Exhibit E – Reference Building (RB) Modeling Information

Following National Energy Code of Canada for Buildings 2011

1) General Building Information

   a) Building Location Zone (Division B - Appendix A. - Table A.3.2.2.2.)

      What Building Location Zone is the proposed building located in? _____

   b) Default Loads and Operating Schedules by Building Type (Division B - Appendix A. - Table A.8.4.3.3.(1).)
      Which zoning method was used?

      Building Type method ***or*** _____

      Space Type method _____

   c) If Building Type method:

      Which Building Type was selected? _____

      If Space Type method:

      Please provide a list of zones and corresponding space types using the following table header:

Zone	Space Type	Occupancy Density	Peak receptacle Load	Service Water Heating Load	Operating Schedule

2) Building Envelope Details (NECB Division B – Article 8.4.4.4)

   a) Spaces Heated to Different Temperatures (Article 3.2.1.3.)

      What U-value was modelled for building assemblies separating conditioned spaces that differ by more than 10°C? _____

   b) Allowable Fenestration and Door Area (Article 3.2.1.4.)

      What is the total vertical fenestration and door area to gross wall area ratio (FDWR) modelled? _____

      What is the total skylight to gross roof area modelled? _____

c) Thermal Characteristics of Above-ground Opaque Building Assemblies (Article 3.2.2.2.)
What U-value was modelled for the following above-ground opaque building assemblies?

Walls: _____

Roofs: _____

Floors: _____

d) Thermal Characteristics of Fenestration (Article 3.2.2.3.)

What U-value was modelled for fenestration? _____

What SHGC was modelled for fenestration? _____

What U-value was modelled for skylights? _____

What SHGC was modelled for skylights? _____

e) Thermal Characteristics of Doors and Access Hatches (Article 3.2.2.4.)

What U-value was modelled for doors? _____

What is the door area to gross wall area ratio modelled? _____

f) Thermal Characteristics of Assemblies in Contact with the Ground (Article 3.2.3.1.)

Walls: _____

Roofs: _____

Floors: _____

g) Air Leakage - Fenestration (Article 3.2.4.3.)
What air leakage rate was modeled for the following?

Metal and glass curtain walls: _____

Fixed windows and skylights _____

Operable windows and skylights _____

h) Air Leakage - Doors (Article 3.2.4.3.)
What air leakage rate was modeled for the following?

Doors: _____

Revolving and automatic commercial sliding doors: _____

Main entry exterior doors: _____

3) Lighting Details (NECB Division B – Article 8.4.4.6.)

a) Installed Interior Lighting Power (Article 4.2.1.3.)
Which calculation method of interior lighting power allowance was used?

Building area method (Article 4.2.1.5) ***or*** _____

Space-by-space method (Article 4.2.1.6) _____

b) If Article 4.2.1.5. was selected:

What building type was selected? _____

What lighting power density was modeled? _____

If Article 4.2.1.6. was selected:
Please provide a list of zones and corresponding lighting inputs using the following table header:

Zone	Space Type	Lighting Power Density	Occupancy Sensor Adjustment

4) Purchased Energy (NECB Division B – Article 8.4.4.7.)

Was purchased energy modeled (Y/N)? _____

Was Sentence 8.4.4.7.(1) followed for the primary heating system? _____

Was Sentence 8.4.4.7.(2) followed for the primary cooling system? _____

Was Sentence 8.4.4.7.(3) followed for the primary service water heating system? _____

5) HVAC Systems (NECB Division B – Article 8.4.4.8 – 8.4.4.20 & 8.4.4.22)

a) HVAC System Selection (Table 8.4.4.8A. and Table 8.4.4.8B.)
Using Table 8.4.4.8.A. for HVAC System Selection, please provide a list of all systems used indicating the following information for each:

What Building or Space Type was selected: _____

What Size of Building or Space was used: _____

What HVAC System in Table 8.4.4.8.B. was selected: _____

A list of all systems and relevant inputs corresponding to the following sections b), c), d), e), f) and g) as applicable

b) Heat Pumps (Article 8.4.4.14.)

Does the proposed building's HVAC system include an air-source, water-source or ground-source heat pump? _____

If yes, was Sentence 8.4.4.14.(2) followed for the reference building? _____

c) Unitary and Package HVAC Equipment Performance Requirements (Article 5.2.12.1.)

Do unitary and packaged HVAC equipment and components comply with the performance requirements in Table 5.2.12.1.? _____

d) Fans (Article 8.4.4.18)

Was fan type and power for each system modeled following Article 8.4.4.18.? _____

e) Supply Air Systems (Article 8.4.4.19.)

Was supply air volume and static pressure for each system modelled following Article 8.4.4.19.? _____

f) Heat-Recovery System (Article 8.4.4.20.)

Does the proposed building's HVAC system utilize a heat-recovery system (Y/N)? _____

If yes, was Article 8.4.4.20. followed for the reference building? _____

g) Part-Load Performance Curves (Article 8.4.4.22.)

Were part-load performance curves for the reference building systems calculated in accordance with Tables 8.4.4.22.A. to 8.4.4.22.G., as applicable? _____

6) Service Water Heating Systems (Article 8.4.4.21)

Is the service water heating system modeled being identical to that of the proposed building (Y/N)? _____

If no, please indicate the energy type of the reference service water heating system:

Air-, water- or ground source heat pump, Sentence 8.4.4.21.(2): _____

Immersion coil supplied by a boiler, Sentence 8.4.4.21.(3): _____

More than one energy type is used by the proposed building Sentence 8.4.4.21.(4): _____

Please provide a list of all service water heating equipment using the following table header:

Area Served	Storage Capacity	Power Input	Efficiency	Energy Type