

THE HONOURABLE MR. JUSTICE PAUL R. BÉLANGER

IN THE MATTER OF an Application under the *Rules of Procedure* of the Elliot Lake
Commission of Inquiry and the *Public Inquiries Act*, 2009

BETWEEN:

ROBERT WOOD

Applicant

-and-

THE ELLIOT LAKE COMMISSION OF INQUIRY

Respondent

SUBMISSIONS

PROCEDURAL ORDER No. 9

O'NEILL DELORENZI MENDES

Barrister & Solicitors

116 Spring Street

Sault Ste. Marie, On

P6A 3A1

Robert MacRae (2329661)

Tel: (705) 949-6901

Fax: (705) 949-0618

Solicitor for the Applicant

July 1988, MOH OBB

REPORT OF THE ADVISORY COMMITTEE ON THE DETERIORATION, REPAIR AND MAINTENANCE OF PARKING GARAGES

1. The production of this report and associated documents would have greatly assisted the Commission in its mandate. While the nonproduction of these documents is very troubling, it is assumed that the Commission will address this issue.
2. It is; however, the respectful submission of Robert Wood that if this information had been properly produced to the Commission prior to the hearing of evidence, all parties would have been greatly assisted.
3. Mr. Wood's representation at the Commission was seriously compromised by the failure of the Government of Ontario to disclose this information. All cross-examination of witnesses would have been beneficially informed had these reports been provided by the Ontario government instead of anonymously supplied. The three parties involved in the previous inspections of the Algo Centre Mall being the Trow Group, Halsall Engineering and Construction Control Ltd., all had representatives who participated in the process that led to these reports being completed.
4. The suggestions of concern evidenced in the materials, and also the immediacy of the problems as reported in the materials, are extremely troubling in light of involvement of these groups in both the report and also the inspections of the Algo Centre Mall in Elliot Lake.
5. The report raises questions not yet answered.

The cause of the collapse.

6. Reference to the second paragraph of the executive summary.

“Rapid and progressive structural deterioration of parking garage structures is essentially caused by corrosion of the reinforcing steel or the steel tendons in post-tensioned or pre-tensioned concrete,”

Reference clause 1.3.1. Corrosion of Steel in Concrete

7. The last paragraph of this section refers to post-tensioned concrete but the same would apply to pre-tensioned tendons.

- a. "Corrosion of tendons and their anchorages will have a most serious effect on the load carrying capacity and serviceability of the structure. In addition the corrosion of tendons pose a serious hazard to garage users (in this case Mall occupants} due to the potential for sudden eruption of the failed tendon from the slab."

This passage is directly relevant to the issue of the falling concrete that was referenced in the evidence that the Commission heard.¹

8. "Even though corrosion continues, no delamination will occur until the corrosion product on the reinforcing bars (the pre-stressed tendons at Elliot Lake) creates tensile force sufficient to exceed the tensile strength of concrete. HENCE THE STEEL CAN CORRODE WITHOUT VISUAL EVIDENCE."²

9. Thus corrosion of pre-stressed tendons that may have caused or contributed to the localized collapse at the Algo Mall can occur without visual evidence.

10. The evidence provided to the Commission; however, provided adequate warning signs to those that owned the Mall, as follows:

Commission Exhibit #35 TROW INVESTIGATION May 1991

- i. Reference 12.0 CONCLUSIONS 2.

- b. "Water and salt penetration through cracks and joints will cause deterioration of the concrete prestressed cables"

Commission Exhibit #44 TROW UPDATE INVESTIGATION NOV. 1994

- i. Reference 10. CONCLUSIONS 2.

- ii. "Based on the test results, it appears that the chlorides have begun to contaminate the precast concrete slabs, which would likely cause rusting of the prestressing strands in the slabs."

¹ (c) Reference clause 1.3.2. Factors Affecting the Rate of Corrosion.

² Report of the Advisory Committee on the Deterioration, Repair and Maintenance of Parking Garages, July 1988, MOH OBB, Pg. 7

11. The final event that occurred approximately one year before the collapse was the evidence of concrete delaminating from a corroded tendon in a Mall restaurant. The picture of the delaminated concrete presented at the Elliot Lake Commission clearly shows evidence of corrosion affecting the tendon.

