

**Education:** Ph.D., Civil Engineering, University of Waterloo, Ontario, Canada, 2006  
M.Sc., Highway Engineering, University of Nottingham, United Kingdom, 1994  
M.Sc., Civil Engineering, Gdansk Technical University, Poland, 1974

**Affiliations:** Professional Engineers of Ontario, 1996  
Professional Engineers of Alberta, 2012  
Professional Engineers of Saskatchewan, 2013  
Association of Asphalt Paving Technologists, USA, 1993  
Canadian Technical Asphalt Association, 1997  
Asphalt Recycling & Reclamation Association, 1999

**Awards:** Willis Chipman Award for Perpetual Pavement on Red Hill Valley Parkway in Hamilton, Consulting Engineers of Ontario, 2009

**Experience:**

- 2003 to Date      **Golder Associates Ltd.**      **Whitby/Mississauga, Ontario**  
*Principal, Senior Pavements and Materials Engineer/Specialist*
- Responsible for asphalt and concrete pavement designs using Federal Aviation Administration (FAA), Transport Canada (TC), AASHTO 93, MTO Routine, MEPDG, Shell and other methodologies, airport and road pavement management systems development and implementation, traffic analysis for pavement design including traffic spectra required by MEPDG, pavement structural condition evaluation using the Falling Weight Deflectometer, Ground Penetrating Radar, Inertial Profiler and other devices, pavement mechanistic analysis including traffic loading analysis, life-cycle costing analysis and value engineering on number of major paving projects in Canada, sustainability in pavement design. Pavement and materials technology review including pavement design methodologies and specifications for airports, municipalities and DOT's.
  - Responsible for design, evaluation, geotechnical investigation and management of airports, municipal, highway, ports and rail yards, and industrial (mining) pavements, development of technical specifications, asphalt technology, including conventional and modified asphalt cements, emulsions, Superpave and SMA mix designs, warm asphalt technology, cold in-place recycling using emulsion and foamed asphalt, full depth reclamation including foamed asphalt stabilization, stabilization of existing pavement materials and soils with lime and cement, dealing with swelling clays, pavement preventive treatments including slurry seals, surface treatments, microsurfacing, pavement maintenance including crack sealing and micromilling. He oversees Golder asphalt, Superpave and concrete laboratory in Whitby and Cambridge. He is responsible for concrete pavement design, restoration (CPR), evaluation and maintenance.
  - Acts as Project Director/Project Manager/Project Engineer on number of airport and highway construction projects, supervising quality control/quality assurance inspection, testing, acceptance and administration, and is also directly responsible for construction consultations and quality control/quality assurance supervision on major construction projects. Involved as pavement and materials specialist in design/build/operate projects. Dr. Uzarowski is approved by Ontario Ministry of Transportation (MTO) for high complexity pavement designs.
  - Teaches in pavement design, management, and pavement rehabilitation technology, asphalt technology, Superpave and Marshall mix designs, aggregate and quality control/quality assurance courses.

- Uses a variety of engineering programs including FAARFIRLD, ABAQUS finite element code, DARWin, New Mechanistic-Empirical Pavement Design Guide AASHTO ME, HDM-4, ILLIPAVE, ISLAB, PerRoad, Crystal Ball, Bisar, Bands, Elsym, Vesys, Cama, Elmod, Micro PAVER, LEDFAA, WINPAS and other programs.
- Responsible for a number of pavement forensic investigations of pavement failures for municipal, provincial and airport clients, writing technical papers and preparing technical presentations, research and development on new and improved materials and pavement technologies, innovations, attending/participating in selected technical conferences.
- Dr. Uzarowski is an Adjunct Professor at the University of Waterloo, Department of Civil and Environmental Engineering where he teaches infrastructure management and pavement design courses.
- Dr. Uzarowski was also a member of Federal Aviation Administration (FAA) Airfield Asphalt Pavement Technology Program (AAPTP) advisory committee. He is a member of various Ontario pavement and asphalt technology committees and subcommittees. He gave a large number of airport pavement and materials technology presentations at SWIFT conferences and airport conferences in the USA.

