

Question

Do *buildings*, *major occupancy* changes, and interior *alterations* need to be designed by professional designers?

Answer

That depends on what the *building* is used for, its size, and what *alterations* are happening.

COMPLIANCE WITH THE CONSTRUCTION CODES ACT, BUILDING AND ENERGY REGULATIONS, NATIONAL BUILDING CODE OF CANADA 2020 (NBC), NATIONAL ENERGY CODE OF CANADA FOR BUILDINGS AND THE BUILDING BYLAW IS ADDRESSED IN THIS DOCUMENT. WORDS IN ITALICS, OTHER THAN ACT TITLES, ARE DEFINED IN THE NBC.

Background

Regulations under *The Construction Codes Act* (the CCA) require an *owner* to have an engineer or architect complete the design or design review of:

- the *building* and all building systems, if the *building* is within the scope of Parts 3 to 7 of the National *Building Code* (NBC);
- the structure of the *building*, if the structure is within the scope of Part 4 (Structural Design) of the NBC.
- the building and all building systems within the scope of the National Energy Code of Canada for Buildings (NECB)

Regulations under the CCA require an *owner* to have a **competent person** complete the design or design review of *buildings* within the scope of Part 9 (Housing and Small Buildings) of the NBC.

Which *buildings* are within the scope of Part 3 of the National *Building Code*?

The NBC classifies *buildings* by:

- *major occupancy* (what they are used for),
- *building area* (size), and
- *building height*.

All *buildings* containing any *assembly*, *care*, *detention*, *treatment* or *high hazard industrial major occupancies* fall under Part 3 of the NBC regardless of their size or height (a detailed description of occupancies follows). It is important to note that if these major occupancies are located anywhere in the building (not just the tenant space of interest), the entire building is within the scope of Part 3. Any *building* over 600m² in *building area* or exceeding 3 *storeys* in *building height* falls under Part 3 regardless of the *major occupancy*. *Buildings* essential to the provision of services in the event of a disaster (*post-disaster buildings*) also fall within the scope of Part 3.

The *building area* is the greatest horizontal area of the *building* above *grade*, not the sum of floor areas of *storeys*. The NBC provides specific rules for calculating *building height* and determining the *major occupancy* of a *building* (if the *building* is used for more than one type of *major occupancy*).

Which buildings are within the scope of Part 4 of the National Building Code?

Part 4 of the National *Building Code* (NBC) sets standards for structural design. All *buildings* that are within the scope of Part 3 are also within the scope of Part 4 of the NBC. *Buildings* that have structures not specifically set out in Part 9 of the NBC are within the scope of Part 4 of the NBC. For example, a 400 m², one storey office *building* (a *building* with business and personal services *occupancy* that is less than 600 m² in *building area* and less than 3 storeys in *building height*) is not within the scope of Part 3 of the NBC and would not automatically need to be designed by a professional designer. However, if the structure of this *building* includes arched or glulam beams that support the roof, a professional designer will be needed to design the structure because this type of structure is not set out in Part 9 of the NBC.

Which buildings are within the scope of Part 5 of the National Building Code?

Part 5 of the NBC sets standards for environmental separation. All *buildings* that are within the scope of Part 3 are also within the scope of Part 5 of the NBC. The Saskatchewan Building Regulations require a professional designer for all buildings under Part 5.

Which buildings are within the scope of Part 6 of the National Building Code?

Part 6 of the NBC sets standards for heating, ventilating and air conditioning. All commercial buildings, dwellings exceeding 600 m² in building area and dwellings exceeding 3 storeys in building height are within the scope of Part 6. The Saskatchewan Building Regulations require a professional designer for all buildings under Part 6.

Which buildings are within the scope of Part 7 of the National Building Code?

Part 7 of the NBC sets standards for plumbing services. Part 7 applies to all buildings other than residential dwelling units. The Saskatchewan Building Regulations require a professional designer for all buildings under Part 7.

Which buildings are within the scope of the National Energy Code for Buildings (NECB)?

The National Energy Code of Canada for Buildings (NECB) sets the standards for energy efficiency requirements for Part 3 buildings. The NECB applies to all new Part 3 buildings and additions over 10m². The NECB also applies to Part 9 buildings that contain an F2 occupancy, as well as to Part 9 buildings where the designer chooses to conform to the NECB rather than Section 9.36.

Major Occupancy Classifications

Assembly occupancy (Group A)

A *building*, or part thereof, used for the gathering of persons for civic, political, travel, religious, social, educational, recreational or like purposes, or for the consumption of food or drink. Some examples are theatres, churches, community halls, libraries, licensed beverage establishments, passenger depots, restaurants, cafes, schools, arenas, gyms and yoga studios. Group A contains 4 Divisions.

Care, treatment or detention occupancy (Group B)

A *building*, or part thereof, used by persons who require special care or *treatment* because of cognitive or physical limitations or by persons who are restrained from, or are incapable of self-preservation because of security measures not under their control. Some examples are: penitentiaries, prisons, psychiatric hospitals, hospitals, convalescent homes, nursing homes, orphanages, and care homes with sleeping accommodation for more than ten persons. Group B contains 3 Divisions.

Residential occupancy (Group C)

A *building*, or part thereof, used by persons for whom sleeping accommodation is provided but who are not harboured for the purpose of receiving care or *treatment* or are not involuntarily detained. Some examples are apartments, boarding houses, dormitories, hotels, houses, lodging houses, and motels.

