COMPLIANCE HANDOUT
NATIONAL ENERGY CODE OF CANADA FOR BUILDINGS

As of January 1, 2024, the National Energy Code for Buildings (NECB) 2020 Edition is enforced within Saskatchewan.

Application to Buildings

The Government of Saskatchewan has made amendments within *The Building Code Regulations* and *The Energy Code Regulations*. Therefore, NECB 2020 applies to the following:

- Buildings classified under Part 3 of the National Building Code (NBC)
- Part 9 buildings containing any non-residential occupancies
- Part 9 residential buildings that exceed the limitations of Section 9.36., as amended in *The Building Code Regulations* (Note: houses with or without secondary suites, as well as buildings containing only dwelling units with common space less than 20% of the total floor area are permitted to use NBC Section 9.36)
- Any building to which Section 9.36. of the NBC applies but the owner/applicant proposes to design and construct to the NECB.

NECB also applies to subsequent alterations to buildings that were constructed under the requirements of the NECB.

The NECB does not apply to buildings that were applied for prior to January 1, 2019, as the NECB had not been adopted prior to that date in Saskatchewan (however, *additions* required to meet NECB for such buildings must comply).

New Building means a building for which a building and development permit was submitted on or after January 1, 2024.

Addition means any conditioned space that is added to an existing building and that increases the building's *floor surface area* by more than 10 m^2. (NECB defined term).
Examples:

- A horizontal addition made to a building (increasing the *floor surface area* and building footprint)
- A vertical addition made to a building, such as an additional floor (increasing the *floor surface area* even though the building footprint may remain unchanged).

Application to Existing Buildings

Buildings and *additions* that were applied for prior to January 1, 2019 are not required to address NECB compliance. However, new buildings and *additions* that were applied for on or after January 1, 2019 must continue to meet current NECB energy requirements on a go-forward basis.

Design Professional Involvement and Submission Requirements for NECB Compliance

* Existing Design Professional requirements remain for NBC

A building designed to the NECB shall have a design professional, an architect or engineer licensed to practice in the province of Saskatchewan, complete the design or design review of the building and building systems, as well as perform inspections of construction to ensure compliance with the design. Drawings indicating NECB energy compliance information are required to be signed, sealed and dated by a licensed design professional.

A building within the scope of Part 9 of the NBC designed under the NECB requires a design professional to complete the design or design review specific to NECB requirements.

Compliance Path[1, 2]	Design Professional Involvement	Documents to be sealed	Submission Requirements
Prescriptive	Design professional can either seal for entire compliance or Parts of compliance. Example: Project may have single design professional sealing for entire NECB or project may have architect seal for Part 3, and mechanical engineer seal for Part 5 & 6, and electrical engineer seal for Part 4 & 7. Design professionals shall perform site inspections as required by *The Energy Code Regulations.*	Drawings that detail NECB compliance.	<u>Permit Stage</u> • Project Summary • Prescriptive Report(s) • Commitment Letter for Field Review (Parts 3-7) <u>For Project Completion</u> • Letters Confirming Inspections were Performed (Parts 3-7)
Trade-off	Design professional can either seal for entire compliance or Parts of compliance (similar to prescriptive). Any Parts that do not use trade-off will have to comply with prescriptive. Note: Parts 5, 6 & 7 does not permit trade-off. Design professionals shall perform site inspections as required by *The Energy Code Regulations.*	Trade-off calculations and drawings that detail NECB compliance.	<u>Permit Stage</u> • Project Summary • Trade-off Report(s) • Prescriptive Report(s) • Sealed trade-off calculations • Commitment Letter for Field Review (Parts 3-7) <u>For Project Completion</u> • Letters Confirming Inspections were Performed (Parts 3-7)
Tiered Performance	A single design professional has to take responsibility for the model and compliance with NECB. Design professional can seal for parts of compliance (similar to prescriptive). Design professionals shall perform site inspections as required by *The Energy Code Regulations.*	Performance modelling report and drawings that details NECB compliance for construction.	<u>Permit Stage</u> • Project Summary • Performance Report • Sealed Energy Model Report • Commitment Letter for Field Review (Parts 3-7) <u>For Project Completion</u> • Letters Confirming Inspections were Performed (Parts 3-7)

Notes:

1. *The Energy Code Regulations* specifies the Energy Performance Tier from NECB Part 10 that must be met as the minimum level of performance. While 'Tier 1' is in force, Prescriptive and Trade-Off compliance paths continue to be accepted by *Muni*Code Services Ltd. without the need for a formal 'Alternative Solution' (Tier 1 from Part 10 is equal to the prescriptive requirements of NECB).
2. Alterations and renovations shall demonstrate continued compliance to NECB for buildings to which NECB applies.

