shown in 6.8.1-1 through 6.8.1-13 meets the minimum performance (as modified by SB-10 Table SB 6.8.1-2017) at the specified rating conditions in accordance with the test procedures in the tables or those in SB-10 Section 6.4.1.A.	□ YES
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
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
6.4.3	Mandatory controls requirements are met by all the equipment in the building as outlined in Section 6.4.3.	□ YES
6.4.4.1	Ductwork, piping, and equipment insulation meets the requirements of Section 6.4.4.1.	□ YES
6.4.4.2	Construction documents specify sealing and pressure testing of ductworks and plenums as per Section 6.4.4.2.	□ YES
6.4.5	Site-assembled or site-constructed walk-in coolers and freezers shall conform to the requirements of Section 6.4.5.	□ YES
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 SB-10.	□ YES
	Prescriptive Requirements – Complete this section if not using Energy Cost Budget Method.	
6.5.1	Each cooling system that has a fan employs either airside or waterside economizer unless exempt.	□ YES □ N/A
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
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
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
6.5.1.3	Economizer systems incorporate integrated economizer controls per ASHRAE 90.1-2013 6.5.1.3	□ YES □ N/A
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
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
6.5.2	Simultaneous heating and cooling is limited with compliant zone, hydronic system, dehumidification, and humidification controls as per Section 6.5.2.	□ YES □ N/A
6.5.3	Cooling system fan controls comply with the requirements of 6.5.3.2 and 6.5.3.3.	□ YES □ N/A
6.5.3.1	Fan systems exceeding 4kW nameplate power have fan power limitations 10% below limitations specified in ASHRAE 90.1-2013 Table 6.5.3.1.1-1 and Section 6.5.3.1.2.	□ YES □ N/A
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
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
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
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
6.5.4.6	Chilled water and condenser water pipe is sized according to Table 6.5.4.6.	□ YES □ N/A
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

SECTION 6 HVAC – 6.4 MANDATORY PROVISIONS AND 6.5 PRESCRIPTIVE REQUIREMENTS		Form 6.4
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
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 is at least 55% effective and bypass is available to permit air economizer operation as per Section 6.5.1.1.	□ YES □ N/A
6.5.6.2	Condenser heat recovery system for heating or preheating hot water is provided, unless exempt.	□ YES □ N/A
6.5.7.1	Kitchen exhaust systems are designed as per Section 6.5.7.1.	□ YES □ N/A
6.5.7.1.5	Specifications call for performance testing of kitchen exhaust systems.	□ YES □ N/A
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
6.5.8.1	Heating of unenclosed spaces is done by radiant heating, except loading docks with air curtains.	□ YES □ N/A
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
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
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

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
7.4.2	All equipment used solely for the following purposes meets or exceeds the efficiency requirements and testing criteria of Table 7.8, as modified by SB-10 7.4.2.A, unless exempt.: • heating potable water • pool heaters • hot water storage tanks Exemptions:	□ YES □ N/A
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-recirculatingstorage 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
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 permanufacturer's installation instructions.	□ YES □ N/A
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
7.4.4.3	Public lavatories have outlet temperature controls that limit the discharge temperature to 43°C.	□ YES □ N/A
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
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
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
7.4.5.3	Pool heaters and circulation pumps have time switches, unless exempt.	□ YES □ N/A
7.4.6	Heat traps are provided to all vertical risers serving storage water heaters and storage tanks.	□ YES □ N/A
	Prescriptive Requirement – Complete this section if not using Energy Cost Budget Method.	
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
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

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

SECTION 8 POWER – 8.4 MANDATORY PROVISIONS		Form 8.4
Reference	Item	Standard Compliance
8.4.1	Feeder conductors and branch conductors are sized as per Section 8.4.1.	□ YES
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
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
8.4.4	Low Voltage Dry-Type Distribution Transformers meet nominal efficiencies shown in Table 8.4.4, unless exempt.	□ YES □ N/A

SECTION 9 LIGHTING– MANDATORY PROVISIONS CHECKLIST		Detailed Form 9.4-1
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
9.4.1.2	Lighting for parking garages is controlled by automatic shutoff controls meeting the requirements outlined in Section 9.4.1.2.	□ YES □ N/A
	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 m², except daylight transition zones and ramps without parking.	□ YES □ N/A
	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
	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
9.4.1.3	Additional control is provided to the special applications listed in Section 9.4.1.3	□ YES □ N/A
9.4.1.4	Exterior lights are shut off by an automatic photosensor when available daylight is sufficient, unless exempt.	□ YES □ N/A
	All building façade and landscape lighting is automatically shut off overnight as per 9.4.1.4.	□ YES
	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. (Uncovered parking areas are exempt per SB-10)	□ YES
9.4.2	Exterior building lighting power complies with ASHRAE 90.1-2013 9.4.2 as modified by SB-10. Form 9.4.2 may be used to demonstrate compliance.	□ YES
9.4.3	Third party functional testing of all lighting control devices and systems is specified in the construction documents.	□ YES

