



The Association of Professional
Engineers and Geoscientists of Alberta

APEGA DISCIPLINE COMMITTEE DECISION

Date(s) of Hearing: February 14, 15, 28 and 29, 2024

Date of Decision: March 29, 2024

APEGA Discipline Case Number: 23-006-FH

**IN THE MATTER OF A HEARING OF THE DISCIPLINE
COMMITTEE OF THE ASSOCIATION OF PROFESSIONAL
ENGINEERS AND GEOSCIENTISTS OF ALBERTA**
Pursuant to the *Engineering and Geoscience Professions Act*,
being Chapter E-11 of the Revised Statutes of Alberta 2000

Regarding the Conduct of ANTONIO RUGGIERI, P. ENG.

INTRODUCTION

The hearing of the Discipline Committee took place on February 14, 15, 28, and 29, 2024, via video conferencing.

Appearances

The members of the Hearing Panel of the Discipline Committee of the Association of Professional Engineers and Geoscientists of Alberta ("APEGA"):

Fred Ritter, P.Eng., Discipline Committee Panel Chair
Zsolt Margitai, P.Eng., P.Geol., Discipline Committee Panel Member
Robert Swift, P.Eng., Discipline Committee Panel Member

Kimberly Precht, Legal Counsel for the Investigative Committee of APEGA (the "Investigative Committee")

Frank Boehres, APEGA Staff Investigator

Antonio Ruggieri, P.Eng.

Ashley Reid, Independent Legal Counsel for the Hearing Panel

Several of APEGA's staff attended to provide administrative support for the hearing.

OPENING OF THE HEARING

1. The hearing opened on February 14, 2024. The parties advised that there were no objections to the Hearing Panel's constitution or jurisdiction.

Opening Statement of the Investigative Committee

2. Ms. Precht advised the Hearing Panel that the hearing was about whether Mr. Ruggieri, a professional engineer, fulfilled his professional duties in respect of a custom-built home in Calgary (the "Home"). The first Charge concerned Mr. Ruggieri's commitment to the City of Calgary (the "City") in respect of the Home's exterior insulation and finishing system ("EIFS"). The second Charge concerned Mr. Ruggieri's duties as Registered Professional of Record for structural engineering in respect of the Home. For each Charge, the Hearing Panel would need to determine which duties Mr. Ruggieri took on and whether he failed to fulfill those duties.

3. Ms. Precht reviewed the Investigative Committee's onus to prove the allegations to the applicable standard. She indicated she intended to call three witnesses, including two expert witnesses. She also presented a package of documents, which was entered as Exhibit 1.

4. For each Charge, the Hearing Panel would have documentary evidence including letters signed and sealed by Mr. Ruggieri, which demonstrate the scope of Mr. Ruggieri's duties. The Hearing Panel could also rely on the expert evidence, which would provide context and assist the Hearing Panel to understand Mr. Ruggieri's duties.

5. Ms. Precht briefly referred the Hearing Panel to Charges 1.b.iv. and 2.c., which alleged that Mr. Ruggieri failed to make or maintain adequate records. She expected the evidence to show that Mr. Ruggieri had not provided any documentation respecting inspections or field reviews of the Home during the investigation or in advance of the hearing. However, the Investigative Committee did not rely solely on the lack of documentation to prove the field reviews or inspections were not done. Rather, the Investigative Committee anticipated that the expert evidence would show there were deficiencies in the as-built condition of the Home that could not have reasonably been missed if an adequate inspection or field review was done.

6. Lastly, Ms. Precht advised that there is ongoing civil litigation in respect of the Home involving Mr. Ruggieri and the homeowner. While there may be factual overlap between the civil proceeding and APEGA's hearing, there are fundamental differences between each process.

Opening Statement of Mr. Ruggieri

7. Mr. Ruggieri deferred his opening statement until the Investigative Committee closed their case. On February 28, Mr. Ruggieri made his opening statement. He indicated that with respect to Charge 1, he would show that he and his company, Alberta Engineering Ltd. (“Alberta Engineering”), were not under contract to provide field inspections and review of services during EIFS installation and that it was the builder, Company A, who undertook to be responsible for field reviews during the EIFS construction.

8. With respect to Charge 2, Mr. Ruggieri anticipated that the evidence would show that he and Alberta Engineering conducted or supervised field reviews as required, and created and maintained related records. He submitted that the Investigative Committee did not have evidence to prove the structural deficiencies alleged.

The Charges

9. The Charges in the Notice of Hearing are as follows:¹

1. Antonio Ruggieri (“Ruggieri”) failed to fulfill his duties, as outlined in a letter of commitment addressed to the City of Calgary and dated April 6, 2011 (the “Letter of Commitment”), with respect to the Exterior Insulation and Finish System (“EIFS”) at Address 1, Calgary (the “Home”), particulars of which include the following:
 - a. Representing to the City of Calgary in the Letter of Commitment that Ruggieri and/or Alberta Engineering Ltd. (“Alberta Engineering”) was under contract to provide inspection and review of services for the installation of the EIFS;
 - b. Failing to adequately conduct or supervise inspection of the installation of the EIFS, including one or more of the following:
 - i. Failing to inspect, or failing to adequately inspect, the installation of the EIFS;
 - ii. Failing to adequately review the work of one or more Alberta Engineering staff members with respect to the inspection of the installation of the EIFS;
 - iii. Failing to recognize significant deficiencies with the installation of the EIFS that an adequately qualified individual responsible for inspecting the installation of the EIFS should have identified;
 - iv. Failing to make or maintain adequate records of any inspection of the installation of the EIFS.
2. Ruggieri failed to fulfill his duties, as the registered professional of record who signed and sealed the relevant Alberta Building Code schedules and a General Framing Review Letter dated January 25, 2013, concerning the structural components of the Home, particulars of which include one or more of the following:

