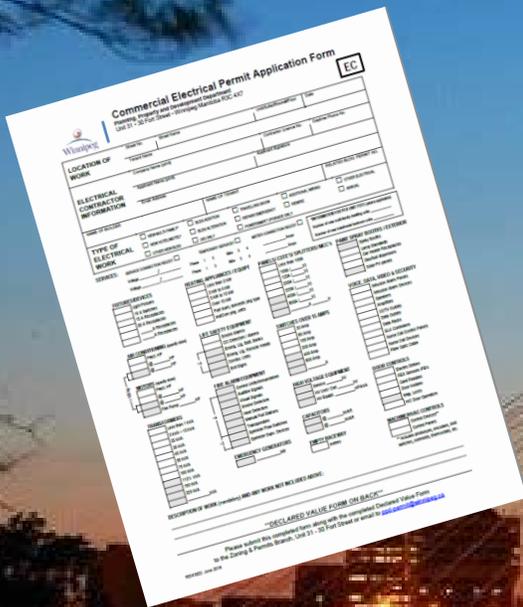




PLANNING, PROPERTY
AND DEVELOPMENT
DEPARTMENT

HELP US HELP YOU!

A guide to the requirements for
Commercial Electrical Permit Applications
in the City of Winnipeg



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Note:

This booklet has been written to:

1. Provide a guide for commercial electrical contractors as to what work descriptions and documentation are expected and required from the contractor for standalone commercial electrical (EC) permit applications so Plan Examination can perform a review of the proposed installation.
2. To help expedite the standalone commercial electrical (EC) permit review process by providing contractors with the knowledge to ensure adequate work descriptions and submission of documentation are provided to the Plan Examination Branch.

The applicable sections of this booklet should be reviewed prior to submitting a permit application. Please note that this booklet is not intended to cover all permit application scenarios.

Every effort has been made to ensure the accuracy of information contained in this publication. However, in the event of a discrepancy between this publication and the governing City of Winnipeg By-law, the By-law will take precedence.

How can my electrical permit be issued quicker?

Standalone commercial electrical permits (i.e.: those that do not require a related building permit), are typically issued sooner when an adequate description of the project is provided and the required documentation is included with the application submission.

Contractors can help ensure the quickest possible route to issuance for their permit applications by providing all required documentation to the City of Winnipeg at the time of permit application. The following pages detail the specific documents and information required for various types of electrical equipment installations.

How to Use this Booklet

The purpose of this booklet is to outline the document submittal requirements for different types of proposed electrical installations. It is based on the legally enforced requirements in the Winnipeg Electrical By-law (WEB) and, in the case of any discrepancies, the WEB is authoritative.

Read the general document submittal notes on the following page and then refer to the specific requirements for each permit application. All of the installations noted on the following pages require review by the Electrical Plan Examination Branch.

Note that some applications will require documents listed under multiple categories. For example, if you are installing a new 600A service, a 225kVA transformer and a new fire alarm system, you must refer to the "Services, 400A or greater," "Transformers, greater than 100kVA..." and "Fire Alarm Equipment" categories to determine all the documentation required.

The document requirements listed in this booklet should not be deemed as all-inclusive for every potential scenario; additional documentation may be required depending on the complexity of the work.

Tips for Document Submittal

Document Identification

- ◆ All documents submitted must bear the project address and project name.
- ◆ To avoid delay of permit issuance and for obvious organizational purposes, it is recommended that all document submissions accompany the permit application form. This can be done electronically by attaching it to your “Permits Online” application or via hard copy to our permits office. ALWAYS KEEP A COPY OF YOUR SUBMITTED DOCUMENTS FOR YOURSELF.
- ◆ Any documents submitted after the permit application must also bear the City of Winnipeg file number. This number can be found on any City of Winnipeg document regarding the project. Alternatively, upload the documents online via the Permits Online portal. If the file number is not provided on your documents, the issuance of your permit could be unnecessarily delayed as the submitted documents may have to be returned to you for identification.

DO NOT submit plans and other related documents ahead of your application as we have no means to track these documents to ensure they are attached to the appropriate future application.

Engineered Plans

[Winnipeg Electrical By-law](#) Rule 2-000 details where engineering is required, some of which are iterated in this booklet. When drawings are submitted under the seal of an engineer, a completed [Professional Designer's Certificate](#) and [Owner Statement](#) are required.