Phased Permit Application Submission Requirements for NECB Energy Compliance			
	Foundation	**Shell/Above Grade**	**Final/Full**
Tiered Performance[1]	• Project Summary • Letter of Commitment (Part 3)[2]	• Project Summary • Performance Report • Sealed Model Report[4] • Letter of Commitment (Part 3)[2]	• Project Summary • Performance Report[5] • Sealed Model Report[5] • Prescriptive and/or Trade-Off Reports (as needed)[5] • Letters of Commitment (Parts 3-7)
Prescriptive and/or Trade-off[1]	• Project Summary • Prescriptive Report (Part 3) **and/or** Trade-off Report (Part 3)[3] • Letter of Commitment (Part 3)[2]	• Project Summary • Prescriptive Report(s) **and/or** Trade-off Report(s)[3] • Sealed Trade-off Calculations (if used) • Letter(s) of Commitment[2]	• Project Summary • Prescriptive Reports (Parts 3-7) **and/or** Trade-off Reports (Parts 3-4) • Sealed Trade-off Calculations (if used) • Letters of Commitment (Parts 3-7)

Notes:

1. *The Energy Code Regulations* specifies the Energy Performance Tier from NECB Part 10 that must be met as the minimum level of performance. While 'Tier 1' is in force, prescriptive and trade-off compliance paths continue to be accepted by the *Muni*Code Services Ltd. without the need for a formal 'Alternative Solution' (Tier 1 from Part 10 is equal to the prescriptive requirements of NECB). However, when higher Tiers are in force, prescriptive and/or trade-off may only be used in order to demonstrate continued compliance for NECB Parts that had been previously modeled on prescriptive assumptions (see NECB Sentence 10.1.1.2.(2)). For example, if tenant fit-up information was unknown during the 'Shell/Above Grade' phase (so NECB Parts, such as interior lighting, were modeled prescriptively), then during the 'Final/Full' phase those Part(s) may be shown to meet the prescriptive requirements that were previously used in the modeling.
2. Letter of Commitment to only be submitted for the scope of work included in the specific phase.
3. Trade-off is only available for above-ground assemblies and to allowable fenestration and door areas. Trade-off is not available for additions or semi-heated buildings (see NECB Article 3.3.1.1.)
4. If a specific design is unknown, NECB Sentence 10.1.1.2.(2) provides guidance for modeling using prescriptive requirements.
5. If the energy model requires updates to account for changes since the 'Shell/Above Grade Phase', an updated Performance Report and an updated sealed energy model report shall be provided. If the energy model does not require updates, the Performance Report and sealed energy model report are not required to be resubmitted. Prescriptive Reports and/or Trade-Off Reports (along with sealed trade-off calculations) for any NECB Parts that were previously modeled based on prescriptive assumptions shall be submitted during the 'Final' phase to demonstrate continued compliance to the sealed energy model report.

MUNICODE SERVICES LTD

PRESCRIPTIVE REPORT
NATIONAL ENERGY CODE OF CANADA FOR BUILDINGS

Project Information

Project Address/Land Location	Municipality
Owner Name/Project Name	Coordinating NECB Design Professional Name

Note: *The Energy Code Regulations* specifies the Energy Performance Tier from NECB Part 10 that must be met as the minimum level of performance. While 'Tier 1' is in force, the Prescriptive compliance path continues to be accepted by *Muni*Code Services Ltd. without the need for a formal 'Alternative Solution' (Tier 1 from Part 10 is equal to the prescriptive requirements of NECB). However, when higher Tiers are in force, this Prescriptive Report may only be used for alteration applications in order to demonstrate continued compliance for NECB Parts that had been previously modeled on prescriptive assumptions (see NECB Sentence 10.1.1.2.(2)).