¹ As a preliminary matter, Ms. Precht asked that the Notice of Hearing be amended so that Charge 2.b.iv. referred to an “LSL beam” rather than an “LVL beam.” Mr. Ruggieri did not object to the amendment.

- a. Failing to adequately conduct or supervise field reviews of the Home;
- b. Failing to identify or appropriately address one or more structural deficiencies in the construction of the Home, including one or more of the following:
 - i. A 3-ply Laminate Veneer Lumber (LVL) beam was not installed on the main floor as per the drawings;
 - ii. Two LVL beams were not installed on the upper floor as per the drawings;
 - iii. A 2-ply LVL ledger board was not installed against the concrete foundation wall in accordance with the design detail, which called for anchor bolts to be installed in two rows and staggered in an alternating pattern every eight inches;
 - iv. A 3-ply LSL beam was not fastened to a Hollow Structural Section (HSS) column, despite fastener holes being present;
 - v. A 2-ply LVL beam was eccentrically bearing on the outside of a 2x6 post; and,
 - vi. An HSS adjustable column installed in the basement, used to support a beam, was not fastened at its base and the column was out of plumb;
- c. Failing to make or maintain adequate records of any field reviews of the Home.

IT IS FURTHER ALLEGED that the above-referenced conduct constitutes either unprofessional conduct or unskilled practice of the profession, or both, as set out in Section 44(1) of the *Engineering and Geoscience Professions Act*, and is contrary to one or more of Rules 1, 3, 4, and 5 of APEGA's Code of Ethics.

Evidence Presented at the Hearing

10. The Hearing Panel heard evidence from the following witnesses at the hearing:
 - a. Frank Boehres, APEGA Investigator
 - b. Bob Passmore, retired architect, expert witness
 - c. Dr. Ahmed Farag, P.Eng., expert witness
 - d. Antonio Ruggieri, P. Eng., member under investigation
11. The Hearing Panel also reviewed the following Exhibits entered at the hearing:
Exhibit 1 – Hearing Index of the Investigative Committee with 59 tabs of documents
Exhibit 2 – Two photographs of the Home's fireplace and surrounding cupboards

Standard of Proof

12. The Hearing Panel considered the evidence of the witnesses presented and reviewed all the documents entered as Exhibits 1 and 2. Below, the Hearing Panel has summarized the evidence as it relates to each of the Charges.

13. In coming to its decision, the Hearing Panel recognizes that the onus is on the Investigative Committee to prove the factual particulars of the Charges contained in the Notice of Hearing to satisfy the “balance of probabilities” standard of proof. This standard of proof requires that any particular be proven as more probable than not. If some or all the particulars are proven, the Hearing Panel may consider whether the proven particulars constitute unprofessional conduct or unskilled practice.

14. This decision will therefore review each Charge and consider whether the evidence establishes whether it is more probable than not that the conduct or facts alleged in each Charge is proven. If the conduct alleged in the Charge is proven, the Hearing Panel will then consider whether the proven conduct constitutes unprofessional conduct or unskilled practice.

Charge 1 – Antonio Ruggieri (“Ruggieri”) failed to fulfill his duties, as outlined in a letter of commitment addressed to the City of Calgary and dated April 6, 2011 (the “Letter of Commitment”), with respect to the Exterior Insulation and Finish System (EIFS) at Address 1, Calgary (the “Home”), particulars of which include [a. and b. not reproduced].

Decision as to Whether the Conduct is Proven

15. Charge 1 relates to Mr. Ruggieri’s duties in respect of the EIFS of the Home. The Charge alleged that Mr. Ruggieri failed to fulfill his duty to inspect the EIFS of the Home, and that his duty to do so was outlined in a Letter of Commitment dated April 6, 2011 (“LOC”). The LOC is related to the City’s Form C: Exterior Wall Claddings of Part 9 Buildings (“Form C”).

16. The Hearing Panel considered testimony from Bob Passmore² about the purpose of the Form C. He testified that around 2011, there was confusion about how to apply the Alberta Building Code to EIFS. The City introduced an initial policy, but following failures of various cladding systems, the City introduced the Form C requiring inspection of exterior cladding systems. Mr. Passmore explained that the Form C is a commitment that someone familiar with the system will review the system for completeness in its installation on a building.

17. The Hearing Panel reviewed the completed Form C at Exhibit 1, Tab 23. The Hearing Panel observed that this Form C listed Address 1 as the “Project Address.” The Form C included the subject line “Re: Installation, Application and Field Review of Exterior Wall Cladding Systems.” The Form C stated:

² Mr. Passmore was qualified as an expert in building enclosures including the use of EIFS in a residential context. His résumé was marked as Exhibit 1, Tab 49. He provided an expert report detailing his opinion about 1) the commitment Mr. Ruggieri undertook for the Home’s EIFS in the LOC; 2) deficiencies in the Home’s EIFS installation; and 3) what can be inferred regarding any inspections that may have occurred while the EIFS was being installed. His report was before the Hearing Panel at Exhibit 1, Tab 50.