Description of Work

It is not uncommon for one building to have multiple active electrical permits. For this reason an accurate and detailed description of work must be provided. **All descriptions should indicate the tenant/occupant for whom the work is being done** in addition to the specific information listed for each category on the subsequent pages. When discussing your permit application with City staff, this description will help ensure that we are referencing the correct permit in the absence of a file number.

The following pages provide an itemized list of description and document requirements for permit applications for specific electrical items.

Multi-Residential Buildings

DESCRIPTION REQUIREMENTS:

- a) A general description of the extent of the electrical work, including the number of existing and new suites and storeys in the building
- b) If a new service is being installed, state why, e.g.: addition of new suites, conversion to electric heat, etc.

DOCUMENT REQUIREMENTS:

- a) A detailed scope of electrical work (in point form).
- b) A scope of building work from the building owner (in point form).
- c) A circuited plan of all typical suites if the electrical renovations are significant or if new (additional) suites are being created.
- d) A suite panelboard schedule when new suite panels are being installed.
- e) Service calculations when a new service is being installed or to demonstrate the adequacy of the existing service when additional load is being added to it (e.g.: electric heat, additional suites, etc.). Use worksheet available under "Downloadable Forms & Checklists" at <https://winnipeg.ca/ppd/InfoCentre/Electrical/default.stm>.
- f) Suite calculations. Use worksheet available under "Downloadable Forms & Checklists" at <https://winnipeg.ca/ppd/InfoCentre/Electrical/default.stm>.
- g) A single line diagram and a site plan if a new service 400 Amps or greater is being installed (see "Services, 400A or greater" for detailed single line diagram and plan requirements).
- h) See section titled "Fire Alarm Equipment" for additional requirements for the installation of fire alarm devices.
- i) See section titled "Emergency Lighting and Exit Signs" if building upgrades to these systems are being undertaken.
- j) Installations greater than 750 kVA (ie: 721A at 600V/3 Φ or 2083A at 208V/3 Φ) are required to be **submitted under the seal of an engineer** and must be accompanied by a [Professional Designer's Certificate](#) & [Owner Statement](#).

Services, 400A or greater

SAMPLE DESCRIPTION:

"Install a ___A, ___V [O/H or U/G] service due to [state **why** a new service is being installed without any related building work being done, eg: new tenant, additional load (specify), repair]."

DOCUMENT REQUIREMENTS:

- a) A single line diagram detailing the installation from the customer service point (CSTE, utility transformer, O/H service mast, etc.) to any distribution modifications included in the application. The single line diagram must include:
 - i) All conductor sizes and types and how they are being installed (U/G, in conduit, etc.)
 - ii) Ampere ratings of all equipment (switches, splitters, panels, etc.; existing and new)
 - iii) If there are additional existing remaining services to the building, their size, voltage and quantity should be indicated.
- b) A site/building plan showing the locations of the utility transformer, customer service point, routing of service conductors, service switch and all distribution equipment.
- c) For new services for multi-residential buildings where no engineer is involved, provide demand calculations (service and suite calculations) as per items e) and f) in the "Multi-Residential Buildings" section of this booklet.
- d) See section titled "High Voltage Equipment" for installations exceeding 750 Volts.
- e) Applications for services greater than 750 kVA (ie: 721A at 600V/3 ϕ or 2083A at 208V/3 ϕ) are required to be **submitted under the seal of an engineer** and must be accompanied by a [Professional Designer's Certificate & Owner Statement](#).
- f) See section titled "Hazardous Locations" for installations in electrically hazardous locations.

High Voltage Equipment

DESCRIPTION REQUIREMENTS:

- a) Describe the installation and its purpose.
- b) State the voltage of the equipment.

DOCUMENT REQUIREMENTS:

- a) Drawings **must be sealed by an engineer** and must include:
 - i) A plan indicating the location of all applicable equipment.
 - ii) A single line drawing indicating:
 - I. Ampere and voltage ratings of all equipment, existing and new.
 - II. Conductor sizes and types and how they are being installed (free air, in conduit, multi-conductor cable, etc.).
 - iii) A plan showing grounding and bonding details.
- b) A completed [Professional Designer's Certificate](#) sealed, signed and dated by the engineer.
- c) A completed [Owner Statement](#) signed by the building owner.