Part 3 – Building Envelope

For Additions: fenestration is being calculated for (select one): ☐ **Addition only** ☐ **Addition & existing combined**

General		Proposed	NECB Limit	
	Gross wall area (m^2)		N/A	
	Total window area (m^2)		N/A	
	Total exterior door area (m^2)		N/A	
	Gross roof area (m^2)		N/A	
	Total skylight area (m^2)		< 0.02 x (gross roof area)	
	Exposed floor areas (m^2)		N/A	
			HDD @ 18°	**HDD @ 15°**
Overall Thermal Transmittance – U ($W/(m^2 \cdot K)$)	FDWR (%)		≤	≤
	Opaque walls (above ground)		≤ 0.215	≤ 0.240
	Opaque walls (in contact with ground)		≤ 0.284	≤ 0.284
	Roofs (above ground)		≤ 0.121	≤ 0.138
	Roofs (in contact with ground)		≤ 0.284	≤ 0.284
	Floors (above ground)		≤ 0.138	≤ 0.156
Air Leakage ($L/(s \cdot m^2)$)	Floors (in contact with ground)		≤ 0.757 for 1.2m	≤ 0.757 for 1.2m
	Fixed fenestration and curtain walls		≤ 0.20	
	Operable windows, skylights, and doors		≤ 0.5	
	Overhead doors		≤ 2	
	Operable revolving and auto sliding doors		≤ 5	

Part 4 – Lighting

Proposed building IILP (Installed Interior Lighting Power) (kW) (not to exceed the ILPA below)	
Interior Lighting Power Method: (Select One Below)	
☐ ILPA (Interior Lighting Power Allowance - building area method)	
Lighting power density (W/m^2)	
OR Gross lighted Area (m^2)	
Proposed ILPA building area method (kW)	
☐ ILPA (Interior Lighting Power Allowance – space-by-space method)** **Provide a detailed line-by-line breakdown of spaces, their floor area (m^2), the associated lighting power densities (W/m^2) and the resulting lighting power allowances (kW) & controls	
Proposed ILPA space-by-space method (kW)	

Exterior Lighting Power: (all values below to be in **Watts**)			
Specific Lighting Allowance _____ + Portion of Basic Site Allowance _____ = {Table 4.2.3.1-C} (If multiple specific applications used in design, provide a table showing all}		Specific Total Exterior Allowance _____ ≥	Specific Installed Lighting _____
Sum of General Lighting Allowances _____ + Remaining Basic Allowance _____ = {Table 4.2.3.1-D}		General Total Exterior Allowance _____ ≥	General Installed Lighting _____
Other Exterior Lighting Allowance _____ + Remaining Basic Allowance _____ = {Table 4.2.3.1-E}		Other Exterior Allowance _____ ≥	Other Installed Lighting _____
	Basic Site Allowance _____ {Table 4.2.3.1-B} (Sum of the portions of basic site allowance above are not to exceed this amount)		**Total Exterior Lighting Installed** _____
Interior lighting controls are designed in accordance with Subsection 4.2.2.			☐ Yes ☐ No
Exterior lighting controls are designed in accordance with Subsection 4.2.4.			☐ Yes ☐ No
Interior and exterior installed Lighting Power displayed in table format on the drawings			☐ Yes ☐ No
Interior and exterior lighting controls provided in a table format on the drawings			☐ Yes ☐ No