I hereby give assurance that the materials, installation, and application of the exterior claddings described in the documents prepared and submitted in support of this application for building permit will meet the requirements and intent Part 9 Division B of the Alberta Building Code 2006. I have an understanding or have employed someone who has an understanding of moisture control methods.

18. In subsequent paragraphs, the Form C also included the following:

3) Field Review

I hereby undertake to be responsible for field review during construction for the following:

- Moisture management control, including protection from precipitation and interior/exterior moisture ingress control, especially at openings and penetrations.
- Cladding movement control and thermal expansion.
- Selection and installation of materials including the sheathing, sheathing membrane, flashings, and
 - Stucco installation including (but not limited to): reinforcing lath, stucco batching and mixing, stucco application, and curing, OR
 - Other cladding installation including (but not limited to) all the requirements of Division B, Sections 9.27. and 9.20. and any standards referenced by the 2006 Alberta Building Code.

19. PM, the General Manager of Company A, signed the Form C on behalf of Company A on March 31, 2011. Neither Mr. Ruggieri nor Alberta Engineering were identified in the Form C.

20. Mr. Ruggieri prepared the LOC, which is dated after the Form C. The Hearing Panel reviewed the LOC at Exhibit 1, Tab 23. The subject line of the LOC is "RE: Letter of Commitment for EIFS Installation." The LOC included the following:

Alberta Engineering Ltd., being licensed in the Province of Alberta to provide engineering services for use in construction as outlined in the Alberta Building Code 2006, is under contract to provide inspection and review of services for the installation of an Exterior Insulated Forming System (EIFS). The system in use will be the STOWE GOLD SYSTEM, or equivalent. Please accept this letter of commitment for the purposes of Building Permit Review and Approval with the understanding that our involvement is solely to ensure that the composition of this cladding system respects the intent of clause 9.28 of the ABC 2006.

21. Mr. Ruggieri signed and stamped the LOC on behalf of Alberta Engineering. PM also signed the LOC on behalf of Company A.

22. Mr. Ruggieri testified as to his interpretation of the LOC. He explained that Alberta Engineering's sole task is to ensure that the composition of the cladding system respected the intent of Section 9.28 of the Alberta Building Code. To do so, Alberta Engineering inspected and reviewed the documentation issued by STO regarding the proposed STO Gold System. Once

this task was complete, Alberta Engineering could ensure that the composition of the cladding system respected the intent of Section 9.28 of the Alberta Building Code. The LOC does not state that Alberta Engineering is under contract to provide field inspections and reviews during EIFS installation. Mr. Ruggieri maintained that PM and Company A were responsible for inspecting the EIFS during construction.

23. Mr. Ruggieri referred the Hearing Panel to Alberta Engineering invoices issued to Company A. He observed that the invoices did not include charges for EIFS field reviews or inspections, and that if the client requested field reviews or inspections, the amount of the invoices would have been higher. The Hearing Panel noted that some invoices in Exhibit 1 unrelated to the EIFS included charges for “Site Monitoring-Insulation” or “Site Inspection.” Under cross-examination, Mr. Ruggieri admitted that the only invoice issued in respect of the Home’s EIFS was to prepare the LOC.

24. During the investigation interview on March 31, 2022, Mr. Ruggieri expressed that there were many cases where, based on the client, they would inspect the EIFS installation. If the client was new or had never used the type of system, Mr. Ruggieri would make sure to do at least two inspections. Mr. Ruggieri described this as “an extra step” from his end. Where a client was experienced with the product and Mr. Ruggieri knew who the contractor was, he was comfortable allowing the contractor to do the inspection. Mr. Ruggieri explained that because the Home was a custom project, his senior engineer, SC, was on the site quite often and inspected the EIFS installation; however, there was no formal record. Mr. Ruggieri and SC “paid close attention to the project” because of its complexity. Mr. Ruggieri told interviewers that SC took pictures of the project. Mr. Ruggieri could not recall at which stage of construction SC inspected the EIFS installation.

25. At the hearing, Mr. Ruggieri was cross-examined on his answers during the investigation interview. Mr. Ruggieri testified that he did not know if SC inspected the whole EIFS or whether SC inspected one component of the EIFS based on a question from the site superintendent. He stated that “the fact we inspect something doesn’t mean we’re responsible.”

26. Mr. Passmore offered an alternative interpretation of the LOC. Mr. Passmore suggested that the Form C was not accepted, which led to the LOC being required as an undertaking to meet Form C requirements. Accordingly, Mr. Ruggieri and Alberta Engineering committed to inspect the EIFS and to ensure that the installation of the STO Gold System met minimum requirements of the STO Gold installation guideline.

27. The Hearing Panel considered the weight that should be given to Mr. Ruggieri’s testimony and Mr. Passmore’s testimony about the intent and meaning of the LOC. Mr. Ruggieri is the only witness with direct knowledge about the LOC.

