



## **Solar Collectors Mounted to Buildings or Structures Information Guide and Process**

### **Overview**

The City of Kitchener requires a permit be obtained for any solar collector with an aggregate face area of 5 sq. m. or greater that is mounted to a building or structure.

Existing buildings must be evaluated for additional loading the solar panels apply to the roof assembly. Solar panels may not only add dead loads to the structure, but they can also cause additional wind uplift and live loads (snow accumulation due to placement of panels). Transfer of loads through the panel mounting systems may cause a relocation of where and how the loads are applied to the roof assembly (uniform and/or point loads). If insufficient capacity is identified systems would have to be strengthened.

Some building owners may be tempted to install a system without proper review however proper steps must be taken to ensure the protection of your building and the safety of its occupants.

### **Requirements for a building permit application Single Family and Duplex Installations**

1. Plan View:
  - Location of panels on building
2. Building system review: (By Professional Engineer of Ontario)
  - Identify existing structural system including sizes and spacing
  - Letter indicating existing roof and supporting structure are adequate to support loads from new solar collectors
3. Supplementary construction (if upgrades are required): (By Professional Engineer of Ontario)
  - Identify size and location of any supports or bracing to be provided to existing systems
  - Prescribe size and location of all new supports
  - Confirm all loads are sufficiently transferred to footings
4. Fastening system info: (By Professional Engineer of Ontario)
  - Panel mounting detail
  - Size and spacing of fasteners/rails/supports
  - Location of panels on existing structure along with corresponding location of supporting elements in these areas
5. Pre-manufactured mounting rail system manufacture specifications
6. Solar panel manufacture specifications

### **Requirements for a building permit application Multi-residential, Institutional, Commercial and Industrial**

1. Plan View:
  - Location of panels on building
2. Building system review: (By Professional Engineer of Ontario)
  - Identify existing structural system including sizes and spacing
  - Letter indicating existing roof and supporting structure are adequate to support loads from new solar collectors

3. Supplementary construction (if upgrades are required): (By Professional Engineer of Ontario)
  - Identify size and location of any supports or bracing to be provided to existing systems.
  - Prescribe size and location of all new supports
  - Confirm all loads are sufficiently transferred to footings.
4. Fastening system info: (By Professional Engineer of Ontario)
  - Panel mounting detail.
  - Size and spacing of fasteners/rails/supports
  - Location of panels on existing structure along with corresponding location of supporting elements in these areas
5. Mounting rail system details: (By Professional Engineer of Ontario)
6. Solar panel manufacture specifications

**\*All documentation must bear the seal of the Professional Engineer.**

7. Upon completion of the solar installation a Professional Engineer of Ontario is required to review the installation and provide a certification letter to the Building Inspector.

### **Where to apply for a building permit**

To apply for a building permit please bring all required drawings to the 5<sup>th</sup> floor at City Hall. City Hall is located at 200 King St W, Kitchener, Ontario.

### **Office hours**

Monday to Friday 8:30am - 5:00pm

### **Cost of building permit**

Please see our fee schedule online for our current building permit rates. There is an additional charge of \$250.00 for Single Family and Duplex solar permits and \$1000.00 for most other solar permits, which is refunded automatically after the final building inspection has been passed. The fees cover the review of drawings for building code compliance, the building permit and building inspections. We accept cash, cheque and debit as methods of payment.

### **Time**

Once a complete permit application is made the permit will be reviewed within a maximum of 10 business days for a Single Family Dwelling and Duplex and a maximum of 20 business days for most other buildings.

### **Typical Required Building Inspections**

Building inspections are booked through our automated phone system or online. Please schedule in advance, same day service is only available when booked before 8:00am the day of the inspection. Required inspections include;

- Structural Wood Frame inspection
- Final Building inspection

### **Important Number to know**

- Electrical Safety Authority: 1-877-ESA-SAFE (1-877-372-7233)

### **Don't Forget**

- Build Safe
- Please construct between 7am and 7pm

### **Any Questions?**

Phone: 519-741-2433

Email: [building@kitchener.ca](mailto:building@kitchener.ca)

Web: [www.kitchener.ca/building](http://www.kitchener.ca/building)