



**Professional Engineers
Ontario**

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**P R O F E S S I O N A L E N G I N E E R S
P R O V I D I N G G E N E R A L
R E V I E W O F C O N S T R U C T I O N
A S R E Q U I R E D B Y T H E
O N T A R I O B U I L D I N G C O D E**

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Notice: The Professional Standards Committee has a policy of reviewing guidelines every five years to determine if the guideline is still viable and adequate. However, practice bulletins might be issued from time to time to clarify statements made herein or to add information useful to those professional engineers engaged in this area of practice. Users of this guideline who have questions, comments or suggestions for future amendments and revisions are invited to submit these to PEO using the form provided in Appendix 7.

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1. PEO Mandate and Criteria for Guidelines

Professional Engineers Ontario produces guidelines for the purpose of educating both licensees and the public about standards of practice. This is done to fulfill PEO's legislated objectives. Section 2(4)2 of the *Professional Engineers Act* states: "For the purpose of carrying out its principal object" PEO shall "establish, maintain and develop standards of qualification and standards of practice for the practice of professional engineering". The association's Professional Standards Committee is responsible for developing practice standards and preparing guidelines.

This guideline has been developed by a task group of the Professional Standards Committee, reviewed and approved for publication by the full Professional Standards Committee and by PEO Council.

Professional Engineers Ontario produces guidelines to meet the following objectives, which were used to develop the content of this document.

1. Guidelines are intended to aid engineers in performing their engineering role in accordance with the *Professional Engineers Act*, Regulation 941 and O.Reg. 260/08.
2. Guidelines are intended to define processes required by regulatory, administrative or ethical considerations associated with specific professional services provided by engineers. They do not aim to be short courses in an engineering subject.
3. Guidelines provide criteria for expected practice by describing the required outcome of the process, identifying the engineer's duty to the public in the particular area of practice, and defining the relationships and interactions among the various stakeholders (e.g. government, architects, other engineers, clients).
4. Guidelines add value to the professional engineer licence for licensed engineers and for the public by establishing criteria for professional standards of competence.
5. Guidelines help the public to understand what it can expect of engineers in relation to a particular task within the practice of professional engineering. By demonstrating that the task requires specialized knowledge, higher standards of care, and responsibility for life and property, guidelines help reinforce the public perception of engineers as professionals.

2. Preface

This guideline is a revision of a previously issued *Guideline for Professional Engineers Providing General Review of Construction as Required by the Ontario Building Code*. The first guideline on this topic was issued in 1987. This followed the 1986 introduction into the Regulation made under the *Professional Engineers Act* of the performance standard for this work. The requirement for general review by professional engineers and architects was first introduced in the 1975 version of the *Building Code Act*. After reviewing the latest version of this guideline, which was published in 1996, the Professional Practice Committee (now called the Professional Standards Committee) decided that for several reasons it required significant revisions. In particular the guideline needed to deal with changes in the building construction field resulting from the introduction of the *Building Code Statute Law Amendment Act*, S.O. 2002, c.9. The committee also found that the guideline needed to describe the PEO-recommended procedures for dealing with projects for which a building permit has not been obtained. There was also a need to provide clear definitions of such terms as “rational sampling” and “general conformity”.

In late 2002, the Professional Practice Committee formed a subcommittee comprising practising professional engineers, building officials and architects, and asked the group to prepare the new guideline. The subcommittee met for the first time on November 26, 2002 and submitted a completed

draft of the new guideline to the Professional Practice Committee on March 18, 2003.

At various stages of the development process, drafts of this guideline were distributed to a network of reviewers. These reviewers were a valuable source of additional comments and questions. Council approved the final draft on June 21, 2003.

This guideline is to be read in conjunction with Section 2 of O.Reg. 260/08 made under the *Professional Engineers Act*, which outlines the minimum acceptable standard for this work. Professional engineers providing general review of construction are advised that this section of the Regulation imposes on them a legal onus to do all the identified tasks. This guideline is provided to clarify the nature of those tasks and to outline what would be expected to constitute prudent professional service done in accordance with the Regulation.

Practitioners providing this service should also be familiar with the *Ontario Building Code* and should read the PEO guidelines for professional engineers providing structural, mechanical or electrical engineering services in buildings and the *Guideline to Professional Practice* to supplement the specifics of this guideline.

Extracts of the applicable sections of the *Professional Engineers Act* and the *Ontario Building Code* are shown in Appendix 2.

3. Purpose and Scope of Guideline

The purpose of this guideline is to provide professional engineers providing general review of construction services with guidance on the level of diligence, methodology and reporting acceptable to Professional Engineers Ontario. The *Ontario Building Code* requires every

building designed by an architect and/or professional engineer to be reviewed for general conformity to the approved design by professionals. This guideline covers the role of professional engineers who may be involved in executing these general reviews.

4. Introduction

For the purposes of this guideline, “general review of construction” means the observation of the work in progress required by Division C, article 1.2.2.1. of the *Ontario Building Code*. This section requires that professional engineers undertake general review of the construction of certain specified buildings in accordance with the performance standards of PEO. It also requires that they forward copies of all written reports arising out of this general review process to the chief building official.

General review of construction is intended to protect the public by ensuring that the buildings covered by the regulations are constructed in accordance with approved, code-compliant plans. This is consistent with the aim of the *Building Code Act*, which establishes in subsection 34(5) that “the purpose of the regulations made under this section is to establish standards for public health and safety, fire protection, structural sufficiency, accessibility, conservation and environmental integrity with respect to buildings.” Only plans approved by a municipal building department and awarded a building permit can be considered to be code-compliant and therefore suitable for use in construction.

