

**IN THE MATTER OF  
THE *PROFESSIONAL GOVERNANCE ACT*, S.B.C. 2018, c. 47**

**and**

**IN THE MATTER OF BENEDICT BUN CHUEN YUEN**

**DETERMINATION OF THE DISCIPLINE COMMITTEE**

<b>Date and Place of Hearing:</b>	September 15 and 16, 2025; via video conference
<b>Panel of the Discipline Committee:</b>	Emily Cheung, P.Eng., Chair Frank Denton, P.Eng. David Wende
<b>Counsel for Engineers and Geoscientists BC:</b>	Sean Hern Merran Hergert
<b>For the Registrant:</b>	No one appearing
<b>Counsel for the Panel of the Discipline Committee:</b>	Tonie Beharrell

## I. Background

1. This panel of the Discipline Committee (the “Panel”) of the Association of the Professional Engineers and Geoscientists of the Province of British Columbia, doing business as Engineers and Geoscientists BC (“EGBC”) was convened to hear a citation (the “Citation”) issued to Benedict Bun Chuen Yuen (the “Respondent”) pursuant to section 75 of the *Professional Governance Act*, SBC 2018, c 47 (the “PGA”).

2. The Citation is dated January 30, 2025 and sets out the allegations against the Respondent. It arises out of the Respondent’s work in 2019 providing structural engineering services in support of a building permit application submitted to the City of Powell River (the “City”) for a change of occupancy and proposed renovations, including a seismic upgrade, to a building withing the City (the “Project”). Further, it says that he acted contrary to the *Engineers and Geoscientists Act*, RSBC 1996, c 116 (the “EGA”) (now repealed) with respect to those services in the following ways:

1. You demonstrated unprofessional conduct in relation to [the Project]. In particular, you failed to:
  - a. investigate the structural components of the existing structure to inform the engineering and the preparation of the structural drawings that you prepared that detailed the proposed upgrades to the building that you authenticated (the “Design”);
  - b. adequately conduct, or in the alternative, document field reviews of the Project and to create a report of the same, contrary to the acceptable standard of field reviews;
  - c. apply the required engineering methodology to determine the number and location of the new shear walls required to upgrade the existing structure and ensure the Project was compliant with the 2018 British Columbia Building Code (the “Building Code”);
  - d. adequately prepare structural calculations to support the Design by omitting:
    - i. design criteria, including discussion of any assumptions made in the design basis; and
    - ii. lateral load analysis and design for seismic forces;

- e. provide adequate details in the structural drawings to indicate:
    - i. the connection between the shear walls to the existing floor structure; and
    - ii. the continuation of load paths to the foundation and demonstrate sufficient transfer of seismic forces to ensure compliance with the Building Code; and
  - f. assess whether a concrete foundation wall was required and detail the wall in the Design, or alternatively, identify in the structural drawings how the hold down anchors were to be secured to the existing foundation.
2. The conduct set out above ... is contrary to Principle 1 of the Engineers and Geoscientists BC Code of Ethics (the "Code of Ethics"), as it stood at the time, which required that all members and licensees shall hold paramount the safety, health and welfare of the public, the protection of the environment and promote health and safety within the workplace.
  3. The conduct set out above ... is contrary to Principle 3 of the Code of Ethics, as it stood at the time, which required that all members and licensees shall provide an opinion on a professional subject only when it is found upon adequate knowledge and honest conviction.
  4. The conduct set out above at paragraph 1(b) also constitutes unprofessional conduct in breach of section 14(b)(3) of the Bylaws, as it stood at the time, which required that members and licensees shall establish and maintain documented quality management processes for their practices including documented field reviews.

3. Following the issuance of the Citation, the Respondent's registration with EGBC was cancelled on February 7, 2025 for non-payment of dues.

4. At the hearing, counsel for EGBC advised that it was no longer pursuing Allegations 1b and 4 of the Citation.

## **II. Proceeding in the Absence of the Respondent**

5. The hearing was conducted by video conference via Zoom on September 15 and 16, 2025. The Respondent did not appear. The Panel was persuaded that sufficient notice of the hearing had been provided to him, and determined that the hearing could proceed in his absence. We advised that our reasons for proceeding would be addressed in this Decision.

6. Section 78(2) of the PGA give panels jurisdiction to proceed with hearings in the absence of respondents in specific circumstances. If a panel is satisfied that a respondent has been notified of the hearing, it may proceed with the hearing without the respondent and make any order that it could have made if the respondent had been present.

7. Under section 115(1)(b) of the PGA, notice may be delivered by email and is deemed received the day after it is sent (unless that day is a holiday, in which case receipt is deemed to be the next non-holiday day).

8. EGBC submitted evidence about the various efforts, electronic and otherwise, made to notify the Respondent of the Citation and the scheduled hearing dates. EGBC sent the Citation to the Respondent by email on February 11, 2015, and again on February 25. On April 2 and June 16, 2025, EGBC sent the Respondent notice of the hearing dates. Also on June 16, EGBC advised the Respondent that it had a list of documents and an expert report it would be relying on at the hearing.

