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## Glossary, Abbreviations and Acronyms



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## Glossary

<b>abrade</b>	to scrape or wear away a surface by friction or striking.
<b>abut</b>	to touch along an edge.
<b>anchor bar</b>	a V-shaped anchoring device usually fabricated from ½-inch round bar and used in steel work to secure a beam to masonry.
<b>angle (steel)</b>	an L-shaped steel section most commonly used in tension bracing to resist lateral forces on a structure.
<b>architect</b>	a licensed design professional, responsible for the aesthetics, appearance, and functionality of built objects in both public and private settings. The architect is responsible for the creation of construction drawings and specification documents that translate the vision and aesthetics into a buildable project.
<b>as-built drawings (as constructed drawings)</b>	revised set of drawings submitted by a contractor when a project is completed. The drawings are meant to reflect all changes made in the specifications and working drawings during the construction process, and show the exact dimensions, geometry, and location of all elements of the work completed under the contract.
<b>assembly occupancy</b>	the use of a building, or part of it, by a gathering of persons for civic, political, travel, religious, social, educational, or similar purposes, or the serving of food or drink. The term may include, among others, assembly halls, passenger or bus depots, churches, restaurants, dance schools, day care centres, and schools. Permits and other laws and regulations governing assembly occupancies vary by area.
<b>backer rod</b>	a round foam rod used to fill joints between building materials. It is used to fill most of the void in a joint so caulking can be applied to finish filling the void and create an airtight and watertight seal.
<b>backfill</b>	the replacement of excavated earth into a trench around or against a foundation wall or over buried infrastructure.
<b>batching</b>	the mixing of materials which together make up the concrete.
<b>beam</b>	a structural member transversely supporting a load through its capability to resist bending; a structural member carrying building loads (weight) from one support to another; sometimes called a "girder."
<b>bearing</b>	the section of a structural member, such as a column, beam, or truss, that rests on the supports.
<b>bearing point</b>	a point where a bearing or structural weight is concentrated and transferred to another point (i.e., the foundation).
<b>bonded topping</b>	a poured concrete slab reinforced with wire mesh and chemically bonded / adhered to the top of the hollow core slab to provide increased load capacity.
<b>bonding agent</b>	a substance (adhesive) applied to material to create a bond between it and a succeeding layer, such as between a concrete topping and hollow core slabs.
<b>bracing</b>	a structural member used to stiffen or support framing members.

<b>building envelope</b>	the walls and roof of a building which separate the interior from the exterior – the envelope which encloses the building.
<b>butt joint</b>	the space left at the ends of hollow core slabs to allow for expansion, contraction, and cambering of the slabs.
<b>camber</b>	a slightly convex curvature built into a beam or truss to compensate for deflection under load. Camber is also built into structural components, roadways, or bridges to facilitate water runoff.
<b>cantilever</b>	a beam anchored at only one end. The free, unsupported end is capable of supporting a weight. Any beam built into a wall or attached to a column with a projecting free end forms a cantilever, which may carry a balcony, a canopy or a roof.
<b>capacity</b>	the amount of weight an item is capable of carrying or supporting.
<b>carbonation</b>	a chemical reaction caused by carbon monoxide in the air penetrating the concrete and reacting with the components of the concrete, causing a reduction in its alkalinity and, like chlorides, acts to break down the protection against corrosion that concrete normally provides for steel.
<b>caulking</b>	a flexible material used to seal a gap between two surfaces.
<b>catch basin</b>	a receptacle or reservoir that receives surface water runoff or drainage.
<b>certificate of substantial performance</b>	the substantial performance of a contract is determined in accordance with the provisions of the Ontario <i>Construction Lien Act</i> . The building is inspected to identify deficiencies or the quantity of work left to be completed. Based on the formula set out in section 2 of the <i>Construction Lien Act</i> , a determination is made as to whether the construction is ready to be accepted as substantially performed. Once a building has been certified as substantially performed, the <i>Construction Lien Act</i> requires that the Certificate of Substantial Performance be published in the Daily Commercial News. The publication of the certificate serves as notice to suppliers and subcontractors of when any lien rights will expire.
<b>change directive</b>	written instruction prepared by the consultant and signed by the owner, directing the contractor to proceed with a change in the work within the general scope of the contract documents. Change directives are issued before the owner and the contractor agree on adjustments in the contract price and time.
<b>change order</b>	written amendment to the contract prepared by the consultant and signed by the owner and the contractor stating their agreement on: a change in the work; the method of adjustment or the amount of the adjustment in the contract price, if any; and the extent of the adjustment in the contract time, if any.
<b>chord</b>	the top and bottom part of a truss, usually horizontal, resisting compression or tension.
<b>civil engineering</b>	a professional engineering discipline, which deals with the design, construction, and maintenance of the physical and naturally built environment, including works like roads, bridges, canals, dams, and buildings.
<b>cladding</b>	a protective covering installed on or fastened to the outside of a building (i.e., vinyl siding).
<b>column</b>	a vertical structural member carrying a compressive load. Loads are transferred to columns through beams.