1994 to 2003

**John Emery Geotechnical Engineering Limited (JEGEL)      Toronto, Ontario**  
*Principal Pavements and Quality Engineer*

- Responsible for pavement design following AASHTO methodology and MTO routine, traffic loading analysis, evaluation and management of asphalt and concrete airport, municipal and highway pavements, and pavement management systems development and implementation.
- Project Manager for a number of airport and highway construction projects, supervising quality control/quality assurance inspection, testing, review and acceptance of materials and concrete and asphalt mix designs, QC/QA, construction inspection and contract administration. Directly responsible for quality control/quality assurance supervision, managing engineering and technical field and laboratory staff, reporting to and liaison with clients on major airport and highway construction projects.
- Responsible for asphalt and pavement technology, including conventional and modified asphalt cements, emulsions, Superpave and SMA mix designs, optimization of mix designs, cold in-place recycling, full depth reclamation including foamed asphalt stabilization, HMA mixes modified with plastics and sulphur, asphalt-rubber mixes, asphalt pavement surface treatments, crack sealing, use of geotextiles in pavement and drainage construction, assessment of suitability of soils and granular materials, PGAC testing, development of technical specifications for asphalt and concrete paving, implementation of new asphalt technologies, improvements to the existing asphalt technologies.
- Responsible for pavement structural condition evaluation using the Falling Weight Deflectometer, drainage evaluation, concrete industrial pavements and floors, manholes, catchbasins, storm sewers, pavement mechanistic analysis, life-cycle costing analysis and value engineering on number of major paving projects in Canada.
- Responsible for forensic investigation of municipal, provincial and airport pavements including material testing and results analysis, traffic loading and pavement design analysis.
- Teaching in asphalt technology, Superpave, pavement design and rehabilitation technology, concrete pavement and quality control/quality assurance courses.
- Responsible for a number of pavement forensic investigations, writing technical papers and preparing technical presentations for different agencies.
- Head of the JEGEL Pavement Materials Research and Development Group.
- Quality Manager and Internal Auditor of the JEGEL ISO 9001 Quality System.

- 1990 to 1994      **Sir Owen Williams and Partners Ltd., Consulting Engineers**      **London, U.K.**  
*Pavement Engineer*
- Responsible for control of materials, construction, testing and approval of pavements constructed by three different contractors on the Trans-European Motorway (TEM) construction project in Turkey (~ 200 km).
  - Measurement, assessment of claims and progress monitoring; maintenance repair and testing during the maintenance period; structural analysis of pavement and advanced laboratory testing performed at the University of Nottingham, U.K.
  - Introduction of bitumen modifiers and geosynthetics; preparation of technical reports; analysis of technical problems; training of local engineering and technical staff.
- 1988 to 1990      **National Consulting Bureau**      **Tripoli, Libya**  
*Pavement and Quality Control/Materials Engineer, Missurata Port Project*
- Responsible for construction, inspection, testing and approval of heavy duty dowelled reinforced concrete pavements, asphalt pavements, earthworks, drainage system and manholes, cable ducts and high masts; designing of new, and evaluation and rehabilitation of existing pavements.
  - Control of laboratory testing of soils, aggregates, cement, bitumen, concrete and asphalt mixes including mix designs; calibration of asphalt and concrete plants; control of the quarry including approval of produced materials; assessment of suitability of all other materials for use in the project as required by the contract specification including steel, paints, Portland cements, curing compounds, joint sealants, bond breakers, steel and reinforced concrete piles, building materials.
  - Responsible for control and approval of construction marine and civil structures including breakwater, shipyard, and warehouses reinforced concrete foundations and floors, masonry and steel beams and precasting of beams, slabs and blocks.
  - Checking of detailed drawings; planning and scheduling of works; progress monitoring, writing technical reports.
- 1975 to 1988      **Highway Region**      **Kartuzy, Poland**  
*Manager of Highway Construction Department*
- Responsible for organization and management of work for a staff of 200.
  - Construction and rehabilitation of highway and street asphalt and concrete pavements; pavement maintenance; construction of retaining walls, culverts and drainage collectors.
  - Road geometry design, pavement design and management.
  - Laboratory control of work and materials; production of aggregates; design and production of concrete and asphalt mixes.
  - Control of production of two asphalt plants and a quarry.
  - Coordination of work of subcontractors (lighting, power and water supply and other utilities); traffic analysis and organization, road safety precautions, planning of works, progress monitoring; preparing budgets, technical and financial audit.

### **Typical Project Involvement:**

#### **Pavement and Materials Technology Review and Updates**

City of Hamilton - development of the new asphalt paving specifications based on the recent version of OPSS.MUNI 1151. Development of the new specification for asphalt cement based on the most recent OPSS.MUNI 1101 and the Multiple Stress Creep Recovery (MSCR) methodology (2017 to 2018).