This guideline contains reference to engineers, architects and building officials, and to standard forms prepared by a tripartite organization of them (EABO) comprising members of Professional Engineers Ontario (PEO), the Ontario Association of Architects (OAA) and the Ontario Building Officials Association (OBOA). This group meets regularly to discuss and deal with issues of common concern. This group has prepared and agreed to have its members use a number of standardized forms, including the EABO *Commitment to General Review for Architects and Professional Engineers*

(Appendix 4), which is to be submitted to the chief building official with all building permit applications. These standard forms are referred to in the *Ontario Building Code* regulations and their use is recommended.

For the purposes of this guideline, the client is the person or entity who owns the building to be reviewed. The general review engineer is the professional engineer who undertakes to do the review. The relationship between the client and the general review engineer can be one of a specific contract, e.g. the engineer is an outside consultant, or one of employer and employee. The form of relationship does not change the performance standards expected of the general review engineer.

Since it is not mandatory that the same professional engineer be retained for both design and general review of construction, this guideline is written assuming that the review engineer is not necessarily the same professional as the designer of the works. In such cases, review engineers have a duty to notify design engineers of their involvement in the project. The responsibilities of these two engineers are quite different. Design engineers retain responsibility for the design. Review engineers are responsible only for making judgments and opinions regarding general conformity of the completed work with the design documents. For those projects where a review engineer is doing both the general review of construction required by the *Ontario Building Code* and site review, including contract administration, for the owner, the review engineer is responsible for making design changes when necessary. In such cases, the review engineer takes responsibility for these design changes and any impact that they have on the other components of the completed project.

5. Professional Responsibility, Liability and Scope of Work

5.1 Professional Responsibility

General review of construction by professional engineers is mandatory under the *Ontario Building Code*, to protect the public interest. It is not necessarily synonymous with the general review during construction that is outlined in the Professional Engineers Ontario guidelines for professional engineers providing structural, mechanical, electrical or environmental engineering services. The PEO guidelines outline services that may or may not be contracted by the client to protect the client's interest. It is not necessary for the same engineer to provide both reviews, although it is normal practice. An engineer providing both services should recognize the differences between the two responsibilities and act accordingly.

Professional engineers undertaking, or signing a form of commitment to undertake, general review of construction under the *Ontario Building Code* are obliged to report directly to the chief building official. In the event that their services are terminated or if the contract with the client, or the client's agent, has been breached, the professional engineer must notify the chief building official immediately.

It is the contractor's responsibility to ensure adherence to the regulations made under the *Ontario Building Code Act*. It is the responsibility of the general review engineer to review the construction and to report on any observed breaches of the building permit documents or the *Ontario Building Code*. General review engineers are not responsible for quality assurance on behalf of either the client or the contractor.

The Professional Engineers Act, Regulation 941 and the Code of Ethics at section 77 of the Regulation require that the general review engineer disclose any potential conflicts of interest.

It is a violation of section 8(1) of the *Ontario Building Code Act* to provide a general review of a building to be constructed or demolished without a building permit having been issued by the chief building official. Professional engineers must refuse to review work where construction is proceeding without a building permit. (See section 6.3 of this guideline, Procedure for Projects without Building Permits)

5.2 Scope of Work

Before accepting any assignment, professional engineers should, in consultation with their clients, prepare a detailed scope of work and affix this to their contract for services. Engineers should refer to the *Use of Agreements between Clients and Engineers for Professional Engineering Services* for assistance in preparing a contract.

In general, professional engineers providing general review of construction under the *Ontario Building Code* should provide the following services:

- advise the chief building official and the client, in writing prior to commencement of services, of the scope of work covered by their review services. Appendix 3 is the recommended form of commitment to be completed by client and general review engineer;
- attend, or delegate a suitable person to attend, at the site periodically to observe the construction underway;
- undertake, or supervise, the general review of shop drawings and samples submitted by the contractor. Appendix 5 includes the recommended form for shop drawings and samples review;
- report in writing to the chief building official, the client and the contractor on the progress of the work and on any observed deficiencies and

how they are being rectified after each site visit. Appendix 4 includes the recommended form for general review report;

- on completion of the general review, provide the chief building official and the client with a confirmation that the general review has been carried out in accordance with the requirements of the *Professional Engineers Act*. A recommended project completion notice is provided in Appendix 6. This confirmation must be signed and sealed by the general review engineer.

5.3 Liability

Engineers should focus on the concept of “general conformance” as the basis of their review. Their role is to observe that the work agrees with the design concept rather than to inspect whether the work meets the details of the plans and specifications. Inspection entails greater risk for liability than observation. Canadian courts have stated that review engineers are not required to observe everything done by the contractors. They are required only to make observations from time to time to determine that the contractor is using reasonable methods and that the methods are properly carried out. However, the engineer must observe “sufficiently frequently to ensure that materials and quality of work conform to the contractual requirements.”¹ Review engineers must proceed in the way a reasonably prudent peer would under similar circumstances. Where a client suggests limiting the number of site visits, the review engineer should inform the client that it is the engineer’s responsibility to determine how many visits are required in order to properly observe the work.