<b>composite action</b>	when a bonded concrete topping works in conjunction with the hollow core slabs to increase the load capacity of the slabs.
<b>compression force or load</b>	an external force which tends to push parts of a body together.
<b>compressive stress</b>	the resistance of a material to an external pushing or shortening force.
<b>concrete topping</b>	a structural cast-in-place surface for precast floor or roof systems; <i>see also</i> bonded topping.
<b>conduit</b>	a protective sleeve or pipe typically used for installing electrical wiring.
<b>consultant</b>	the person or entity hired by the owner and identified as such in the contract documents; the architect, engineer, or entity licensed to practise in the province or territory of the place of the work.
<b>contemplated change notice</b>	written documentation prepared by the consultant proposing a change to the contract for which the contractor is requested to submit a quotation for any changes in cost or schedule.
<b>contract document</b>	any document that sets out the terms and conditions of the agreement between the parties to the contract; in the context of a construction project, also includes the plans and specifications.
<b>control joint (crack control joint)</b>	tooled, straight grooves made on concrete surfaces (floors, decks) to “control” where the concrete should crack.
<b>corrosion</b>	the deterioration of metal or concrete by chemical action, also known as rust.
<b>creep</b>	the slow but continual permanent deformation of a material under sustained stress.
<b>crickets</b>	a localized rise in the roof to create a slope for shedding water by pushing it from high points to low points and drains.
<b>dead load</b>	the weight of all permanent structural and other building components carried by a structural element, including its own weight, partitions, and permanent equipment.
<b>deflection</b>	the flexural (bending) displacement of a structural member under load, particularly the vertical displacement of a horizontal beam.
<b>deformation</b>	a change in the shape or form of a structural member that does not cause its failure or rupture.
<b>design-bid-build</b>	traditional method of project delivery in which the owner contracts with separate entities for each of the design and construction of a project.
<b>destructive testing</b>	testing which destroys or partially destroys or causes damage to the materials being tested.
<b>detail drawings</b>	large-scale drawings of a small part of the construction, showing how the component parts fit together; also used for small surface details, such as decorative elements.
<b>double-tee</b>	a precast concrete member composed of two concrete beams with a flat slab cast across and projecting beyond the beams.

<b>drawings</b>	the graphic and pictorial portions of the contract documents, showing the design, location, and dimensions of the work, generally including plans, elevations, sections, details, and diagrams.
<b>easement</b>	a formal contract which allows a party to use another party's property for a specific purpose; for example, a hydro easement allows the hydro company to run power lines under a residential property.
<b>electrical runway</b>	an enclosed metal or concrete runway for electrical cables to be passed through. On construction projects using hollow core precast slabs, the hollow cores are sometimes used as electrical runways.
<b>elevation view</b>	drawing of a structure with the view seen from one side, a flat representation showing all the parts of the building which are seen from a particular direction (i.e., north elevation).
<b>encumbrance</b>	any right or interest that exists in someone other than the owner of the property and that restricts or impairs the transfer of the property or lowers its value; includes an easement, a lien, a mortgage, or accrued and unpaid taxes.
<b>expansion joint</b>	an assembly designed to safely absorb the temperature-induced expansion and contraction of various construction materials (including concrete) to absorb vibration, or to allow movement caused by warming and cooling.
<b>factor of safety</b>	factor used in design to provide a margin of safety against failure of a design element. In steel structures, this may be with respect to the yield strength or the ultimate strength of the structure.
<b>flanges</b>	in a beam, the thin horizontal plate elements on the top and bottom of the element that resist bending by carrying compression and tension stresses.
<b>flashing</b>	a thin continuous piece of sheet metal or other impervious material installed to prevent the passage of water into a structure from an angle or joint.
<b>footings</b>	concrete pads designed to transfer the structural loads from the building (snow load, live load, dead load, wind load, earthquake load, etc.) to the soil or rock beneath the building.
<b>functionality of a building</b>	includes such things as occupant comfort, health and safety, building envelope, accessibility and general <i>Building Code</i> compliance.
<b>general review</b>	review required by section 1.2.2.1 of the Ontario <i>Building Code</i> ; an inspection that must be performed by an architect or engineer during the construction of a building to confirm that the building has been constructed in general conformity with the plans, sketches, drawings, specifications, and requirements of the Ontario <i>Building Code</i> .
<b>geotechnical engineer</b>	an engineer who specializes in rock and soil mechanics, groundwater, and foundations; generally responsible for determining the amount of load that the existing ground can safely withstand from a proposed structure, and for making backfill and foundation recommendations.
<b>geotechnical investigation (or survey)</b>	the evaluation of the earth under the project site, which is done to determine the stability of the site and what, if anything, needs to be done to prepare the site for construction.

