

Grant Waldie, P.Eng., PE

PRINCIPAL ENGINEER

Grant Waldie's previous experience in the construction industry has given him the capability to apply practical solutions to technical problems. Grant has been involved in the inspection of over 1,600 bridges, culverts and marine structures, of which he has been the Engineer-of-Record for 300. He has worked to develop reconstruction strategies and provided construction site services for rehabilitation projects across North America.

In the realm of Bridge Inspections, Grant is a Project Manager and Principal Engineer who leads teams as they inspect structures all across North America and works to develop rehabilitation strategies.

For Bridge Design, Grant is a Design Manager for pedestrian and short span bridges.

For Marine Structures, Grant has inspected docks/boardwalks/esplanades and developed both repair strategies as well as complete replacement of floating structures.

During Grant's earlier years at Parsons, he gained experience in computer modeling, software-based design calculations and load-rating structures. He possesses practical skills of both hand drafting and computer aided drafting, as well as experience in surveying, materials testing, cost-estimating, quantity take-offs, quality control, shop drawing review, contract administration, scheduling and proposal writing.

WORK EXPERIENCE

Bridge Inspections: Grant has progressed from Junior Inspector to Lead Inspector, Project Manager and now Head of Bridge Inspections. He is responsible for coordinating and performing detailed inspections all across North America on superstructures, substructures, decks and approaches for cracks, collision damage, corrosion, local failures, fatigue, delamination, general condition, etc. and also composing final inspection reports, on the following projects:

Long-Span Bridges:

- Public Works and Government Services Canada – Alexandra Bridge, 2016;
- Public Works and Government Services Canada – Lower Liard Suspension Bridge, 2011, 2013, 2015; and
- Parsons – Thousand Islands Bridge Inspection, 2012.

Medium-Span Bridges, Rural Roads:

- Public Works and Government Services Canada – Alaska Highway Truss Bridge Focused Inspection on cracks in end-posts, 2017;
- LEDCOR – Sierra Yoyo Desan Resource Road Bridge Inspections, 2011, 2013, 2016, 2017, 2018, 2019;

YEARS OF EXPERIENCE

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EDUCATION

- B.A.Sc. Civil Engineering, University of British Columbia, 2010.
- Advanced Diploma in Civil Engineering Technology, Camosun College, 2008

PROFESSIONAL AFFILIATIONS

- Professional Engineer (P.Eng.)
 - British Columbia
 - Alberta
 - Saskatchewan
 - Manitoba
 - Ontario
 - Nova Scotia
- Professional Engineer (PE) in:
 - Washington State
 - Illinois
 - Texas

COURSEWORK/TRAINING

- Corrosion, Protection, and Strengthening of Existing Concrete Structures, 2019
- Canadian National Railway Bridge Inspector Training, 2018
- Canadian National Railway Contractor Safety Program, 2017
- Federal Aviation Administration – Small Unmanned Aircraft Systems, 2016
- Aerial and Scissor Lift Safety, 2016
- Pacific Ropes – Fall Protection, 2016
- Alberta Bridgeworks Bridge Inspection Truck Operation, 2016
- WHMIS Training, 2015
- Envirosafety - Fall Protection, 2013
- FHWA-NHI - National Highway Institute Introduction to Safety Inspection of In-Service Bridges, 2012
- Envirosafety - Confined Space Awareness, 2012
- American Railroad Engineering and Maintenance-of-Way Association (AREMA) – Bridge Inspection Seminar Completion, 2010

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- Public Works and Government Services Canada – Alaska Highway Bridge Inspection, Fort St. John to Watson Lake, 2011, 2013, 2015;
- Public Services Procurement Canada – Alaska Highway Truss Bridge Focused Inspections, 2018-2020; and
- Parks Canada – Banff, Jasper National Park Bridge Inspections, 2010.

Medium-Span Bridges, Urban Roads:

- New Westminster Bridges and Retaining Walls, 2019
- Teck Resources – Industrial Chemical Plant Bridge, 2017, 2018, 2019;
- City of Chilliwack - Five-Year Program for City Bridge Inspections, 2012-2016; and
- Port Metro Vancouver - Clark Drive/Main Street/Westshore/ Commissioner/ Fraser Wharves Bridge Inspections, 2011, 2015, 2017, 2018, 2019.

