



KGM | ENGINEERING

EXPERIENCE PORTFOLIO

1. Objective & Company Description
2. Engineering Experience
 - Structural Engineering & Consulting
 - Specialty Hydraulic Lifting Design
 - Specialty Bridge Demolition Design
 - Specialty Construction Engineering
3. Project Reference List
 - Pre-Tender & Tender
 - Bridge Design & Evaluation
 - Jacking Design
 - Bridge Demolition
 - During Construction

SECTION 1

COMPANY & OBJECTIVE

KGM Engineering Corporation was co-founded by Tamas Kalenda and Katia Gauthier in 2011. Both have worked in the construction industry for nearly 20 years and they bring to KGM the knowledge and experience required in both engineering and management to assist in the overall success of any construction projects.

In the Construction Industry of today we understand that success is not only a major team effort but also very dependent on design, engineering deliverables, precision, and meeting schedule deadlines. We also believe in design innovation that allows our clients to utilize all of their available resources and experience. We don't believe in reinventing the wheel. We believe in sharing strength and knowledge with one main goal - "finding the best and most cost efficient solution".

KGM specializes in simple and complex bridge design specific to major structural and loading analysis, bridge rehabilitation, hydraulic lifting design, explicit to bridge jacking design, existing building and bridge relocation design, bridge demolition, and all other types of structural analyses required for submittal approval, back up documentation, and design proposals.

Other major contributions and experience include: bridge condition, constructability and risk assessment, cost estimate, cost control, productivity analysis, scheduling, cost saving proposal, construction claim review reporting, project management, and training.

KGM Engineering Corporation is a Canadian registered company, licensed and certified to practice in all of the following provinces: Ontario, British Columbia, Yukon, Northwest Territories, Alberta, Saskatchewan, New Brunswick, Nova Scotia and Newfoundland/Labrador.

KGM is also certified and operating in Europe, the KGM office is located in Budapest, Hungary.

Our Mission:

- ❖ To provide clients across Canada and Worldwide with Quality, Innovative and Efficient Structural Engineering Services in both the Transportation and Building Construction Industry.
- ❖ To work safely, maintain the highest quality of workmanship, and continuously improve and develop our people to serve and adhere to our core values.

Trust, Professionalism, Innovation, Excellence, and Integrity

TEAM

The KGM Canada and Europe engineering team is composed of 12 structural design engineers. Our experience is focused on the Heavy Civil construction engineering.

Our company experience is not only supported by both co-founder's years of construction experience but also supported with our design team experience and education level. From our structural engineer scientist and design manager educated to the highest level of PhD in civil engineering, to our design supervisor and team holding master degree's in Civil Engineering.

The engineering industry has never been more challenging and with unlimited expectations. This has created a generation of design firms accustomed to achieving more with less - satisfying more demands from clients and meeting shorter deadlines. It is for this reason that building the right team is one of our top priority.

KGM takes great pride in our TEAM. We focus on building both strengths and weaknesses to create equilibrium. It is in this balance that we become stronger and more efficient, resulting in limitless innovation that brings our client success.

Our Team has demonstrated over and over the following skills and achievements and continues to deliver work with the highest quality by continuously:

- ❖ Proving leadership, inspiring, and motivating each other as a team
- ❖ Being self-aware, knowing each other's limitations and strengths and capitalizing on this self-awareness for efficient task sharing and innovating solution
- ❖ Being self-motivated and able to work well with each other under all types of pressure
- ❖ Showing confidence, assertiveness, and self-assurance with management team for overall company development
- ❖ Being resilient, optimistic, open to change, showing openness, and honesty in all dealings

We also believe in joining forces with other engineering companies by creating a structure that allows all companies to join forces and be diversified in various disciplines. This also guarantees that any schedule deadline-no matter the unforeseen obstacles, are fulfilled. We as a team, will find that innovative solution that will meet satisfaction on all levels. Always prioritizing, efficiency, cost effective and schedule deadlines.

Group of Companies working closely with KGM Engineering are Four Corners Engineering Inc., GVB Engineering Inc., S. De Rose Engineering, Hodgson Gary L & Associates Inc. and Avantier Construction Services Inc.

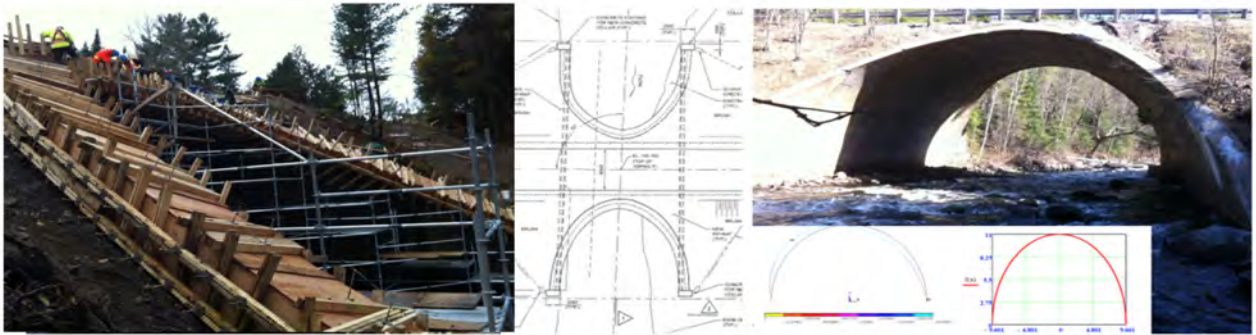
SECTION 2

STRUCTURAL ENGINEERING & CONSULTING EXPERIENCE

- New Infrastructure & Rehabilitation Design & Evaluation
- Overall Structural Analysis of Bridges, Culvert & Buildings
- Various Types of Structural Analysis for Bridges, Culvert & Buildings
- Bridge, Culvert & Building Structural Design
- Bridge, Culvert & Building Restoration & Reinforcement Design & Proposal
- Structural Bridge, Culvert Evaluation & Assessment
- Swing Bridge Balancing Procedure & Bridge Jacking Design
- Design Build, Constructability Review & Analysis
- Review and Consultation
- Design & Proposal of Structural Reinforcement of Existing Structures
- Various Types of Post Tensioning Construction Design & Analysis
- Custom Design as per Client Requirements

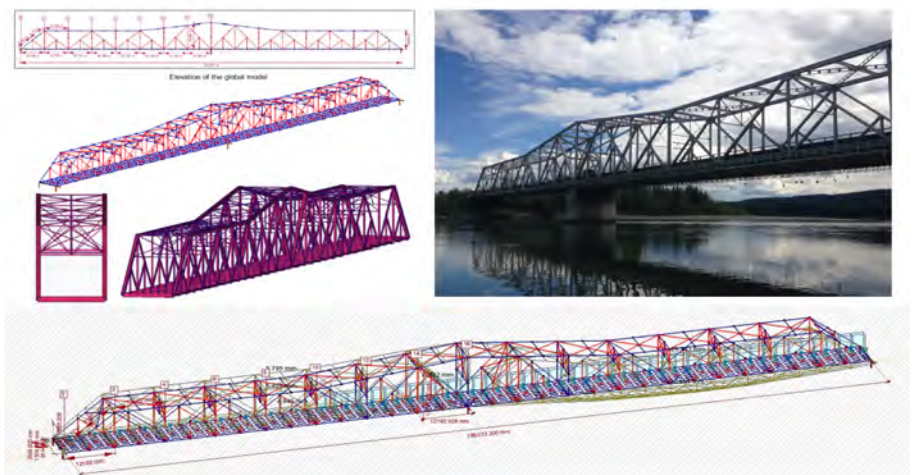
Existing Culvert Reinforcement Structural Design Analysis

Completed overall structural design analysis evaluation of existing culvert. Innovative repair solution, to allow for the reinforcement of the culvert under rehabilitation. Budget allocation could not allow for a new culvert replacement.