Part 5 – Heating, Ventilating and Air-Conditioning Systems

	Proposed		**NECB Limit**	
	Constant Volume	**Variable Air Volume**	**Constant Volume**	**Variable Air Volume**
Fan system power demand (W/L/s))			≤ 1.6	≤ 2.65
Commercial kitchen design ventilation rate (L/s)			☐< 1410 L/s ☐ Demand control provided	
Ducts sealed, insulated, and protected in conformance with Subsection 5.2.2. Intakes and outlets conform with Subsection 5.2.4.	☐ Yes ☐ No			
Economizer system required in conformance with Articles 5.2.2.7.	☐ Yes ☐ No			
Air economizer has been designed to Article 5.2.2.8.☐ or Article 5.2.2.9.☐ (pick one)	☐ Yes ☐ No			
Insulation and protection of piping systems for HVAC systems in conformance with Subsection 5.2.5.	☐ Yes ☐ No			
Temperature controls been designed in conformance with Subsection 5.2.8.	☐ Yes ☐ No			
Type of ventilation system operation	☐ Continuous ☐ Non-continuous			
Percentage of outdoor air at design airflow conditions (%)	_____			
Energy recovery system required	☐ Yes ☐ No			
Energy recovery system efficiency (%)	_____			

Please provide details of proposed HVAC equipment and component specifications for the building, using the table below:
(Please note if more space is needed, please submit a separate list using the same format) Table 5.2.12.1

Component or Equipment	**Cooling or Heating Capacity, kW**	**Standard**	**Rating Conditions**	**Performance Rating**

Part 6 – Service Water Systems

	Proposed	**NECB Limit**
Shower heads (L/min)		≤ 7.6 L/min
Lavatories (L/min)		≤ Private 5.7 L/min ≤ Public 1.9 L/min
Service water piping insulated in conformance with Subsection 6.2.3	☐ Yes ☐ No	

Please provide details of the proposed service water heating equipment specifications for the building, using the table below:
(Please note if more space is needed, please submit a separate list using the same format) Table 6.2.2.1.

Component or Equipment	**Input**	**Capacity (L)**	**V_t (L)**	**Input/V_t (W/L)**	**Standard**	**Rating Conditions**	**Rated Performance**

Part 7 – Power Systems

	Proposed	NECB Limit
Load carrying capacity (kVA)		☐< 250 kVA ☐ Monitoring system provided

Compliance Confirmation

Effective thermal transmittance including the effects of thermal bridging has been calculated as per Article 3.1.1.7	☐ Yes	☐ No
The building envelope meets air leakage requirements from Article 3.2.4.1	☐ Yes	☐ No
Building energy prescriptive compliance meets NECB 2020	☐ Yes	☐ No

Declaration

Signature of Coordinating NECB Design Professional who has completed this form:

_____ _____

Signature Date

PROJECT SUMMARY
NATIONAL ENERGY CODE OF CANADA FOR BUILDINGS

This document outlines project compliance with National Energy Code for Building (NECB). The project summary, including NECB contact information, and the compliance report for the chosen path are to be submitted as part of the building and development permit application for new buildings and additions that require NECB compliance.

Project Information

Project Address/Land Location: _____

Municipality: _____

Coordinating NECB Design Professional Information (The coordinating NECB design professional will be responsible for coordinating the design work associated with energy compliance and the building and development permit process.)

Name: _____

Registered Business Name: _____

Address: _____
Unit Number Street City Province Postal Code

Email: _____ Phone/Cell # : _____

Basic Building Information

Building use: _____

Type of construction: ☐ New Construction ☐ Addition ☐ Tenant Fit – Out

If addition, NECB compliance for: ☐ Addition only ☐ Addition & existing

Building information: ☐ Heated ☐ Semi – heated

Climate Zone for municipality: 7A (HDD below 18ºC):
(HDD below 15ºC):

Compliance Path Summary

Please indicate the compliance path for each Part below. The chosen compliance path requires the associated reports to be completed and submitted.

Note: *The Energy Code Regulations* specifies the Energy Performance Tier from NECB Part 10 that must be met as the minimum level of performance. While 'Tier 1' is in force, Prescriptive and Trade-Off compliance paths continue to be accepted by *Muni*Code Services Ltd. without the need for a formal 'Alternative Solution' (Tier 1 from Part 10 is equal to the prescriptive requirements of NECB).