9. There was credible and reliable evidence that the email addresses used to send the Citation and notice of the hearing dates to the Respondent were those provided to the EGBC database by the Respondent. Further, these email addresses were used by the Respondent to respond to EGBC during the investigation stage. Finally, the address database is required to be updated annually by the registrant at the time of registering for the upcoming year.

10. Although not required by the PGA, EGBC also twice tried to personally serve the Respondent by way of process server. The process servers left copies of the Citation and the EGBC letters about the hearing dates at the residential address the Respondent had provided to EGBC.

11. Finally, counsel for EGBC left a voicemail for the Respondent advising of him of the hearing dates using the telephone number he had given EGBC. The voicemail prompt identified that the phone number was for the Respondent's firm and invited the caller to contact the company using the same email address used to give the Respondent notice of the hearing.

12. Thus, the Panel finds that the Respondent had notice of the hearing and the hearing could proceed in his absence.

### **III. Regulatory Framework**

13. On February 5, 2021, the EGA was repealed and replaced by the PGA. Although the Citation was issued under the PGA, the conduct at issue occurred when the EGA was in force. In accordance with sections 35 and 36 of the *Interpretation Act*, RSBC 1996, c 238, the substantive provisions of the EGA apply to this proceeding. This includes the EGA's charging and penalty provisions: see *Re: Bruce Joseph Gernon, P.Eng.* (October 5, 2023); *Re: Alireza (Danyal) Bahrami, P.Eng.* (May 2, 2022).

14. Section 33(1) of the EGA authorizes the Discipline Committee to make determinations about a respondent's conduct, as follows:

33 (1) After an inquiry under section 32, the discipline committee may determine that the member...

(b) has contravened this Act or the bylaws or the code of ethics of the association,

or

(c) has demonstrated incompetence, negligence or unprofessional conduct.

### **IV. Legal Principles**

#### **A. Burden and Standard of Proof**

15. EGBC has the burden of proof. The standard of proof is a balance of probabilities: *F.H. v McDougall*, 2008 SCC 53. *R. v Schoenborn*, 2010 BCSC 220, has a helpful explanation of what this means:

A party who has the burden of proof on an issue, on the balance of probabilities, must convince the court that what they assert is more probable than not, and that the balance is tipped in his or her favour. The evidence must be more convincing than the evidence on the other side. The person with the burden must show that what they assert is more probable than not (*F.H. v McDougall*, 2008 SCC 53). If the evidence on an issue was evenly balanced so that the court is unable to say where the balance of probabilities lies, then the person who has the burden of

proving it would have failed to do so. All of the evidence produced on that issue must be considered, no matter who has produced that evidence. In order to find that something has been proven on the balance of probabilities, it is not necessary for the jury or the trier of fact to be sure, but simply to find that the event to be proven is more probable than not or more likely than not.

### **B. Interpretation of the Citation**

16. EGBC is not required to prove the charge precisely as worded in the Citation. Rather, it must establish the allegations essential to a finding of unprofessional conduct or negligence. For example, in *Ratsoy v Architectural Institute of British Columbia*, 1980 CanLII 662, an architect was alleged to have violated a zoning by-law but was found by the discipline committee to have violated a building by-law. The notice received by the petitioner was adequate to “alert him both to the nature of the factual allegations made against him and the provisions of the Act and by-laws which he was alleged, and ultimately found, to have breached.”

### **C. Unprofessional Conduct**

17. Panels decide the appropriate standards of professionalism for members of the profession:

.... Reasonableness requires courts to give deference to a professional body’s interpretation of its own professional standards so long as it is justified, transparent and intelligible. The pre-*Dunsmuir* decisions relied on by the respondent, including *Reddoch*, no longer set the standard for professional misconduct as conduct that is dishonourable, disgraceful, blatant or cavalier. Rather, it is the disciplinary body of the professional organization that sets the professional standards for that organization. So long as its decision is within the range of reasonable outcomes—i.e., it is justified, transparent and intelligible—it is not for courts to substitute their view of whether a member’s conduct amounts to professional misconduct.

*Salway v Assn. of Professional Engineers and Geoscientists of British Columbia*, 2010 BCCA 94, at para 32.

18. The EGA has no definition of “unprofessional conduct.” However, past decisions of the Discipline Committee have consistently applied the following definition:

Hence, unprofessional conduct is that which does not meet the standard expected through application of the Code of Ethics. The Panel accepts the

submission of the Association, based on *Law Society of British Columbia v. Martin*, 2005 LSBC 16, that professional misconduct is established when there is a marked departure from the standard to be expected of a competent professional, and that minor or inadvertent failure to comply with professional standards does not constitute unprofessional conduct.

*Re: Ian Foreman, P.Geo.* (August 25, 2015), at para 94. See also e.g. *Re: Gernon*, at para 14; *Re: Eric Chrysanthous, P.Eng.* (May 17, 2017); *Re: Laura Fidel, P.Eng.* (July 12, 2021).