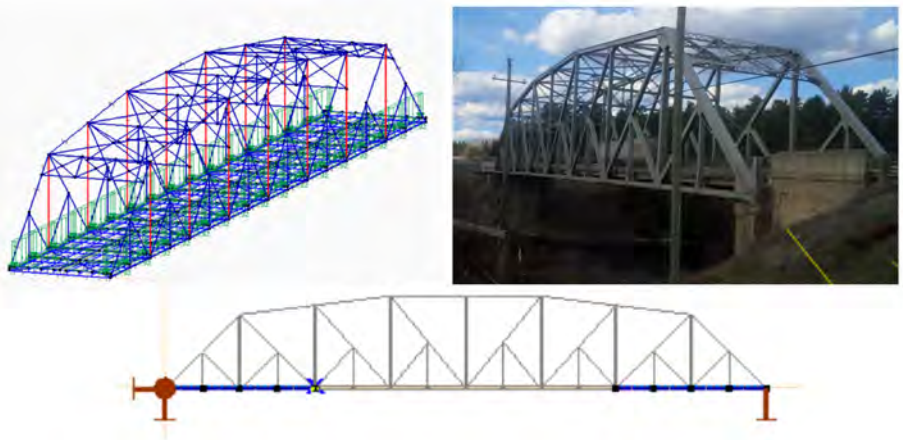
Complex Global Structural Analysis

Complex structural design analysis evaluation of the pier and design post tension strengthening to enable critical repair on the pier bearing. Our permanent pier strengthening allowed the center bearing of 80-year-old truss bridge to be converted to earthquake resistance bearings.



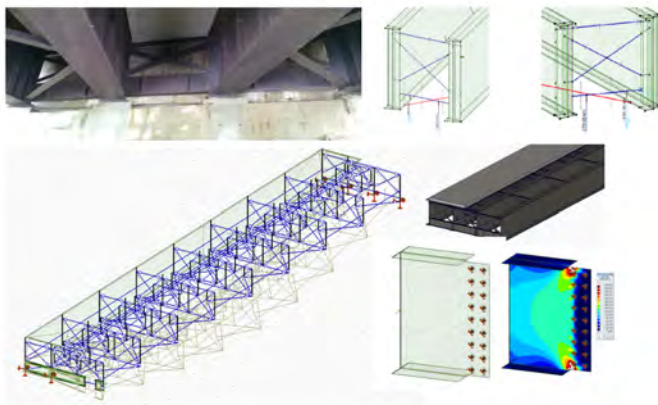
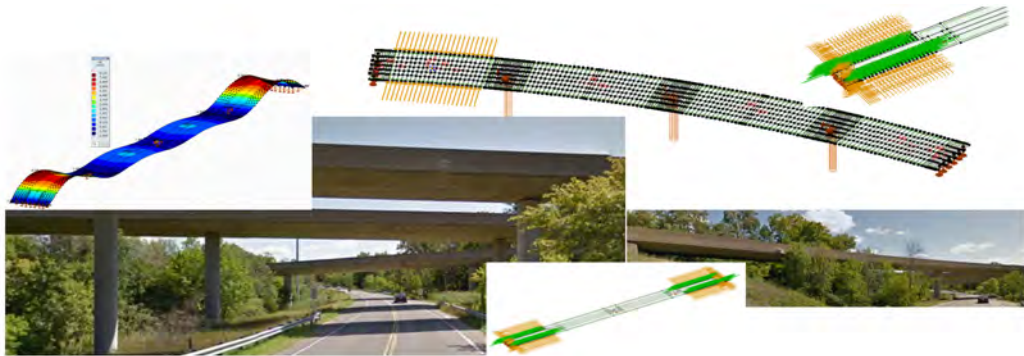
Structural Evaluation

Multi-span bridge consists of a large truss span and shorter steel girder span. Structural evaluation on both spans to determine internal forces and post tensioning design for member strengthening including detailed stringer analysis to determine adequacy due to corrosive section loss.



Complete Analysis of Existing Post Tension

Complete structural design analysis of post tensioned cast in place voided curved concrete deck. Unique lateral restrain design for vertical jacking and bearing replacement due to curvature and live load traffic.

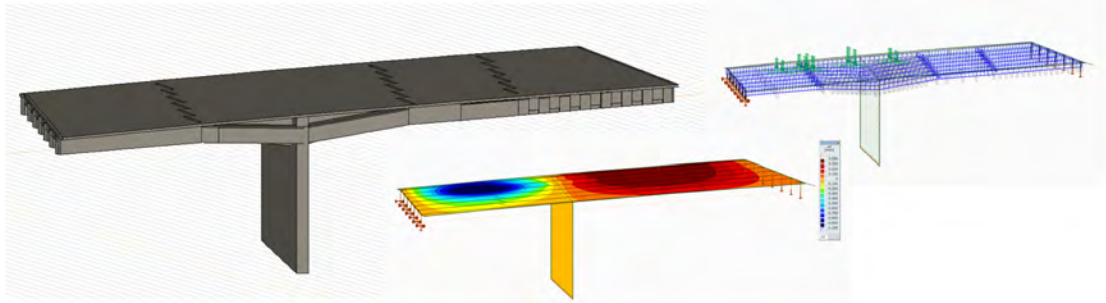


Bridge Support Load Review

Detailed bridge evaluation using existing drawings to ensure that bridge can support live and dead loads during temporary support. Structural modification had been implemented to achieve successful bearing replacement.

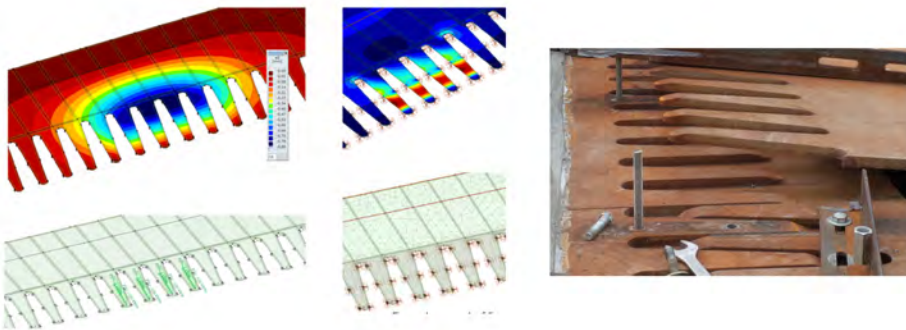
Sequential Concrete Removal Impact

Completed a detailed analysis for sequential concrete removal while bridge remain under open traffic conditions. The original intent was to speed up construction of the concrete arch re-facing task. Complex analysis was completed for step by step construction while constructions access and traffic continuously maintained.



