

ENGINEERS GEOSCIENTISTS MANITOBA

IN THE MATTER OF: Robert A. McDonald, P.Eng. a Professional Engineer
registered in the Province of Manitoba

AND IN THE MATTER OF: *The Engineering and Geoscientific Professions Act,*
C.C.S.M. c. E120

CHARGE

ENGINEERS GEOSCIENTISTS MANITOBA
870 PEMBINA HIGHWAY
WINNIPEG, MANITOBA
R3M 2M7

**THE ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS
OF THE PROVINCE OF MANITOBA**

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CHARGE

The Investigation Committee of the Association of Professional Engineers and Geoscientists of the Province of Manitoba formulates the following charge.

Robert A. McDonald, P.Eng., while registered as a professional engineer in the Province of Manitoba, displayed conduct which constitutes professional misconduct or unskilled practice, in that:

In the course of providing engineering services as engineer of record for structural renovations to the Crown Auto Body building at 1717 Waverley St. in the City of Winnipeg, Province of Manitoba, Mr. McDonald displayed conduct that was detrimental to the public interest in violation of s. 46(1)(a) *The Engineering and Geoscientific Professions Act* (the “**Act**”) and/or conduct that displayed a lack of knowledge of or lack of skill or judgment in the practice of professional engineering in violation of s. 46(1)(e) of the Act.

Particulars

On or about July 3, 2020, August 27, 2020, September 1, 2020, and September 4, 2020 (collectively, the “**Drawings**”), Mr. McDonald, in association with RAM Engineering Inc., sealed and submitted structural drawings for an addition to the Crown Auto Body Building at 1717 Waverley St. in the City of Winnipeg, Province of Manitoba. In doing so, Mr. McDonald:

1. failed to adequately supervise junior staff during the preparation of the Drawings;
2. sealed the Drawings for construction that were not complete or appropriate for construction use, and failed to properly review the Drawings prior to sealing same to ensure they were complete and appropriate;
3. issued the Drawings for construction use when the Drawings were deficient, contained numerous design errors, contravened provisions of the Manitoba Building Code (the “**Code**”) and/or generally fell below the standard expected of a competent professional engineer, including:
 - a. with respect to the July 3, 2020 drawings:

- i. piling specifications and design criteria were not included in the design notes, contrary to the requirements of the Code;
 - ii. the existing beam grid line 2a between grids E and F on the roofing plan contained a mid-span splice between two existing beams which, if not corrected, could have led to the collapse of the structure;
 - iii. beam B3, grid line E between 4 and 5 on the roofing plan was incorrectly designed in terms of tributary load area, and lacked details in terms of connections, elevation and lateral bracing of the beam's top flange, which, if not corrected, could have led to the collapse of the structure;
 - iv. as regards the foundation plan and roof framing plans:
 - 1. general details were missing throughout;
 - 2. the spacing of two new piles did not comply with the geotechnical requirements for minimum spacing;
 - 3. the roof framing plan lacked connection details, shoring details and verification of structural checks regarding new snow and mechanical loading;
 - 4. new beam B5 was shown in the wrong direction;
 - v. framing elevation details were missing for column baseplates, cross-bracing connections and girt connections; and
 - vi. improper, or lack of, other typical details in the drawings.
- b. with respect to the August 27, 2020 drawings:
- i. piling specifications and design criteria were not included;
 - ii. as regards the roof framing plan:
 - 1. required bracing for beam B5 had been deleted;
 - 2. details showing connections to existing beams, in order to remove existing beams and replace them with new beams, were not provided;
 - 3. a new beam B3 was added on grid line E, between 4a and 5, and the drawings relied upon shop drawings from the steel fabricator to complete the design;

4. details were missing regarding beam B3 including the elevation of the beam, connection details, stiffeners and lateral bracing of the top flange, which, if not corrected, could have led to the collapse of the structure;
 - iii. elevation 6/S1.0 was missing details of connection or design forces for the cross-bracing, girts and column connections; and
 - iv. improper, or lack of, other typical details in the drawings.
- c. with respect to the September 1, 2020 drawings:
- i. pile design criteria were not specified;
 - ii. the mechanical unit at E and 2a was shown in a new location without the design first being re-checked for associated loads at the new location;
 - iii. overhead framing details were revised to include 4 new girts, but were not explained or detailed; and
 - iv. beam B3 was structurally deficient.
- d. with respect to the September 4, 2020 drawings:
- i. the mechanical unit at E and 2a was once again shown in a new location without the design first being re-checked for associated loads at the new location.
4. relied on the steel fabricator for the construction project to correct or complete design deficiencies in the Drawings by way of shop drawings prepared for fabrication purposes.

DATED at Winnipeg, Manitoba, this ____ day of _____, 2022.

John Doering, P.Eng. FCSE, FEC, FCAE
Chair, Investigation Committee