

## **ROUNDTABLE 3 - ROLE OF PROFESSIONALS and OTHER BUILDING CONSULTANTS**

**WEDNESDAY NOVEMBER 20, 2013 – THURSDAY NOVEMBER 21, 2013**

**Moderator: Bruce Carr-Harris**

### **CONFIRMED PARTICIPANTS:**

- Professional Engineers of Ontario (PEO) CONFIRMED NAME TO FOLLOW
- Paul Acchione , President, Ontario Society of Professional Engineers
- J. William (Bill) Birdsell, President, Ontario Association of Architects
- Gregory (Greg) Miller, C.E.T., CBCO, Vice President on OACETT (Ontario Association of Certified Engineering Technicians and Technologists) Council and is Manager, Building and By-Law services and Chief Building Official for the Town of the Blue Mountains
- Dale Craig, Chairman of J.L. Richards and Associates Ltd.
- Prof. Jag Humar, Carleton University

- 1) Should the term “prime consultant” be defined and the roles and responsibilities clearly enunciated?

*Agreed, the roles, responsibilities and accountability of the prime consultant needs to be clearly enunciated with the need for a “playbook” or script to provide the prime consultant with criteria, check lists and performance criteria in preparing, undertaking and finalizing the work.*

*OACETT maintains the position that the “prime consultant” need not only be restricted to a license holder but may include other qualified professionals (e.g. OACETT certified members) with the technical and management capabilities to ensure a team comprised of professionals including licensed professionals, perform the work to high standards.*

- 2) Should Consultants, including engineers, architects and building inspection companies, be required to clarify the scope of their expertise to their clients and to clearly establish which elements of the building they are qualified to provide an opinion on and which elements of the building they will not be inspecting or addressing due to lack of sufficient expertise.

*Yes, it should be a requirement for the vendor to disclose their professional competencies and limitations to a client.*

- 3) Should the PEO, the OAA and the OACETT provide guidelines with clearer standards for the inspection of an existing building, including best practices to

***OACETT supports PEO’s recommendation that a Practice bulletin entitled “Structural Engineering Assessments of Existing Buildings” be enacted as the performance standard under the authority of the Professional Engineering Act (PEA). And, that the resulting work flowing from this standard be called the “Structural Adequacy Report”. Establishing a provincial standard for inspection processes and reporting would be a “best practice”; the elements of this “best practice” guideline are articulate in the Commission’s subsequent list of questions.***

- establish clear terminology to ensure that clients and regulators understand the scope of work, defining the scope of work expected in various types of inspections (for example, opening up concealed areas to examine connections or measuring corrosion) and ensuring that the engineer has sufficient resources, and a sufficient retainer, to be able to complete the required work;

***Agreed***

- clarify which documents should be reviewed prior to the inspection;

***Agreed***

- clarify which questions must be asked of the on-site owner representative, including a request for production of previous structural engineering reports;

***Agreed***

- identify the critical areas and determining the appropriate number of samples on which to draw credible conclusions;

***Agreed***

- document the inspected areas, including photographs, measurements, samples and notes.

***Agreed***

- clarify and define terms such as ‘visual’ inspection’, ‘condition assessment’, ‘detailed condition assessment’, ‘structural assessment report’, ‘structural elements’ etc.

***Agreed that greater clarity and definition is a principle to support, it should remain the responsibility of the professional regulators to determine appropriate definitions based on industry practices and terms.***

- prohibit the use of statements in reports such as “*All beams inspected had little loss of section and we would consider the members still structurally sound*” where the location of those beams or structural elements on which that opinion was based has not been identified within the report;

***Agreed***

- establish a baseline of what is deemed to be an appropriate representative sample of the structural system and its components, including joints and connections, and structural steel to be inspected before the professional inspecting the building can confidently confirm that a building is ‘structurally sound.’

***Agreed***

- set out the minimum standards for inspection by the professional inspecting the building to determine whether there has been ‘section loss’ of structural elements. In particular whether actual measurement is required where corrosion has been identified or that a ‘visual assessment’ of the degree of corrosion is sufficient?

***Agreed***

- define what the professional inspecting the building must include in their reports in relation to which elements of the building have and have not been inspected. Should the Guidelines require that a review of structural steel must include an inspection of and report on the condition of the connections, failing which the structural review is not complete?