City of Hamilton, Ontario, Pavement and Materials Technology Review – Pavement Specialist for a comprehensive 3-phase program that includes: Phase I – quality of pavements, including Quality Control/Quality Assurance system, quality of materials (including aggregates and granular materials, switching from Marshall to Superpave mixes) and quality of construction, traffic loading analysis; Phase II – specifications review and pavement evaluation and design, and training; and Phase III – pavement management, maintenance and preservation, and new, innovative technologies. Developing recommendations and assisting with training and implementation (2008 to 2010 and 2015 to 2017).

City of Toronto, Transportation – Pavement and Materials Specialist – updating all paving specifications including aggregates, granular material, asphalt mixes, concrete, construction of asphalt, concrete and composite pavements (2016 to 2017).

Region of Niagara, Ontario – Pavement Specialist, transition from Marshall to Superpave methodology, asphalt cement and asphalt paving specifications development. Pavement and materials technology review (2015 to 2017).

Region of Waterloo, Ontario – pavement and materials specifications review and update including transfer from Marshall to Superpave technology, reviewing the results, acceptance recommendations, pavement design recommendations – service provided on as required basis (2010 to 2013).

City of Moncton, New Brunswick, Pavement and Materials Technology Review – Pavement Specialist for reviewing number of aspects of pavement technology in the City of Moncton including typical pavement condition, quality of materials, Quality Control/Quality Assurance system, pavement design, traffic loading analysis to assess the impact of excessive heavy truck loading on city streets after the opening of TransCanada Highway, construction, preservation, rehabilitation. Providing recommendations and assisting with training and implementation (2009 and 2010).

Toronto Transportation, City of Toronto, Ontario – Pavement and Materials Engineer - asphalt paving specifications for– upgrading of the asphalt paving specifications including aggregates, asphalt cement, mix design, asphalt pavement construction (1997).

#### **Municipal and Provincial Projects in Canada, USA and South America**

City of Hamilton – Hot In-Place Recycling (HIR) suitability study for potential of HIR application for a major highway in the City. It includes laboratory testing of materials including analysis of mix gradation of asphalt cement content, testing and analysis of asphalt cement including PG grade and need for rejuvenating, requirements for the design of beneficiating mix, determining the requirements for HIR recycled mix (2018).

York Consortium, H2 VIVA Pavement Design on Sections of Highway 7, Yonge Street and Davis Drive. Pavement Specialist for geotechnical investigation (boreholes, coring, FWD load/deflection testing and GPR survey) and pavement design and construction consultations. Pavement alternatives included deep strength, perpetual, composite and concrete pavements in existing and new lanes. Perpetual pavement was selected for construction. Specifications, design and construction consultations for RBM for perpetual pavement (2009 to 2012).

Toronto Transit Commission (TTC), York – Spadina Subway Extension – pavement investigations and designs for new and existing roads and parking lots for six new subway stations in Toronto, traffic loading analysis. The recommendations include innovations in pavement and materials technology (2009 and 2012).

Ontario Ministry of Transportation – forensic investigation on premature asphalt rutting on Highway 401 in Toronto including field investigation, laboratory testing and analysis and providing material, design and paving recommendations (2012 to 2013).

City of Cambridge, Road Resurfacing Program – geotechnical investigation and pavement rehabilitation designs for large number of city streets. The recommended technologies included hot-mix asphalt overlays, cold in-place recycling, foamed asphalt stabilization and other methods. The methods were evaluated from the cost effectiveness and available budget point of view (2008).

City of Hamilton, Ontario, Perpetual Pavement on the Red Hill Valley Parkway - Pavement Specialist for feasibility study, pavement detailed design, traffic spectra analysis, paving specifications development, asphalt pavement construction supervision and quality assurance testing on the largest municipal road project in Canada of about \$ 500,000,000. Pavement traffic and performance monitoring systems design, installation, monitoring and analyses (2005 to 2008).

City of Hamilton Road Resurfacing Program – geotechnical investigation and pavement rehabilitation designs (ASHTO 93 and MS-17 methodologies for various roadways (typically 20 to 40 road/street sections). The recommended technologies included hot-mix asphalt overlays, cold in-place recycling, foamed asphalt stabilization and other methods. The methods were evaluated from the cost effectiveness and available budget point of view (2005 to 2007).

Region of York Pavement Resurfacing Program – geotechnical investigation and pavement rehabilitation designs (ASHTO 93 and MS-17 methodologies for various roadways (typically 20 to 60 road sections). The recommended technologies include hot-mix asphalt overlays, cold in-place recycling, foamed asphalt stabilization and other methods (2002 to 2007).