<b>gridlines</b>	buildings with columns of reinforced concrete or structural steel as a main element of the frame are laid out on a structural grid. The plans are drawn with a system of horizontal and vertical reference lines, so that all the columns and details can be referred to. The vertical gridlines are numbered, and the horizontal are lettered.
<b>grout</b>	a wet mixture of cement, sand, and water that flows into masonry or ceramic crevices to seal the cracks between different pieces; mortar made of such consistency (by adding water) that it will flow into the joints and cavities of the masonry work and fill them solid.
<b>grout key</b>	formed when two core slabs are placed side by side, so that the bottom parts of the slabs abut but the top side opens up like a V. This key is then grouted.
<b>hollow core slab</b>	a precast concrete slab containing pre-stressed cables, typically used in the construction of floors in multi-story buildings. The precast concrete slab has tubular voids extending the full length of the slab, usually with a diameter equal to 2/3 to 3/4 of the slab thickness, thus making the slab much lighter than a solid floor slab of equal thickness or strength.
<b>hydrostatic pressure</b>	pressure exerted by water.
<b>infrastructure</b>	the basic structure or features of a system or organization.
<b>interference drawings</b>	a set of drawings that highlight where any problems may arise during the installation of the various building systems (i.e., where one system may potentially interfere or intersect with the installation of another building system or installation).
<b>Iso-Flex</b>	a urethane sealant used to seal, protect, and reduce corrosion in concrete and masonry from damage caused by water, chloride-ion, acids, and freeze-thaw cycles.
<b>joint</b>	in a building structure or concrete work, a joint or gap between adjacent parts.
<b>key</b>	refers to the grout key, or alternatively the gap (space) at the end of the slabs – also referred to as the butt joint.
<b>kip</b>	1,000 pounds (kilopound)
<b>leasehold improvement</b>	alterations made to rental premises to customize the space for the specific needs of a tenant.
<b>lateral loads</b>	live loads, the main component of which is a horizontal force acting on the structure. Typical lateral loads would be a wind load against a facade, an earthquake, or the earth pressure against a wall (such as a foundation wall).
<b>levelling plate</b>	a steel plate set to an elevation (height) used for placing/erecting structural steel.
<b>live load</b>	loads other than dead load, including occupancy, snow, rain, ice, etc.
<b>load capacity</b>	the weight that can be carried by a structural member.
<b>load transfer</b>	the transfer of weight from one structural component to another to help distribute the load.
<b>maximum permissible stress (allowable stress)</b>	the maximum stress allowed by the Ontario <i>Building Code</i> for structural members. The maximum stress will depend on the materials used and the anticipated use of the structure.