***Agreed. Whether the inspection report must include a review of structural steel connections, including the removal of facing, will largely be determined by the use and class of building and the professional’s assessment of the risk of exposure of such connections to water, etc.***

- specify when the professional conducting the inspection should include a warning in their report to the client of the potential risks of failing to follow the recommendations in the report where significant or potentially unsafe deficiencies in the building have been identified and recommendations have been made for the repairs;

***Agreed***

- set out when it is appropriate to make changes to a draft report based on client feedback;

***Agreed, with financial audits an example of appropriate practice, whereby an auditor meets with the client to review the findings and provides the client with the opportunity to offer comments on the auditor's findings and report. It needs to be stated that during client feedback, the client cannot expect, nor can the professional undertaking the inspection, materially alter the significant findings of the report based on sound engineering principles,***

- set out when copies of the reports for the buildings which have been inspected in the past should be retained;

***Agreed, with the requirement that for certain classes of buildings considered high risk, the inspection reports need to be on file with the CBO and available to all interested parties.***

- establish an obligation to create and maintain a searchable database within their respective offices (locally and nationally) which would allow the professional conducting the inspection to search to see if their respective companies have inspected a particular building in the past (for any reason) and to review the previous files and reports prior to taking on a new retainer, or conducting a further inspection of the building; and

***Access to historical inspection reports and any follow-up remedial action are important. Yet the capacity of say, the office of a CBO – particularly in smaller communities – is limited to managing the files. It would appear appropriate that for certain classes of high risk buildings (e.g. exposed parking garages over occupied space), that reports are required to be submitted to the CBO for file and review. For other buildings of lesser risk, regulatory requirements would require the owner to maintain an inspection report registry that would be transferred with title.***

- clarify the procedure to be followed when signing a report prepared by a graduate professional in training, a C.E.T. or an unlicensed engineer.

***Agreed***

- 4) Should there be a requirement on engineers and architects to advise clients (past and present?) of the suspension or revocation of their license?

***Yes. OACETT also maintains a publicly available searchable database to identify individuals who are OACETT members and their certification standing.***

- 5) Although architects and engineers currently have a duty to report a building which poses a threat to the safety and security of the public, should a guideline be issued by the PEO, OAA and/or the OACETT which provides:
  - a. a standard of when the professional is to report the unsafe conditions (i.e. degree of risk;

***Agreed with a provincial standardized format for reporting.***

- b. that public safety should be the primary consideration;

*Agreed*

- c. to whom the professional is to report the unsafe condition (i.e. professional organization, CBO of the municipality in which the unsafe building is located, owner, etc.); and

***The professional has an obligation to report the unsafe condition to the owner. There is the need, however, to also consider a “trigger”, including a clear policy with legislative support, were in the opinion of the professional there is an immediate clear and present danger to the public in which case there is an obligation by the professional to report the findings immediately to both the owner and the CBO for appropriate action.***

- d. whether the professional (architect, engineer, C.E.T.) reporting the unsafe building should be afforded immunity from liability where the building has been reported in good faith.

***Agreed, including members of the general public who may file a complaint.***

5A) The Algo Centre Mall included an open air parking lot over occupied space. Are you aware of other commercial buildings in Canada of similar design and construction? Are there problems with this kind of structure which need to be addressed by consultants?

***It is in OACETT’s estimation that there are a considerable number of buildings of similar design to the Algo Centre mall throughout Ontario and Canada. The extent to which there are problems with these buildings is unknown.***

- 6) Should the concept of a “provincial engineer” be adopted in Ontario?

***In OACETT’s opinion, providing there is regulatory authority to give the municipality upon complaint the required authority to “order to uncover”, particularly with respect to existing buildings, to permit inspection for structural integrity and require remediation, there is no compelling reason to establish the office of a provincial engineer.***

- 7) In the past, engineers had specialties that were identified on their seals. Should the PEO, in the case of structural engineering at least, revert to that approach, including specific training and mandatory continuing professional education components for engineers practicing and holding themselves out to the public as “structural engineers”?

***OACETT holds the view that this matter is best left to the regulatory responsibilities of the PEO, but with one provision that if introduced it becomes a mandatory designation. We agree that in case of professionals involved in work which might affect public safety i.e. structural designers and inspectors additional certification qualifications will be beneficial.***

***If the Commission decides that it is compelled to set standards for “who is qualified” and “what are the qualifications”, including special structural designations for license holders, OACETT would encourage the Commission to broaden its consideration for similar treatment to other professions.***

- 8) Should Professional Engineers Ontario adopt a system of mandatory continuing education similar to other professions in the province and like other professional engineering licensing bodies in several other provinces?

***Agreed***

- 9) Should PEO adopt guidelines for structural engineering practice and independent documented structural engineering review similar to those now published by APEGBC and which resulted from the inquiry into the Station Square collapse in Burnaby, B.C. in 1988?