Region of Waterloo, 2007 Pavement Recycling Projects – peer review of pavement design recommendations of ten cold in-place recycling projects in the Region planned for construction in 2007.

AASHTO 93 Pavement Design Training Course – New Brunswick Department of Transportation – 3-day pavement design training course for the NB DOT/MDT technical staff (2006).

Highway 405, Niagara, Ontario - Ministry of Transportation Ontario – Pavement Engineer for pavement resurfacing project including pavement evaluation (Falling Weight Deflectometer, Ground Penetrating Radar, coring and borehole investigation, laboratory testing), pavement rehabilitation alternatives, pavement design (using AASHTO 93), life-cycle cost analysis (2006).

City of Hamilton Gravel Roads Upgrading Program – geotechnical investigation and pavement upgrading to hard-top designs for 26 and 45 gravel roads in the City of Hamilton, Ontario. The recommended technologies included open and dense-graded cold mixes, hot-mix asphalt, stabilizations, surface treatments and other methods (2006).

Queen Elisabeth Way Pavement Rehabilitation, Niagara, Ontario - Ministry of Transportation Ontario – Pavement Engineer for pavement resurfacing project including pavement evaluation (Falling Weight Deflectometer, Ground Penetrating Radar, coring and borehole investigation, laboratory testing), pavement rehabilitation alternatives, pavement design (using AASHTO 93), life-cycle cost analysis (2006).

Highway 417, Ottawa, Ontario – Ministry of Transportation Ontario – Project Engineer for pavement resurfacing project including pavement evaluation (Falling Weight Deflectometer, Ground Penetrating Radar, coring and borehole investigation, laboratory testing), pavement design (using AASHTO 93), life-cycle cost analysis (2005).

Highway 404 Extension in Ontario – Ministry of Transportation Ontario – Project Manager for pavement design (using AASHTO 93) for the extension of Highway 404 for Ontario Ministry of Transportation (2004).

Queen Elizabeth Way, St. Catherines, Ontario – Ministry of Transportation Ontario - Project Engineer for composite pavement rehabilitation project including pavement evaluation (Falling Weight Deflectometer, Ground Penetrating Radar, very extensive coring and borehole investigation, laboratory testing), pavement design (using AASHTO 93), life-cycle cost analysis (2004/2005).

Pavement Selection Guide for Central Federal Lands Highway Division, U.S. Department of Transportation, Federal Highway Administration – Project Engineer for the development of the Guide (2003/2004).

Regional Road 20, Regional Municipality of Durham – Project Manager for geotechnical investigation and pavement rehabilitation design for 3.5 km long section of road carrying heavy truck traffic. Design recommendations included foam asphalt stabilization and dealing with the steel slag aggregates (2004)  
Orange County, California, U.S.A. – Project Manager/Engineer for pavement design and rehabilitation recommendations for Moulton Parkway, Intersection with Ridge Route (2004).

Moncton-Fredericton Highway Project, New Brunswick – Pavement design, Quality Control/Quality Assurance Advisor and ISO 9001 Quality Manager (JEGEL Atlantic Limited), for the design and construction of 165 km long 4-lane highway and concrete structures (1998 to 2001).

Data collection for the Toronto Transportation PMS system from 1995 to 2000. 3200 lane-kilometres, 800+ link, flexible and composite pavements. Collection of visual pavement distresses, FWD load/deflection and IRI roughness data.

Major Paving Project in Bogotá, Colombia – flexible pavement design using AASHTO 93 including life-cycle cost analysis and value engineering, foamed asphalt pavement stabilization, optimization of HMA and foamed asphalt mixes, stabilization of existing materials with hydrated lime, Superpave mix designs, quality improvement recommendations, cost effectiveness improvement recommendations (2002/2003).

Blount Construction, Mississippi, United States – optimization of foamed asphalt mix designs with hydrated lime combination for a highway pavement reclamation project (2002/2003).

Natchez Trace parkway, Mississippi, United States – in-situ cement stabilization of existing materials, mix designs, optimization (2000).

Blount Construction, Georgia, USA – Full depth pavement reclamation (FDR) using stabilization of existing with foamed asphalt/lime combination (2000).

Highway 407 Express Toll Route, Toronto, Ontario – pavement design for Highway 407 East and West Extensions (2000).

Municipal pavement evaluations in Etobicoke, Mississauga, Brampton, Hamilton, and York Region including pavement rehabilitation design (HMA overlay, asphalt pavement reclamation, cold in-place recycling using emulsion and foamed asphalt stabilization), 1995 to 2006.