Hiking Trail Bridges:

- Sunshine Coast Regional District Hiking Trail Bridge Inspections, 2017;
- BC Parks – Juan de Fuca Trail Bridge Inspections, 2017, 2018;
- Parks Canada – West Coast Trail Bridge Inspections, 2012, 2015;
- City of Chilliwack – Parks bridge trail inspections, 2014;
- City of Burnaby – Patterson Pedestrian Bridge Inspection, 2014;
- Public Works and Government Services of Canada - Tofino Trail Bridge Inspections, 2014; and
- Parks Canada – Jasper, Yoho, Kootenay National Park Trail Bridge Inspections, 2012.

Moveable Bridges:

- CN Rail – Conneaut Swing Bridge, 2019-2020;
- Langdale Transfer Deck – BC Ferries, 2019;
- Parks Canada – Chambly Canal Moveable Bridge Inspections, 2011.

Railway Bridges:

- Hudbay Minerals - Main Gate Trestle Inspection, 2016;
- OmniTrax - Hudson's Bay and Carlton Trail Railway Rail bridge inspections, 2014-2019;
- OmniTrax - Kettle Falls International Rail bridge inspections, 2016-2019;
- Keewatin Railroad Bridge Inspections, 2016-2019;
- Trillium Railway - Rail bridge inspections, 2016, 2017, 2018;
- Sydney Coal Railway - Rail bridge inspections, 2016, 2017; and
- Rail America / Genesee Wyoming - Cape Breton, Goderich Exeter, Ottawa Valley, and Southern Ontario Rail bridge inspections, 2016, 2017, 2018.

YEARS WITH OTHER FIRMS

- Stantec – Structural Designer, 2008 (Summer)
- Read Jones Christofferson – Site Inspector, 2007 (Summer)
- Scansa Construction – General Labourer on High-Rise Apartment Buildings, 2006 (Summer)
- Vickery and Sons – General Labourer on Residential Developments and Home Renovations, 2004 / 2005 (Summer)

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Conceptual Design:

- Municipality of Hope, BC – Coquihalla River New Pedestrian Bridge Crossing, 2019;
- BC Parks – North Coast Trail New Pedestrian Bridge Crossing, 2018;
- BC Parks – Saltspring Island, New Pedestrian Bridge Crossing, 2018.

Culvert / Outfalls:

- Ed's Creek – Public Services Procurement Canada, 2019;
- CN Rail – Culvert Inspection Program, 2017;
- OmniTRAX – Railway Culvert Inspection Program, 2017, 2018;
- FortisBC – Alex Fraser Bridge Culvert, 2016;
- Metro Vancouver – Pump Station Inspection, 2016;
- District of West Vancouver – Outfall Inspections, 2013;
- BC Ministry of Transportation & Infrastructure (BC MoT) – Highway Culvert Inspection, 2013; and
- District of West Vancouver – Culvert Inspections, 2012.

Boardwalk / Esplanade:

- Canadian Mortgage and Housing Corporation – Granville Island Marine Works Inspection, 2014-2020; and
- City of New Westminster – New Westminster Esplanade Inspections and Reconstruction Design, 2012, 2016, 2017, 2018, 2019

Emergencies:

- Fraser Surrey Docks – Tug Boat Impact Damage, 2019;
- BC Parks – Fallen tree across suspension bridge on Juan de Fuca Trail, 2019;
- Genesee Wyoming Railroad – Truck Impact Damage, 2018;
- Genesee Wyoming Railroad – Rail Bridge Overload Assessment, 2018;
- City of Chilliwack – Road Bridge, vehicle impact damage inspection and rehabilitation design, 2018;
- Genesee Wyoming – Rail Bridge in Nova Scotia, Derailment damage inspection, 2017;
- Genesee Wyoming – Rail Bridge in Guelph Ontario, vehicle impact damage inspection, 2016;
- City of Surrey – Nicomekl Sea Dam, overloaded vehicle on load-posted structure, damage inspection, 2014;
- Township of Langley – 16th Avenue at 204 Street, vehicle impact damage inspection, 2014;
- Township of Langley – Glover Road, vehicle impact damage inspection, 2013; and
- TransLink – Post Earthquake Pattullo Bridge Inspection, 2012.

Load-Rating Inspections:

Conducted inspections and coordinated the design team for load ratings on the following projects:

- Sunshine Coast Regional District Load Rating, 2016;
- City of Chilliwack – Park Bridge Load-Ratings, 2014;
- City of Chilliwack – Bailey Landfill Bridge Load-Rating, 2012; and

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- Parks Canada – Chambly Canal Moveable Bridge Load-Ratings, 2011.