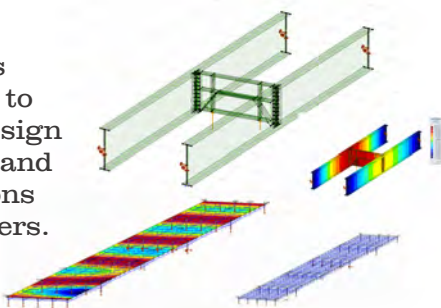
Expansion Joint Fatigue Analysis

Completed detailed fatigue analysis according to the CHBDC for the finger expansion joint in comparison with the Alberta standard specific to expansion joint. This to determine the maximum allowable gap tolerances at different locations of the joint. Also determine the life expectancy for approval by the owner.

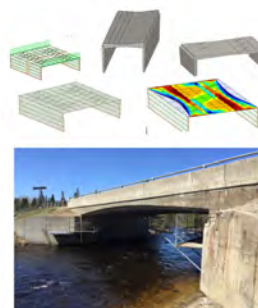


Re-Design Bridge Diaphragms

Completed load analysis according to be able re-design diaphragms and its connections to main girders.



Bridge Condition Evaluation



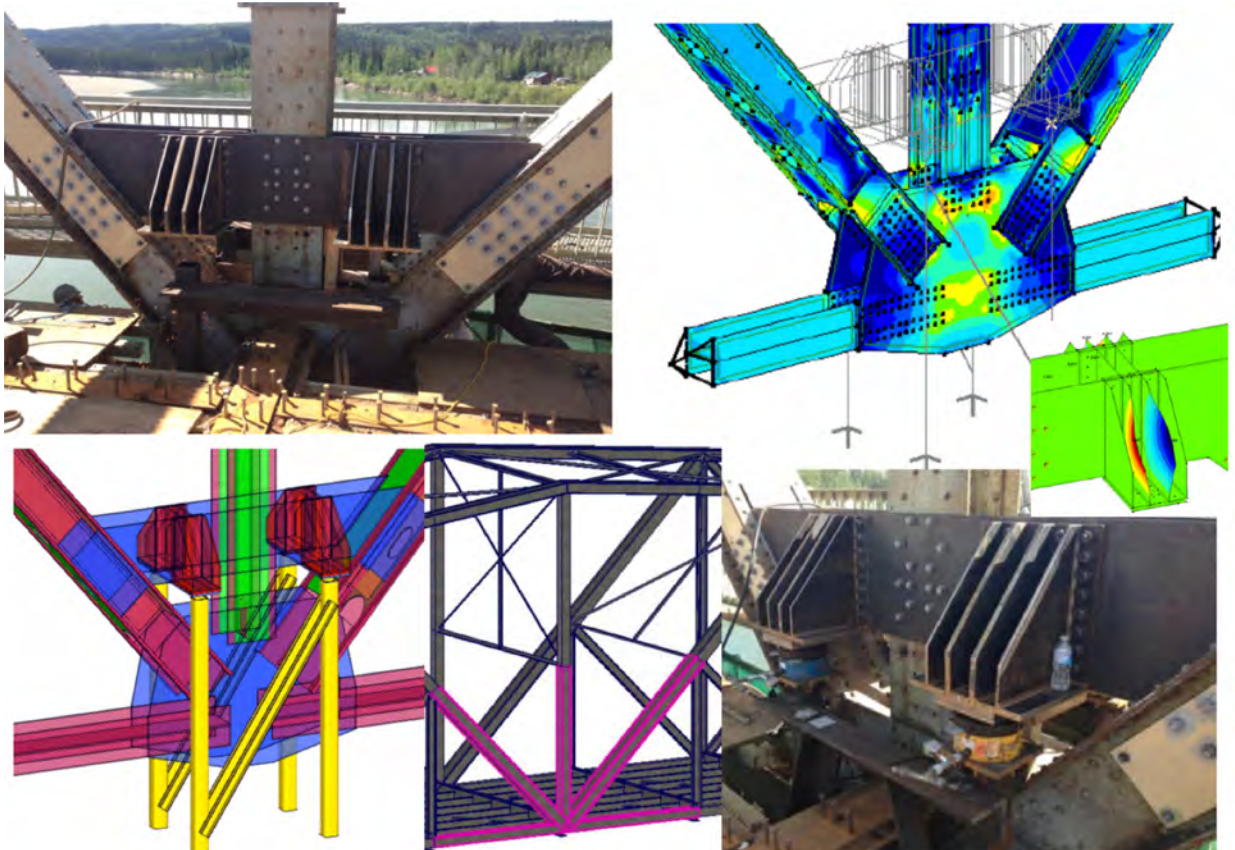
Completed bridge evaluation of cast in place rigid bridge, based to determine load restriction and pinpoint areas where inadequate reinforcing exists.

SPECIALTY DESIGN BRIDGE JACKING EXPERIENCE

- Hydraulic Bridge Jacking Design Consultation
- Bridge Modeling & Analysis
- Lateral Jacking & Support Design
- Hydraulic Design Relocation of Superstructures
- Temporary Jacking Support Design
- Custom Design in Both Bridge & Building Hydraulic Lifting
- Inspection & QVE Certifications

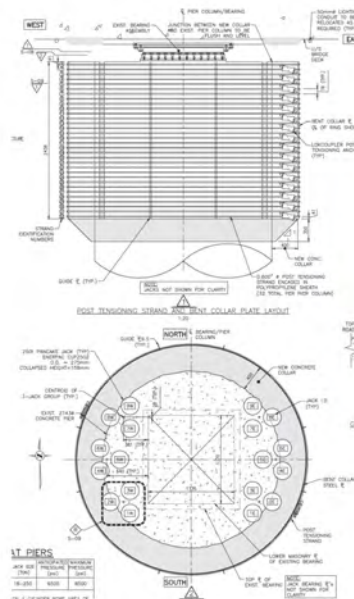
Reinforce Existing Truss to Allow Bridge Lifting

Two 90 m. span truss bridge built in mid twentieth century. Bearing replacement at abutments and pier while maintain single lane traffic. Complete structural design analysis and finite element modeling of truss bridge. Design new members, post tension existing pier, design shoring for lateral and vertical loads and hydraulic lifting. 4 X 250T jacks used to lift at piers.



Design Post Tension Collars for Bridge Lifting

Bearing replacement at abutments and on top of existing concrete columns using post tension collars to support 39,000kN SLS jacking load. Extremely tight job site between East and West bound of Hwy. 407, 32 post tension strands used around concrete collar to widened exiting columns.



BRIDGE LATERAL JACKING DESIGN & TEMPORARY SUPPORT

Humber River Bridge Go Transit, Toronto, ON

Conceptual design for lateral sliding of 9 span plate girder bridge on existing abutments.

Hwy. 3 over Grand River Cayuga, ON - in Collaboration with Brown Engineering

Conceptual Design of lateral jacking of a multi-span new girder bridge following the removal of old truss bridge and reinforcement of the old piers. Design consisted temporary piers supporting new bridge spans under live load traffic and temporary sliding beams and procedures and piers. Developed procedures for sliding, sized required equipment and material.