SECTION 9.4 LIGHTING – EXTERIOR LIGHTING POWER MANDATORY COMPLIANCE		Form 9.4-2
Reference		Standard Compliance
9.4.3	Exterior Lighting Zone _____(Table SB 9.4.2-2–2017) **Total Installed Exterior Lighting Power_____W ≤ value of exterior LPA_____W *** List any exemptions that apply:	□ YES □ N/A

* Calculation worksheet (FORM 9.4-3) is required.

SECTION 9.5 LIGHTING – INSTALLED LIGHTING POWER PRESCRIPTIVE COMPLIANCE		Form 9.5-1
	Prescriptive Requirements – Complete if not using Energy Cost Budget Method	
Reference		Standard Compliance
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 SB 9.5.1–2017 * Building Type _____ Gross Lighted Area _____ m² Lighting Power Density _____ W/m² **Total Installed Interior Lighting Power_____W ≤ value of Interior LPA_____W ***	□ YES □ N/A
	9.6 INTERIOR LIGHTING POWER ALLOWANCE BY SPACE FUNCTION Calculation of Interior Lighting Power Allowance (ILPA) for each space based on Table SB 9.6.1–2017 * **Total Installed Interior Lighting Power_____W ≤ value of Interior LPA_____W *** List any exemptions that apply:	□ YES □ N/A

* Calculation worksheet (FORM 9.5-2) is required.

ASHRAE 90.1 & SB-10 - SECTION 9 – LIGHTING COMPLIANCE WORKSHEET FORM 9.4-3

Project:	Designer Name:

Exterior Building Lighting Power Allowance - refer to Table SB 9.4.2-2–2017			
Location / Application	Allowance	Area or Length (m^2 or m)	Tradable Power Allowance
Exterior Lighting Zone		Base Site Allowance	
		Tradable Power Allowance	

Exterior Installed Lighting Power				
ID	Luminaire description (including number of lamps per fixture, watts per lamp, type of ballast, type of fixture)	Number of Luminaires	Watts/ Luminaire	Total Watts
			Total Exterior Lighting Power	

* If additional space is required to provide further information, please attach a separate sheet(s) of paper.
** If trade-offs or exceptions are used attach calculations.

ASHRAE 90.1 & SB-10 - SECTION 9 – LIGHTING COMPLIANCE WORKSHEET FORM 9.5-2

Project:	Designer Name:

Interior Power Allowance (Building Area Method) -refer to Table SB 9.5.1–2017			
Building Type	Lighting Power Density Allowance (W/m²)	Gross Lighted Floor Area (m²)	Lighting Power Allowance (W) (LPDxGLFA)
		Total Power Allowance	

Interior Lighting Power Allowance (Space by Space Method) - refer to Table SB 9.6.1–2017				
Building Type	Common/Specific Space Type	Lighting Power Density Allowance (W/m²)	Space Area (m²)	Lighting Power Allowance (W)
			Total Power Allowance	

Interior Connected Lighting Power				
Space ID	Luminaire Description (including number of lamps per fixture, watts per lamp, type of ballast, type of fixture)	Number of Luminaires	Watts/ Luminaire	Total Watts
			Total Interior Lighting Power	

* If additional space is required to provide further information, please attach a separate sheet(s) of paper.
** If additional interior lighting power, trade-offs or exceptions are used attach calculations.