28. When the Hearing Panel weighed Mr. Passmore’s testimony about the LOC, the Hearing Panel was cognizant that Mr. Passmore gave opinion evidence in his capacity as an expert in building enclosures including the use of exterior insulation and finish systems in residential contexts. His expertise clearly informed his opinion regarding deficiencies in the EIFS

installation and the adequacy of any inspection of the same. However, Mr. Passmore's expertise did not so clearly inform his opinion that Mr. Ruggieri was responsible for conducting the inspections. The Hearing Panel accepts that Mr. Passmore's opinion is relevant to the extent that he can testify that a *professional* would be responsible for inspecting the EIFS installation, and that Mr. Ruggieri and Alberta Engineering could be those responsible. The Hearing Panel has difficulty accepting Mr. Passmore's specific suggestion that the City did not accept the Form C, and that Mr. Ruggieri and Alberta Engineering through the LOC committed to satisfying the duties in the Form C.

29. The Hearing Panel's task was complicated by the absence of other evidence that could have corroborated or contradicted Mr. Ruggieri's or Mr. Passmore's interpretations of the LOC. This was not a case where Mr. Ruggieri had a written contract that explicitly set out the scope of his duties. There were no witnesses from Company A, such as PM, or from Alberta Engineering, such as SC, who could explain their understanding of Alberta Engineering's role and duties to inspect the EIFS. There were no City witnesses to advise on the scope of the Form C or to explain why Mr. Ruggieri's LOC was required. The Hearing Panel acknowledges that there may be genuine reasons not evident at the hearing as to why this evidence was not presented.

30. The Form C is clear that the signatories, PM on behalf of Company A, were responsible for field review during construction. The Hearing Panel is not prepared to infer that Mr. Ruggieri is responsible for the Form C undertakings without clear evidence that supersedes the Form C. The LOC is not sufficiently explicit to supersede the Form C.

31. It is possible that Company A hired Alberta Engineering as someone with "an understanding of moisture controls" described in the Form C. It is less clear whether Alberta Engineering would be responsible for field reviews, if so retained.

32. The Hearing Panel considered whether the evidence showed that Mr. Ruggieri had a duty to inspect the EIFS independently of the LOC. APEGA's Responsibilities for Engineering Services for Building Projects, dated March 2009 was included in Exhibit 1. Section 3.7.3 "All Registered Professionals of Record" spoke to a registered professional of record's responsibilities under the Alberta Building Code. The evidence did not show whether Mr. Ruggieri was the Registered Professional of Record (the "RPR") in respect of the EIFS. While the Hearing Panel accepts that he is the RPR for structural engineering (see paragraph 36 of this written decision), the Investigative Committee did not prove on a balance of probabilities that the RPR's responsibilities for structural engineering would encompass the EIFS.

33. The Hearing Panel finds the evidence is not sufficient to prove on a balance of probabilities that Mr. Ruggieri had a duty to inspect and review the EIFS installation. After reviewing the Form C and in the absence of other clear evidence, the Hearing Panel believes that PM on behalf of Company A undertook to complete the field reviews, rather than Alberta Engineering. For the above reasons, the Hearing Panel dismisses Charge 1.

Charge 2 – Ruggieri failed to fulfil his duties, as the registered professional of record who signed and sealed the relevant Alberta Building Code schedules and a General

Framing Review Letter dated January 25, 2013, concerning the structural components of the Home, particulars of which include one or more of the following: [a. – c. not reproduced].

Decision Whether the Conduct was Factually Proven

34. Charge 2 concerned Mr. Ruggieri's duties as the RPR who signed and sealed Alberta Building Code schedules and a letter to PM at Company A dated January 25, 2013 (the "General Framing Review Letter").

35. The Hearing Panel considered the Alberta Building Code schedules in Exhibit 1, Tab 23: Schedule A-2: Confirmation of Commitment by Owner and by Registered Professional of Record; Schedule B-1: Letter of Commitment by the Owner and Coordinating Registered Professional; and Schedule B-2: Summary of Design and Field Review Requirements.

36. The Hearing Panel also considered expert evidence from Dr. Ahmed Farag under Charge 2.³ Dr. Farag explained that Schedules A and B must be completed and submitted with design drawings as part of the application for a building permit. The Hearing Panel observed that Mr. Ruggieri signed and sealed Schedule A-2, which identifies him as the Coordinating Registered Professional, or the RPR for the purposes of the Alberta Building Code.

37. Dr. Farag explained that Schedules B-1 and B-2 relate to construction rather than design aspects of a project. Mr. Ruggieri signed and sealed Schedule B-1, which states:

I hereby give assurance that the design of the structural engineering components described on plans, specifications and other supporting documents, prepared by this registered professional in support of the application for a building permit, comply with the Alberta Building Code (ABC).

I hereby undertake to be responsible for field review of the above referenced components during construction as indicated on the attached "Summary of Design and Field Review Requirements" (see Schedule B-2).

I also undertake to notify the authority having jurisdiction in writing if our contract for field review is terminated at any time during construction.

38. Dr. Farag also testified and wrote in his report about the purpose of Schedule B-2. Under Schedule B-2, the RPR undertakes to review shop drawings and complete site reviews to ensure that construction is finished in accordance with the design drawings.

