

**IN THE MATTER OF THE ENGINEERS AND GEOSCIENTISTS ACT  
R.S.B.C. 1996, CHAPTER 116**

and

**IN THE MATTER OF Johann G. Duerichen, P.Eng.**

**File No. T19-039**

**NOTICE OF INQUIRY**

TO: Johann G. Duerichen, P.Eng.  
[REDACTED]  
[REDACTED]

**TAKE NOTICE** that a Panel of the Discipline Committee of the Association of Professional Engineers and Geoscientists of the Province of British Columbia (the “**Association**”), doing business as Engineers and Geoscientists BC, will meet at virtually via Zoom Video Conferencing hosted by Charest Reporting, 4<sup>th</sup> Floor, 885 W. Georgia Street, Vancouver, British Columbia on May 11 – 14, 2021 at the hour of 9:30 a.m. for the purpose of taking evidence or otherwise causing that an inquiry to be made with respect to the allegations herein pursuant to the *Engineers and Geoscientists Act*, R.S.B.C. 1996, Chapter 116.

**AND TAKE NOTICE** that the allegations against you are that:

WHEREAS in 2018 and 2019 you provided engineering services related to the design and construction of a commercial building located at [REDACTED] in Smithers, BC (the “Smithers Project”) and a residence located at [REDACTED], Revelstoke, BC (the “Revelstoke Project”),

1. You demonstrated unprofessional conduct and failed to comply with section 14(b)(4) of the Association’s Bylaws when, in the course of carrying out the Smithers Project, you failed to ensure that documented independent reviews were conducted of your structural design by a member having appropriate experience in designing structures of a similar type and scale, and who was not involved in preparing the designs.
2. You demonstrated unprofessional conduct and failed to comply with section 14(b)(4) of the Association’s Bylaws when, in the course of carrying out the Revelstoke Project, you failed to ensure that documented independent reviews were conducted of your structural design by a member having appropriate experience in designing structures of a similar type and scale, and who was not involved in preparing the designs.

3. You demonstrated unprofessional conduct when, in the course of carrying out the Smithers Project, you:
  - a. undertook and accepted responsibility for structural engineering components of the project, including by:
    - i. signing and sealing structural design drawings; and
    - ii. signing and sealing the structural component of the Schedule B, thereby providing your assurance that the structural design complied with the BC Building Code and that you would conduct field reviews,  
when you were not qualified by training or experience to do so;
  - b. undertook and accepted responsibility for geotechnical engineering components of the project, including by:
    - i. signing and sealing design drawings involving the placement of compacted fill; and
    - ii. signing and sealing the geotechnical component of the Schedule B, thereby providing your assurance that the geotechnical design complied with the BC Building Code and that you would conduct field reviews,  
when you were not qualified by training or experience to do so;
  - c. undertook and accepted responsibility for electrical engineering components of the project, including by:
    - i. signing and sealing electrical design drawings; and
    - ii. signing and sealing the electrical component of the Schedule B and thereby providing your assurance that the electrical design complied with the BC Building Code and that you would conduct field reviews,  
when you were not qualified by training or experience to do so;  
and
  - d. signed and sealed Schedule C-Bs providing your assurance that you had conducted field reviews in relation to the structural, geotechnical and electrical components of the project when you were not qualified by training or experience to conduct field reviews in relation to these components.

4. You demonstrated unprofessional conduct when, in the course of carrying out the Revelstoke Project, you:
  - a. undertook and accepted responsibility for structural engineering components of the project, including by:
    - i. signing and sealing structural design drawings; and
    - ii. signing and sealing the structural component of the Schedule B and thereby providing your assurance that the structural design complied with the BC Building Code and that you would conduct field reviews,  
when you were not qualified by training or experience to do so;  
and
  - b. undertook and accepted responsibility for geotechnical engineering components of the project, including by determining the soil type and the loadbearing capacity of the soil, when you were not qualified by training or experience to do so.
5. You demonstrated unprofessional conduct by failing to ensure that an appropriately qualified professional conducted field reviews of the structural, geotechnical, electrical, plumbing, mechanical and architectural components of the Smithers Project after you had signed and sealed the Schedule B undertaking to perform field reviews of these components of the Smithers Project.
6. You demonstrated unprofessional conduct by signing and sealing the Smithers Project Schedule C-Bs providing your assurance that you had conducted field reviews in relation to the electrical, mechanical and plumbing components in circumstances where you had not conducted or directly supervised any field reviews of these components.
7. You demonstrated unprofessional conduct or negligence by signing and sealing Schedule C-Bs providing your assurance that you had conducted field reviews in relation to the structural and geotechnical components of the Smithers Project in circumstances where you had not conducted or directly supervised adequate field reviews, particulars of which are:
  - a. you did not verify conformance with design intent;
  - b. you did not document specific information about the structure;
  - c. you did not ensure that the soil bearing capacity met the requirements of the design drawings;
  - d. you did not produce field review documentation regarding rebar size and spacing;