SECTION 10 OTHER EQUIPMENT - MANDATORY PROVISIONS		Form 10.4
Reference	Item	Standard Compliance
10.4.1	Electric motors are in compliance with Table SB-10 Table 10.4.1.A where applicable; otherwise, they comply 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 90.1-2013 & SB-10 ENERGY COST BUDGET (ECB) COMPLIANCE REPORT — FORM 11

Project:	Designer Name:

Occupancies	Floor Area
□ Assembly	
□ Health/Institutional	
□ Hotel/Motel	
□ Light Manufacturing	
□ Multifamily	
□ Office	
□ Restaurant	
□ Retail	
□ School	
□ Warehouse	
□ Other	
Total	

□ **Proposed Building Description**

Annual Consumption Summary[1]	Reference Building Energy	Proposed Building Energy	Units
Space Heating			
Space Cooling			
HVAC Fans			
Pumps			
Service Hot Water			
Interior Lighting			
Other			
Other			
Total Annual Energy			
Total Annual Energy Cost	$	> $	
Total Annual CO_2e Emissions		>	
Peak Electric Demand*		>	

***OR** Building components specified in SB-10 Division 3 Chapter 1 Clause 1.1.2.3(5) comply with the prescriptive requirements of ASHRAE 90.1-2013 □ YES

Reference and Proposed Building Energy Consumptions are calculated by:

Please specify modelling software: _____

HVAC System Descriptions	Energy Efficiency Features in Proposed Building Design[2]
Reference Building Design	
Proposed Building Design	
Building is in compliance with mandatory requirements of sections 5.4, 6.4, 7.4, 8.4, 9.4, and 10.4.	□ YES

Compliance Result

The design detailed in the above referenced plans complies with the mandatory requirements of the ASHRAE 90.1-2013 Standard and the additional requirements of Supplementary Standard SB-10. The calculated proposed building energy cost (design energy cost), CO_2 emissions and peak electric demand do not exceed the calculated reference building energy cost (energy cost budget) CO_2 emissions and peak electric demand. Therefore, this design **DOES COMPLY** with the ASHRAE 90.1-2013 ECB compliance methodology and the additional requirements of Supplementary Standard SB-10.

Individual certifying authenticity of the data provided in this analysis:

Signature:	Name/Title:

Notes: (1) Verify with building official whether full modelling report is required to be submitted
(2) Explain major energy saving features utilized to achieve modelled savings

COMMITMENT TO GENERAL REVIEW BY ARCHITECT AND ENGINEER

PART A – TO BE COMPLETED BY OWNER

Permit Application No.

Project Description:

Address of Project: Municipality:

WHEREAS the building code requires that the project described above be designed and reviewed during construction or demolition by an architect, a professional engineer or both that are licensed to practice in Ontario, and
WHEREAS Ontario law prohibits the construction or demolition of a building if a permit has not been issued to authorize it, and
WHEREAS architects and engineers are prohibited by law from undertaking general review of construction if a permit has not been issued,
NOW THEREFORE the Owner, who intends to construct or demolish or have the building constructed or demolished, hereby confirms that:

1. The undersigned architect and/or professional engineers have been retained to provide general review of the construction or demolition of the building to determine whether the work is in general conformity with the plans and other documents that form the basis for the issuance of a permit, in accordance with the performance standards of the Ontario Association of Architects (OAA) and/or Professional Engineers Ontario(PEO);
2. All general review reports by the architect and/or professional engineers will be forwarded to the Chief Building Official;
3. Should any retained architect or professional engineer cease to provide general review for any reason during construction or demolition, the Chief Building Official will be notified in writing immediately, and another architect or engineer will be appointed so that general review continues without interruption; and
4. Construction or demolition will only be undertaken if an architect and/or professional engineers are retained to undertake general review, and a permit authorizing the proposed construction or demolition has been issued.

The undersigned hereby certifies that he/she has read and agrees to the above

Owner's Name: Date:

Owner's Address: Telephone:

Signature of Owner: Print Name: Fax:
(or authorized agent)

Coordinator of the work of all consultants: Telephone:

Address: Fax:

PART B – TO BE COMPLETED BY CONSULTANTS

The undersigned architect and/or professional engineers hereby certify that they have been retained to provide general review of the parts of construction or demolition of the building indicated, to determine whether the work is in general conformity with the plans and other documents that form the basis for the issuance of a permit, in accordance with the performance standards of the OAA and/or PEO.