³ Dr. Farag was qualified as an expert in the field of structural engineering in residential construction. His résumé was marked as Exhibit 1, Tab 51. He provided an opinion on the minimum expectations that apply when a professional engineer acts as the RPR for structural engineering services in the construction of a new residential custom home, including with respect to field reviews and identifying and appropriately addressing structural deficiencies. His report was before the Hearing Panel as Exhibit 1, Tab 52.

39. Mr. Ruggieri completed Schedule B-2 and took responsibility for structural engineering:

2.1 Structural capacity of structural components of buildings, including anchorage and seismic restraint.

2.4 Review of all applicable shop drawings.

40. Dr. Farag's report explains that field reviews are critical for any construction project. The purpose of field reviews is to ensure that construction matches the design drawings. Field reviews provide a last opportunity to rectify any mistakes, to improve the structure's integrity, or to address any structural deficiencies. After the field reviews are complete, the RPR completes Schedule C-2. Schedule C-2 acknowledges that the RPR completed field reviews to ensure that the completed structure substantially complies with the original design drawings. After the RPR submits Schedule C-2, the City issues an occupancy permit and the project file is closed.

41. After reviewing the Schedules, the Hearing Panel finds that Mr. Ruggieri, as RPR, signed and sealed the relevant Schedules under the Alberta Building Code. As a result, he had a duty to conduct field reviews to ensure that the as-built construction of the Home accorded with design drawings submitted as part of the building permit application.

42. Mr. Ruggieri argued that he was only responsible for Alberta Engineering's drawings and field reviews of construction related to the same. The Hearing Panel was not persuaded by this argument. APEGA's Responsibilities for Engineering Services for Building Projects document, dated March 2009, states:

As defined in the *Alberta Building Code*, the registered professional of record in each discipline is:

- Responsible for coordinating the design and field reviews; and
- Responsible for integrity and completeness of the design and field review in their respective discipline.

"Integrity and completeness" is considered to mean:

- Responsibility is assigned or delegated for all aspects within the discipline.
[Emphasis added]

43. Under Schedule B-2, Mr. Ruggieri agreed to review "all applicable shop drawings", not only those produced by Alberta Engineering. Even if Mr. Ruggieri was not responsible for the designs provided by others, he relied on those designs to provide inputs to the overall design of the Home for which he was taking responsibility. If construction did not accord with the designs created by other engineers, it could impact Alberta Engineering's overall design by potentially changing the loads or restrictions used as inputs.

44. The Hearing Panel went on to consider whether Mr. Ruggieri failed to perform his undertaken duties by failing to adequately conduct or supervise field reviews of the Home.

45. The General Framing Review Letter dated January 25, 2013 states that the “site was reviewed on January 19th, 2013, for a general review of the structure and to verify its conformance with the requirements of the joist and trust layouts [...] and general structure requirements for wood framed structures [...]” The General Framing Review Letter described the results of the site review and, except for noted issues, confirmed that the structure conformed to design requirements.

46. The General Framing Review Letter is sufficiently detailed such that the Hearing Panel accepts that Mr. Ruggieri or another individual from Alberta Engineering performed a field review on January 19, 2013. The Hearing Panel turned to the issues of the adequacy of the field review and whether Mr. Ruggieri failed to identify or appropriately address one or more structural deficiencies in the construction of the Home.

47. Dr. Farag explained that at minimum, an RPR conducting a field review must identify structural deficiencies in the as-built construction of a building, and

- document structural deficiencies in a field review report with photographs and explanations of the structural deficiency;
- inform the contractor about the structural deficiency and request that it be rectified;
- ask the contractor to provide photographs to confirm the structural deficiency is rectified. If the RPR is not satisfied, they should conduct a further site inspection.

48. Dr. Farag’s report described six structural deficiencies in the Home, which reflect Particulars 2b.i. – vi. His opinion relied on photographs personally taken by Mr. Boehres during the investigation or provided by the homeowner and design drawings. None of the structural deficiencies noted in Dr. Farag’s report were identified in Mr. Ruggieri’s General Framing Letter following the site inspection on January 19, 2013.

Particular 2.b.i.: A 3-ply Laminate Veneer Lumber (LVL) beam was not installed on the main floor as per the drawings

49. Dr. Farag considered the framing of the main floor. He identified a 3-ply LVL beam and two Trus Joist I-Joists (“TJI joists”) in the design drawings that supported a fireplace and cabinets on the main floor. He explained that the fireplace and cabinets would have heavy, permanent deadloads.

50. Dr. Farag observed that photographs of the as-built condition of the Home taken after Alberta Engineering’s inspection on January 19, 2013 showed that the LVL beam and TJI beams were missing from the locations proposed in the design drawings. His report stated:

These structural components were not installed as per the design. The missing LVL beam and TJI joists is a structural deficiency since the intent of adding them as per the [REDACTED] shop drawing was to provide support for the fireplace and cabinets.

51. The photographs and design drawings that Dr. Farag relied upon to form this opinion were included in Appendix G to his report.

Particular 2.b.ii.: Two LVL beams were not installed on the upper floor as per the drawings

52. Dr. Farag reviewed the framing of the upper floor. He identified two LVL beams in the design drawings that supported a fireplace and cabinets on the upper floor. He noted that, as with the fireplace and cabinets on the main floor, the fireplace and cabinets on the upper floor would create heavy, permanent deadloads that required special consideration in the structural design of the floor system.