***Agreed***

- 10) What is the general state of knowledge in the engineering profession of corrosion, and particularly what conditions affect the rate of corrosion of structural steel and what is the impact of corrosion on the anticipated life of a building’s structural integrity? Is there continuing education in this area and, if not, should there be?

***Yes, more training and education on corrosion and its impact would be advisable. College graduates in the civil discipline following two and three year diplomas receive a general introduction to corrosion but not extensive training. Traditionally, through work experience technicians and technologists gain a better understanding of the subject. While enhanced professional development in general is recommended, the complexity of corrosion on structural integrity in particular may require the involvement of specialists in high risk situations.***

- 11) Considering the information you have gleaned from the proceedings of the Elliot Lake Commission of Inquiry, can you provide your top five recommendations as to what should be done to ensure that a similar tragedy does not occur again in Ontario or Canada? If possible, identify the sort of buildings or occupancies which should be the highest priority?

### Recommendation One

*That legislation be enacted with the following provisions:*

- a. Protection from penalty or civil litigation for any member of the public, who in good faith, reports to the municipality conditions where ongoing water infiltration or a suspicion of a serious structural issue in a public building may be evident (similar to the Good Samaritan Law).*
- b. Which gives the municipality (Building Department, Property standards, etc.) the authority to conduct its own initial investigation into the complaint.*
- c. Which gives the municipality (Building Department, Property standards, etc.) clear authority to issue an Order to Uncover, particularly for existing buildings, and to require a full structural review and report from a professional structural engineer.*

### *Rationale*

*The history of the failings that led to the Algo Mall collapse are well documented: many people knew the roof leaked “salt water” including structural engineers, the public and others and despite numerous parties making complaints or raising concerns, no thorough inspections were ever approved and undertaken including removing coverings that would have permitted a thorough enough inspection to uncover the most serious structural problems.*

### Recommendation Two

*That legislation be introduced to enforce at a minimum of once every five years, thorough structural inspections of a high risk building (e.g. roof top parking structure and occupied space below).*

### *Rationale*

*It is estimated that there are a considerable number of buildings of similar design to the Algo Centre Mall throughout Ontario and Canada. There are no assurances that similar neglect as what happened at the Algo Mall and the corresponding threat to public safety won't be repeated. While there are hundreds of thousands of buildings, the identification of high risk facilities (e.g. parking garages located above occupied space exposed to the corrosive affects of water and salt) for regular inspections currently undertaken in some other jurisdictions would appear to be a reasonable balanced approach to identifying potential or real problems – recognizing that the cost of which would be borne by the owner which in turn has the capability to recover costs.*

### Recommendation Three

*That Minimum Maintenance Standards for Existing Buildings be made into regulation.*

*That buildings by virtue of their type and use (types of structures and inspection frequency to be determined) be required to be inspected and maintained to ensure the structural integrity of the building for its' intended use.*

## *Rationale*

*Historically there has been no maintenance provisions for buildings enacted in law that would ensure buildings are maintained to a minimum standard. In light of this many municipalities have created minimum property standards by-laws to address this gap but there is limited consistency in their application. Further, there is often no authority to address access and inspection of critical elements which upon their failure could lead to an incident as experienced in Elliot Lake.*

*The Building Code Act however, does provide the legislative authority to create these standards. Therefore if standards for buildings which can be adversely affected by the infiltration of water leading to deterioration of supporting elements are created, then municipalities could require existing buildings with visible and/or evidence of structural deficiencies to be brought up to that minimum standard.*

## *Recommendation Four*

*That PEO's proposed Structural Practice Bulletin, entitled "Structural Engineering Assessments of Existing Buildings" is enacted by regulation.*

## *Rationale*

*The practice bulletin could provide the frame work for consistent criteria and standardized reporting so that the practitioner and the building owner would be made aware of their respective obligations and the extent by which they could be applied to ensure that the minimum level of due diligence was achieved.*

## *Recommendation Five*

*That municipal repositories be created and maintained for the purpose of storing information for any high risk structure so identified (e.g. parking structures over occupied space) where a permit has been issued for work required to preserve its structural adequacy. The information referred to above may include: as-built structural drawings; structural inspections/reports; structural adequacy reports; structural drawings and reports related to the remedial work performed, etc. Further, that all structural inspection reports shall be maintained by the owner by regulation and that they are transferred with title.*

## *Rationale*

*In order that the appropriate history on the condition of the high risk buildings are maintained the records would provide owners, agents and other professionals (e.g. fire marshal) access to the information which may assist in determining previous/and present condition of the building and its' structural adequacy.*



If possible, identify the sort of buildings or occupancies which should be the highest priority?

*OACETT maintains that immediate focus should be on multi-level garages on top of occupied space.*

Submitted on behalf of OACETT by:

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