Business and personal services occupancy (Group D)

A *building*, or part thereof, used for the transaction of business or the rendering or receiving of professional or personal services. Some examples are: banks, hairdressing shops, dental offices, medical offices, offices, police stations, small tool and appliance rental and service establishments.

Mercantile occupancy (Group E)

A *building*, or part thereof, used for the displaying or selling of retail goods, wares or merchandise. Some examples are: department stores, exhibition halls, markets, shops, stores, and supermarkets.

High hazard industrial occupancy (Group F, Division 1)

A *building* used for the assembling, fabricating, manufacturing, processing, repairing or storing of goods and materials and which contains sufficient quantities of highly combustible and flammable or explosive materials that, because of their inherent characteristics, constitute a special fire hazard. Some examples are: bulk plants for flammable liquids, bulk storage warehouses for hazardous substances, distilleries, flour mills, grain elevators, spray painting operations, and waste paper processing plants.

Medium hazard industrial occupancy (Group F, Division 2)

A *building*, or part thereof, used for the assembling, fabricating, manufacturing, processing, repairing or storing of goods and materials in which the combustible content is more than 50 kg/m² or 1200 MJ/m² of floor area and not classified as *high hazard industrial occupancy*. Some examples are: cold storage plants, factories, laboratories, *repair garages*, service stations, warehouses, woodworking factories.

Low hazard industrial occupancy (Group F, Division 3)

A *building* used for the assembling, fabricating, manufacturing, processing, repairing or storing of goods and materials in which the combustible content is less than 50 kg/m² or 1200 MJ/m² of floor area. Some examples are: factories, laboratories, *storage garages*, warehouses, workshops.

When do I need a professional designer?

A Professional Designer (Professional Engineer and/or Registered Architect) is required for:

- All new *building* and *building* systems designs for a Part 3 - 7 *building*
- Any additions to a Part 3 *building*
- Any major *alterations* or renovations to a Part 3 *building*
- Any structural changes within the scope of Part 4
- Any change of *major occupancy* of any part of a *building* falling within Part 3
- Initial tenant fit ups of a Part 3 *building* (regardless of *occupancy* type)
- Any alterations in a Part 3 building if the space includes a mezzanine
- Any minor *alterations* or renovations to a Part 3 *building* affecting the *building* structure, fire safety system, fire separations or fire walls, locations of exits to the exterior or the *building* and construction or location of an exterior wall

Other situations may apply. Please contact Professional Building Inspections at (306) 536-1799 if you are unsure if your project requires professional involvement.

Who is qualified to be a professional designer?

The CCA requires a **professional designer** to be an **architect** or a **professional engineer**. A professional designer must be registered or licensed to practice in Saskatchewan according to *The Architects Act* or *The Engineering and Geoscience Professions Act*. The professional associations of both architects and engineers may be contacted to confirm a designer's registration or license.

Is there ever a need for more than one professional designer on a single project?

Similar to doctors and lawyers, architects and engineers may provide general services or specialized designs. Architects are typically trained to complete architectural designs and coordinate the designs of *building* systems. Engineers are typically trained to complete designs of specific elements such as structural, mechanical or electrical systems. Some design professionals, who go by the title "code consultant", provide specific consulting for the complex code review of Part 3 or the NECB design.

Small projects may be competently handled by either an architect, engineer or code consultant. More complex projects require the combined efforts of a team to create a complete design. Specific designs which usually need to be addressed on large projects include: architectural, foundation, structural, mechanical, fire protection, and electrical.

Seldom will one professional designer be qualified to complete all these designs. Utilizing the services of a professional designer competent in the design and application of the NBC and NECB can provide the *building owner* with a more economical, longer lasting and safer *building*.

When do I need a competent designer?

A Competent Designer (not Professional Designer) is required for:

- *Buildings* less than 600 m² in *building area* AND 3 or less *storeys* AND within the scope of Part 9 of the NBC AND when all *major occupancies* within the *building* are classified as:
 - Residential (Group C),
 - Business or Personal Services (Group D),
 - Mercantile (Retail) (Group E), or
 - Low or Medium Hazard (Group F2 or F3)
 - Note: a Professional Designer is required for buildings with an F2 occupancy that are required to conform to the NECB
- Any minor interior renovations or *alterations* of a *building* within Part 3 NOT affecting:
 - the *building* structure,
 - fire safety system, *fire separations* or *firewalls*,
 - locations of *exits* to the exterior of the *building*,
 - a floor space that includes a mezzanine, or
 - the construction or location of an exterior wall.

PBI recommends a competent designer is involved in every project within the scope of Part 9 of the NBC.

Who is a competent person for the design of Part 9 buildings?

A **competent person** (designer) is a person who is familiar and fluent with *building* design for the applicable *occupancy* type under Part 9 of the NBC and is acceptable to the *Authority Having Jurisdiction* (PBI and the municipality). If the design is for Group D, E, F2 or F3 *major occupancies*, the designer must be familiar with the applicable requirements, as they greatly vary from residential (Group C) requirements. When structural requirements of a Part 9 *building* exceed the prescriptive requirements provided in Part 9, they must be designed in accordance with Part 4 by a professional designer.

For more information on Building Permits please visit www.pro-inspections.ca or [contact us](#) at (306)-536-1799.

This document has no legal status and cannot be used as an official interpretation of the various codes and regulations currently in effect. Users are advised to contact the Building Standards Branch for assistance as Professional Building Inspections accepts no responsibility to persons relying solely on this information.