53. Dr. Farag commented that the photographs of the Home showed that the two LVL beams were missing from the locations proposed in the design drawings. His report stated:

So, missing two LVL beams at the upper floor level is a structural deficiency. The upper floor framing (See Drawing#4a and Drawing#4b) done by [REDACTED] shows that those beams, highlighted in yellow, are required to support the fireplace and cabinets.

54. The photographs and design drawings that Dr. Farag relied upon to form this opinion were included in Appendix H of his report.

Particular 2.b.iii.: A 2-ply LVL ledger board was not installed against the concrete foundation wall in accordance with the design detail, which called for anchor bolts to be installed in two rows and staggered in an alternating pattern every eight inches

55. Dr. Farag considered a reinforced concrete slab included in the design of the main floor next to the garage. In the design drawings, he identified a 2-ply LVL ledger beam that supported the concrete slab next to the garage, which is anchored in the garage foundation wall.

56. Dr. Farag explained that the deadload of the concrete structural slab is significantly greater than the timber floor system, and that anchors in the concrete wall would assist in transferring the dead and live loads on the concrete slab to the foundations of the Home. Based on the design drawings, there should have been two rows of anchors at the LVL beam.

57. Dr. Farag noted that photographs of the Home showed the anchors were not installed as per the design drawings. His report stated:

Since most of the anchors across the LVL beam connection to the garage foundation wall are not installed and found to be missing, this is considered a structural deficiency. This means that the reduced number of anchors are subject to excessive forces/stresses from the structural concrete slab.

58. The photographs and design drawings that Dr. Farag relied upon to form this opinion were included in Appendix I of his report.

Particular 2.b.iv.: A 3-ply LSL beam was not fastened to a Hollow Structural Section (HSS) column, despite fastener holes being present

59. Dr. Farag reviewed a 3-ply Laminated Strand Lumber (“LSL”) beam and a Hollow Structural Section (“HSS”) column in the basement. The HSS column was to be fastened to the 3-ply LSL beam at the main floor level. Dr. Farag explained that structural connections are important for load transfer in any building, and that fasteners are required to secure the lateral stability of the LSL beam. Fasteners would also affect the steel column design and whether the steel column was braced.

60. A photograph of the Home showed the connection detail between the HSS column and the 3-ply LSL beam. Dr. Farag noted that there were no fasteners in the photograph, even though the saddle on the HSS column had fastener holes. His report concluded that “the absence of fasteners connecting the LSL beam at the main floor to a hollow structural section (HSS) column is a structural deficiency.”

61. The photographs and design drawings that Dr. Farag relied upon to form this opinion were included in Appendix J of his report.

Particular 2.b.v.: A 2-ply LVL beam was eccentrically bearing on the outside of a 2x6 post

62. Dr. Farag considered a post that supported the upper-floor balcony of the Home. The design drawings specified that a 2-ply LVL beam would be supported with a post.

63. Based on his review of photographs of the deck and supporting post and the design drawings, Dr. Farag concluded:

The 2-ply LVL beam is not aligned with center of the 2”x6” post in the upper floor balcony. Not only does this add eccentric load on the post that needs to be accounted for, but it also shows that there is no proper connection between the beam and the post. So, the installation of an eccentric post to the 2-ply LVL beam above, in combination with the missing connectors results in a structural deficiency.

64. The photographs and design drawings that Dr. Farag relied upon to make this conclusion were included in Appendix K of his report.

Particular 2.b.vi.: An HSS adjustable column installed in the basement, used to support a beam, was not fastened at its base and the column was out of plumb

65. Dr. Farag considered whether the HSS column, a telepost, in the basement was properly fastened. The HSS column carries a substantial load, and he explained that the HSS column must be installed vertically to avoid any additional bending stresses on the HSS column itself as well as the supporting concrete foundation. The HSS column should also be securely anchored to ensure lateral stability and to avoid accidental sliding that could occur.

66. Dr. Farag reviewed photographs of the HSS column installed in the Home. He commented that one photograph visually shows the HSS column is out of plumb. A second photograph of the bottom plate of the post shows that no bolts or fasteners were installed to secure the base plate. Based on the design drawings and photographs, Dr. Farag concluded that “a telepost that is installed out of plumb and has not been mechanically fastened to the concrete foundation is a structural deficiency.”

67. The photographs and design drawings that Dr. Farag relied upon to form this conclusion were included in Appendix L of his report.

68. The Hearing Panel is aware that photographs, while useful evidence, can be misleading. It is possible that an out of plumb column could appear in plumb depending on the view of the photograph and references used to indicate plumb. It is also possible that an in plumb column could appear out of plumb, though the Hearing Panel believes this possibility is less likely, given the use of various reference points in an image. There are no measurements or visual indicators such as an adjacent plumb bob or spirit level to confirm the HSS column is out of plumb. The parties did not object to the photograph, and they did not argue that the photograph inaccurately depicted the true state of the HSS column.

69. The photographs are clear that there were no bolts or fasteners installed to secure the base plate of the HSS column. Based on the two photographs together, the Hearing Panel accepts that it is more likely than not that the HSS column was in fact out of plumb.