19. As the threshold for unprofessional conduct is a marked departure from the standard expected of a competent professional, a minor, or inadvertent failure to comply with professional standards will not amount to unprofessional conduct.

20. A material breach of the Code of Ethics could amount to unprofessional conduct: *Familamiri v The Association of Professional Engineers and Geoscientists of British Columbia*, 2004 BCSC 660 at para 75.

21. In assessing whether conduct is unprofessional, engineering standards should be considered but are not determinative: *Re: Gernon*, at para 16.

#### **D. Standards of conduct**

22. Unprofessional conduct must be assessed against expected standards of conduct for registrants. Section 7.3.1(2) of the *Bylaws of Engineers and Geoscientists BC* (the "Bylaws") expressly requires Professional Registrants to have regard for applicable EGBC and government standards, policies, plans and practices.

##### 1. The British Columbia Building Code, 2018

23. Building Code requirements can inform a determination of unprofessional conduct if the work done requires compliance with the Building Code: see e.g. *Re: Bharami*, 2022 BCEG 5; *Re: Gernon*, at para 15.

24. EGBC relies on section 2.2.4.3 of Division C of the Building Code. It required structural and foundation drawings submitted with a building permit application to include:

- a. the name and address of the person responsible for the structural design;
- b. the date of issue of the Code and standards to which the design conforms,

- c. the dimensions, locations and sizes of all structural members in sufficient detail to enable the design to be checked,
- d. sufficient detail to enable the dead loads to be determined, and
- e. all effects and loads, other than dead loads, used for the design of structural members and exterior cladding;

25. EGBC also relies on section 4.1.8, which required structures to have a clearly defined seismic force resisting system (“SFRS”) to resist earthquake loads and their effects and load path(s) that will transfer inertial forces generated by an earthquake to the foundations and supporting ground.

## 2. Bylaws

26. EGBC relies on section 14(b)(1) of its Bylaws, which require EGBC members to establish and maintain document quality management processes for their practices, including retention of investigations and reports for at least 10 years.

## 3. Code of Ethics

27. Under Bylaws, section 7.2, registrants must adhere to the Code of Ethics. In this proceeding, EGBC relies on Principles 1 and 3 of the Code of Ethics (2019).

28. Principles should be given their ordinary meaning and the Panel must rely on its experience when assessing whether the Respondent has violated any Principles: *Re: Foreman*, at paras 20, 22. The Code of Ethics is an indication of the objective standards of the profession: *Familamiri* at para 74.

29. Principle 1 says that registrants must hold paramount the safety, health and welfare of the public, including the protection of the environment and the promotion of health and safety in the workplace.

30. Principle 3 says that a registrant must have regard for the common law and any applicable enactments, federal enactments or enactments of another province.

#### 4. Professional Practice Guidelines

31. EGBC also relies on the EGBC Professional Practice Guideline: Structural Engineering Services for Part 3 Building Projects (Version 3.0, 2016) (the “Practice Guideline”).

32. Guidelines of a professional regulatory body can help establish the expected standard of conduct for that professional: *Re: Gernon* at para 23. Proof that the Respondent did not comply with the Practice Guidelines does not necessarily establish negligence or unprofessional conduct, but it may be strong evidence of negligence or unprofessional conduct.

33. The Practice Guideline says the Structural Engineer of Record (the “SER”) for the primary structural system has general responsibility for the structural integrity of the primary structural system and for general conformance of secondary structural elements and speciality structural elements. The SER takes overall responsibility for all items under the structural discipline on Schedule B of the Letters of Assurance in the Building Code.

34. Section 4.2.3.2 of the Practice Guideline states the SER must prepare calculations to support their structural designs. In general, these typically include design criteria, complete with any assumptions relied on.

35. Section 4.2.3.3 provides that structural design drawings should show the locations, sizes, reinforcement and details of structural elements at appropriate scales to allow a reasonably competent contractor familiar with the techniques of construction for the specified materials to fabricate, install and connect the elements in a reasonable sequence. Also, structural design drawings should define the complete extent and detail of the work, including sufficient detail to allow dead loads, effects and loads used for the design to be determined and to check the design.

36. Section 4.3.3.3 notes design drawings can vary depending on project and materials complexity but may include: (1) structural notes; (2) typical details; (3) foundation plans and schedules; (4) floor and roof framing plans and details, including sizes, locations, dimensions and details of structural elements and the lateral load

resisting system; (5) schedules and details for columns, beams and walls; (6) connections; and (7) the sequence of construction.

## **V. Evidence**

37. In support of the allegations of unprofessional conduct and breaches of Principles 1 and 3 of the Code of Ethics, EGBC relies on the affidavit evidence of the Investigation Manager of EGBC and expert evidence, including an expert report. EGBC's expert also gave direct evidence in answer to questions from the Panel about his expert opinion.