A general review engineer should not make any statements “certifying” that construction is in conformance with the design documents, since this implies a guarantee of the work by the engineer, which cannot be supported by periodic field visits.

Professional engineers providing services to the public, such as general review of construction for a client, must hold a Certificate of Authorization (C of A), or be employees of a C of A holder. Holders of Cs of A must either carry professional liability insurance as stipulated in section 74 of Regulation 941, or disclose in writing to each client that they are not insured and receive written confirmation from the client of the disclosure. Professional engineers providing these services without a Certificate of Authorization are violating the *Professional Engineers Act*. A professional engineer reviewing construction on property owned by the engineer’s employer does not need a C of A but might require professional liability insurance coverage to cover the engineer’s personal liabilities for the work.

A professional engineer undertaking a general review of construction must be aware that the *Building Code Act* sets out the personal liabilities incurred by an engineer who gives advice and provides reports required under the act. These liabilities are personal liabilities and apply to the engineer whose seal and/or signature are found on reports or other documents associated with the work and not to the company that employs the engineer.

1. Campion, John A., and Diana Dimmer. *Professional Liability in Canada*, Scarborough: Carswell Thompson Professional Publishing

6. General Review of Construction

6.1 Performance Standards

The following section quotes section 2 of O.Reg. 260/08 made under the *Professional Engineers Act* in connection with the services to be provided by professional engineers in undertaking a general review of construction, as required by the *Ontario Building Code*. The non-italicized text describes how review engineers should conduct themselves in order to fulfill these requirements.

1. *The professional engineer, with respect to the matters that are governed by the building code, shall,*
 - i. *make periodic visits to the site to determine, on a rational sampling basis, whether the work is in general conformity with the plans and specifications for the building.*

Professional engineers undertaking general review of construction should establish a program for periodic visits to the site during construction, to review the work and ascertain that it is being executed in general conformance with the plans and specifications. The nature of an appropriate program will vary, based on the complexity and characteristics of the work being undertaken. There should be a sufficient number of visits scheduled at intervals over the complete construction period to ensure that the engineer can monitor all aspects of the work. Before the work begins, establish a procedure whereby the contractor is responsible for informing the engineer prior to the start of each significant phase of the work, so that field visits can be properly scheduled. During each visit, engineers should apply a rational sampling procedure to ascertain the condition of a representative number of each system component.

- ii. *record deficiencies found during site visits and provide the client, the contractor and the owner with written reports of the deficiencies and the recommended actions that must be taken to rectify the deficiencies.*

Professional engineers undertaking general review of construction shall record observed conditions

that may affect public health and safety, as well as a building's fire protection, structural sufficiency, accessibility, conservation and environmental integrity. Written reports of these deficiencies, sequentially numbered, must be forwarded to the chief building official and should also be sent to the owner, contractor and others as agreed to at the beginning of the project. During subsequent visits, report on the condition of previous deficiencies and problems to assess whether the condition has been or will be made good.

The review engineer must report to the chief building official all observed construction deficiencies that would, at the completion of the work, prevent the chief building official from authorizing occupancy of the building.

- iii. *review the reports of independent inspection and testing companies called for in the plans and specifications and which pertain directly to the work being reviewed.*

The plans and specifications issued for a building permit will normally identify the requirements for inspection and testing of materials and products by certified testing laboratories in accordance with recognized test methods. In the event that testing requirements are not established in the plans and specifications, the general review engineer shall require testing of material as required by the *Ontario Building Code*.

General review engineers should refer to the plans and specifications for the testing requirements and review any reports of independent testing companies that pertain directly to the work being reviewed. General review engineers should ensure that copies of the written reports of the inspection and testing companies are forwarded to the chief building official. These reports should be accompanied by comments by the general review engineer, where appropriate.

- iv. *interpret plans and specifications when requested to do so by the client, contractor or owner.*

Unless they are also the designers of the work, general review engineers are not responsible for the engineering associated with the plans and specifications prepared for the works. When requested by the client or contractor, or when dictated by lack of clarity in the project documentation, general review engineers should seek written interpretation or clarification of requirements from the designer of the works. These interpretations and clarifications should be confirmed in writing and become an integral component of the project documentation.

The designer of the works is responsible for interpreting and clarifying the work during construction, unless the design service is terminated, or the contract with the client or the client's agent has been breached. If a professional engineer other than the design engineer carries out the general review, that engineer should consult with the design engineer if and when assistance is required to interpret the drawings and specifications, or when changes to the original design are being contemplated.

If the design engineer is no longer involved in the project, the general review engineer should advise contractors on the interpretation of drawings and specifications, and issue supplementary details and instruction during the construction period as required.

v. review shop drawings and samples submitted by the contractor for consistency with the intent of the plans and specifications.

Shop drawings are to be reviewed and their status reported on the form shown in Appendix 5. This record should include confirmation that the submission has been reviewed by the general contractor and that the components identified on the shop drawings and submissions are in general conformity with the contract documents and intent of the design.

The chief building official must authorize shop drawings and samples that vary from or modify the plans and documentation submitted for building permit approval. The general review engineer should determine from the designer of the works

that the necessary authorization has been obtained for the changes.

The reviewing engineer should ensure that shop drawings resulting from the practice of professional engineering bear the seal and signature of the design engineer and that other submissions, such as test results, have similar professional endorsements, as appropriate. To clarify responsibility, design engineers responsible for a shop drawing may indicate the extent of the work that they have designed.