Bridge/Culvert/Marine Reconstruction Projects:

Developed prioritized repair recommendations, as well as cost estimates, detailed design drawings and specifications, Tender Documents, and helped to perform site-services for the following projects:

- Port Metro Vancouver – Clark Drive Overpass Reconstruction Works, 2018-2020;
- Canadian Mortgage and Housing Corporation – Granville Island Marine Works Reconstruction, 2014, 2015, 2016, 2017, 2018, 2020;
- Public Services Procurement Canada - Alaska Highway – Truss Bridge Repair Program, 2018-2020;
- Juan de Fuca Trail – Hiking Trail Bridge Repair Program, 2017/2018;
- Sydney Coal Railway – Bridge Strengthening Project, 2017;
- Parks Canada – West Coast Trail Hiking Trail Bridges, 2016;
- City of Vancouver – Cambie Street Bridge Trolley Bus Poll Installs, 2016;
- Port Metro Vancouver – Main Street Overpass Reconstruction Works, 2016;
- Public Works and Government Services Canada – West Coast Trail Rehabilitation Design of Bridge Structures, 2016;
- Port Metro Vancouver – Westshore Reconstruction Works, 2015;
- City of Surrey – Nicomekl and Serpentine Reconstruction Works, 2014;
- Goderich-Exeter Railway – Deck Framing Plans, 2014;
- Port Metro Vancouver – Clark Drive Joint and Deck Reconstruction Works, 2013;
- City of Chilliwack - Reconstruction Works Project, 2013;
- Public Works and Government Services Canada – Alaska Highway 113 Creek Bridge Abutment Rehabilitation, 2012; and
- Public Works and Government Services Canada – Bridge and Culver Repairs, 2012.

New Bridge Construction Site Services:

Assisted in Contract Administration and on-site inspection during the Construction phase of the following projects:

- Public Works and Government Services Canada - Tofino Bridge and Culvert upgrades, 2015, 2016;
- Township of Langley - Nicomekl 56th Ave. and 211 St. Bridge Replacement, 2013, 2014; and
- BC MoT - South Fraser Perimeter Road Bridges, 2010-2012.

Independent Design Review:

Created 3D computer models and performed detailed calculations using in-house software to produce Structural Certification for the following project:

- SNC-Lavalin - Southeast Stoney Trail, highway bridge Design Review, 2010, 2011.

Studies/Life Cycle Cost Analysis:

Reviewed documents, interpreted data, and produced sections of reports for:

- Public Works Procurement Services – Alaska Highway Investment Analysis Report, 2018;
- CalTrans California Hi-Speed Rail – Tuolumne Life Cycle Cost Analysis Report, 2017;

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- Metrolinx/GoTransit - 40-Year Budget Forecasting, Railway Bridge Infrastructure, 2016; and
- Ministry of Transportation - Central Okanagan Planning Study, 2015.

Project Management Analyst:

On large scale, multi-million or even multi-billion dollar civil projects with multiple project managers, a *Project Management Analyst* continuously checks budgets, schedules, and deliverables across multiple disciplines and reports back to the Senior Project Manager about areas of slippage and suggests course corrections. Grant has fulfilled this role on the following projects:

- CREATE CSX – “Chicago Regional Environmental and Transportation Efficiency Program”, a \$3.2 billion project to improve rail and highway efficiency in the downtown Chicago core.

Fabrication Inspections:

During the fabrication process, in order to provide Quality Assurance, Grant has witnessed structural elements being made for the following projects:

- Unionport Crankshaft – Scot Forge, Clinton, WI

Civil Projects:

Responsible for Site Services and inspections during the construction phase of the following projects:

- BC Ferries – Sewage tank assessment, 2020;
- Bowen Island – Drinking water tank assessment, 2018, 2019;
- Imperial Oil - Dock Assessment Report, 2016;
- Corporation of Delta - Goldenrod Crescent Retaining wall, 2016;
- District of North Cowichan - Flood wall design, 2015, 2016;
- City of Surrey - Surrey Dyke Floodwall Protection Project, 2011, 2015;
- BC MoT - Gateway Project, Underground Forcemain Thrustblock, 2011;
- City of Surrey - 24th Avenue Repaving, 2010;
- City of Surrey - 32nd Avenue Highway Replacement, 2010; and

Presentations:

- American Concrete Institute, Vancouver Chapter Dinner – “Deterioration of Bridges, Inspection, and Rehabilitation Techniques” 2019;
- Camosun College, Civil Engineering 2nd Year Students – “Bridge Inspection and Management” 2019;
- Camosun College, UBC Transfer Program Students – “Career Advice for Undergraduates” 2018.
- Multiple internal Parsons WebEx presentations regarding UAV/Drone technology