### **A. Use of Hearsay Evidence**

38. The substance of the Investigation Manager's affidavit can be distilled into three parts:

- a. email and attachments from the Chief Building Inspector for the City raising concerns with respect to the design submitted by the Respondent to the City to support a building permit for the renovation of an existing wood frame structure;
- b. correspondence and enclosures between the EGBC investigator and the Respondent; and
- c. transcript of EGBC's interview of the Respondent conducted by the EGBC investigator and two members of the EGBC Investigation Committee.

39. Neither the Chief Building Inspector nor the EGBC investigator were called to give evidence at the hearing. Essentially, EGBC put before the Panel all, or parts of, its investigation file and the expert report and testimony and then made its submissions about the Citation. No explanation was offered as to why the individuals with personal knowledge of the matters in question could not give evidence.

40. The Panel accepts that in an administrative proceeding such as this, the strict rules of evidence, including the general prohibition of hearsay evidence, do not apply, and we thus make our findings based on the evidence provided.

41. However, while in the circumstances of this case we have no doubt as to the reliability of the material included in the affidavit of the EGBC Investigation Manager, the

Panel notes that it will not generally be appropriate to rely entirely upon hearsay evidence in disciplinary proceedings against registrants.

42. In disciplinary proceedings, the reputations and livelihoods of EGBC's registrants are at stake. Thus, fairness dictates that both respondents and panels should have the opportunity to ask questions of witnesses and challenge the evidence. EGBC relies on capable counsel to present its cases in its discipline proceedings. Convenience or cost savings alone should not influence the decision of whether to introduce evidence through a witness with firsthand knowledge or simply present the investigation file, as appears to have been done in this matter.

### **B. Expert evidence**

43. EGBC tendered Payman Hosseini, P.Eng., as an expert witness.

44. Mr. Hosseini is a structural engineer specializing in building structures. He has bachelor's and master's degrees in civil engineering from the University of British Columbia, with a specialization in Structural Engineering. He also holds structural engineering and certified professional designations from EGBC.

45. Mr. Hosseini has over 15 years of experience in structural engineering in British Columbia. He has been involved in designing projects ranging from residential development to municipal buildings, including schools, fire halls and hospitals. He has also been involved in seismic assessments and upgrading projects. Mr. Hosseini is a partner at an engineering and construction firm, where he provides structural engineering and code (Building Code and Vancouver Building By-law) consulting services for building projects.

46. Mr. Hosseini prepared an expert report dated June 13, 2025. His report addressed the following:

- a. the investigation and engineering methodology required for the Project and his opinion on the Respondent's investigations;
- b. the completeness of the Respondent's structural drawings (the "Plans"); and
- c. a review of the Respondent's structural design (the "Design").

47. At the hearing, the Panel qualified Mr. Hosseini as an expert in structural engineering. The Panel accepts Mr. Hosseini's evidence.

## **VI. Findings**

### **A. The Respondent**

48. As outlined above, the Respondent did not attend the hearing. The information below is taken from the Respondent's investigation interview.

49. The Respondent has a civil engineering degree and was designated as a Professional Engineer with EGBC in 1982. He owns an engineering company focused on small buildings like single family homes, townhouses and small office buildings.

50. The Respondent intended to retire at the end of 2023, and for about two years before his interview with EGBC on May 26, 2023, he was winding down his business. As outlined above, the Respondent's registration with EGBC was cancelled on February 7, 2025.

### **B. The Project**

51. The Respondent became involved in the Project in late 2018, when he was engaged to do the structural engineering work. He understood that the Project's owner wanted to change the use of the existing building from a seniors home to student housing.

52. The building was a one storey wood framed structure with a partial basement in the southeast corner.

53. The Respondent believed the building was structurally sound because of its age and because it had performed adequately since it was built.

### **C. The Design and Plans**

54. The Respondent based his Design and the Plans on architectural drawings prepared by an architect. He also visited the Project site and saw the existing buildings and reviewed old drawings he believed were from the City's records.

55. During his building walk through, the Respondent did not inspect the ceilings' interior to understand the existing framing, nor collect information about the floor or

foundation components. He intended to rely on the construction contractor for information about the existing framing components, connections, and materials. The Plans had insufficient information about existing roof or floor components, including the existing foundation, for the analysis. Thus, he did not confirm components in the Plan during the inspection.

56. The Respondent said that as of the date of the EGBC interview, he would probably not make the same submission to the City. Through the interview, he learned that the City expected more information and because of this he would probably have required the construction contractor to do sufficient exploration and determine exactly what was in the room, floors and walls, which would have cost the owner more money.

57. The Design included new plywood shear walls for seismic resistance, a new foundation at the shear wall locations and strengthening the roof diaphragm by re-nailing it.

58. The Respondent made hand calculations of the existing seismic load with reference to the Building Code and used these in his Design. His Plans referenced the Canadian Wood Council ("CWC") Guide to determine the capacity and required number of shear walls for seismic resistance. Although he added shear walls to the main floor common room area, he did not do any calculations to determine if they were required. He believed that because of the concrete walls on the exterior of the building, the basement would have kept all seismic forces and shear walls may not have been necessary.