Panelboards or Switches, 400A or greater

SAMPLE DESCRIPTION:

"Install [qty.] new ___A, ___V panel(s)/switch(es) to accommodate [*state why the new panel(s)/switch(es) is/are being installed (eg: additional load, replacement of existing, etc.)*]"

DOCUMENT REQUIREMENTS:

- a) A single line diagram detailing the installation including all modifications to existing distribution equipment. The single line diagram must include:
 - i) Ampere and voltage rating(s) of the source(s) of supply
 - ii) All conductor sizes and types and how they are being installed (free air, in conduit, multi-conductor cable, etc.)
 - iii) Ampere ratings of all equipment (switches, splitters, panels, etc., existing and new)
- b) See section titled "High Voltage Equipment" for installations exceeding 750 Volts.
- c) Installations greater than 750 kVA (ie: 721A at 600V/3 ϕ or 2083A at 208V/3 ϕ) are required to be **submitted under the seal of an engineer** and must be accompanied by a [Professional Designer's Certificate](#) & [Owner Statement](#).
- d) See section titled "Hazardous Locations" for installations in electrically hazardous locations.

Transformers, Motors, A/C Units greater than 100 kVA/hp/kW

SAMPLE DESCRIPTIONS:

"Install a ___kVA, 600V, 3ph, 3W:120/208V, 3ph, 4W transformer to accommodate [describe why you are installing the transformer]."

"Install a ___HP, ___V motor for [describe the function of the motor] in an existing [describe tenant] facility."

"Install new ___kW, ___V A/C unit [describe why] for an existing [describe tenant]."

DOCUMENT REQUIREMENTS:

- a) A single line diagram detailing the installation including any modifications to existing distribution equipment. The single line diagram must include:
 - i) Ampere and voltage rating(s) of the source(s) of supply for the new equipment.
 - ii) All conductor sizes and types and how they are being installed (free air, in conduit, multi-conductor cable, etc.)
 - iii) HP, kW, kVA, and/or ampere ratings of all equipment, existing and new.
- b) See section titled "High Voltage Equipment" for installations exceeding 750 Volts.
- c) Applications for installations in systems greater than 750 kVA (ie: 721A at 600V/3 Φ or 2083A at 208V/3 Φ) are required to be **submitted under the seal of an engineer** and must be accompanied by a [Professional Designer's Certificate](#) & [Owner Statement](#).
- d) See section titled "Hazardous Locations" for installations in electrically hazardous locations.

Generators

A related development permit or building permit may also be required.* Provide the development or building permit number on your application, when applicable.

SAMPLE DESCRIPTION:

"Install a [size in kW], ___V [life safety/non-life safety] generator installed in [describe where unit is located], to provide emergency power to [describe loads]. Also installing a ___A, ___V transfer switch located [describe location]."

DOCUMENT REQUIREMENTS:

- a) A plan indicating the locations of all applicable equipment (eg: generator, control panel, routing of conductors, transfer switch(es), DC emergency lighting, etc.).
- b) A single line drawing indicating:
 - i) Ampere and voltage ratings of all equipment, existing and new.
 - ii) Conductor sizes and types and how they are being installed (free air, in conduit, multi-conductor cable, direct buried, etc.).
- c) Applications for installation of generators supplying life safety loads or for generators that are greater than 50 kW are required to be **submitted under the seal of an engineer** and must be accompanied by a [Professional Designer's Certificate](#) & [Owner Statement](#).

*For generators located outdoors, a Development Permit for zoning purposes is required; for generators located on rooftops, a Building Permit is required.

Solar PV Installations

SAMPLE DESCRIPTION:

"Install a [enter size] kW, ____V [roof/ground mounted] solar PV system. Also upgrading existing ____A, ____V [O/H or U/G] service to ____A, ____V."