70. Mr. Ruggieri argued that Dr. Farag identified “discrepancies” rather than “structural deficiencies” in the Home. Mr. Ruggieri noted that Dr. Farag did not refer to any standards, perform any calculations, or conduct field reviews to prepare his report.

71. Mr. Ruggieri also noted that Dr. Farag was unaware of whether any changes were made to the Home. While under cross-examination, Dr. Farag agreed that in residential construction, the design of a home could be changed before or during construction. He was not aware of whether, in this case, the homeowner made any changes to the Home after they moved in, and he did not know if any as-built drawings were completed for the Home after construction.

72. Mr. Ruggieri referred the Hearing Panel to evidence that in his view showed the Home’s design had changed during or after construction. For example, an email between DE of Company B (that provided the floor joist design) and NA at the City dated June 6, 2011 stated:

There has been a change to the Main Floor and Upper Floor joist layouts for the above noted permit application. I have our engineer reviewing this proposed change and would like to submit revised plans with this change to your attention prior to the release of this permit. Can I submit these changes to you later in the week or early next week? [...]

73. Mr. Boehres obtained the above email correspondence through his FOIP Request to the City, and neither NA nor DE testified at the hearing.

74. Mr. Ruggieri also referred the Hearing Panel to a letter that he sent to DE dated June 20, 2011. The letter was before the Hearing Panel at Exhibit 1, Tab 27 and it stated “[...] we will be providing you with a design of an actual steel column (non adjustable) which will be required at this connection for this condition. The design of this column is forthcoming. [...]”

75. The Hearing Panel reviewed the design drawings that Dr. Farag included as appendices to his report. The Hearing Panel observed that while the design drawings had varying dates, all were stamped by the City on August 29, 2011 and bore BP No. 2011 05427. Mr. Ruggieri did not present any other design drawings at the hearing for the Hearing Panel to consider.

76. The Hearing Panel is not persuaded that the evidence proves on a balance of probabilities that the homeowner or the builder changed the design of the Home after Mr. Ruggieri’s inspection on January 19, 2013. Further, the Hearing Panel is not convinced that the missing and improperly installed components identified by Dr. Farag are “discrepancies” that would be explained by a homeowner’s or builder’s post-construction changes.

77. The Hearing Panel accepts that the structural components identified in Particulars 2.b.i. – vi. were designed and intended to serve the structural integrity of the Home. However, the structural components were not constructed as designed. As RPR for structural engineering, Mr. Ruggieri was responsible for all design drawings in relation to structural engineering, and for field reviews of construction of the designs. He had a responsibility to identify missing components and address improperly installed components. Design drawings from professional engineers should include all necessary components. In this case, there is little to no evidence suggesting that the components identified in the particulars are unnecessary.

78. Having considered Dr. Farag’s expert testimony and report and having reviewed the design drawings and photographs he relied upon, the Hearing Panel accepts that Particulars 2b.i. – vi. are proven on a balance of probabilities. Mr. Ruggieri failed to adequately conduct or supervise a field review of the Home and did not identify or appropriately address deficiencies in the Home. He did not document the missing or improperly installed components in the General Framing Review Letter. Further, Mr. Ruggieri did not ensure that the issues described in Particulars 2b. were addressed or rectified.

79. For the above reasons, the Hearing Panel finds that Mr. Ruggieri’s conduct alleged in Particulars 2a. and b.i. – vi. is proven.

80. The Hearing Panel went on to consider Particular 2c. regarding whether Mr. Ruggieri failed to make or maintain adequate records of field reviews.

81. The General Framing Review Letter is the only documentation before the Hearing Panel describing any field review that Mr. Ruggieri conducted. Mr. Boehres testified about requests for documentation during the investigation. He stated that Mr. Ruggieri did not provide any documents, photographs, or notes from field reviews during construction of the Home.

82. Mr. Ruggieri’s evidence was that he did properly maintain documentation of the field reviews. However, he could not reproduce the documents because the physical documents

were purged after seven years under Alberta Engineering's standard operating procedure, including field notes, books recording observations, sketches, and measurements. Electronic copies of the documents were lost following a server failure.

83. On January 2, 2020, Mr. Ruggieri emailed Mr. Boehres advising that he was in the process of gathering requested information for the investigation. Mr. Ruggieri stated he had retrieved a significant number of plans, permit documents, engineering designs, and City correspondence during legal proceedings. However, "having lost connectivity to [his] engineering server [he was] faced with some challenges in retrieving the remaining documentation. [His] IT person has been advised and a workaround solution is being implemented."

84. When Mr. Ruggieri submitted his written response in February 2020, he did not provide any documents from field reviews in 2011. He did not advise that he had been unable to retrieve documents due to a server failure or because physical documents were destroyed.

85. Mr. Boehres and the Investigation Panel interviewed Mr. Ruggieri on March 31, 2022. Mr. Ruggieri stated at the interview that SC, his senior engineer, took pictures during the project, and that Mr. Ruggieri "would have to go back and – and speak with – with [the employee] with regards to any pictures that he may have. But I – I know – I would have asked for any pictures that he would have taken. And yeah, in order to confirm that I – somehow would – would need to go back. I say that with a bit of hesitation because I know we, at – at one point we, you know, did have issues with – with our server, and ended up losing some – some data."