59. The Plans had no details about how the walls were to be connected to the roof diaphragm or how the uplift forces would be transferred to the forces below. The Plans also lacked key information about the existing structure, including the size layout and spacing of structural members, connection details and the properties of existing floor and roof sheathing.

60. When asked why the shear walls did not appear to line up with the concrete walls below them, and about the Plans' inclusion of DS18 straps to connect the shear walls to the floor at the floor joists, the Respondent said he could not determine where the straps would connect because he did not know where the floor joists were located or their size. He assumed they were the same as in the roof.

61. For his Design, the Respondent assumed the floor joists spanned the length of the internal rooms and could accept the relative structural uplift and gravitational forces when connected to the proposed shear walls. He did not review the gravity elements or the floor framing for the new occupancy. He did not do any more analysis or investigation to verify that the floor joists could carry the additional downward load from the proposed shear walls.

62. The Respondent could not clearly explain to the EGBC interviewers if the footing upgrade in the Design required a concrete foundation wall. The Plans did not include a new concrete wall. The Respondent also could not explain how, if no foundation wall was built, the hold down anchors would be secured to the foundations. He did not verify any of the existing foundation conditions during the site visit but said a foundation wall might have been required.

63. In his Design, the Respondent used the same ductility factor and philosophy for the wood frame and the basement, although the basement had a concrete perimeter wall.

64. The Respondent's submission to the City, which he authored and sealed in April 2019 ("April Letter"), did not have additional details to the Plans and was not based on additional calculations for the Design. The April Letter confirmed that the Design as shown in the Plans would bring the upgrade to the building in compliance with the Building Code. The only difference between the Plans and drawings in the April Letter was that the latter excluded reference to the CWC Guide and added reference to Part 4 of the Building Code.

65. The Respondent said he was aware of the Practice Guideline but did not follow it when completing his Design.

#### **D. The Expert Evidence**

##### **1. Standard of Practice for Seismic Retrofit Project Investigation and Design**

66. The standard of practice among structural engineers in British Columbia for seismic retrofit projects involves a comprehensive structural assessment as follows:

- a. A detailed document review of all available architectural and structural drawings and any previous engineering reports.

- b. A visual and invasive site inspection. The inspection should focus on verifying the continuity and integrity of the seismic load path from foundation anchorage through floor and roof diaphragms to vertical shear elements (e.g. walls). If structural elements are concealed, minimally invasive openings should be made to verify the type and thickness of roof and floor sheathing, framing members and orientation and existing connection details.
- c. A detailed seismic analysis and engineering evaluation, which assesses a building's seismic performance based on Building Code requirements.

67. This approach ensures that design assumptions are based on verified conditions or if verification is not feasible, then design assumptions are documented.

68. Mr. Hosseini explained that the original structural drawings for the Project were limited and lacked crucial information so a thorough site investigation was required. Key elements such as sheathing type, thickness and framing connections, which are all fundamental to seismic performance, should have been verified.

69. If existing structural conditions cannot be verified because of limited access, hidden assemblies or financial constraints, standard practice allows the structural engineer to make informed assumptions. These must be clearly stated on the structural drawings, which should instruct the contractor to verify the assumptions during construction and notify the engineer of discrepancies.

70. Mr. Hosseini concluded, and the Panel accepts, that the Respondent's Plans lacked essential information about the existing building and did not include assumptions or instructions for verifying those assumptions, all of which was inconsistent with the standard of practice for seismic retrofit projects.

## 2. The Design

71. Mr. Hosseini concluded that the Design was deficient and did not meet the Building Code or standard of care expected of structural engineers in British Columbia.

72. The Design and Plans did not include the following connection details:

- a. anchors between shear walls and foundations;

- b. blocking at the ends of the new plywood sheathing; and
- c. connections between the sloped roof sheathing and the top of the wall.

73. On the east side of the Project, new shear walls were placed above the basement with no shear walls or structural continuity under them, which would result in a discontinuous load path from the roof to the foundation. Mr. Hosseini said this was a critical deficiency in seismic design.

74. Given the “U” shape of the Project, a prudent seismic design would treat each leg of the “U” as an independent seismic block, incorporating shear walls in the north-south and east-west directions within each block. However, the Design had shear walls in only one direction for each block. This results in an uneven seismic load distribution, with the walls nearest to the adjoining block subject to disproportionately higher forces. Mr. Hosseini’s review showed the shear walls were overstressed and did not meet the seismic design requirements of the Building Code.

75. The Design also included door openings in some of the shear walls without added hold downs at each side, which significantly reduces wall capacity and at least one shear wall appeared to be unsupported by a corresponding new foundation.

76. The Design also had a number of other defects. There were inconsistencies between some roof connection details, the general notes on the Plans were generic, several drawing details were inconsistent or irrelevant, there was no information on existing framing and the wall schedule table is not referenced in the drawings and included wall types that did not seem to apply to the Project.