DOCUMENT REQUIRMENTS:

- a) Drawings **must be sealed by an engineer.**
 - i) A single line diagram detailing the solar PV installation from the connection point to the utility service. The single line diagram must include:
 - I. All conductor sizes and types, voltage ratings and how they are being installed (in conduit, free air, etc.).
 - II. Voltage and ampere ratings of all equipment (switches, splitters, panels, combiners, inverters, etc.).
 - III. If there are additional existing remaining services to the building, their size, voltage and quantity should be indicated.
 - ii) A site/building plan showing the physical locations of all equipment including the solar panels, inverters, combiners, utility disconnect, main electrical service, panels, utility meter, disconnect switches, service box, etc.
 - iii) Specification sheets of all solar PV system equipment.
 - iv) A completed [Professional Designer's Certificate](#) sealed, signed and dated by the engineer.
 - v) A completed [Owner Statement](#) signed by the building owner.

Capacitors

SAMPLE DESCRIPTION:

"Install a [enter size] kVAR, ____V capacitor bank for power factor correction for an existing [describe tenant]."

DOCUMENT REQUIREMENTS:

- a) Drawings **must be sealed by an engineer.**
 - i) A plan indicating the location of supply, the route of conductors and the location of the capacitor.
 - ii) A single line drawing indicating:
 - i. Ampere and voltage rating of the source of supply for the new capacitor.
 - ii. Conductor sizes and types and how they are being installed (free air, in conduit, multi-conductor cable, etc.).
 - iii. kVA rating of the capacitor.

(Note: If the information required for the single line diagram can be adequately indicated on the plan drawing, an additional single line may not be required.)

- b) A completed [Professional Designer's Certificate](#) sealed, signed and dated by the engineer.
- c) A completed [Owner Statement](#) signed by the building owner.

Patient Care Areas

Designers/contractors should be aware that patient care areas apply to all health care facilities with electro-medical equipment and are not exclusive to hospitals. As per the CSA Z32 standard, health care facilities include physicians' offices, dental clinics, physiotherapy clinics, massage clinics, chiropractic clinics, etc.

See the City of Winnipeg Patient Care Area Guide at

<https://winnipeg.ca/ppd/Documents/InfoCentre/Electrical/Patient-Care-Areas-Guide.pdf>.

Paint Spray Booths

A related building permit is required.

Provide the building permit number on your application.

SAMPLE DESCRIPTION:

"Install [quantity] spray booth(s)."

DOCUMENT REQUIREMENTS (must be provided w/ the building permit application):

- a) Documents must be sealed by an engineer.
 - i) A report or plan indicating the locations and classifications of the electrically hazardous locations and compliance of the electrical installation.
 - ii) A [Professional Designer's Certificate](#) sealed, signed and dated by the engineer.
 - iii) A completed [Owner Statement](#) signed by the building owner should be provided by the building permit applicant.

Refer to Information Bulletin [2017-008-B/E/F/M](#) for additional information.

Note: As of June 1, 2016, The City of Winnipeg has one fee for spray booth installations payable upon application of the building permit. Despite no fee being charged for the related electrical permit, it is still mandatory to obtain one.

Hazardous Locations

Documentation for applications involving installations in hazardous locations must be submitted under the seal of an engineer and must be accompanied by a [Professional Designer's Certificate](#) and [Owner Statement](#).

A report or plan indicating the extents and classifications of the electrically hazardous locations and compliance of the electrical installation must be provided.

Fire Alarm Equipment

(more than 4 FA devices or more than 2 sprinkler switches)

DESCRIPTION REQUIREMENTS:

- a) Describe the extent of the fire alarm installation (eg: new system, replace specific devices, etc.)

DOCUMENT REQUIREMENTS:

- a) Drawings **must be sealed by an engineer** if a new system is being installed in a Part 3 building*
 - i) Floor plans:
 - I. Drawn to scale and, if not computer generated, drawn with a straight edge.
 - II. Room names identified.
 - ii) A project specific riser diagram showing compliance with the current enforced version of CAN/ULC S524. Note that although the riser diagram must be specific to your project in that it should indicate only applicable devices (eg: do not indicate HVAC shutdown, electromagnetic locks, etc. if there are none), it need not indicate the quantity of each type of device.
 - iii) A project specific zone schedule.
- b) Specifications
- c) Installations that are required to be submitted under the seal of an engineer must be accompanied by a [Professional Designer's Certificate](#) & [Owner Statement](#).
- d) See section titled "Hazardous Locations" for installations in electrically hazardous locations.