MONITORING BUILDINGS AND STRUCTURES THAT ARE EXPOSED TO SEVERE CONDITIONS AND HAVE THE POTENTIAL TO CAUSE PREMATURE COLLAPSE

12. The executive summary fifth paragraph states:

“Monitoring MUST form an integral part of effective repair and maintenance programs to ensure public safety and maintain the structural integrity of a garage.”

13. It is respectfully submitted that there are two previous examples that the Ministry of Municipal Affairs and Housing could have followed to instigate a suitable monitoring program for garage structures in the province. They are:

ARENA AND CURLING STRUCTURES

14. Collapse of arena and curling facilities in the 1970's caused by corrosion of the structures due to high humidity levels, prompted the Ministry of Labour to establish a program.
15. This required owners to have a structural evaluation of their facility, with the recommendation of a 3 or 5 year period for follow up inspections.

BRIDGE STRUCTURES

16. The Ministry of Transportation is responsible for provincial highway bridges, and the municipalities are responsible for bridges within the municipality's jurisdiction.
17. A more comprehensive program was set up by the Ministry of Transportation for bridge structures in the Province that are subjected to deterioration due to chlorides similar to parking garages.
18. Responsibility for the safety and maintenance of provincial bridges is set out in the Public and Highway Improvement Act. The Act requires that all provincial and municipal bridges be inspected every two years under the direction of a professional engineer using the Ministry's Ontario Structure Inspecting Manual.

19. The Inspecting Manual requires these biennial inspections to be a “close-up” visual assessment of each element of a bridge as well as its material defects, performance deficiencies, and maintenance and rehabilitation needs.
20. The above examples are illustrative of appropriate pro-active, legislated response to public safety issues.
21. As we have so sadly learned at Elliot Lake, Ministry of Municipal Affairs and Housing’s limited actions of notifying owners and others, of the potential problems with garage structures was not effective. The evidence provided to the Commission is that various owners may have taken many actions specifically designed to conceal many of the known problems at the Algo Centre Mall.

IS IT TIME FOR THE MINISTRY TO ENACT SIMILAR LEGISLATION FOR GARAGE STRUCTURES AS CURRENTLY EXISTS FOR BRIDGES IN ONTARIO?

22. It is respectfully submitted that it would not be a daunting task to modify the Ministry of Transportation’s Inspection Manual to suit parking garages. We respectfully suggest that the Commission consider recommending that Ministry of Municipal Affairs and Housing introduce legislation that requires that inspections be conducted every year for all parking structures without a waterproof membrane and every five years for those with a waterproof membrane, under the direction of a professional engineer based on the modified Structural Inspection Manual. The modified Structural Inspection Manual must be complete, comprehensive and accompanied by adequate education of the engineering profession.

All of which is respectfully submitted this 13th day of June, 2014

Robert MacRae
Solicitor for Mr. Robert Woods

O’Neill DeLorenzi Mendes
Barristers & Solicitors
116 Spring Street
Sault Ste. Marie, ON P6A 3A1

Robert MacRae
Tel: (705) 949-6901
Fax: (705) 949-0618

Court File No. 13-161-90

ONTARIO COURT OF JUSTICE

BETWEEN:

**HER MAJESTY THE QUEEN IN THE RIGHT OF ONTARIO
(MINISTRY OF LABOUR)**

Moving Party/Crown

-and-

**HER MAJESTY THE QUEEN IN THE RIGHT OF ONTARIO
(MINISTRY OF THE ATTORNEY GENERAL)**

Intervener/Crown

-and-

Robert Wood

Respondent/Defendant

SUBMISSIONS OF THE RESPONDENT

ROBERT WOOD

PROCEDURAL ORDER No. 9

O'Neill DeLorenzi Mendes
Barristers & Solicitors
116 Spring Street
Sault Ste. Marie, ON P6A 3A1

Robert MacRae

Tel: (705) 949-6901

Fax: (705) 949-0618

Solicitor for the Respondent/
Defendant, Robert Wood