### 3. The Plans

77. The standard of practice for structural engineers in British Columbia issuing structural drawings is to include information about all structural members of the seismic load resisting system.

78. The Project’s seismic upgrade was subject to the Building Code and the Plans did not meet the requirements of subsection 2.2.4.3 of Division C, which stipulated the information required on structural drawings.

79. The Plans had no details about how the walls would be connected to the roof diaphragm or how the uplift forces would be transferred to the forces below. The Plans also lacked key information about the existing structure, including the size layout and spacing of structural members, connection details and the properties of existing floor and roof sheathing.

80. This lack of detailed structural information created safety and financial risks. It left room for contractor interpretation, which increased the likelihood that critical components like connections, sheathing or anchorage could be installed incorrectly, which can compromise a structure's seismic performance and endanger occupant safety. It can also lead to delays, change orders or retroactive corrections during or after construction, which increase a project's costs.\

## **VII. Analysis**

### **A. Overview**

81. For the reasons set out below, the Panel concludes that the Respondent's conduct alleged in Allegations 1 was unprofessional.

### **B. The Parties' Positions in Brief**

#### **1. EGBC**

82. Allegation 1 of the Citation says the Respondent did not:

- a. investigate the structural components of the existing structure to inform his Design and Plans;
- b. [not pursued]
- c. apply the required engineering methodology to determine the number and location of shear walls and ensure compliance with the Building Code;
- d. prepare adequate structural calculations to support the Design;
- e. provide adequate details in the Plans; and

- f. assess if a concrete foundation wall was required and detail this wall in the Design, or alternatively, identify in the Plans how the hold down anchors for the shear wall footings were to be secured to the existing foundation.

83. To establish that the conduct described in Allegation 1 was unprofessional conduct, EGBC relies on Mr. Hosseini's expert evidence about standards of practice for structural engineers working on seismic retrofit projects, the Building Code, section 14(b)(a) of the Bylaws and breaches of Principles 1 and 3 of the Code of Ethics set out in Allegations 2 and 3.

#### **1. Allegation 1a**

84. With respect to Allegation 1a, EGBC submits that the Respondent only did a visual site inspection without looking at the materials in the building such as the framing. Also, the Plans did not include his Design assumptions. Further, contrary to what he said in the April Plans, the Respondent said in his EGBC interview that he had minimal, if any, insight into the Project's existing wood frame.

85. EGBC says that contrary to the standard of conduct for a prudent structural engineer as described by Mr. Hosseini, the Plans were unclear about whether the Respondent verified the existing structural components during his site inspection. They lacked essential information about the existing building (e.g. the roof or floor framing) and included no assumptions or instructions for the contractor to verify conditions.

86. EGBC further says that the failure to do the required investigations for a seismic retrofit project was contrary to Principle 3 of the Code of Ethics. Principle 3 required members to only give an opinion founded on adequate knowledge and honest conviction. The Respondent's evidence shows that he did not have a clear understanding of the structural elements of the building or its materials.

87. EGBC also points to section 14(b)(1) of the Bylaws: because the Respondent did not document his site investigations, this was a breach of section 14(b)(1), which informs the Panel's assessment of his conduct.

#### **2. Allegation 1c**

88. EGBC notes the Respondent said in his interview that he believed the building was structurally sound because of its age and past performance and did not confirm this assumption using appropriate engineering methodology.

89. EGBC says the Respondent did not apply engineering methodology when he decided the number and location of new shear walls for the Project. He did not determine if the shear walls were necessary but included a wall in the main floor common area because it was a large area. Further, he applied the same design criteria (ductility factor and philosophy) to the wood frame and the concrete system.

90. EGBC further says that the Respondent could not have known his Design complied with the Building Code without applying the appropriate engineering methodology to determine the number of location of new shear walls.

### **3. Allegation 1d**

91. EGBC submits that the Respondent did not adequately prepare structural calculations to support his Design because the Plans did not include design criteria, including his assumptions, and the Design and Plans did not have a lateral load analysis or design for seismic forces.

92. According to EGBC, the Respondent was the Project's SER for the primary structural system. The primary structural system is "a combination of primary structural elements that support a building's self-weight and applicable live loads based on occupancy, use of the space and environmental loads, such as wind, snow and seismic forces." A "primary structural element" is "a beam, column or other structural design element that, when combined with others, forms the primary structural system."

93. The Practice Guideline has requirements for SERs. The SER must prepare calculations to support their structural designs: section 4.2.3.2. These calculations should include design criteria, including a discussion and description of the design basis and any assumptions.

94. EGBC says the Plans' deficiencies with respect to load path and shear wall continuity and his failure to set out his design basis assumptions represent a failure of the

Respondent to adequately prepare structural calculations to support the Design. He did not include sufficient analysis on the lateral load and design for seismic forces.