☐ **ARCHITECTURAL** ☐ **STRUCTURAL** ☐ **MECHANICAL** ☐ **ELECTRICAL** ☐ **SITE SERVICES** **OTHER:____**
Consultant Name: Signature: Print Name: Date:

Telephone: Address:

☐ **ARCHITECTURAL** ☐ **STRUCTURAL** ☐ **MECHANICAL** ☐ **ELECTRICAL** ☐ **SITE SERVICES** **OTHER:__________________**
Consultant Name: Signature: Print Name: Date:

Telephone: Address:

☐ **ARCHITECTURAL** ☐ **STRUCTURAL** ☐ **MECHANICAL** ☐ **ELECTRICAL** ☐ **SITE SERVICES** **OTHER:__________________**
Consultant Name: Signature: Print Name: Date:

Telephone: Address:

☐ **ARCHITECTURAL** ☐ **STRUCTURAL** ☐ **MECHANICAL** ☐ **ELECTRICAL** ☐ **SITE SERVICES** **OTHER:__________________**
Consultant Name: Signature: Print Name: Date:

Telephone: Address:

The Corporation of
The Township of Brock
1 Cameron St. E., P.O. Box 10
Cannington, ON L0E 1E0
(705) 432-2355

APPLICATION FOR CERTIFIED MODEL APPROVAL

Date Received:					Certified Model Number:		
Applicant Information					Model:		
Applicant is the		Owner or		Authorized Agent			
If corporation or partnership, provide name of contact applying on its behalf.							
Last Name:					First Name:		
Corporation or Partnership (*if applicable*)							
Address:					City/Province		
Phone:		Ext:			Cell:	Fax:	
E-mail:							

Required Documentation			
	Architectural Plans/Specifications/Details/Engineering		Schedule 1 – Building Designer
	Engineered Floor (Layout)		Schedule 1 – HVAC Designer
	Engineered Truss (Layout and individual trusses)		SB12 Energy Efficiency Design Summary
	Heat Loss/Gain Design/Layout/Ventilation Summary		

Project and Model Plumbing Information									
Model Name:						Elevation:			
Dwelling to be:		Detached		Semi-detached		Townhouse		Number of bedrooms:	

Description				**Area** (square metres)	**Plumbing Fixture Type**	**Number of Fixtures (Include rough-ins)**			
						Basement	**1st Floor**	**2nd Floor**	**3rd Floor**
Finished Basement					Bathtubs or showers				
1st Floor					Floor drains				
2nd Floor					Kitchen/bar sinks/DW				
3rd Floor					Laundry/utility sinks				
Deck		Porch			Toilets				
Deck		Porch			Wash basin				
Garage (attached)					Other				
Total:					Other				

If this information is required in an accessible format, please contact the Township at 705-432-2355.

The Corporation of
The Township of Brock
1 Cameron St. E., P.O. Box 10
Cannington, ON L0E 1E0
(705) 432-2355

Basement (Unfinished)		**Total Fixtures per floor:**				
		Total all fixtures:				

If your project includes any of the following "alternate options", a separate certified model will be required:

- ✓ Alternate garage configuration
- ✓ Basement walkout or walkup
- ✓ Deck (when not included on plans)
- ✓ Solid Fuel Burning Appliances (e.g., Wood stove)

Production house models are generally distinguished by a unique model name assigned by the builder along with varying elevation options. The following results apply in the establishment of each certified model application.

1. Each certified model must be consistent in gross floor area. Deviations in floor area, even minor in nature, require a separate application or a site-specific permit application.

2. Optional variations within each model (e.g., bedroom layouts) are permitted but must be limited to elevation options that do not increase floor area.

3. Development Services will assign each certified model a unique alphanumeric reference number. This number will be provided to the builder and referenced on all future permits issued for the same model.

NOTE: Changes to regulations may result in requirement for re-review of existing certified models.

Declaration of Applicant

I, , certify that:

1. The information contained in this application and the attached drawings and other documentation is true to the best of my ability.

2. I have the authority to bind the corporation or partnership (if applicable).

For Office Use Only

Comments:

Approval by	**Signature**	**Approval date:**

If this information is required in an accessible format, please contact the Township at 705-432-2355.

The Corporation of
The Township of Brock
1 Cameron St. E., P.O. Box 10
Cannington, ON L0E 1E0
(705) 432-2355

TOWNSHIP OF BROCK
1 CAMERON ST. E.
CANNINGTON, ON L0E 1E0
PHONE - 705-432-2355
FAX – 705-432-2189

Letter of Authorization

Building Permit Number _____

Owner Name(s) _____

Property Address _____

Date _____

The undersigned, registered property owner(s) of the above noted property, do hereby authorize

_____, to make applications and amendments to applications on our behalf, as well as act as out agent for the property. It is understood that we will abide by all by-law and acts of the Township of Brock and that any approvals granted by any applicable application will be carried out in accordance with the municipal requirements.

Property Owner Signature(s):_____

_____

The Corporation of
The Township of Brock
1 Cameron St. E., P.O. Box 10
Cannington, ON L0E 1E0
(705) 432-2355

Permit Extension Application

*For use when: 1. Construction not commenced within 6 months of permit issuance; or,
2. Construction discontinued for over one year after construction commenced.

