



Alain Beauger, M.A.Sc, P.Eng.

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EXPERT SUMMARY

Mr. Alain Beauger is a Senior Associate with the Civil/Structural Group, based out of 30 Forensic Engineering's Ottawa office. Alain is a Professional Engineer with over 13 years of experience in civil, structural, and maritime/offshore engineering. His project experience includes working on stadiums, offshore/maritime structures, bridges, amusement and other non-building structures.

His areas of expertise include steel design, advanced linear and non-linear finite element analysis, comprehensive knowledge of structural design codes (Canada, US & Europe), fatigue design, and the design of structures to withstand extreme blast and fire events.

SPECIALIZED PROFESSIONAL COMPETENCIES

- Civil/Structural Engineering
- Analysis and design of structural steel structures including detailed connection design
- Analysis and design of reinforced concrete structures and foundations
- Structural analysis and finite element analysis using industry software including RFEM, Staad.Pro, SAP2000, Ansys, Excel, and Smath
- Advanced non-linear finite element analysis using LS-DYNA
- 3D modeling and drafting using AutoCAD, SolidWorks, and SpaceClaim

ACADEMIC BACKGROUND

Master of Applied Science in Civil Engineering, Carleton University, Ottawa, Ontario, 2010

Bachelor of Engineering in Civil Engineering (High Distinction), Management Concentration, Carleton University, Ottawa, Ontario, 2006

ADDITIONAL COURSES

- SEABC: E13 – Computer Software Applications in Structural Engineering, 2018
- NASCC: The Virtual Steel Conference: E4 – Fast and Efficient Design for Stability, 2020
- NASCC: The Virtual Steel Conference: B16 – Redundancy of Steel Bridges, 2020
- NASCC: The Virtual Steel Conference: B18 – Complex Steel Bridge Load Rating, 2020



- SEABC: C12 – Practical Design of Reinforced Concrete, 2021
- EPIC: Foundation Design, 2021
- Hilti: Rebar 101 – Fundamentals of Post-Installed Reinforcing Bar Design Using Qualified Adhesive Anchor Systems, 2022
- Hilti: Rebar 102 – Post-Installed Rebar Design Using Anchor or Reinforcement Provisions, 2022
- CISC SteelCast Webinar – Principles of Steel Deck Diaphragm Design, 2022
- CISC SteelExchange Webinar – Safe Design of Gerber Cantilever Roofs, 2023

PROFESSIONAL EXPERIENCE

30 Forensic Engineering

Senior Associate, Civil/Structural
2023 – Present, Ottawa, ON

- Performing site examination, document review, and effectively communicate investigation and analysis findings for investigations related to structural failures and damage to buildings or non-building structures.
- Preparing structural calculations, structural simulations, and technical drawings from field measurements, sketches, and other data.
- Preparing technical reports and drawings based upon sound investigations and analysis.
- Drawing review and building permit submissions.

ProSlide Technology Inc.

Director, Structural Engineering
2021 – 2023, Ottawa, ON

- Headed the engineering department at the company's main office, overseeing a multi-disciplinary team.
- Established industry-standard engineering processes and defined team member roles and responsibilities.
- Worked with company leaders to increase efficiency, enhance cost estimation, and improve inter-departmental communication for successful project delivery and margin protection.
- Managed relationships with external structural engineering partners, including vetting and onboarding new consultants to support project delivery in the US.
- Supervised projects from start to finish, overseeing the development of calculations, drawings, and reports for the design of structures and their foundations.

Product Structural Engineering Manager
2020 – 2021, Ottawa, ON

- Collaborated with stakeholders to enhance cost estimation accuracy and reduce expenses on steel supports.
- Led the development of standardized support structures and components to improve cost estimation and manufacturability.



- Assessed the structural steel and fiberglass capabilities of multiple vendors for large-scale architectural theming elements, implementing enhanced engineering controls and processes to ensure quality fabrication.
- Reviewed shop and assembly drawings for compliance with construction drawings, project specifications, and regulatory requirements.

Product Development Engineer/Lead Structural Engineer
2016 – 2020, Ottawa, ON

- Designed and developed pre-engineered support structures for new water ride features.
- Conducted analysis and design of fiberglass shells and pultruded FRP frames using both finite element analysis and hand calculations.
- Performed analysis and design of structural steel and reinforced concrete structures, including cantilever columns, conventional braced steel frames, moment frames, and space frames.
- Inspected water amusement rides for safety and their structural integrity.
- Reviewed structural calculations of external engineers and manufacturers to ensure compliance with the project requirements and specifications.
- Communicated ideas, designs and improvements through sketches, 3D models or drawings.

SPS Technology

Structural Engineer
2010 – 2016, Ottawa, ON

- Executed various aspects of projects, including structural analysis and design, the development of engineering and shop drawings, and project management.
- Completed projects on a variety of structures, including stadiums, offshore structures, vehicular bridges and pedestrian bridges.
- Collaborated with multidisciplinary teams to successfully execute projects, including preparing proposals, conducting detailed design and research and development programs, and providing support during the fabrication and construction phases.
- Designed and engineered the escape tunnel and its supporting structure on the Glen Lyon FPSO for both gravity, lateral loads, fatigue loading, and to withstand blast loads and extreme fire events.
- Conducted dynamic analysis of structures using SPS to confirm their resistance to various dynamic events, such as earthquakes and human-induced vibrations.

PROFESSIONAL SOCIETIES AND ASSOCIATIONS

- Professional Engineers Ontario (PEO), Professional Member
- Association of Professional Engineers and Geoscientists of Alberta (APEGA), Professional Member
- ASTM F24 Structural Design of Water Slides Task Group, Co-Chair