MTO 2013-2023 Glendale Avenue, St Catharines, ON

Conceptual Design to complete the lateral sliding and temporary support of both existing bridges for rapid replacement.

SPECIALTY DESIGN BRIDGE DEMOLITION EXPERIENCE

- Bridge, Culvert & Building Demolition Design & Proposal
- Bridge, Culvert & Building Modeling and Analysis
- Bridge, Culvert & Building Demolition Consulting
- Temporary Support Design
- Bridge Erection Procedure
- Custom Design as per Client Requirements
- Inspection & QVE Certifications



Pic River Bridge, Marathon, ON

Multi-span truss bridge complete superstructure removal design. Temporary post tensioned top chord to enable to cut bridge in half over the river and remove members in sequence towards the abutments using small cranes due to ground pressure restriction.



Donald Bridge over Columbia River, Golden, BC

Multi-span bridge, complete demolition design. 390,000lbs suspended girder span at the middle, lowered onto concrete blocks 70' below just over the river using hydraulic jacking system.



CONTINUE SPECIALTY DESIGN BRIDGE DEMOLITION**Hwy. 22 Drayton Valley Bridge**

Multi-span truss bridge built in early 20th century. Demolition consists conventional demolition off the ground level and 60m main span lowering onto partially barges over the River.

**102 Ave. Bridge over Groat Road,**

Multi-span plate girder and truss bridge built in early 20th century over the Groat road gorge. Bridge consisted 7 spans total of 345'. Complete demolition design including 70' tall truss towers.

**Yellowhead Bridge**

70-meter single-span truss bridge, design included jacking to confirm weight, crane lifting procedure, and slope design and stability analysis. Complete dismantling plan.

**Old Memorial Dr. Bridge**

Multi-span truss bridge built in early 20th century. Hinged spans lowering procedure and design using hydraulic jacking system. Designed system as installed and section was lowered onto ice bridge in a single day

OTHER CONSTRUCTION ENGINEERING EXPERIENCE:

- As Required New & Rehabilitation Design
- Design & Construction Procedure Consultation
- Temporary Access & Scaffold Design & Inspection
- Temporary Platform & Suspended Platform Design & Inspection
- For Construction/Working Procedures/Review & Inspections
- All Required Certified Construction Procedures
- Demolition Plan/Procedure & Review
- Custom Shoring & Shoring Design
- Cofferdam Design, Sheet Pile, Soldier Pile, & Lagging Design
- Culvert replacement, formwork design, creek diversion procedure
- Temporary Support Structures, for Bridge & Culvert Rehabilitation
- Deck & Overhang Formwork Design
- Concrete Rehabilitation & Various Formwork Design
- Concrete Repair Method Specifications
- Safety Procedures and Requirements

Observation Platform Design

Platform construction design at 15 m over the ground without direct ground support. The entire form system was designed to hang off of the pier. Sequential pour and different hanging system utilized for each stages.

**Temporary Tower Support & Retaining Wall Design – Slope Stability Analysis**

Designed for the girder erection stages. Towers were installed on the slope. - 150T crane supported by retaining wall utilizing deadman and tie back system while caisson drilling operation restricted tie back locations. Retaining wall design for crane access by KGM



Cofferdam Design, Sheet Pile, Soldier Pile, & Lagging Design

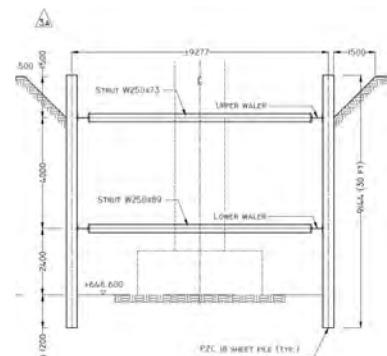
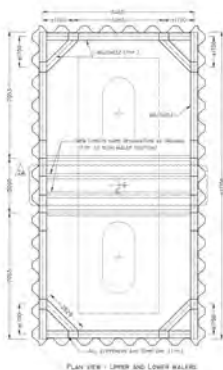
Mississauga Lake Dam Rehabilitation, Haliburton, ON – Parks Canada

Sheet pile cofferdam for the dam installation. Design to withstand high water-flow. Protected work zone under 23m³/s flow in 7 m wide channel. Sheep piles and steel anchor blocks anchored into bedrock.



Pier Cofferdam – South Saskatchewan River, Medicine Hat, AB – AT, 2012-208

Design of 8m deep pier cofferdam for now pier-pile installation in the North Saskatchewan river. 2 rows of waler for max 7m water-pressure.

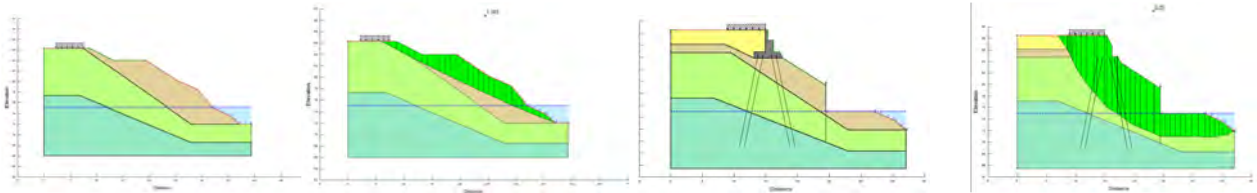


Other Cofferdam Projects

- Abutment Cofferdam – College Road Bridge, Town of Fort Erie, ON – U-11-41
- Cofferdam – Decew Waterworks Canal – OPG. 2013-152
- Lower terminal Cofferdam, Inclined railway, Niagara Parks, ON 2012-153
- Cofferdam – Hardistry Lift Station, Hinton, AB
- Pier Cofferdam – MTO 2015-2004, ON. Hwy 400/Hwy 9
- Paul First Nation - Wastewater lift station - AB

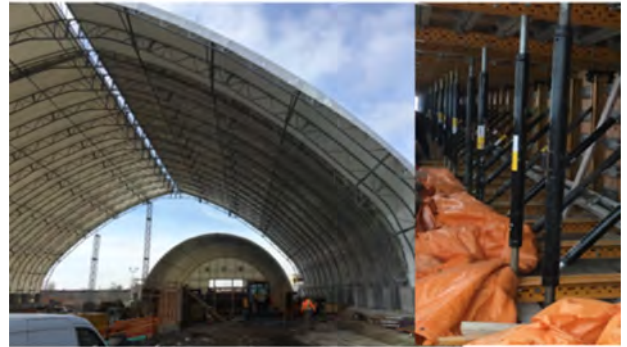
Global Slope Stability and Crane Temporary Support Design

Completed a global slope stability analysis and found that the slope was unstable to support micropile installation for the pier therefore we have proposed to change the construction sequence and install the abutments first. Later the Crane was supported by the new abutment for micropile installation at the pier.