Part 3: Building Envelope:	☐ **Prescriptive**	or	☐ **Trade-Off**	or	☐ **Energy Model**
Part 4: Lighting:	☐ **Prescriptive**	or	☐ **Trade-Off**	or	☐ **Energy Model**
Part 5: Heating, Ventilation and Air Conditioning:	☐ **Prescriptive**	or			☐ **Energy Model**
Part 6: Service Water Heating Systems:	☐ **Prescriptive**	or			☐ **Energy Model**
Part 7: Electrical Power Systems and Motors:	☐ **Prescriptive**	or			☐ **Energy Model**

Part 10*: Tiered Performance Energy Model: ☐ **Tier 1** ☐ **Tier 2** ☐ **Tier 3** ☐ **Tier 4**

* Modeling to be in conformance with Part 8, but meeting the Energy Performance Tier from Part 10, as specified in *The Energy Code Regulations*

Declaration

Signature of Coordinating NECB Design Professional who has completed this form:

_____ _____
Signature Date

TIERED PERFORMANCE REPORT (NECB PART 10)
NATIONAL ENERGY CODE OF CANADA FOR BUILDINGS

Project Information

Project Address/Land Location _____ Municipality _____

Owner Name/Project Name _____ Coordinating NECB Design Professional Name _____

Compliance Requirements

The Energy Code Regulations specifies the Tier from NECB Part 10 that must be met as the minimum level of performance. A performance model report is to be submitted as part of the building and development permit application (BPA). If construction on site differs significantly from the approved set of plans and model, a revised performance report and model report are required to be submitted for review.

The Project Summary and Tiered Performance Report shall be accompanied by:

- Sealed energy model report that includes all relevant information as required by **NECB Division C – Article 2.2.2.8**

Software and Model Information

Software used _____

Confirmation that software is ANSI/ASHRAE 140 compliant ☐ **Yes** ☐ **No**

Weather file _____

Climate zone **7A**

Part 3 Modeled as:	**Part 4 Modeled as:**	**Part 5 Modeled as:**	**Part 6 Modeled as:**	**Part 7 Modeled as:**
☐ **Per design or**	☐ **Per design or**	☐ **Per design or**	☐ **Per design or**	☐ **Per design or**
☐ **Part 3 Prescriptive**	☐ **Part 4 Prescriptive**	☐ **Part 5 Prescriptive**	☐ **Part 6 Prescriptive**	☐ **Part 7 Prescriptive**

Building Energy Summary

	Proposed	**Reference**
Annual Energy Consumption (MJ)		
Energy Performance Tier Achieved:	☐ Tier 1 ☐ Tier 2	☐ Tier 3 ☐ Tier 4

Compliance Confirmation

Reference building in model has been updated to NECB 2020	☐ Yes ☐ No
Building energy performance model is in compliance with Articles 8.4.1.2. & 10.1.2.1	☐ Yes ☐ No
Building energy performance model corresponds to permit application drawing set	☐ Yes ☐ No
Back-up HVAC and SWH systems have been designed to Section 5.2. and 6.2.	☐ Yes ☐ No ☐ N/A – no back-up
Protection of insulation materials is in compliance with Article 3.2.1.1.	☐ Yes ☐ No
Air leakage is in compliance with Subsection 3.2.4.	☐ Yes ☐ No
Modeling of air leakage is in compliance with Articles 8.4.2.9, 8.4.3.3 and Sentence 8.4.4.3.(6)	☐ Yes ☐ No
Effective Thermal Transmittance (including thermal bridging calculations) are in compliance with Article 3.1.1.5 and 3.1.1.7	☐ Yes ☐ No

Thermal Bridging - Design Professional to provide brief description of how thermal bridging was evaluated:

Declaration

Signature of Coordinating NECB Design Professional who has completed this form:

Signature _____ Date _____

TRADE-OFF REPORT
NATIONAL ENERGY CODE OF CANADA FOR BUILDINGS

Project Information	
Project Address/Land Location	Municipality
Owner Name/Project Name	Coordinating NECB Design Professional Name

Note: *The Energy Code Regulations* specifies the Energy Performance Tier from NECB Part 10 that must be met as the minimum level of performance. While 'Tier 1' is in force, the Trade-Off compliance path continues to be accepted by *Muni*Code Services Ltd. without the need for a formal 'Alternative Solution' (Tier 1 from Part 10 is equal to the prescriptive/trade-off requirements of NECB). However, when higher Tiers are in force, this Trade-Off Report may only be used for alteration applications in order to demonstrate continued compliance for NECB Parts that had been previously modeled on prescriptive assumptions (see NECB Sentence 10.1.1.2.(2)).