Samples of products will be identified and reported in a similar format to a shop drawing review. Samples of products should be properly displayed for the chief building official's reference and securely maintained on the construction site.

Reviewing engineers should review submitted shop drawings, equipment tests, samples and balancing reports to the necessary degree to assure themselves of consistency with the intent of the contract, plans, specification and applicable codes and standards.

Shop drawing and sample review is for general conformity only and does not include detailed checking of dimensions or extensive checking of calculations

6.2 Site Visit

Site visits are to take place periodically during the entire course of construction. This does not mean that visits must take place on a predetermined routine, such as on a fixed day every two weeks. Instead, review engineers are expected to visit the site at intervals that enable them to see ongoing construction of representative portions of the work. The engineer should also be on site to view critical elements that may soon be covered.

A typical site visit by a general review engineer should include, but not be limited to:

- a general overview that good construction safety practices are being followed as they relate to the work being reviewed. Construction safety is the contractor's responsibility but reporting on observed breaches of safety standards is consistent

with an engineer's paramount duty to protect the public welfare;

- a review of the existence of the site documentation required by Division C, subsection 1.3.2 of the *Ontario Building Code*;
- a review, if appropriate, of any quality control records since the previous site visit, such as concrete mix sheets, soil tests, or steel specs;
- a review of the condition of stored materials and assessment of storage techniques;
- a general observation of the current status of the work subject to review, with particular attention being directed to any specific aspects, as deemed appropriate by the review engineer;
- a recording of the visit in the site log, if available;
- a provision of any written reports prepared to the chief building official as required by Division C, article 1.2.2.1 of the *Ontario Building Code*.

6.3 Procedure for Projects Proceeding Without Building Permits

An architect, professional engineer, or both must review all building projects in Ontario, that require professional design. The review is required in order to verify that the building is constructed in general conformance with plans approved by the chief building official. Building officials approve plans only when they are certain that they conform to all applicable laws, such as the *Ontario Building Code* and municipal by-laws, as well as site plan agreements. Permits are issued only after the plans are approved.

Construction is not supposed to begin until a permit is issued, but contractors occasionally do not wait. Building officials are aware that professional engineers retained to provide general review of construction occasionally feel compelled to proceed along with the contractor. This violates section 8(1) of the *Ontario Building Code Act*, which states that “[n]o person shall construct or

demolish a building or cause a building to be constructed or demolished unless a permit has been issued therefor by the chief building official.” Any violation of the *Ontario Building Code Act* can result in a significant fine.

The Professional Engineers Act also imposes on professional engineers a professional duty to comply with this statutory requirement. Section 72(2)d of Regulation 941 defines “failure to make responsible provision for complying with applicable statutes, regulations, standards, codes, by-laws and rules in connection with work being undertaken by or under the responsibility of the practitioner” as professional misconduct. In other words, by failing to comply with any law affecting the work, a professional engineer could face discipline by Professional Engineers Ontario, in addition to the *Ontario Building Code Act* penalties. Therefore, for their own protection, reviewing engineers shall not perform any site review until the client obtains a building permit.

Recognizing the legitimate concerns of professional engineers facing a conflict between their professional obligations to protect the public and faithfully serve clients and their legal obligations to comply with all applicable laws, PEO has developed a procedure that strikes a balance between these various duties.

Should an engineer discover on arrival at a construction site that no building permit has been issued for the work, the engineer shall immediately:

- i) inform the site superintendent that the engineer cannot review the work and that this fact must be reported to the building department;
- ii) contact the building department and inform the chief building official that the engineer cannot at this time provide general review as required by the act;
- iii) leave the site and not return until the builder can confirm that a building permit has been obtained and is present at the site; and
- iv) if, while at the site but without conducting a review, the engineer observes an unsafe

condition or practice, immediately advise (preferably in writing) the site superintendent of the danger or dangers associated with the condition or practices.

This standard of practice strikes a balance between a professional engineer's duty to comply with applicable law and the duty to report unsafe conditions. An engineer must inform the building official that the engineer cannot provide general review services because an agreement is in place between the engineer and the municipality based on the signing of the commitment form. The building department must also be notified if for any other reason, such as termination of contract, the engineer cannot fulfill the terms of this agreement, i.e. to carry out general review.

Building officials, through their representatives on the engineers, architects and building officials working group (EABO), have agreed that they will respond quickly to any call from a professional engineer who is aware of construction that is proceeding without a permit. The official is expected to issue a compliance order as soon as possible after notification. Licensees should notify Professional Engineers Ontario if they have any concerns that officials are not dealing properly with projects they have refused to review.

Engineers can take this action with reasonable assurance that the contractor, building owner or a third party cannot sue an engineer who refused to conduct a general review on a building that is being constructed without a permit. This follows from the fact that no one can be compelled through contract to perform an illegal act or can be held to be negligent in their professional duties.

For the same reason, professional engineers are not violating their duty to protect the public welfare if they refuse to conduct a general review of construction under these circumstances. In fact, professional engineers should consider assuring compliance with all laws to be an essential part of their protection of public welfare, since enforcing laws, acting against offenders and taking corrective action where necessary are extremely costly in both time and public funds.

6.4 Report Requirements

The review engineer shall prepare and submit to the chief building official a report for each site visit. The report shall contain appraisal of general conformity for only the work that was actually observed during the particular visit for which the report was issued. Each report should describe briefly the progress of construction since the last visit, describe the components observed during the current visit, identify remedial action on deficiencies noted in previous reports, describe deficiencies identified during the current visit, and list tests observed, samples inspected, and any other third-party contribution used in determining general conformity of the project. Each report for a particular project shall be dated and numbered sequentially. A sample report form is provided in Appendix 4.