<b>member</b>	an individual element of a structure, such as a beam, column, or brace.
<b>neoprene</b>	a synthetic rubber which is stable and maintains flexibility over a wide temperature range.
<b>open web steel joist (OWSJ)</b>	a lightweight steel truss consisting of parallel top and bottom chords with support members placed in a zigzag or crisscross pattern to connect the top and bottom chords.
<b>pad footing</b>	a thick slab-type foundation used to support a structure or a piece of equipment.
<b>parapet</b>	a low, protective wall-like barrier along the edge of a roof.
<b>penetrating sealer system</b>	sealers, such as silanes, siloxanes, and silicates, that penetrate the concrete to form a chemical barrier shielding against moisture penetration and de-icing chemicals. Usually they provide invisible protection without changing the surface appearance, and most products are breathable, allowing moisture vapor to escape. They are most commonly used outdoors, since they provide excellent protection against harsh exposure conditions.
<b>plan view</b>	drawing of a structure with the view from overhead, looking down.
<b>plumb</b>	exactly vertical
<b>ponding</b>	the accumulation of water at low points in a roof.
<b>poured-in-place concrete (cast-in-place concrete)</b>	concrete poured into site-specific forms and cured on site.
<b>precast concrete</b>	concrete produced by pushing it onto a metal bed or “form,” which is then cured in a controlled environment, transported to the construction site, and lifted into place.
<b>pre-stressed cables</b>	high tensile steel cables that are put under tension before being cast in concrete.
<b>protection board</b>	asphalt-impregnated boards used in roofing installation to protect waterproof membranes from damage.
<b>raking</b>	the act of using a rake to score the top of a hollow core precast concrete slab to prepare it to receive a bonded topping.
<b>rebar (reinforcing bar)</b>	a steel rod with ridges for use in reinforced concrete.
<b>redundancy</b>	the duplication of critical components or functions of a system to increase the reliability of the system, such as providing extra strength or added safety.
<b>roof drain</b>	a drain designed to accept rainwater on a roof and discharge it into a downspout.
<b>seal (stamp)</b>	the mark made on a construction drawing by a rubber stamp, such as those issued by the Professional Engineers of Ontario or the Ontario Architects Association.
<b>section loss</b>	what occurs when corrosion reduces the original steel material which in turn leads to a decrease in the thickness of the material itself (be it the web, flange, bolt, weld, connection angle, etc.).
<b>section drawings</b>	large-scale drawings which are a standard way of showing building construction details, typically showing complex junctions (such as floor to wall junction, window openings, eaves, and roof top).

<b>seismic</b>	relating to earthquakes; seismic loads are horizontal and are resisted by the lateral force resisting system in a building.
<b>service load</b>	the actual dead and live loads that the structure is designed to carry; synonymous with working load.
<b>setbacks</b>	the minimum distance a structure must be from the relevant lot line.
<b>shear</b>	in a beam, the tendency, at any section or cut along its length, for the left portion to move vertically relative to the right portion.
<b>shop drawings</b>	drawings, diagrams, illustrations, schedules, performance charts, brochures, product data, and other data which the contractor provides to illustrate details of portions of the work. These drawings are created by the manufacturer or supplier of the products.
<b>shoring</b>	the process of supporting a structure in order to prevent collapse so that construction can proceed. It can also be used as a noun to refer to the materials used in the process. Shoring is generally temporary in nature and is removed as the building construction achieves certain conditions or strength.
<b>site instructions</b>	any instruction given by the authorized person or entity to the contractor, in relation to the site/works.
<b>spalling</b>	the cracking and flaking of metal particles from a surface.
<b>specifications</b>	the contract documents detailing the written requirements and standards for products, systems, workmanship, quality, and the services necessary for the performance of the work.
<b>splice</b>	connection of two similar materials by lapping, welding, gluing, mechanical couplers, or other means.
<b>strength</b>	the load-bearing capacity of a structural member, determined by the allowable stresses (dead and live loads) assumed in the design.
<b>strip footing</b>	a continuous strip of concrete that serves to spread the weight of a load-bearing wall across an area of soil.
<b>strip membrane</b>	waterproofing membrane material cut into strips, as opposed to one continuous piece.
<b>structural drawing</b>	graphic representations of the members, assemblies, and systems that will transmit live and dead loads of the structure to the ground beneath the building.
<b>structural engineer</b>	a specialty discipline within civil engineering. Structural engineers analyze, design, plan, and research structural components and structural systems to achieve design goals and ensure the safety and comfort of users or occupants.
<b>stub column</b>	a column which does not have footing and rises from beams or slabs for upper levels.
<b>superimposed load</b>	the total maximum load which a floor or roof is capable of sustaining, including the live and dead loads.
<b>swale</b>	a shallow depression, in a flat area, that is used in a stormwater drainage system.
<b>tensile strength</b>	the maximum stress that a material can withstand while being stretched or pulled before necking (when the material starts to significantly stretch and reduce in cross-section) Tensile strength is the opposite of compressive strength.