Part 3 – Building Envelope *Not applicable to additions or semi-heated buildings as per Sentence 3.3.1.1.(2)			
General	**Proposed**	**NECB Limit**	
Gross wall area (m^2)		N/A	
Total window area (m^2)		N/A	
Total exterior door area (m^2)		N/A	
Gross roof area (m^2)		N/A	
Total skylight area (m^2)		N/A	
Exposed floor areas (m^2)		N/A	
		HDD @ 18°	**HDD @ 15°**
Overall Thermal Transmittance – U ($W/(m^2 \cdot K)$) FDWR (%)		N/A	N/A
Opaque walls (above ground)		N/A	N/A
Opaque walls (in contact with ground)		≤ 0.284	≤ 0.284
Roofs (above ground)		N/A	N/A
Roofs (in contact with ground)		≤ 0.284	≤ 0.284
Floors (above ground)		N/A	N/A
Air Leakage ($L/(s \cdot m^2)$) Floors (in contact with ground)		≤ 0.757 for 1.2m	≤ 0.757 for 1.2m
Fixed fenestration and curtain walls		≤ 0.20	
Operable windows, skylights, and doors		≤ 0.5	
Overhead doors		≤ 2	
Operable revolving and auto sliding doors		≤ 5	
	Proposed ($U_{ip}*A_{ip}$)	**Reference** ($U_{ir}*A_{ir}$)	
Vertical (above ground portions)			
Horizontal (above ground portions)			

Compliance Confirmation	
$U_{ip}A_{ip}$ is less than or equal to $U_{ir}A_{ir}$ in conformance with NECB Article 3.3.1.2	☐ Yes ☐ No
Effective thermal transmittance including the effects of thermal bridging has been calculated as per Article 3.1.1.7	☐ Yes ☐ No
Have you supplied the sealed calculations determining the above values	☐ Yes ☐ No

Part 4 – Lighting (Note: Trade-off applies to interior lighting and controls only. Exterior lighting fields provided to avoid filling out on Prescriptive Form)			
Prescriptive Exterior Lighting Power: (all values below to be in **Watts**)			
Specific Lighting Allowance _____ + Portion of Basic Site Allowance _____ = {Table 4.2.3.1-C} (If multiple specific applications used in design, provide a table showing all}		Specific Total Exterior ≥ Allowance _____	Specific Installed Lighting _____
Sum of General Lighting Allowances _____ + Remaining Basic Allowance _____ = {Table 4.2.3.1-D}		General Total Exterior ≥ Allowance _____	General Installed Lighting _____
Other Exterior Lighting Allowance _____ + Remaining Basic Allowance _____ = {Table 4.2.3.1-E}		Other Exterior ≥ Allowance _____	Other Installed Lighting _____
	Basic Site Allowance _____ {Table 4.2.3.1-B} (Sum of the portions of basic site allowance above are not to exceed this amount)		**Total Exterior Lighting Installed** _____
		Exterior lighting controls are designed in accordance with Subsection 4.2.4.	☐ Yes ☐ No
		Exterior installed Lighting Power displayed in table format on the drawings	☐ Yes ☐ No
		Exterior lighting controls provided in a table format on the drawings	☐ Yes ☐ No
Trade-Off Interior Lighting Power: (Proposed)		IILE - Installed Interior Light Energy (kW·h/a)	
		ILEA -Interior Lighting Energy Allowance (kW·h/a) (Reference)	
		IILE is less than or equal to ILEA in conformance with NECB Article 4.3.1.3.	☐ Yes ☐ No
		Have you supplied the sealed calculations determining the above values	☐ Yes ☐ No

Compliance Confirmation		
The building envelope meets air leakage requirements from Article 3.2.4.1	☐ Yes	☐ No
Building energy trade-off compliance meets NECB 2020	☐ Yes	☐ No

Declaration

Signature of Coordinating NECB Design Professional who has completed this form:

_____ _____

Signature Date