6.5 Sealing Documents

The Professional Engineers Act requires professional engineers to affix their seals to any document containing engineering content that is provided as part of a service to the public. Reports attesting to the general conformity of buildings that are generated during general review of construction are statements of professional opinion and therefore must be sealed. For further information on the use of seal, see the *Guideline to Professional Practice* and *Guideline for Use of the Professional Engineer's Seal*.

7. Additional Considerations

7.1 Other Legislation

In addition to the *Professional Engineers Act*, *Ontario Building Code* and the *Ontario Building Code Act*, professional engineers undertaking general review of construction should be familiar with the following legislation.

The *Occupational Health and Safety Act* (OHSA) and Regulations for Construction Projects, O. Reg. 213/91 impose requirements on workers, site superintendents, constructors and others working on construction sites for the purpose of protecting the health and safety of everyone on site. All workers on a construction site, including professional engineers or their designated representatives visiting a site for the purpose of conducting a review of construction, are required to comply with the requirements of the OHSA. In particular, the engineer should be familiar with sections 21 through 27, which describe the requirements for protective clothing, equipment and devices. When on site, professional engineers must wear appropriate protective headgear and footwear at all times and must wear protective eyewear where there is a risk of eye injury. The OHSA also requires that any worker who may need to enter an area where fall arrest equipment is required must have had appropriate training. The OHSA also identifies a number of situations where a professional engineer must design, inspect or certify cranes, work platforms, and temporary works, such as scaffolding and shoring. These are not the responsibility of the professional engineer providing general review of construction, but the engineer should be aware of these situations and bring to the attention of the site superintendent any non-compliance with the OHSA.

The *Regulations for Construction Projects* requires every entity engaged in the construction of the project, including the firm of engineers providing site review, to complete a Registration of Constructors and Employers Engaged in

Construction form and to file this with the site superintendent before work on the site begins. This form must include the Workplace Safety Insurance Board (WSIB) number and rate category for the entity. Most engineering practices with full or part-time employees must be registered with WSIB.

In June 2002, the provincial government revised the *Ontario Building Code Act* by adding certification and insurance requirements for some design professionals responsible for submission of some documents required for building permit applications. These requirements do not apply to professional engineers performing general reviews.

7.2 Contractual Relationships, Qualifications and Conflict of Interest

Division C, article 1.2.2.1 of the *Ontario Building Code* requires that the constructor of the works ensure that a professional engineer be retained to undertake the required general review of the engineering aspects of the works.

The contractual relationships evolving from this requirement will depend upon the particular circumstances of each particular case. The general review engineer may be an independent or an employee of an independent firm not otherwise professionally involved with the works. Alternatively, the engineer may be an independent or an employee of an independent firm that has other professional involvement with the works, such as providing design or inspection services. Otherwise, the engineer may be a member of, or closely associated with, a design-build team contracted to construct the works.

In all cases, except those where the engineer is an employee of the owner of the building, the general review engineer will need to be a holder, or an employee of a holder, of a valid Certificate of Authorization. *The Professional Engineers Act*,

Regulation 941 and the Code of Ethics at section 77 of the Regulation require that the general review engineer disclose any potential conflicts of interest. This is particularly significant in cases where the review engineer has a close professional involvement in other engineering aspects of the works, such as design or design-build. It is recommended that engineers closely associated with a design-build team be particularly cautious in committing to doing general review of any of that team's construction.

As is prudent with all commercial relationships, the terms of retaining the general review engineer should be subject to written contract.

The nature of the particular contract in any particular case will depend on the broader general contractual relationship under which the works are being carried out. The general review engineer may be retained directly or indirectly depending on the engineer's status (independent or employee). This should be by contract with the client, or the client's agent. Reference should be made to the PEO guidelines for *Professional Engineers Acting as Contract Employees*, *Professional Engineers Acting as Independent Contractors* and *Use of Agreements Between Clients and Engineers for Professional Engineering Services* for the typical contractual terms that should be incorporated in the general review contract. The contract should specifically address issues of fees; terms of payment and remedies for breach of contract by non-payment or by early termination of services by either party. Issues of copyright to reports should also be defined.

The inclusion of the EABO sample forms is also recommended. Copies of these forms can be obtained from Professional Engineers Ontario.

Essentially, there are three main parties involved in the process under section 1.2.2.1 of the *Ontario Building Code*: the client (or agent), the reviewing engineer and the chief building official. The relationship between the first two is contractual, while both have a statutory relationship with the chief building official. These inter-relationships for a particular case are confirmed by the use of the EABO Commitment to General Review form, when signed by the parties involved.

The role of the chief building official is defined in the *Ontario Building Code Act*, its Regulations, and the *Ontario Building Code*. Chief building officials have extensive powers in applying and interpreting the *Ontario Building Code*. The ultimate enforcement mechanism available to a chief building official is the issuance, and enforcement, of an "order", which would be the ultimate outcome if a chief building official found a general review to be unsatisfactory. This order would be to the building permit holder and its impact on the reviewing engineer would depend upon the terms of the contract under which the review work is being done.