95. EGBC further says that because of these deficiencies, the Respondent did not hold paramount the safety, health and welfare of the public, as required by Principle 1 of the Code of Ethics. Without the proper transfer of seismic forces from the roof and floor diaphragms to the foundation, there was a risk of failure during a seismic event.

96. EGBC relies on *Re: Gernon* where the panel determined that a failure to complete proper calculations was a marked departure from the expected standard of a Professional Engineer and a breach of Principle 1, which both supported a finding of unprofessional conduct.

#### **4. Allegation 1e**

97. EGBC says the Respondent's Design added new interior shear walls on the main floor above a full basement and did not include details in the Plans about how these walls were connected to the roof diaphragm or how the uplift forces were transferred to the forces below.

98. EGBC submits the Plans did not comply with sections 2.2.4.3 and 4.1.8 of the Building Code or sections 4.2.3.3. and 4.3.3.3 of the Practice Guideline. The Plans lack key information about the existing structure, including the size layout and spacing of structural members, connection details and the properties of existing floor and roof sheathing.

99. It also submits that the lack of information on the Plans was a significant departure from the standard of practice required and could have had serious safety and financial consequences contrary to Principle 1 of the Code of Ethics.

#### **5. Allegation 1f**

100. The final allegation of unprofessional conduct is that the Respondent did not assess if a concrete foundation wall was required or detail the wall in the Design. Alternatively, EGBC alleges the Respondent did not identify in the Plans how the hold down anchors for the shear wall footings were to be secured to the existing foundation.

101. The Practice Guideline required structural drawings to include any structural elements in way that would allow fabrication. However, EGBC says that the Respondent was uncertain how the footing upgrade aspect of the Design would be implemented during construction and options he suggested during his interview were not adequately reflected in the Plans. Neither was the Respondent clear in his interview if the new upgrade required a concrete foundation wall, and if no foundation wall was constructed, how the hold down anchors were proposed to be secured to the footings.

2. The Respondent

102. The Respondent did not appear at the hearing or provide any written submissions.

**C. Unprofessional Conduct**

103. The Panel finds that the Design and the Plans were deficient as described in Allegations 1a, 1c, 1d, 1e and 1f. Also, the Respondent breached Principles 1 and 3, as alleged in Allegations 2 and 3. As explained below, EGBC has established unprofessional conduct as alleged in Allegation 1.

1. Allegations 1a and 3

104. The Respondent did not adequately investigate the structural components of the existing structure to inform his Design.

105. He did not look at the ceilings' interior to understand the roof framing and did not have information about the floor framing or foundation, including where the joists were located. He also did not verify sheathing type, thickness and framing connections, which are fundamental to seismic performance. Instead, he planned to rely on the construction contractor for information about existing framing and materials. In short, the Respondent did not have a clear understanding of the existing structural elements of the building or its materials.

106. The Panel accepts Mr. Hosseini's evidence that this was a departure from the standard expected of structural engineers in British Columbia working on seismic retrofit projects. His inspection should have verified the continuity and integrity of the seismic load path, from foundation anchorage through floor and roof diaphragms, to vertical shear

elements such as walls. Where structural elements were concealed, this would include the verification of critical components, including the type and thickness of the roof and floor sheathing, framing members and orientation, and existing connection details.

107. If the existing structural conditions could not be verified because of limited access, hidden assemblies or financial constraints, then the Respondent should have clearly stated his assumptions on the Plans, which should have instructed the contractor to verify his assumptions during construction and notify him of discrepancies.

108. The Respondent's failure to do an adequate investigation was contrary to Principle 3 of the Code of Ethics. The Design was not founded on adequate knowledge.

109. The Respondent's failure to meet the standard of investigation for seismic retrofits in British Columbia, combined with his breach of Principle 3, was a marked departure from the required standard of conduct and was thus unprofessional conduct.

110. With respect to section 14(b)(1) of the Bylaws, the Panel did not consider this argument because it would not have been procedurally fair to do so. EGBC did not allege in the Citation that the Respondent did not document his site investigations and therefore the Respondent did not have any notice of this allegation.

## 2. Allegation 1c

111. The Panel finds the Respondent did not apply the required engineering methodology to determine the number and location of new shear walls required to seismically upgrade the Project and ensure compliance with the Building Code.

112. The Respondent added shear walls to the main floor common room area, but he did not complete sufficient calculations to determine if they were required. He believed that because of the concrete walls on the exterior of the building, the basement would have kept all seismic forces and the shear walls may not have been necessary. He also applied the same design criteria (ductility factor and philosophy) to the building's wood frame and concrete system.

113. In these ways, the Design did not meet the standard of practice expected of structural engineers in British Columbia working on seismic retrofit projects. As Mr. Hosseini explained, the Respondent should have done a detailed seismic analysis and

engineering evaluation based on Building Code requirements to assess the Project's seismic performance.

114. The Panel concludes the Respondent's failure to apply required engineering methodology in relation to the shear walls was unprofessional conduct. A complete failure to apply engineering methodology is a marked departure from the expected standard of conduct.