Winter Protection- Dome Design

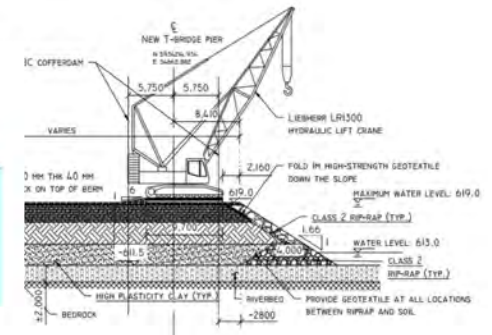
Completed a dome foundation structural analysis design along with the peer review of the dome design for a train bridge construction at King Street Waterloo. Reinforced concrete footing was used at both side but size were restricted due to fiber optic cables and train tracks. We also completed the anchorage design analysis for the entire building and bracing system for end walls.



Culvert Replacement

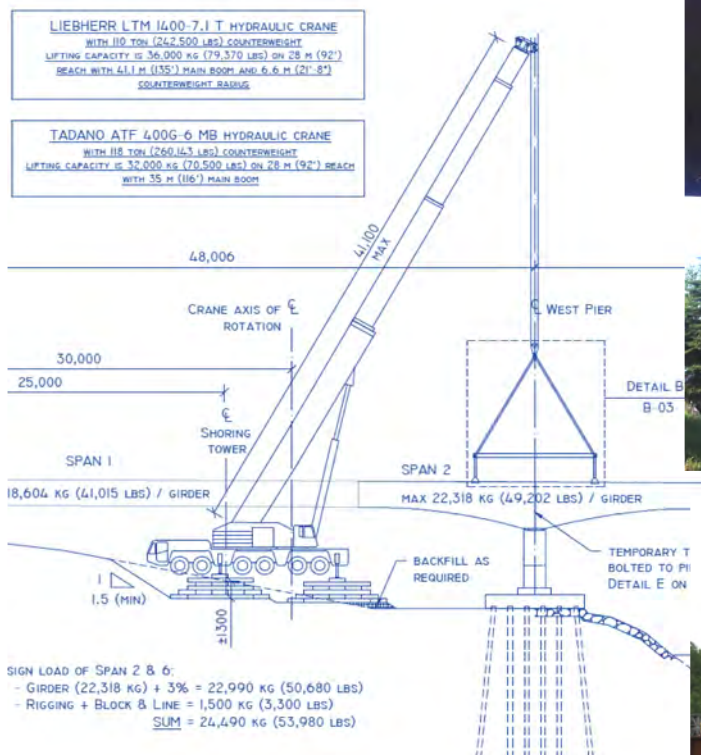
New culvert construction. Main section of half a circle but inlet and outlet sections are square. Completed design and construction of transfer section





Bridge Erection & Temporary Support Design

Temporary support design and complete erection design was completed utilizing tandem pick for center piece. We completed detailed stability analysis and torsional buckling analysis for Certain stage of erection when 15m girder section was cantilevered over the river. Longitudinal and lateral jacking was also utilized to ensure proper fit of the girders.



SECTION 3

PRE-TENDER & TENDER EXPERIENCE

	CONTRACT	EXPERIENCE
MTO Pre-Tender	<u>MTO Hwy. 69-CEAA Project 4</u> 28 Bridge Rehabilitation	Preliminary - Design Evaluation, Constructability Review, Cost Estimate and Scheduling. Collaboration with BTY
MTO Pre-Tender	<u>MTO Hwy. 69-CEAA Project 4</u> 25 Culvert Replacement	Preliminary - Design Evaluation, Constructability 5 Structural & 25 Pipe Culvert. Collaboration with BTY
MTO Pre-Tender	<u>Hwy. 427 Extension to Mackenzie Dr.</u> 14 Bridge Rehabilitation	Preliminary - Design Evaluation, Constructability Review, Cost Estimate and Scheduling. Collaboration with BTY
MTO Pre-Tender	<u>Hwy. 427 Albion Rd to Hwy. 7</u> 7 Bridge Rehabilitation	Preliminary - Design Evaluation, Constructability Review, Cost Estimate and Scheduling. Collaboration with BTY
407 Tender Package	<u>Hwy. 400 SB Over Hwy. 407 ERT</u> Bridge Rehabilitation	Completed Jacking Design & Tender package including schedule & cost estimate in Collaboration with Brown & CO Engineering Ltd.
Project # 2013-363 - Tender Package	<u>Constellation Brands</u> Cellar Expansion	Complete Design Package & During Construction support in Collaboration with Vineflo Consulting

BRIDGE DESIGN - EVALUATION & STRUCTURAL ANALYSIS

BRIDGE TYPE

A	Single-Span Steel Girder Bridge
B	Single-Span Concrete Girder Bridge
C	Multi-Span Concrete Arch Bridge
D	Multi-Span Truss Bridge
E	Multi-Span Concrete Girder Bridge
F	Multi-Span Post Tension Cast in place Concrete Bridge
G	Rigid Frame Cast in Place Concrete Arch Bridge
H	Single-Span Truss Bridge
I	Multi-Span Steel Girder Bridge

BRIDGE DESIGN - EVALUATION & STRUCTURAL ANALYSIS

CONTRACT		TYPE	EXPERIENCE	
MTO 2016-5129	Solomon Creek Bridge Hwy. 11	A	Bridge	Structural Design Analysis Evaluation
MTO 2016-6027	Black River Bridge Hwy. 17	E	Bridge	Structural Design Analysis Evaluation
MTO 2015-2039	Bridge #15	E	Bridge	Structural Design Analysis Evaluation
MTO 2015-2039	Bridge # 3, 9, 10, 11, 12, 13, 14, 18	F	Bridge	Structural Design Analysis Evaluation
MTO 2014-6027	Cedar Creek Bridge	G	Bridge	Structural Design Analysis Evaluation
MTO 2014-6000	Pic River Bridge	D	Bridge	Structural Design Analysis Evaluation
MTO 2015-2006	Victoria Avenue	F	Bridge	Structural Design Analysis Evaluation
MTO 2015-2006	Tufford Road	F	Bridge	Structural Design Analysis Evaluation
MTO 2015-2006	Ontario St. Underpass	F	Bridge	Structural Design Analysis Evaluation
MTO 2015-2006	Mountainview Road	F	Bridge	Structural Design Analysis Evaluation
MTO 2014-2025	Appleby Line	F	Bridge	Structural Design Analysis Evaluation
MTO 2014-2025	Burloak Drive Underpass	F	Bridge	Structural Design Analysis Evaluation
MTO 2015-5106	Hwy. 69 over French River	D	Bridge	Structural Design Analysis Evaluation
MTO 2014-4040	Mississippi River Bridge	E	Bridge	Structural Design Analysis Evaluation
MTO 2014-2025	Trafalgar Road	F	Bridge	Structural Design Analysis Evaluation
MTO 2014-5139	Hwy. 17 Aux Sables River Bridge	C	Bridge	Structural Design Analysis Evaluation
MTO 2013-2030	Baker Road Underpass at QEW	F	Bridge	Structural Design Analysis Evaluation
MTO 2014-2013	Cawthra Road SB Underpass	F	Bridge	Structural Design Analysis Evaluation
MTO 2014-2013	Eastgate Park Extension	F	Bridge	Structural Design Analysis Evaluation
MTO 2014-2013	Mavis Road Underpass	F	Bridge	Structural Design Analysis Evaluation
MTO 2013-2030	Netherby Road Underpass	F	Bridge	Structural Design Analysis Evaluation
MTO 2013-2030	Sodom Road Underpass	F	Bridge	Structural Design Analysis Evaluation
MTO 2013-2030	Townline Road Underpass	F	Bridge	Structural Design Analysis Evaluation
MTO 2013-5126	Magnetawan River Bridge	E	Bridge	Structural Design Analysis Evaluation
MTO 2013-2003	Richmond Bridge Rehabilitation	F	Bridge	Structural Design Analysis Evaluation