There is no requirement, or ethical obligation, for the reviewing engineer to complete a general review if the contract with the client, or the client's agent, has been breached. However, the engineer has a professional duty to provide the client and the chief building official with written notification of the termination of professional services.

Appendix 1. Definitions

General Review: Under Division C, article 1.2.2.1 of the *Ontario Building Code*, “general review” is an inspection and reporting process to advise the chief building official if the works are being constructed in general conformity with the plan and other documentation that were the basis for the issuance of the building permit. Additionally, under section 2 of Regulation 260/08, the reviewing engineer must also identify actions needed to correct any deficiencies found and interpret plans and specifications, when requested. A general review does not require the reviewing engineer to check the validity and accuracy of the plans and other documentation.

General Review Engineer (or Reviewing Engineer) is the engineer providing general review of the construction in order to ascertain the general conformity of the work with the plans and specifications submitted for the building permit. Since general review of construction may relate to several disciplines of engineering, various professionals might be needed on the same project.

General Conformity (also referred to as General Conformance): The “general conformity” opinion is a professional judgment by the reviewing engineer that the standard of the construction work fulfills the essential requirements of the plans and other documents that were the basis for the issuance of the building permit. The reviewing engineer shall ensure that the work has at least been done in accordance with normally accepted industry standards with a limiting criterion being the risk to public safety. To ascertain this, the engineer should observe whether the contractor has fulfilled the majority of requirements, including all the major requirements, specified in the drawings, specifications or standards for all products, processes or services provided by the contractor.

Rational Sampling Basis: In the context of general review, a “rational sampling basis” refers specifically to the actions of the reviewing

engineer during the periodic visits to the works required by section 78.1(i) of Regulation 941. At each visit, the reviewing engineer will exercise professional judgment to make a logical determination, based on observations made during the course of the site visit, of what aspects of the works will be sampled at that visit at that stage of the construction. Such samples may include visual inspections, material or performance tests, documents supplied by manufacturers, contractors or suppliers, or other means required by the reviewing engineer. This determination may include considerations made in advance of the visit but it must be based on professional judgment applied at the site at the time of the visit. A rational sampling basis program cannot be fully predicted in advance of periodic site visits and there is no requirement to provide prior filing of a program of periodic site visits or sampling. However, a review engineer should request that the contractor provide appropriate notification prior to commencing significant portions of the work, so that visits can be scheduled to observe this work.

Temporary Works are installations that are required to provide interim access, protection, support, or services for works and materials during construction of the permanent works. Contractors may be required by legislation or specification to provide professional engineering review of these installations. Refer to the *Guideline for Professional Engineers—Temporary Works*. Temporary works are not normally subject to review under Division C, article 1.2.2.1 of the *Ontario Building Code*.

Appendix 2. Extracts From O.Reg. 260/08, Made Under the *Professional Engineers Act*, and the *Ontario Building Code*

Professional Engineers Act O.Reg. 260/08

Definitions

1. In this Regulation,
“building” means a building as defined in the *Building Code Act, 1992*;
“building code” means Ontario Regulation 350/06 (Building Code) made under the *Building Code Act, 1992*.

Construction of a Building

- 2.(1) In this section,
“construct” and “construction” have the same meaning as in the *Building Code Act, 1992*;
“plans and specifications” means a plan or other document which formed the basis for the issuance of a building permit and includes any changes to the plan or other document that are authorized by the chief building official as defined in the *Building Code Act, 1992*.

- (2) The following are prescribed as performance standards with respect to the general review of the construction of a building by a professional engineer as provided for in the building code:

1. The professional engineer, with respect to the matters that are governed by the building code, shall,
 - i. make periodic visits to the construction site to determine, on a rational sampling basis, whether the work is in general conformity with the plans and specifications for the building,
 - ii. record deficiencies found during site visits and provide the client, the contractor and the owner with written reports of the deficiencies and the

actions that must be taken to rectify the deficiencies,

- iii. review the reports of independent inspection and testing companies called for in the plans and specifications and which pertain directly to the work being reviewed,
- iv. interpret plans and specifications in writing when requested to do so by the client, the contractor or the owner, and
- v. review shop drawings and samples submitted by the contractor for consistency with the intent of the plans and specifications.

2. The professional engineer may delegate one or more of the functions or requirements described in paragraph 1 to another person if it is consistent with prudent engineering practice to do so and the functions or requirements are performed under the supervision of the professional engineer.

- (3) Subsection (2) applies with necessary modifications to a limited licence holder, if the holder undertakes a general review of the construction of a building.

Ontario Building Code

1.2.2. General Review

1.2.2.1. General Review by Architect or Professional Engineer

- (1) Except as permitted in Sentence (2), a person who intends to *construct* or have constructed a *building* required to be designed by an *architect*, *professional engineer* or both, shall ensure that an *architect*, *professional engineer* or both are retained to undertake the general review of the *construction* of the *building* in accordance with the performance standards of the Ontario Association of Architects or the Association of Professional Engineers of Ontario, as applicable, to determine whether the *construction* is in general conformity with the plans, sketches, drawings, graphic representations, specifications and other documents that are prepared by an *architect*, *professional engineer* or both and that form the basis for the issuance of a permit under section 8 of the Act or any changes to it authorized by the *chief building official*. Copies of written reports arising out of the general review shall be forwarded to the *chief building official* or *registered code agency*, as the case may be, by the *architect*, *professional engineer* or both who have been retained to undertake the general review of the *construction* of the *building*.
- (2) An *architect* or a *professional engineer* need not be retained to undertake the general review of *construction* of a *building* where the *building* is designed in accordance with Subsection 12.3.3. of Division B.

