



HEADWALL
ENGINEERING

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Summary of Skills

- Wide breadth of experience in structural engineering of light-frame wood, mass timber, steel, concrete, and masonry structures in the residential, commercial, and institutional sectors.
- Advanced travel skills in remote and backcountry situations. Able to effectively manage complex avalanche terrain, access remote sites, and work independently in challenging environments.
- Strong background in applied sciences, leading to data-driven decision making and meticulous record keeping of observations and field reviews.
- Skilled in the design of custom equipment such as lifting devices (spreader beams, link plates, man-baskets) and transport equipment (load spreaders, saddles, bands, strong-arms, chaining arrangements).
- Excellent written and verbal communication skills, developed through the preparation of technical reports and progressively advanced workplace roles, which include liaising directly with clients, regulators, inspectors, and contractors.
- Aptitude working with CAD software (2D & 3D) such as AutoCAD, BricsCAD & SolidWorks, including solid modelling, running simulations and preparing complete engineered drawings.
- Experienced in group and team environments, developed through collaborative work environments in the engineering and avalanche industries.

Certifications

Professional Engineer (P.Eng)

Provinces of Alberta, British Columbia, and Saskatchewan

Apprentice Ski Guide

Association of Canadian Mountain Guides

Avalanche Professional

Canadian Avalanche Association



canadianavalancheassociation
Avalanche Professional





Engineering Employment History

Principal Engineer

Headwall Engineering Ltd, Jasper, AB

July 2018 – Present

Work Portfolio:

- Concrete Foundations
 - Design of numerous cast-in-place concrete basement, raft, and isolated foundations for new construction, as well as evaluations of existing foundations for building retrofit applications.
 - Design of equipment foundations & anchorage for post-disaster buildings in regions of elevated seismic hazard.
 - Associated familiarity with the local soil properties and building practices.
- Retaining Walls
 - Designed several cast-in-place concrete retaining walls for commercial and residential properties in the region.
 - Performed evaluations on existing walls with performance issues, and designed necessary improvements to ensure ongoing safety.
 - Value-engineered alternatives to CIP concrete where appropriate.
- Structural Design of Buildings & Bridge Components
 - Design multiple new buildings & significant renovations in the commercial, hospitality, institutional, and residential sectors.
 - Perform evaluations on existing buildings to determine suitability for addition or change of use plans. Design of modifications to suit such building modifications.
 - Design pedestrian & forestry bridge components.
- Construction Field Reviews
 - Perform necessary field reviews and coordinated construction administration for all engineering completed in-house.
- Construction Management
 - Manage the construction of commercial properties for owners/landlords who lack knowledge of construction practices.
- Forensic Engineering
 - Perform investigations, assessments, and associated reporting on foundation issues for properties at the request of insurance adjusters.
 - Investigate lateral load & gravity load resisting deficiencies in existing buildings up to 4 stories in height.
- Specialized Equipment Design
 - Design custom equipment, such as stiff-leg derricks and custom jacking devices for contractors in the heavy lifting and heavy haul industries.
 - Perform independent reviews of custom lifting equipment designed by others.
 - Provide engineered work procedures and method statements for critical crane & rigging operations.



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Engineer

January 2017 – June 2018

NCSG Engineering, Acheson, AB

- Designed a variety of custom lifting, transportation, and rigging devices.
- Conducted training for field supervision, management, and foreign peers.
- Completed expert reviews of structural equipment designed by others, and also certified non-destructive tests of equipment.

Jr. Engineer & Engineer

May 2013 – January 2017

Mammoet Canada Western Ltd, Edmonton, AB

My role consisted of planning complex operations into simple and safe tasks through engineered execution plans.

- Designed custom structural equipment for moving equipment weighing up to 1,250 tonnes.
- Trusted point of contact for many clients and third parties in the industrial construction industry.
- Completed a wide variety of significant construction projects including the Aurora Mine Relocation, Northwest Redwater Refinery, Construction, and multiple international projects with the Global Solutions group based in Schiedam, NL.

Avalanche & Guiding Employment History

Crescent Spur Heli-Skiing

Crescent Spur, BC

Apprentice Ski Guide

Tail Guide

2024 – Present

2019 – 2024

Cariboo Snowcat Skiing

Tete Jaune Cache, BC

Apprentice Ski Guide

Tail Guide

2024 – Present

2018 – 2022

Rockaboo Mountain Adventures

Jasper, AB

Apprentice Ski Guide

2024 - Present

Dynamic Avalanche Consulting

2021/22 Season

Trans Mountain Expansion Pipeline, Valemount, BC



Computer Skills

- Advanced proficiency with Microsoft Office including Word, Excel and PowerPoint as well as Visio and Project.
- Proficient at drafting, solid modelling, simulation and drawing preparation with AutoCAD, BricsCAD & SolidWorks.
- Skilled in use of WoodWorks software suite, SAFI GSE & SCIA Engineer (Structural Finite Element Packages), Mathcad, LICCON Lift Planner (Liebherr), SALSA (Scheuerle), LabVIEW, MATLAB, Visual Basic (VBA), MathCAD and familiar with C++.

Volunteer Experience

Jasper Employment & Education Centre

Board Chair

2023 - Present

- Chair meetings, facilitated discussions, and coordinated board recruitment.
- Meet regularly with the Executive Director, discuss staffing & operational needs, and review financial statements.
- Represent the organization on the Joint Recovery Advisory Committee, as well as in the broader community.

Director (Member at Large)

2018 - 2023

- Provided strategic direction with the board to the executive director.
- Participated in the 3-year strategic planning process with a professional facilitator.
- Reviewed annual budgets, assisted in the annual financial audit process.

Aspen Gardens Condominium Corporation

President

2020 – 2022

- Developed and led new board for a complex condominium situation.
- Established financial best practices and set the long-term direction of the condominium corporation.
- Completed a financial audit of the developer's book-keeping, obtained a reserve fund study for the common property, and hired a property manager.

Alpine Club of Canada (ACC) – Edmonton Section

Vice-Chair

2013 - 2016

Chair

2016 - 2018

- Managed the Board of Directors for the Edmonton Section, instituted major modernization of the organization, refreshing of policies and processes, and inspired a systemic change in the organization's direction and energy.
- Instructed introductory courses to members in the fields of summer mountaineering and backcountry skiing. Also led regular trips with participants in the mountains.
- Mentored other leaders within the club.