ONTARIO JACKING DESIGN EXPERIENCE

CONTRACT DESCRIPTION		CONTRACT DESCRIPTION	
MTO 2016-6027	Black River Bridge	MTO 2007-5107	New Liskeard Bridge
MTO 2016-6016	Neebing River Bridge	MTO 2006-2021	Garden City Skyway
MTO 2015-6002	Noden Causeway Bridge	MTO 2002-2001	Hwy. 420 - NF
MTO 2015-5106	Hwy. 69 French River Bridge	ON Oxford	Bridge #784331 Oxford Road 33
MTO 2015-4188	Wyman Road Bridge	ON Kenora	Keewatin Channel Bridge
MTO 2015-2039	Jordan Road & 9 Bridges	ON Hwy. 401	Wilton Rd. Bridge
MTO 2015-2006	QEW – 4 Bridges	ON CBR & CPR	CBR & CPR Bridge
MTO 2014-4040	Mississippi River Bridge	ON Milton	Laurier Bridge Rehab
MTO 2014-2025	Burloak, Appleby & Trafalgar B.	ON NOTL	Queenston Street Bridge
MTO 2014-2013	Hwy. 403 Eastgate Parkway	ON Bancroft	Bridge Street Bridge
MTO 2013-5126	Magnetawan Bridge	ON County of Renfrew	Bonnechere Bridge
MTO 2013-2030	QEW Niagara - 6 Bridges	ON City of Mississauga	Cooksville Bridge
MTO 2013-2023	Glendale Ave. Bridge	ON City of Mississauga	Pedestrian - Derry Rd Bridge
MTO 2013-2014	Hwy. 8 W-E Ramp /Hwy 401	ON City of Mississauga	Mullet Creek Bridge
MTO 2013-2003	Richmond St. & Pine St. Br.	ON Town Peterborough	Davidson Street Bridge
MTO 2012-4017	CNR Hwy. 401	ON The D. of Muskoka	Paint Lake Bridge
MTO 2012-2036	Grays Rd . – Winona Bridge	ON The D. of Muskoka	CP Overhead Muskoka Bridge
MTO 2011-4035	Palace Rd. Bridge	ON Town Kapuskasing	Mattawishquia River Bridge
MTO 2011-2049	QEW - 6x Bridges	ON City of Kenora	Winnipeg River Arch Bridge
MTO 2011-2001	Burlington Skyway Bridge	ON Ontario Northland	Abitibi River Bridge
MTO 2010-2006	St. Vincent - Barrie Bridge	ON County of Simcoe	Severn River Bridge
MTO 2010-2020	Hwy. 403 - CNR 401 Bridge	ON City of Peterborough	Hunter Street Bridge
MTO 2009-4013	Moirs River Bridge	ON Region of Waterloo	Main St. Cambridge Bridge
MTO 2009-4012	CNR 401/Hwy. 62 & 37 BR.	ON Region of Ottawa	O-Train Bridge
MTO 2009-5135	CPR Swing Bridge Sudbury	ON Ottawa Maclan County	Ottawa Dwyer Hill Bridge
MTO 2009-5004	Bracebridge Bridge	ON Region of Kitchener	Maclan Bridge
MTO 2009-4010	5th Line Overpass Bridge	ON Region of Niagara	Welland Main Bridge
MTO 2008-4004	Peterborough Bridge	ON City of Ottawa	Mackenzie King Bridge
MTO 2008-4006	Trent River Bridge	ON Region of Waterloo	Cambridge Main St. Bridge
MTO 2008-4019	Garden City Skyway Bridge	ON Hwy. 407 Toll Route	Hwy. 400 & Brant St. Bridge
MTO 2008-4020	Rd. 17 - Hawkesbury Bridge	ON Trent-Severn Waterway	Bolsover Swing Bridge
MTO 2008-2010	Garden City Skyway Bridge	ON Trent-Severn Waterway	Carrying place Swing Bridge
MTO 2007-3051	Tilsonburg Bridge	ON Trent-Severn Waterway	Rainy Falls Swing Bridge
MTO 2007-2029A	Hwy. 405 - 4 Bridges		

OTHER JACKING DESIGN EXPERIENCE			
CONTRACT DESCRIPTION		CONTRACT DESCRIPTION	
YK - Hwy. & Public Works	Upper Liard River Bridge	AB - City of Edmonton	James McDonald Bridge
NWT - N.W. Territories	Buffalo River Bridge	AB - City of Edmonton	Fox Drive Overpass
BC - Glacier National Park	Trans-Canada Hwy. C.P.R.	AB - City of Edmonton	Quesnell Bridge
AB - Banff National Park	Animal Underpass Bridge	AB - City of Edmonton	Quesnell Bridge
AB - Infrast. Transportation	Peace River Bridge Hwy. 88	AB - Infrast. Transport	Hwy. 63 - Bridge Fort Mc Murray
AB - Infrast. Transportation	Redwillow River Bridge	AB - Infrast. Transport	196th Ave. Bridge
AB - Infrast. Transportation	Glacier Bridge Rehab.	Government of SK	Lloydminster Bridge
AB - Public Works	Bow River Bridge/Banff	Government of SK	Petrofka Bridge
AB - R. M. of Wood Buffalo	Hangingstone Bridge	Government of SK	Maymont Bridge
AB - Infrast. Transportation	Paddle River Deer Foot	NB - Dept. of Transport	Regent Street Bridge

BRIDGE DEMOLITION EXPERIENCE			
CONTRACT DESCRIPTION			TYPE
MTO 2015-2007	Central Region	CNR Overhead Washago Bridge Demolition	A
MTO 2015-2007	Central Region	Trent-Severn Canal Bridge Demolition	E
MTO 2014-6031	Northern Region	Gravel River Bridge Demolition	I
MTO 2014-6027	Northern Region	Cedar Creek Bridge Demolition	G
MTO 2014-6000	Northern Region	Pic River Bridge Demolition	D
MTO 2014-2036	Central Region	Tee Creek Bridge Demolition	C
MTO 2014-2036	Central Region	Black Creek Bridge Demolition	C
MTO 2014-2036	Central Region	QEW Lyons Creek Bridge Demolition	C
MTO 2014-2009	Central Region	Oakville Creek Bridge Demolition	G
MTO 2014-2009	Central Region	Fifth Line Overpass Bridge Demolition	G
MTO 2014-2002	Central Region	Appleby Line Overpass Bridge Demolition	G
MTO 2014-2002	Central Region	Campbell Bridge Demolition	G
MTO 2014-2002	Central Region	Sixteen Mile Creek Bridge Demolition	G