1.2.2.2. Restriction for General Review

- (1) Only an *architect* may carry out or provide the general review of the *construction* of a *building*,
 - (a) that is constructed in accordance with a design prepared or provided by an *architect*, or
 - (b) in relation to services that are provided by an *architect* in connection with the

design in accordance with which the *building* is constructed.

- (2) Only a *professional engineer* may carry out or provide the general review of the *construction* of a *building*,
 - (a) that is constructed in accordance with a design prepared or provided by a *professional engineer*, or
 - (b) in relation to services that are provided by a *professional engineer* in connection with the design in accordance with which the *building* is constructed.

1.3.2. Site Documents

1.3.2.1. Permit Posting

- (1) Where a permit has been issued pursuant to the Act, the person to whom it is issued shall have the permit or a copy of it posted at all times during *construction* or *demolition* in a conspicuous place on the property in respect of which the permit was issued.

1.3.2.2. Documentation on Site

- (1) The person in charge of the *construction* of the *building* shall keep and maintain on the site of the *construction*,
 - (a) at least one copy of drawings and specifications certified by the *chief building official* or a person designated by the *chief building official* to be a copy of those submitted with the application for the permit to *construct* the *building*, together with changes that are authorized by the *chief building official* or a person designated by the *chief building official*, and
 - (b) authorization or facsimiles of it received from the Building Materials Evaluation Commission, including specified terms and conditions.

Appendix 3. EABO Standard General Review Commitment Form

Commitment to General Reviews by Architect and Engineers

This form to be completed by the owner or owner's authorized agent, and signed by all consultant retained for general reviews

Part A - Owner's Undertaking

Permit Application No.

Project Description:

Address of Project:

Municipality:

WHEREAS the Ontario Building Code requires that the project described above be designed and reviewed during construction by an architect, professional engineer or both that are licensed to practice in Ontario;

NOW THEREFORE the Owner, being the person who intends to construct or have the building constructed hereby warrants that:

1. The undersigned architect and/or professional engineers have been retained to provide general reviews of the construction of the building to determine whether the construction is in general conformity with the plans and other documents that form the basis for the issuance of a building permit, in accordance with the performance standards of the Ontario Association of Architects (OAA) and/or Professional Engineers Ontario (PEO);
2. All general review reports by the architect and/or professional engineers will be forwarded promptly to the Chief Building Official, and
3. Should any retained architect or professional engineer cease to provide general reviews for any reason during construction, the Chief Building Official will be notified in writing immediately, and another architect or engineer will be appointed so that general review continues without interruption during construction.

The undersigned hereby certifies that he/she has read and agrees to the above

Name of Owner:

Date:

Address of Owner:

Tel:

Fax:

Signature of Owner: (or officer of corporation)

Print Name:

Coordinator of the work of all consultants:

Tel:

Fax:

Address:

Part B - Consultants

The undersigned architect and/or professional engineer(s) hereby certify that they have been retained to provide general reviews of the parts of construction of the building indicated, to determine whether the construction is in general conformity with the plans and other documents that form the basis for the issuance of a building permit, in accordance with the performance standards of the OAA and/or PEO.

Shaded portion to be completed by consultants

<input type="checkbox"/> Architectural	<input type="checkbox"/> Structural	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Electrical	<input type="checkbox"/> Site services	<input type="checkbox"/> Other (specify):
Consultant Name:		Signature:		Print Name:	
				Date:	

Telephone: Fax: Address:

<input type="checkbox"/> Architectural	<input type="checkbox"/> Structural	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Electrical	<input type="checkbox"/> Site services	<input type="checkbox"/> Other (specify):
Consultant Name:		Signature:		Print Name:	
				Date:	

Telephone: Fax: Address:

<input type="checkbox"/> Architectural	<input type="checkbox"/> Structural	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Electrical	<input type="checkbox"/> Site services	<input type="checkbox"/> Other (specify):
Consultant Name:		Signature:		Print Name:	
				Date:	

Telephone: Fax: Address:

<input type="checkbox"/> Architectural	<input type="checkbox"/> Structural	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Electrical	<input type="checkbox"/> Site services	<input type="checkbox"/> Other (specify):
Consultant Name:		Signature:		Print Name:	
				Date:	

Telephone: Fax: Address:

EABO Standard form/Endorsed by OAA, PEO and Ontario Building Officials Association