<b>tension</b>	the state or condition imposed on a material or structural member by pulling or stretching.
<b>thermal movement</b>	changes in dimension of masonry or concrete resulting from fluctuations of temperature over time.
<b>torque</b>	a force that produces or tends to produce rotation or torsion.
<b>traffic plate</b>	a piece of material used to protect a surface from wear and tear caused by vehicular traffic.
<b>truss</b>	a structural component composed of a combination of members, usually in a triangular arrangement, to form a rigid framework; often used to support a roof.
<b>urethane</b>	a water-soluble polymer used for a wide variety of applications, such as foam insulation, coatings, and adhesives.
<b>vapour barrier</b>	material used to prevent vapour or moisture penetrating a structure or another material, thus preventing condensation.
<b>vapour migration</b>	penetration of vapour through walls or roofs, caused by the vapour pressure differential between the inside and the outside of a structure. (Vapour pressure is the component of atmospheric pressure caused by the presence of vapour and is expressed in inches, centimeters, or millimeters of height of a column of mercury or water.)
<b>volume change</b>	an increase or decrease in volume. <i>See also</i> deformation.
<b>Wearing slab / wearing course</b>	a topping or surface treatment to increase the resistance of a concrete pavement or slab to abrasion.
<b>web</b>	component of a beam defined as the thin central vertical plate element connecting the upper and lower horizontal elements called flanges. In a beam, the web resists shear forces caused by vertical loads.
<b>web joist</b>	the members which are arranged in a zigzag or crisscross patterns and are used in place of solid plate to connect the chords or flanges to create the truss or girder.
<b>wood key</b>	a wedge of wood inserted in a joint to limit movement.
<b>working load</b>	service load
<b>yield strength</b>	the stress at which a material begins to deform plastically (deformation that does not disappear when the force causing the deformation is removed). Before the yield point, the material will deform elastically and will return to its original shape when the applied stress is removed. Once the yield point is passed, some fraction of the deformation will be permanent and non-reversible.
<b>zero slump concrete</b>	concrete of stiff or extremely dry consistency which holds its form once produced and shows no measurable slump.

## Abbreviations and Acronyms

<b>ACP</b>	Algoma Central Properties
<b>APEGBC</b>	Association of Professional Engineers and Geoscientists of British Columbia
<b>ATA</b>	Alex Tobias Associates
<b>BCBC</b>	British Columbia Building Code
<b>BOMA</b>	Building Owners and Managers Association
<b>CANDU</b>	Canada Deuterium Uranium
<b>CAO</b>	chief administrative officer
<b>CBO</b>	chief building official
<b>CET</b>	certified engineering technologist
<b>CEO</b>	chief executive officer
<b>CIPREC</b>	Canadian Institute of Public Real Estate Companies
<b>CPD</b>	continuing professional development
<b>CSA</b>	Canadian Standards Association
<b>DSE</b>	designated structural engineer
<b>ELNOS</b>	Elliot Lake and North Shore Corporation for Business Development
<b>FTA</b>	Franklin Trow Associates Ltd.
<b>HSP</b>	Harry S. Peterson Company
<b>LoA</b>	Letters of Assurance
<b>MFIPPA</b>	<i>Municipal Freedom of Information and Protection of Privacy Act</i>
<b>MOH</b>	Ministry of Housing
<b>MOL</b>	Ministry of Labour
<b>OAA</b>	Ontario Association of Architects
<b>OBC</b>	Ontario <i>Building Code</i>
<b>OC</b>	order in council
<b>OSIM</b>	Ontario Structure Inspection Manual
<b>OSPE</b>	Ontario Society of Professional Engineers
<b>PEA</b>	<i>Professional Engineers Act</i>

<b>P. Eng.</b>	professional engineer
<b>PEO</b>	Professional Engineers of Ontario; Association of Professional Engineers of Ontario
<b>psf</b>	pounds per square foot
<b>RJC</b>	Read Jones Christoffersen
<b>RRO</b>	Revised Regulations of Ontario
<b>RRQ</b>	Revised Regulations of Quebec
<b>RSA</b>	Revised Statutes of Alberta
<b>RSO</b>	Revised Statutes of Ontario
<b>SAR</b>	Structural Adequacy Report
<b>SO</b>	Statutes of Ontario



