Introduction

Section 9.36 of the National Building Code 2023 (AB Edition) details new energy efficiency requirements for housing and small buildings. It includes four options for compliance: Prescriptive, Trade-Off, Performance Compliance or NECB 2020.

To facilitate compliance, Town of Cochrane has created the 9.36 Project Summary form outlining the requirements and compliance options for NBC(AE) 2023 Section 9.36. This guide provides information and directions on how to complete this form. A completed 9.36 Project Summary form is required for all relevant Building Permit Applications.

Completing the 9.36 Project Summary Form

Basic Building Information

Important information that is required for all buildings seeking compliance with NBC(AE) 2023 Division B Part 9.36. must be completed for all projects and be consistent with the accompanying drawings.

Climate Zone Cochrane has 5200 HDD (climate zone 7A). If you have suitable climate data that shows otherwise, please supply it with your application.

Building Area

Building area means the greatest horizontal area of a *building* above *grade* within the outside surface of exterior walls or within the outside surface of exterior walls and the centre line of *firewalls*. Defined by NBC(AE)2023 Div. A Part 1.4.1.2.

Selecting a Compliance Path

Select only one compliance path; multiple compliance paths are not permitted on a single building.
Specific requirements associated with the individual compliance paths are found on the form and explained in greater detail below.

Prescriptive Compliance Path

This section describes the minimum information that must be included for prescriptive compliance. It may take the form of notes or additional drawings. If the proposed assemblies and components meet the required values of 9.36.2 – 9.36.4 you will have demonstrated compliance.

A list of drawing details to illustrate how air barrier and insulation continuity at joints, transitions and changes in assemblies is also included. These details will be specific to the chosen air barrier/insulation system.

Trade-off Path

This path allows applicants to 'trade-off' building envelope requirements, subject to limitations found in NBC(AE) 2023 9.36.2.11.

Demonstrating compliance under the tradeoff path requires all the information for prescriptive compliance, with the additional requirements of;

- Trade off calculations must be submitted (Calculator Provided)
- Using a hatch, shading, or other means, the trade-off areas must be indicated on the accompanying drawing submission.

Performance Compliance Path

Performance Compliance path employs a computer simulation software or calculations to compare a proposed design with a hypothetical reference building to show that the proposed design will use less energy over the course of an operational year. NBC(AE) 2023 9.36.5 outlines the procedures for performing this comparison.

Performance Compliance Path Summary

The 9.36 Project Summary requires several values to be provided in order to allow verification of the model inputs. A brief outline of some of these inputs and their requirements follows:

Reference Model

The reference model must be constructed according to 9.36.5.13. – 9.36.5.16 In the Reference building
Airtightness, **SHGC**, **Thermal Mass** and **Solar Absorbance** must use values specified in 9.36.5.14.
FDWR for the Reference building is based on the FDWR of the proposed building, according the to the following table;

Buildings Containing 1 or 2 Dwelling Units	
Actual FDWR	FDWR for Reference Model
<17	17
17-22	Match actual FDWR
>22	22
Buildings containing More Than 2 Dwelling units	
Actual FDWR	FDWR for Reference Model
0-40	Match actual FDWR
>40	40
NOTE: For the purposes of the reference building, the area of glazing arrived at above shall be divided equally among the elevations of the building in the model. The following boxes on the form allow you to indicate the areas entered in the model for each elevation.	

HVAC System efficiency is to be indicated based on the required efficiency rating from table 9.36.3.10 for the type and size of equipment specified in the proposed design. If the proposed design equipment is not included in the table, then the reference house should be based on a gas fired warm air furnace with an efficiency of 92%.

Proposed Model

The airtightness used in the energy model calculations for the proposed house shall be
a) 2.5 air changes per hour where it can be shown that the *air barrier system* is constructed in accordance with Subsection 9.25.3. and Articles 9.36.2.9. and 9.36.2.10., or the airtightness determined in accordance with Sentence 9.36.6.3.(1) expressed as the number of air changes per hour at 50 Pa pressure differential with a pressure exponent determined through a Blower door test.

SHGC will be based on the specification of the actual windows proposed for the house and calculated in accordance with 9.36.2-9.36.4.

Thermal Mass can be calculated for the proposed house in accordance with 9.36.5.14 or the default value of 0.06 may be used.

FDWR will be entered as the actual value calculated, distributed in the model per the design. The following boxes on the form allow you to indicate the areas for each elevation and should reflect the drawings.

HVAC System Efficiency will be the efficiency of the actual specified equipment.

Space Cooling Efficiency shall be the efficiency of the actual proposed equipment if installed.

Service Water Heater Efficiency will be the efficiency of the actual specified equipment.

Ventilation Rate may be set at a proposed value but may not be less than that derived from table 9.32.3.3 based on the number of bedrooms.

Performance Data Summary

Enter the energy use values generated by the reference and proposed models. Compliance is demonstrated when the Calculated Energy use is equal to or less than the Target Energy Use.

Software

The software used to perform the energy simulation will be detailed here. No specific software package is mandated, however whichever software is chosen must have been tested to ANSI/ASHRAE 140 and have any changes or variations made to/within the software listed.

Declaration

The code requires a declaration be made that the calculations have been completed in compliance with all the rules outlined in 9.36.5. In order that the Safety Codes officer can discuss anything arising from the calculations contact information shall be provided for the person who prepared them.
Should the project be particularly complex, or the calculations have significant deficiencies, the Safety Codes Officer may request a professional stamp and signature accompanying the calculations.