Appendix 4. EABO Standard Visit Report Form and PEO Supplements

<p>Name of Practice: Address: Telephone: Fax: Email:</p>	<p>General Review Report</p>
<p>Name of Project: _____</p>	<p>Project No.: _____</p>
<p>Location: _____</p>	<p>Report No: (numbered sequentially) _____</p>
<p>Contractor: _____</p>	<p>Date of visit/time: _____</p>
<p>Site Representative: _____</p>	<p>Weather: _____</p>
<p>Present: _____</p>	<p>Building Permit No.: _____</p>
<p>Report by: (print name) _____</p>	<p>Date Permit Issued _____</p>
<p>Signature: _____</p>	
<p>Attachments: _____</p>	
<p>_____</p>	
<p>_____</p>	
<p>Distribution:</p>	
<p>Building Owner _____</p>	
<p>Contractor _____</p>	
<p>Chief Building Official _____</p>	
<p>Consultants _____</p>	
<p>Other (name) _____</p>	
<p>The following items were noted:</p>	
<p>1.0 SITE CONDITIONS Where applicable advise of any notable site conditions which have bearing on the construction of building elements.</p>	
<p>2.0 PROGRESS OF THE WORK General description of the progress made in the work since the last report, identifying major components of the building and those portions observed.</p>	
<p>3.0 OBSERVATIONS AND COMMENTS A brief description of any issues of concern encountered. Identify those items which are <i>Ontario Building Code</i> infractions or deviations from the approved building permit documents. Indicate direction for remedial actions, initiation of any testing procedures and time frame for corrective action. Provide backup documentation where pertinent.</p>	
<p>4.0 PREVIOUS DEFICIENCIES A short summary revisiting the status of deficiencies from previous reports, referenced by the report number. Identify items resolved and any which remain outstanding.</p>	
<p>EABO Standard form/Endorsed by OAA, PEO and Ontario Building Officials Association</p>	



Appendix 5. PEO Standard Shop Drawing and Samples Review Report (Template)



**Professional Engineers
Ontario**

Name of Practice:

Address:

Telephone:

Fax:

Email:

Name of Project: _____

Location of Project: _____

Report by: (print name) _____

Signature: _____

Attachments: _____

Distribution:

Building Owner _____

Contractor _____

Chief Building Official _____

Consultants _____

Other (name) _____

Project No.: _____

Report No: (numbered sequentially) _____

Date: _____

Contractor: _____



1.0 SAMPLES AND SHOP DRAWINGS REVIEWED

Description of Sample or Shop Drawing	Comments	Reviewed	Resubmit	Revised

Attach additional sheets if necessary

2.0 COMMENTS

A brief description of any issues of concern encountered. Identify those items that are not compliant with codes or standards or deviate from the approved building permit documents.

3.0 PREVIOUS DEFICIENCIES

A short summary revisiting the status of deficiencies from previous review reports, referenced by the report number. Identify items resolved and any that remain outstanding.

Appendix 6. PEO Standard Project Completion Notice Template

(Note: This letter to be printed on the engineering firm's letterhead)

Building Department
Town of Anywhere,
Anywhere, Ontario LOL OLO
Attention: Chief Building Official

Re: Project XYZ
Building Permit No.:
Our File No.:

Dear Sir/Madam:

During the course of construction of the above project, personnel from our firm carried out periodic site reviews of *[structural, mechanical, electrical]* work in accordance with the requirements of Division C, subdivision 1.2.2 of the *Ontario Building Code* and the requirements of section 2 of Ontario Regulation 260/08, made under the *Professional Engineers Act, 1990*, as amended. These reviews were conducted following the procedures described in the *Professional Engineers Ontario Guideline for Professional Engineers Providing General Review of Construction as Required by the Ontario Building Code*.

On the basis of these reviews *[and the basis of reports submitted to our firm by independent testing and inspection firms]* it is our opinion that the work is in general conformity with the drawings and specifications prepared by *[DEF Engineering]* under the professional seal of *[designer's name]*, P.Eng., which formed the basis for issuance of the building permit and any changes thereto authorized by the Chief Building Official with the exception of the following: *(List deficiencies, uncompleted work, or warranty items outstanding at the time of final visit)*.

Yours truly,

XXXXXXXX, P.Eng.
ABC ENGINEERING

XX:am



Appendix 7. Amendment and Revision Submission Form

Guideline:

Statement of proposed amendment or revision:

Reason:

Submitted by:

Date:

Mail: Professional Engineers Ontario
40 Sheppard Avenue West, Suite 101
Toronto, Ontario M2N 6K9
Attention: Bernard Ennis, P.Eng., Manager, Practice and Standards

Fax: (416) 224-8168 or (800) 268-0496

Email: bennis@peo.on.ca

Appendix 8. PEO Professional Practice Guidelines

1. Acting as Contract Employees (2001)
2. Acting as Independent Contractors (2001)
3. Acting Under the Drainage Act (1988)
4. Acoustical Engineering Services in Land-Use Planning (1998)
5. Building Projects Using Manufacturer-Designed Systems & Components (1999)
6. Commissioning Work in Buildings (1992)
7. Communications Services (1993)
8. Engineering Services to Municipalities (1986)
9. Environmental Site Assessment, Remediation and Management (1996)
10. General Review of Construction as Required by the Ontario Building Code (2008)
11. Geotechnical Engineering Services (1993)
12. Guideline to Professional Practice (1998)
13. Human Rights in Professional Practice (2000)
14. Land Development/Redevelopment Engineering Services (1994)
15. Mechanical and Electrical Engineering Services in Buildings (1997)
16. Professional Engineer as an Expert Witness (1997)
17. Professional Engineer's Duty to Report (1991)
18. Project Management Services (1991)
19. Reports for Pre-Start Health and Safety Reviews (2001)
20. Reports on Mineral Properties (2002)
21. Roads, Bridges and Associated Facilities (1995)
22. Selection of Engineering Services (1998)
23. Solid Waste Management (1993)
24. Structural Engineering Services in Buildings (1995)
25. Temporary Works (1993)
26. Transportation and Traffic Engineering (1994)
27. Use of Agreements between Client and Engineer for Professional Engineering Services (including sample agreement) (2000)
28. Use of Computer Software Tools Affecting Public Safety or Welfare (1993)
29. Use of Professional Engineer's Seal (2005)



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