Property Owner's Name:_____ Phone: (Day)_____

Municipal Address:_____ Phone: (Evening)_____

Lot:_____Con:_____Plan:_____Lot:_____ Email:_____

Type of Construction:_____ Building Permit #:_____

Reason construction not commenced or discontinued:_____

_____

_____

Have updated plans been submitted: Yes No

Who designed the updates:_____

Designer form attached: Yes No

All the statements and representation contained in the attached documents filed in support of this application shall be deemed part of this application for all purposes. Sufficient information shall be submitted with each application to enable the Chief Building Official to determine whether or not the proposed work will conform with the *Ontario Building Code Act* and regulations thereunder and any other applicable law.

I, the undersigned,_____ am the authorized owner/agent of owner named in the application and I certify the truth of all the statements or representations contained therein.

_____, Ontario _____

_____ Location _____ Date

Signature if Owner or Authorized Agent

OFFICE USE ONLY

Extension Approved ☐

Approved with conditions ☐

Not Approved ☐

More Information Required ☐

Notes:_____

_____

_____

_____

_____

CHARGES:

Permit Extension $_____

Other $_____

Total: $_____

Receipt #_____

Application for Approval of an Alternative Solution

Pursuant to the Building Code Act, Section 9 and the Ontario Building Code Div A – 1.2.1.1

For use by Principal Authority	
Application number:	Building Permit number:
Date received:	

Application submitted to: _____

(Name of municipality, upper-tier municipality, board of health or conservation authority)

A. Project information

Building number, street name			Unit number	Lot/con.
Municipality	Postal code	Building Type		

B. Designer Information ❑ Owner or ❑ Authorized agent of owner

Last name	First name		
Street address		Unit number	Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number	Fax	Cell number	
BCIN #	Qualifications		

C. Owner Information

Last name	First name	Corporation or partnership	
Street address		Unit number	Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number	Fax	Cell number	

D. Description of Proposed Alternative Solution

E. Supporting Documentation	
❑ Past Performance	
❑ Tests	
❑ Other Evaluations	

F. Applicable Division B Provisions	
Numeric Reference	Summary of Provision

G. Identification of Functional Statements/ Objectives/"Areas of Performance"			
Sentence	F.S.	Objective	Summary of "Areas of Performance"

H. Evaluation of Level of Performance	
Division B Provisions	Proposed Alternative Solution

I. Assumptions, Limiting or Restricting Factors

J. Reason for Proposed Alternative Solution

K. Declaration of applicant

I_____declare that:
(print name)

1. The information contained in this application, attached schedules, attached plans and specifications, and other attached documentation is true to the best of my knowledge.

_____ _____
Date Signature of applicant

Checklist for Application for Evaluation of Alternative Solution:

1. Completed Section A, B and C of this form
2. Completed Section D- Description of Proposed Alternative Solution
3. Completed Section E- Identification of and submission of testing and background information
4. Completed Section F- Code Analysis and Identification of applicable Division B (Acceptable Solution) provisions
5. Completed Section G- Identification of applicable linked pairs of objectives and functional statements
6. Completed Section H- Evaluation of level of Performance of applicable Division B provisions and Evaluation of level of Performance of proposed alternative solution
7. Completed Section I- Identification of assumptions, limiting or restricting factors including any information concerning any special maintenance or operation requirements
8. Payment of applicable fees

Office Use Only

Reviewed By:	BCIN:	Date:

Summary of Proposal

Additional Applicable Division B Provisions not listed by applicant

Numeric Reference	Summary of Provision

Evaluation

Conditions of Approval

Your Application and supporting documentation in support of this application for approval of an Alternative Solution has been reviewed and the application is hereby:

- ❑ Approved
- ❑ Approved subject to Attached Conditions of Approval
- ❑ Refused for the following reasons:
  a)
  b)

Chief Building Official Name:_____ BCIN:_____

Signature: _____

Date: _____

Where an application for the Use of an Alternative Solution has been denied by the Chief Building Official the Applicant may:

a) Appeal the decision to the Building Code Commission under Section 24 of the Building Code Act
b) Appeal the decision to the Superior Court of Justice under Section 25 of the Building Code Act
c) Apply to the Minister for a binding interpretation under Section 28.1 of the Building Code Act
d) Comply with the Acceptable Solution as outlined in Division B of the Ontario Building Code