86. The Hearing Panel observed a murkiness around the timing of Mr. Ruggieri's server crash and the date on which he claims Alberta Engineering purged the physical documents. The evidence is not clear that Mr. Ruggieri's server did in fact crash and that Alberta Engineering did in fact purge the physical documents under its standard procedure. Even if these events occurred, Mr. Ruggieri was required to maintain records of the field reviews of the Home.

87. Mr. Ruggieri knew there were issues with the Home, and in the Hearing Panel's view, he should have maintained physical copies of the field review documents even if Alberta Engineering's standard procedure was to purge documents after seven years. If there is ongoing litigation about a project, professional engineers should not destroy critical documentation. He should have ensured that his electronic files were appropriately backed up to protect against a server crash. For these reasons, the Hearing Panel finds that Mr. Ruggieri failed to maintain adequate records of the field reviews and finds that Particular 2c. is proven.

Decision as to Whether Unprofessional Conduct or Unskilled Practice is Proven

88. Having found that the conduct alleged in Charge 2 was proven, the Hearing Panel went on to consider whether it amounted to unprofessional conduct or unskilled practice.

89. Conduct that contravenes the Code of Ethics constitutes unskilled practice or unprofessional conduct under Section 44(1)(b) of the *Engineering and Geoscience Professions Act*. Mr. Ruggieri's conduct engaged Rules of Conduct 1 and 5 of the Code of Ethics:

1 Professional engineers and geoscientists shall, in their areas of practice, hold paramount the health, safety, and welfare of the public and have regard for the environment.

5 Professional engineers and geoscientists shall uphold and enhance the honour, dignity, and reputation of their professions and thus the ability of the professions to serve the public interest.

90. APEGA's Guideline for Ethical Practice provides guidance for interpreting Rule of Conduct 1:

Holding "paramount" public safety, health, and welfare means that this takes precedence over all other considerations. Professionals must, in all work for which they are responsible, guard against conditions which are threatening to the life safety, longer term health, financial matters, societal welfare, or sustainable development within our environment.

91. As RPR, Mr. Ruggieri was responsible for conducting an adequate field review of the Home to ensure that construction was completed according to the design drawings. He was also required to create and maintain records of the field review. Mr. Ruggieri's failures to satisfy his duties did not guard against conditions threatening the life safety, longer term health, or financial matters of the public, which include the Home's occupants. Accordingly, Mr. Ruggieri failed to hold paramount public health, safety, and welfare and contravened Rule of Conduct 1.

92. Mr. Ruggieri's conduct further contravenes Rule of Conduct 5, as he failed to uphold and enhance the honour, dignity, and reputation of the engineering profession. Mr. Ruggieri's conduct would cause a reasonable member of the public to have diminished confidence in the abilities of professional engineers who act as RPRs.

93. The Hearing Panel also considered whether Mr. Ruggieri's conduct is unskilled practice under the *Engineering and Geoscience Professions Act*. APEGA's Guideline for Professional Practice v1.2, dated January 2013 describes "unskilled practice" in Section 2.2:

Unskilled practice of the professions is practice by an APEGA member which is deemed by the member's peers to be below the acceptable standards of practice either in technical competence or in the overall performance of the scope of services undertaken.

94. Mr. Ruggieri undertook duties as RPR for structural engineering. The Hearing Panel has deemed that his conduct was below acceptable standards for an RPR in the overall performance of the scope of services undertaken. Mr. Ruggieri further demonstrated a lack of judgment in the "carrying out of any duty or obligation undertaken in the practice of the profession" and therefore the Hearing Panel finds that his conduct constitutes unskilled practice under Section 44(1) generally and 44(1)(d) and (e) specifically.

Conclusion

95. For the reasons set out in this decision, the Hearing Panel finds Charge 2 in the Notice of Hearing (as amended) is proven on a balance of probabilities and that the proven Charge constitutes unprofessional conduct and unskilled practice.

96. The Hearing Panel has determined that Charge 1 is not proven on a balance of probabilities and dismisses this Charge.

97. The Hearing Panel is prepared to receive submissions from the Investigative Committee and Mr. Ruggieri regarding what orders, if any, should be made by the Hearing Panel in respect of its finding of unprofessional conduct and unskilled practice. The Hearing Panel directs the parties to provide written submissions on possible orders to hearings@apega.ca:

- a. The Investigative Committee will provide submissions on sanctions and costs orders, if any, within two weeks of receipt of this written decision;
- b. Mr. Ruggieri will provide submissions on sanctions and costs orders, if any, within two weeks of the Investigative Committee's submissions;
- c. The Investigative Committee may provide a written reply to Mr. Ruggieri's submissions on sanctions and costs within one week of Mr. Ruggieri's submissions;
- d. The parties may submit a request to vary these timelines to hearings@apega.ca.

Dated this 29th day of March, 2024

On behalf of the Hearing Panel of the APEGA Discipline Committee

Fred Ritter

Signed with ConsignO Cloud (2024/03/29)
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Fred Ritter, P. Eng., Discipline Committee
Panel Chair

Zsolt Margitai

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Verify with verifio.com or Adobe Reader.



Zsolt Margitai, P. Eng., P. Geol., Discipline
Committee Panel Member

Robert Swift

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Committee Panel Member