BRIDGE DEMOLITION EXPERIENCE			
CONTRACT DESCRIPTION			TYPE
Ontario	City of Hamilton	Centennial Parkway Demolition	G
Ontario	The City of Barrie	Duckworth Bridge Demolition	G
Ontario	City of Mississauga	Harris Farm Bridge Demolition	H
Ontario	Central Region	Carrying Place Bridge Demolition	H
Alberta	City of Edmonton	102 Ave. Bridge over Groat Road Bridge Demolition	D
Alberta	Peace Region	East Sousa Creek Bridge Demolition	E
Alberta	City of Edmonton	Walterdale Bridge Demolition	D
Alberta	Fort Mc Murray	Athabasca River Bridge Demolition	D
Alberta	Drayton Valley County	Drayton Valley Bridge Demolition	D
Alberta	Yellowhead County	Yellow Bridge Demolition	H
British Columbia	Golden County	Donald Bridge Demolition	I

DURING CONSTRUCTION ENGINEERING			
MTO PROJECTS ONLY			
CONTRACT DESCRIPTION		CONTRACT DESCRIPTION	
MTO 2016-6027	Black River – Hwy. 17 Bridge	MTO 2014-6031	Gravel River Bridge
MTO 2016-6016	Neebing River Bridge	MTO 2014-6000	Pic River Bridge Replacement
MTO 2016-5131	Spanish River Bridge	MTO 2014-4032	Cobourg Creek
MTO 2016-5127	Hwy. 11 Nagagami River Bridge	MTO 2014-3014	Hwy. 401 Widening
MTO 2016-2042	First, Geneva, Hwy. 406, Hwy. 140	MTO 2014-3004	Culvert Replacement
MTO 2016-2277	Hwy. 401 EB Toronto Bridge	MTO 2014-2044	Hwy. 401 WB Collectors
MTO 2015-6002	Noden Causeway EBL Bridge	MTO 2014-2042	Hwy. 401 WB Stage 1
MTO 2015-5126	Mc Gillvray Creek Bridge	MTO 2014-2026	Hwy. 410/Etobicoke Creek Bridge
MTO 2015-5100	Key River/Hwy. 69 Bridge	MTO 2014-2013	Hwy. 403 - Eastgate Parkway Bridge
MTO 2015-5106	Hwy. 69 Over French River Bridge	MTO 2014-2011	QEW Underpass 7th Street
MTO 2015-5004	Hwy. 11 Gravenhurst Bridge	MTO 2013-5126	Shadow River/Magnetawan Bridge
MTO 2015-4185	Switserveville & Hilaire Bridge	MTO 2013-2052	Hwy 400 Bayfield St. Bridge
MTO 2015-4188	Wyman Road Hwy. 401 Bridge	MTO 2013-2030	QEW Niagara, 6 Bridges
MTO 2015-2039	Various – 9 Bridges	MTO 2013-2023	Glendale Ave. Bridge
MTO 2015-3017	Hwy. 21 Culvert Replacement	MTO 2013-2015	Hwy. 401W – Hwy. 427N Bridge
MTO 2015-3002	Veterans Memorial Parkway	MTO 2013-2014	Hwy. 8 W-E Ramp. Hwy. 401 Bridge
MTO 2014-6027	Cedar Creek Bridge	MTO 2013-2005	Mohawk Rd. Underpass Bridge

DURING CONSTRUCTION ENGINEERING			
MTO PROJECTS ONLY			
CONTRACT DESCRIPTION		CONTRACT DESCRIPTION	
MTO 2013-2003	Richmond St. & Pine St. Bridges	MTO 2009-2274	Tiffin St. Overpass Bridge
MTO 2012-5127	Antoine Creek Culvert	MTO 2008-4004	Peterborough Bridge
MTO 2012-4030	Landons Bay Bridge	MTO 2008-4006	Trent River Bridge
MTO 2012-4017	CNR Hwy. 401 Bridge	MTO 2008-4019	Garden City Skyway
MTO 2012-3022	Wonderland Road Bridge	MTO 2008-4020	Hawkesbury Bridge
MTO 2012-3011	Hwy. 85 Lancaster St. Bridge	MTO 2008-4005	Bethany Creek Structure
MTO 2012-3000	Hwy. 6 Underpass Bridge	MTO 2008-4004	Hwy. 115/7 County Bridge
MTO 2012-2046	Hwy. 140 CNR/CPR Bridge	MTO 2008-2010	Garden City Skyway
MTO 2012-2036	Grays Rd. to Winona Bridge	MTO 2008-2000	Rouge River Bridge
MTO 2012-2000	Burlington Skyway	MTO 2007-2030	Hwy. 400 NBL/ CPR Overpass
MTO 2011-4009	Papineau North Bridge	MTO 2007-3051	Tilsonburg Bridge
MTO 2011-2005	Hwy. 406 Bridge	MTO 2007-2029A	Hwy. 405 Bridge
MTO 2011-3003	LRT – Hwy. 8, Kitchener	MTO 2007-5107	New Liskeard Bridge
MTO-2011-4035	Palace Rd. Bridge	MTO 2007-2033	QEW Burlington Bay Skyway
MTO 2011-2049	QEW - 6X Bridges	MTO 2007-4028	Corbyville Creek Bridge
MTO 2011-2001	Burlington Skyway	MTO 2007-2034	QEW Burlington Bay Skyway
MTO 2010-2006	St. Vincent Bridge	MTO 2006-2021	Garden City Skyway
MTO 2010-2020	Hwy. 403 - CNR 401 Bridge	MTO 2006-3040	Hwy. 23 Bridge
MTO 2010-4012	CNR Hwy. 401/Hwy. 62 & 37	MTO 2006-5016	Muskoka Road 5 Interchange
MTO 2010-2255	Simcoe Rd. - 400 Bridge	MTO 2005-3049	Hwy. 6 & Side Roads Bridges
MTO 2009-5004	Bracebridge	MTO 2004-2013	Henley Bridge
MTO 2009-5105	Culver Lining SSM	MTO 2004-4016	Sucker Creek Bridge
MTO 2009-4263	Mississippi River Bridge	MTO 2003-2010	QEW Widening & CN Railway
MTO 2009-4013	Hwy. 401 – Moria Bridge	MTO 2003-4007	Hwy. 28 Bridge
MTO 2009-5135	CPR - Swing Bridge	MTO 2003-4000	Coburg Bridge
MTO 2009-3007	Caledonia Bridge	MTO 2002-2004	Hwy. 58 ^a Bridge
MTO 2009-4010	5th Line Overpass Bridge	MTO-2002-2001	Hwy. 420 - NF Bridge

DURING CONSTRUCTION ENGINEERING			
GRANDLINK - REGIONAL WATERLOO LRT-ONTARIO			
CONTRACT DESCRIPTION		CONTRACT DESCRIPTION	
Regional Waterloo LRT	Montgomery Creek Bridge	Regional Waterloo LRT	Weber St - CN Bridge
Regional Waterloo LRT	Schneider Creek Bridge	Regional Waterloo LRT	Hwy. 85 Northfield Bridge
Regional Waterloo LRT	King Street Bridge	Regional Waterloo LRT	Queen Charles Street Inters.
Regional Waterloo LRT	Laurel Creek Culvert	Regional Waterloo LRT	Cedar Creek Bridge