### 3. Allegations 1d and 2

115. The Panel also finds the Respondent did not adequately prepare proper structural calculations to support his Design.

116. The Respondent did not do sufficient calculations to determine if shear walls were necessary in the main floor common area.

117. He also assumed the floor joists spanned the length of the internal rooms and could accept the relative structural uplift and gravitational forces when connected to the proposed shear walls. He did not review the gravity elements or the floor framing for the new occupancy. He did not verify that the floor joists could carry the additional downward load from the proposed shear walls.

118. On the east side of the Project building, the Design placed new shear walls above the basement with no shear walls or structural continuity under them, which would have resulted in a discontinuous load path from the roof to the foundation.

119. The lack of adequate structural calculations for the Design was unprofessional conduct. Adequate calculations should have been completed to determine if all shear walls were necessary. Without knowing the proper transfer of seismic forces from the roof and floor diaphragms to the foundation, there was a risk of failure during a seismic event.

120. Also, the new shear walls above the basement without structural continuity below was a critical deficiency in seismic design. This was a breach of Principle 1, as the risk of failure created by the inadequate structural calculations indicates the Respondent did not hold paramount the safety, health and welfare of the public.

121. Taken together, the failure to meet the standard of conduct and the breach of Principle 1 was a marked departure from the expected standard of conduct of a Professional Engineer.

#### 4. Allegations 1e and 2

122. The Panel finds the Plans did not adequately indicate: (1) the connections between the shear walls to the floor; and (2) the continuation of the load paths to the foundation to show sufficient transfer of seismic forces to ensure compliance with the Building Code.

123. There were no details on the Plans about how the walls were to be connected to the roof diaphragm or how the uplift forces would be transferred to the forces below. The Plans also lacked key information about the size layout and spacing of structural members, connection details and the properties of existing floor and roof sheathing.

124. The Plans did not comply with sections 2.2.4.3 and 4.1.8 of the Building Code. The first provision required the Plans to note the dimensions, locations and sizes of structural members sufficient for a design to be reviewed and sufficient information to determine loads used in the design. The second required the Design have a clearly defined seismic force resisting system to resist earthquake loads and their effects and load path(s).

125. Under section 4.2.3.3 of the Practice Guideline, the Plans should have had information about structural elements to allow the contractor to fabricate, install and connect these elements. They also should have defined the load paths for the design to be determined and checked. Section 4.3.3.3 recommends design drawings have details of structural elements and the lateral load resisting system.

126. Omitting the connections and load path details on the Plans, as required by the Building Code and recommended by the Practice Guideline, could have had serious safety and financial consequences and was a breach of Principle 1.

127. The lack of adequate details in the Plans was unprofessional conduct. The Respondent non-compliance with the Building Code, the Practice Guideline and Principle 1 amount to a marked departure from the standard expected of structural engineers working on retrofit projects.

5. Allegation 1f

128. Finally, the Panel finds that the Respondent did not assess whether a concrete foundation wall was required or identify in the Plans how the hold down anchors for the shear wall footings were to be secured to the existing foundation.

129. The Respondent did not verify any of the existing foundation conditions during the site visit. He did not appear to know if the footing upgrade in the Design required a concrete foundation wall. While he said a foundation wall might have been required, he did not include one in the Plans.

130. The Plans did not have connection details for the hold down anchors between shear walls and the foundation. The Respondent did not know how the footing upgrade would be implemented during construction and the options he suggested at his interview were not adequately reflected in the Plans.

131. The Practice Guideline required structural drawings to show structural elements in way that would allow fabrication, installation and connection of elements in a reasonable sequence by a reasonably competent general or sub-contractor familiar with construction techniques of the specified materials: s 4.2.3.3.

132. The lack of connection details left room for contractor interpretation, which increased the likelihood that the connections could have been installed incorrectly. This might have compromised the seismic performance of the Project and led to delays, change orders or retroactive corrections during or after construction.

133. The above failures were a marked departure from the expected standard of conduct.

6. Summary

134. The Design and the Plans were deficient as described in Allegations 1a, 1c, 1d, 1e and 1f and breached Principles 1 and 3, as alleged in Allegations 2 and 3. This was unprofessional conduct.

**VIII. Penalty and Costs**

135. The Panel must next determine the sanctions which should be imposed upon the Respondent and whether, and in what amount, costs are payable. We request written submissions on the appropriate sanctions and costs in accordance with the following schedule:

- a. EGBC must provide submissions to the Respondent and the Panel by no later than **December 1, 2025**;
- b. The Respondent must provide his submissions to EGBC and the Panel by no later than **December 15, 2025**; and
- c. EGBC must provide any reply submissions to the Respondent and the Panel by no later than **December 22, 2025**;

136. All submissions may be delivered by email to the other party and to Tonie Beharrell, independent legal counsel to the Panel.

Dated: November 17, 2025

<original signed by>

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Emily Cheung, P.Eng., Chair

<original signed by>

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Frank Denton, P.Eng.

<original signed by>

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David Wende