- e. you did not produce field review documentation confirming wall stud grades, sizes or spacing;
  - f. you did not produce field review documentation confirming shear wall sheathing grades, nail size or spacing;
  - g. you signed and sealed a report, dated September 10, 2018, that stated roof truss hold-downs were installed, but you provided no documentation of the actual anchors that were installed and their capacities and no documentation confirming that hold-downs were acceptable for the uplift load shown on truss shop drawings; and
  - h. you signed and sealed a report, dated September 14, 2018, that stated roof truss bracing was completed in accordance with truss design drawings despite the fact that the truss design drawings did not specify bracing sizes or connections.
8. You demonstrated unprofessional conduct or negligence when, in the course of the Smithers Project, you:
- a. did not document structural calculations;
  - b. did not document seismic load calculations;
  - c. performed inadequate calculations related to lateral load analysis;
  - d. did not perform adequate subsurface investigation, or obtain acceptable existing information, in order to ensure that the soil met the minimum soil bearing capacity specified on the design drawings;
  - e. made no calculations regarding the required diameter and depth of a lampstandard base; and
  - f. signed and sealed structural design drawings that demonstrated deficiencies, including:
    - i. a connection, shown in Detail C on Sheet A4, that has insufficient strength to transfer the eccentric load from the lower roof beams to the columns;
    - ii. no specified mechanism for force transfer around roof diaphragm openings as required by the BC Building Code;
    - iii. no indication of snow build-up loads;
    - iv. shear walls without the drag struts necessary to distribute shear loads to the shear resisting portions of the walls;
    - v. a structural system that is inadequate to stabilize the mezzanine in relation to lateral loads;

- vi. inadequate shear walls; and
  - vii. an inadequate lateral load resisting system.
9. You demonstrated unprofessional conduct or negligence when, in the course of the Revelstoke Project, you:
- a. did not perform seismic load calculations;
  - b. did not perform adequate calculations for the foundation design;
  - c. did not review truss shop drawings to ensure they conformed with design requirements; and
  - d. failed to address a warning in the truss shop drawings to account for uplift due to non-wind load.
10. You demonstrated incompetence by:
- a. signing and sealing designs for both the Smithers Project and the Revelstoke Project that contain the deficiencies identified in paragraphs 8 and 9;
  - b. demonstrating, in connection with both the Smithers Project and the Revelstoke Project, a lack of understanding of the process of engineering through the conduct described in paragraphs 1, 2, 5, 6 and 7;
  - c. providing answers, in the course of interviews with the Investigation Subcommittee of the Association on July 9, 2020 and August 20, 2020, that demonstrated a lack of understanding of engineering concepts related to your work on the Smithers Project and the Revelstoke Project that a reasonably competent structural engineer would understand, including by:
    - i. stating that you rely on “basic principles” rather than BC Building Code Requirements in designing structures;
    - ii. not understanding the requirement in Part 4 of the BC Building Code that buildings be designed in accordance with factored load combinations and factored resistances specified in that Part;
    - iii. not being aware of the structural commentaries referenced in the BC Building Code despite these commentaries being necessary to design structures in accordance with Part 4 of the BC Building Code; and
    - iv. not understanding that there is a requirement to show snow build-up behind roof parapets and mechanical equipment on structural drawings; and

- d. providing a letter to the Association, dated May 18, 2020, that demonstrated a lack of understanding of engineering concepts related to your work on the Smithers Project that a reasonably competent structural engineer would understand, including by:
  - i. incorrectly describing the seismic load calculations required by the BC Building Code;
  - ii. incorrectly describing the wind load calculations required by the BC Building Code;
  - iii. incorrectly describing how the strength of a shear wall is determined;
  - iv. stating that you relied on the work of non-engineers to ensure that the Smithers Project was designed and built with sufficient strength to resist snow build-up loads;
  - v. indicating that you failed to ensure truss shop drawings conformed to the building design requirements; and
  - vi. indicating that you relied on the prescriptive requirements in Part 9 of the BC Building Code in relation to foundation design when the Smithers Project was required to be designed in accordance with Part 4 of the BC Building Code.

- 11. The conduct set out above in paragraphs 1 through 9 is contrary to Principle 1 of the Association's Code of Ethics which provides that members shall hold paramount the safety, health and welfare of the public, the protection of the environment and promote health and safety within the workplace.
- 12. The conduct set out above at paragraphs 3 and 4 is contrary to Principle 2 of the Association's Code of Ethics which provides that members shall undertake and accept responsibility for professional assignments only when qualified by training or experience.
- 13. The conduct set out above at paragraph 3, 4, 6 and 7 is contrary to Principle 3 of the Association's Code of Ethics which provides that a member shall provide an opinion on a professional subject only when it is founded upon adequate knowledge and honest conviction.

**AND FURTHER TAKE NOTICE** that you, Johann G. Duerichen, P.Eng., have the right, at your own expense, to be represented by counsel at the inquiry by the Panel of the Discipline Committee and you or your counsel shall have the full right to cross-examine all witnesses called and to call evidence in defence and reply in answer to the allegations.

**AND FURTHER TAKE NOTICE** that in the event of your non-attendance at the inquiry, the Panel of the Discipline Committee may, upon proof of service of this Notice of Hearing upon you, proceed with the taking of evidence or otherwise ascertaining the facts concerning the allegation, despite your absence, and may make its findings on the facts and its decision without further notice to you.

DATED this 2<sup>nd</sup> day of December, 2020.

The Discipline Committee of the  
Association of Professional Engineers and  
Geoscientists of the Province of British  
Columbia

<original signed by>

Per: Paul Adams, P.Eng.  
Chair, Discipline Committee