While only new fire alarm system installations in Part 3 buildings are specifically listed as requiring engineered documents, other installations may also require sealed documents if the Plan Examiner deems so due to the extent, complexity or risks associated with the work.

*As defined by the Manitoba Building Code, Part 3 buildings consist of:

- ◆ All buildings exceeding 600 m² in area.
- ◆ All buildings exceeding 3 storeys in building height.
- ◆ All buildings used for a Group A (assembly), B1 (detention), B2 (treatment), B3 (care) or F1 (high hazard) major occupancy.

Fire Pumps

SAMPLE DESCRIPTION:

"Install a ____HP, ____V fire pump located on the [*enter location eg: building floor, wing, etc.*]."

DOCUMENT REQUIREMENTS:

- a) Drawings **must be sealed by an engineer.**
 - i) A plan indicating the location of all related equipment, routing of conductors, and main service.
 - ii) A single line drawing indicating:
 - i. Fire pump transfer switch and controller
 - ii. Normal & emergency power supplies
 - iii. Ampere and voltage ratings of all equipment, existing and new.
 - iv. Conductor sizes and types and how they are being installed (free air, in conduit, multi-conductor cable, etc.).
- b) A completed [Professional Designer's Certificate](#) sealed, signed and dated by the engineer.
- c) A completed [Owner Statement](#) signed by the building owner.

Emergency Lighting (more than 4)

& Exit Signs (1 or more)

Note: Each emergency lighting/exit sign combination unit constitutes one exit sign and one emergency lighting unit. Drawing submittal and review is required prior to permit issuance.

DESCRIPTION REQUIREMENTS:

- a) Describe why emergency lighting and exit signs are being installed and where. I.e.: provide justification as why these life safety devices are being installed without any related building work being done.

DOCUMENT REQUIREMENTS:

- a) Floor plans indicating locations of emergency lighting equipment and exit signage.
- b) Drawings should indicate emergency lighting compliance with WEB Subrule 46-304 4) and the associated Technical Interpretation.
- c) Installations for photoluminescent exit signs **must be sealed by an engineer** and must be accompanied by a [Photoluminescent Exit Signs Checklist](#).
- d) See section titled "Hazardous Locations" for installations in electrically hazardous locations.

Electromagnetic Locks

A related building permit is required

Provide the building permit number on your application. Note that building permits that have already been issued without review for electromagnetic lock installations will not be permitted to have electromagnetic locks added via a post plan review change notice; a separate building permit application will be required.

SAMPLE DESCRIPTION:

"Installation of [qty.] electromagnetic locks located [*identify the building floor(s), wing(s), etc.*]"

DOCUMENT REQUIREMENTS (provide with bldg. permit application):

- a) A plan of the floor area where the electromagnetic locks are being installed. The floor plan must be of the entire floor area and not just of the immediate door area(s).
- b) A completed [Electromagnetic Locks checklist](#).

Refer to our "[Electromagnetic Locks](#)" brochure for more information.

Door Holders

SAMPLE DESCRIPTION:

"Installation of [qty.] door holders located [*identify the building floor(s), wing(s), etc.*]"

DOCUMENT REQUIREMENTS:

- a) A plan of the floor area where the holders are being installed. The floor plan must be of the entire floor area and not just of the immediate door area(s).
- b) Required smoke detection must be shown, whether existing or new, and if not being provided on both sides of the door(s), ceiling heights must be indicated.

Elevators/Lifts

A related building permit is required

SAMPLE DESCRIPTION:

"Wire and connect new elevator/lift in an existing [*describe building (use, no. of storeys, etc.) and tenant*]

DOCUMENT REQUIREMENTS:

- a) A plan showing the locations of all related equipment including the supply source and routing of conductors.
- b) A single line diagram indicating:
 - i) The rating and voltage of the supply source.
 - ii) Conductors sizes and types and how they're being installed (in conduit, free air, multi-conductor cable, etc.).

Note: Designers/contractors are advised to pay special attention to whether the conductors are required to be protected (ie: fire rated) as per MBC Sentence 3.2.6.5.(6) and Clause 3.3.1.7.(a)(i). and to ensure compliance is indicated on the drawings.



City of Winnipeg Planning Property Development Department
Development and Inspections Division

<https://www.winnipeg.ca/ppd/InfoCentre/Electrical/default.stm>