

## REPRESENTATIVE PROJECTS

### Innovative Design and Analysis

- **Life Sciences Centre, University of BC, Vancouver BC**  
A CBIP and LEED® Gold Project. BOMA Earth Award, 2005. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems.
- **Government of Canada Building (Greenstone), Yellowknife, NT**  
A LEED Gold Project. Canadian Poster Project Entry, International Green Building Challenge, 2005. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems.
- **Red River College, Princess Street Campus, Winnipeg MB**  
A CANMET C-2000/CBIP Project. One of three Canadian Entries in the International Green Building Challenge, 2002. Design facilitation and engineering under the C-2000 and CBIP programs, addressing all aspects of energy, environmental and functional performance of the architectural and building systems of a redevelopment of a historical site.
- **Bentall V Office Tower, Vancouver BC**  
A CBIP Project. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems.
- **Mayo Replacement School, Mayo YT**  
A CANMET C-2000/CBIP Project. One of three Canadian Entries in the International Green Building Challenge, 2002. Design facilitation and engineering under the C-2000 and CBIP programs, addressing all aspects of energy, environmental and functional performance of the architectural and building systems.
- **Mexican National Library, Mexico City**  
Concept design of building energy and sustainability systems.
- **Yukon Energy Corporation Head Office, Whitehorse YT**  
A CANMET C-2000/CBIP Project. Canadian National Energy Efficiency Award, 1999. Design facilitation and engineering under the C-2000 and CBIP programs, addressing all aspects of energy, environmental and functional performance of the architectural and building systems.
- **Alice Turner Public Library, Saskatoon SK**  
A CANMET C-2000/CBIP Project. Finalist, Canadian National Energy Efficiency Award, 1999. Design facilitation and engineering under the C-2000 program, addressing all aspects of energy, environmental and functional performance of the architectural and building systems.
- **Hinton Municipal Complex, Hinton AB**  
A CANMET C-2000/CBIP Project. Design facilitation and engineering under the C-2000 and CBIP programs, addressing all aspects of energy, environmental and functional performance of the architectural and building systems.
- **Building 8, Crestwood Commercial Park, Richmond BC**  
A CANMET C-2000 Demonstration Project. Finalist, Canadian National Energy Efficiency Award, 1999. BC Hydro Award of Excellence, 1996. Conceptualization, design development, and energy optimization of advanced-technology architectural and building systems for an office complex.
- **Whitehorse Multiplex Phase 2, Whitehorse, YK**  
A CBIP Project (under construction). Design facilitation and engineering under CBIP, addressing all aspects of energy performance of the architectural and building systems including innovative integrated ice plant and HVAC systems.
- **John G. Diefenbaker Air Terminal, Saskatoon SK**  
A CANMET C-2000/CBIP Project. Design facilitation and engineering under CBIP, addressing all aspects of energy performance of the architectural and building systems including post-design C-2000 evaluation.

- **College of Kinesiology, University of Saskatchewan, Saskatoon SK**  
A CBIP Project. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems.
- **Broadway Technology Centre, Vancouver BC**  
A CBIP Project. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems of a multi-building office complex.
- **IBM Beltline Office Campus, Calgary AB**  
A CBIP Project. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems of a high tech office and call centre.
- **Intuit Software Building, Edmonton AB**  
A CBIP Project. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems of a high tech office and call centre.
- **Richmond City Hall, Richmond BC**  
A CBIP project. Design facilitation and engineering addressing all aspects of energy performance of the architectural and building systems of a high tech office and call centre.
- **Grandin Green Condominium Complex, Edmonton AB**  
A CMHC/CBIP Project. Energy and environmental engineering of a green high-rise housing complex under the CBIP program.
- **Agriculture Canada PARC Research Facility, Agassiz BC**  
Expert review and concept design of a groundwater heat pump system utilizing Aquifer Thermal Energy Storage (ATES) (under construction)
- **Boeing of Canada, Murray Park Plant, Winnipeg MB**  
Conceptualization, design development and energy optimization of largest groundwater heat pump HVAC system in North America at time of installation.
- **Nova Scotia Power Corporation Computer Centre, Sidney NS**  
Conceptualization, design development and energy optimization of specialized HVAC system for the main computerized electrical grid control system for Nova Scotia.
- **NRC Science Place Canada, Winnipeg MB**  
Passive solar design and general energy optimization of building systems. First major project in Canada to utilize DOE computer energy simulation.
- **Keystone Centre Expansion, Brandon MB**  
Design of mechanical systems and energy-efficient ice plant for the largest combined multi-use sports, convention and agri-expo complex in Canada, including the first supercharged ammonia heat recovery ice plant designed and installed in Canada.

### **Energy Auditing and Energy Conservation Retrofits**

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- **City of Saskatoon Pilot EPC Projects, Saskatoon SK**  
Technical, financial, and contractual advisory services to the City of Saskatoon for a pilot EPC project for five recreational facilities.
- **Regina Public School District EPC, Regina SK**
- **Brandon General Hospital, Winnipeg MB**
- **Concordia General Hospital, Winnipeg MB**
- **Price Waterhouse Building, Vancouver BC**
- **Fairview Centre Office Complex, Vancouver BC**
- **Prime Capital Building, Vancouver BC**

- **Fairview Point Office Tower, Vancouver BC**
- **Department of National Defence Base, North Bay ON**
- **Department of National Defence Base, Cold Lake AB**

### **Geothermal and Other Alternative Energy Projects**

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- **Douglas Border Crossing, Peace Arch BC (under construction)**  
Groundwater heat pump.
- **Agriculture Canada PARC Facility, Agassiz BC**  
Groundwater heat pump with ATES.
- **Bristol Aerospace Plant, Winnipeg MB**  
Groundwater heat pump.
- **Boeing of Canada, Murray Park Plant, Winnipeg MB**  
Groundwater heat pump.
- **Concordia Hospital, Winnipeg MB**  
Groundwater heat pump.
- **Over 20 Public Schools, Manitoba, Ontario and BC**  
Groundwater and groundsource heat pumps.

### **Specialized Projects**

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- **Green Building Challenge, GBTool**  
Development of the energy performance assessment criteria for an international competition and showcase of sustainable building projects.
- **Thompson General Hospital, Thompson MB - Functional and Energy Performance Assessment**  
Assessment of functional and energy performance using advanced building simulation techniques.
- **Development of Energy Efficiency Programs - Province of Alberta Climate Change Central**  
Development of a suite of energy efficiency programs for the province of Alberta (in conjunction with the Pembina Institute, 2002-2003).
- **BEPAC**  
Pilot testing, final development and national implementation of the Building Environmental Performance Assessment Criteria program for commercial buildings. National and BC sponsors.
- **Grandin Green Energy Performance Reconciliation**  
Post-construction reconciliation and verification of energy performance relative to design energy simulations
- **MNECB Compliance Software Beta Testing and Development**  
Testing and development of DOE-based compliance software for the Model National Energy Code for Buildings.
- **Environmental Guidelines: University, college and institutional facilities**  
Wrote HVAC sections and supported all other sections for this design and performance guideline manual for the province of British Columbia, 1995.
- **Canadian Model National Energy Code Evaluation**  
Detailed micro and macro analysis of projected energy savings for new BC buildings, over a 20-year period, due to proposed implementation of the National Energy Code for Buildings.