DURING CONSTRUCTION ENGINEERING			
OTHER ONTARIO & PROVINCES			
CONTRACT	DESCRIPTION	CONTRACT	DESCRIPTION
ON City Niagara Falls	Include Railway Project	AB City of Edmonton	49th Ave. Bridge
ON ORC - Toronto	Aluminum Building	AB City of Calgary	85th Street Bridge
ON City of Thorold	Wind Mill Factory Rehab	AB Public Works	Bow River Bridge
ON City of Welland	Flat Water Center New	AB City of Calgary	Portland Street Bridge
ON City of Welland	Solar Farm Design	AB City of Edmonton	White Ave. Bridge
ON City of St. Catharines	Performing Art Center	AB City of Calgary	32nd Ave. NE Bridge
ON Brock University	School Art Center	AB City of Edmonton	Winterburn Road Bridge
ON City of Hamilton	MMHC Health Center	AB City of Calgary	Bow Trail East Bridge
ON City of Hamilton	Hilton-Hotel New	AB City of Edmonton	Whitemud Drive Bridge
ON Ontario Northland	Jawbone C. Mile Bridge	AB City of Edmonton	Dawson Bridge
ON Hwy. 407 Toll Route	Hwy. 400 - Brant St. Bridge	AB City of Edmonton	Fox Drive Bridge
ON CN Montreal Line	Mud Creek Hwy. 2 Culvert	AB City of Edmonton	Whitemud Bridge
ON CN Rail Culvert	Cobourg Culvert	AB Municipal W. Buffalo	Hangingstone River Bridge
ON City of London	Highburry Avenue Bridge	AB Yellowhead County	New Bridge & Demolition
ON City of Ottawa	Mackenzie King Bridge	Govern. of Saskatchewan	Idlwyld Drive Bridge
ON Region of Waterloo	Cambridge Main St. Bridge	Govern. of Saskatchewan	University Bridge
ON St. Lawrence Seaway	Bridge #19 Port Colborne	Govern. of Saskatchewan	Diefenbaker Bridge
ON St. Lawrence Seaway	Lock 3, 4, 5, 6, 7 & 8	Govern. of Saskatchewan	Lewan Drive Bridge
ON Niagara Falls BC	Rainbow Bridge	Govern. of Saskatchewan	McOrmond Pedestrian B.
ON Trent-Severn Water	Bolsover-Swing Bridge	Govern. of Saskatchewan	Spillway Bridge
ON Trent-Severn Water	Carrying P. Swing Bridge	SK City of Saskatoon	Brevoot Lakeview Bridge
ON Trent-Severn Water	Rainy F. Swing Bridge	NB Dept. of Transport.	Renous River Bridge #1
ON City of Thorold	Decew Bridge	NB Dept. of Transport.	Hugh John Fleming Bridge
ON City of Belleville	Dundas St. W Bridge	NB Harbour B. Author.	St. John Harbour Bridge
ON City of Peterborough	Hunter Street Bridge	NB Dept. of Transport	Nashwaak R. Bridge No. 4
ON Region of Waterloo	Main St. Cambridge	NB Dept. of Transport.	One Mile H. Viaduct Bridge
ON Region of Ottawa	O-Train Bridge	NS Transportation & Infrast	Antigonish Main St. Bridge
ON Ottawa Maclan C.	Dwyer Hill Bridge	NS Transport. & Infrast	Crowdis Bridge
ON Region of Kitchener	Maclan Bridge	NS Transport. & Infrast	Caribou Ferry Terminal
ON Region of Niagara	Welland Main Bridge	NL Marine Atlantic	Shoal Gove Bridge
YK Hwy. Public Works	Upper Liard River Bridge	NL Marine Atlantic	Marine Port Aux Basques
BC Central Kootenay	Brilliant Bridge	NL Nova National Park	Big Brook Bridge
BC VANOC - Vancouver	Whistler Bobsleigh		

DURING CONSTRUCTION ENGINEERING			
OTHER ONTARIO & PROVINCES			
CONTRACT DESCRIPTION		CONTRACT DESCRIPTION	
ON County of Haliburton	Head Lake Bridge	BC City of Kamloops	Overlanders Bridge
ON Town of Wilmot	Nafziger Road Bridge	BC Town of Illecillewaet	Illecillewaet Bridge No. 1 & 2
ON City of Hamilton	Hwy 8 Culvert Replace.	AB Town Whitefish	Whitefish Lake - Water Treat.
ON Town of Etobicoke	Main St. South Bridge	AB Jasper National Park	Culvert Replace. Miette Hot S.
ON City of Oakville	CN-GO Niagara -Various	AB Infrast. Transport.	Red Willow River Bridge
ON City of Hamilton	CN Bridge - Desjardins	AB Infrast. Transport.	Tawatina Bridge
ON City of Oakville	Rebecca Street Bridge	AB Infrast. Transport.	Hwy. 17 - Aux Sables Bridge
ON Region of Waterloo	Grandlink Stage 1 LRT	AB Infrast. Transport.	Keg River Hwy. 35 Bridge
ON Niagara Region	Burgoyne Bridge	AB Infrast. Transport.	Terwillegar Foot. Bridge
ON Niagara Region	Smithville Bridge	AB Infrast. Transport.	102 Ave. Groat Rd. Bridge
ON Lanark County	Mississippi River Bridge	AB Infrast. Transport.	Peace River Hwy. 88 Bridge
ON Niagara Region	RR #81 Road Bridge	AB Infrast. Transport.	Wandering River Bridge
ON CN Contract	CPR Milton Bridge	AB Infrast. Transport.	Hwy. 27 Bridge
ON City of Hamilton	King - Kenilworth Bridge	AB Infrast. Transport.	West Nose Creek Bridge
ON City of Kitchener	Huron Rd Bridge	AB Infrast. Transport.	Hwy. 779 – Hwy. 16A Bridge
ON County of Brant	Ninth River Bridge	AB Infrast. Transport.	100th Ave. Bridge
ON N. Uumberland County	Ganaraska Bridge	AB Infrast. Transport.	Medicine Hat Bridge
ON Haldimand County	Oneida Bridge	AB Infrast. Transport.	Henderson Creek Bridge
ON City of Brockville	Ormond Bridge	AB Infrast. Transport.	Dunvegan Bridge
ON Town of Caledon	Dick Bridge	AB Infrast. Transport.	Red Deer River Bridge
ON County of Simcoe	Comartin Bridge	AB Infrast. Transport.	196th Ave. Bridge over Hwy. 2
ON County of Peterborough	Crowe Bridge	AB Infrast. Transport.	Deerfoot Trail Hwy. 2
ON Municipality of Muskoka	Paint Lake Bridge	AB Infrast. Transport.	Athabasca River Hwy.
ON County of Peterborough	CPR Bridge	AB Infrast. Transport.	Spirit River Hwy. 727 Bridge
ON Town of Cochrane	ONR Bridge - Abitibi River	AB CN Can. National	CN Peace River Bridge
ON Niagara Falls - BC	Whirlpool Bridge	AB City of Edmonton	Quesnell Bridge
ON Niagara Falls - OPG	OPG Cofferdam	AB City of Edmonton	James MacDonald Bridge
ON Niagara-On-The-Lake	Queenstown Bridge	AB City of Calgary	25th Ave. - Elbow Bridge