Project level pavement evaluation throughout Toronto including highways and roadways, 1995 to 2003.  
Highway 407 Express Toll Route Quality – highway construction including Portland cement concrete and asphalt pavements - Project Engineer responsible for life-cycle costing and analysis, speciality construction materials evaluation and testing, pavement design and materials quality assurance (1994 to 1998).

### **Industrial and Port Pavements**

CN Intermodal Yard, Edmonton, Alberta – Pavement Specialist – review of geotechnical investigation carried out by others, pavement loading analysis (Fantuzi and Terex mobile reach stackers), pavement design (2014).

Port Metro Vancouver, DeltaPort Causeway – Pavement Specialist/Reviewer – review of the geotechnical investigation results carried out by others, pavement loading and pavement design review (2014).

CN Chapel Yard, Saskatoon – Pavement Specialist, evaluation of existing pavements, Falling Weight Deflectometer testing and analysis, geotechnical investigation, pavement loading analysis (Taylor TITAN TS and Fantuzi reach stackers and container trucks), pavement design (composite – Roller Compacted Concrete and Hot-Mix Asphalt overlay) (2011). Construction consultations including construction results analysis and recommendations (2013).

CPR Montreal, Lachine Intermodal Terminal – Pavement Specialist – geotechnical investigation, pavement visual condition inspection, pavement design for the expansion of the Intermodal terminal. Pavement design for extension of Track 26 and updating pavement structure adjacent to Track 25 (2008).

CentrePort Canada Way, Winnipeg, Manitoba – design and construction of Portland cement concrete pavement on a design/build project for four lane highway. The design was verified using the MEPDG methodology including traffic spectra analysis. The project included extensive material and construction consultations including site visits (2009 to 2013).

### **Airports in Canada, USA and Caribbean**

Edmonton International Airport, Alberta – Airport Pavement and Materials Specialist - review of pavement rehabilitation designs and providing new designs for Runways 02-20 and 12-30, taxiways and aprons - consulting services for resurfacing of both runways, several taxiways and aprons. The project also includes the implementation of new asphalt technology to address observed deficiencies including cracking, deformations and moisture damage, geotechnical investigation, pavement design and construction of new taxiway and apron extension. The rehabilitation includes the reconstruction of concrete slabs and placement asphalt overlays, materials consultations including review of available aggregates and impact of quality of asphalt mixes, specifications development, quality assurance field and laboratory testing and acceptance (2012 to 2017).

Thompson International Airport, Manitoba – Airport Pavement and Material Specialist –visual inspection of a pavement experiencing drastic settlements due to melting permafrost, review of available documentation, providing recommendations for field investigation including Ohm Mapping of underground condition and borehole investigation, analyzing two options – reconstruction at current location or relocation of Airport Terminal Building, Apron I, Taxiway Alpha, service road and car parking lot (2017).

Thunder Bay International Airport, Ontario – Senior Airport Pavement and Materials Engineer – Runway 12-30 and Taxiway Alpha pavement investigation, pavement rehabilitation design, specification development for asphalt, concrete and granular layers and construction supervision and Quality Assurance (QA) testing and acceptance. The investigation includes pavement visual condition inspection, borehole and core investigation and Falling Weight Deflectometer (FWD) testing (2015 to 2017).

Saskatoon International Airport – Airport Pavement and Materials Specialist – pavement and geotechnical investigation and pavement rehabilitation design for Aprons 1, 2, 3 and 5. Construction supervision, Quality Assurance field and laboratory testing and acceptance, material and construction consultations (2014 to 2017).

Ayacucho International Airport, Ayacucho, Peru – Airport Pavement and Materials Specialist – investigation of poor performance of Runway pavement. The investigation includes documentation review, pavement visual condition inspection, field destructive (test pits) and non-destructive testing (Falling Weight Deflectometer), laboratory testing, data analysis and development pavement repair/rehabilitation recommendations. One of main concerns is the soil and granular materials condition (2017).

Albian Aerodrome, Alberta – Airport Pavement Specialist – pavement visual condition inspection and geotechnical investigation of the runway, two taxiways and the apron (2017).

Niagara Central Airport, Ontario - Airport Pavement and Materials Specialist – pavement visual condition inspection and documentation review for Runways 16-34 and 05-23, taxiways and aprons. The condition of the pavement caused serious FOD hazard. Developing recommendations for addressing the observed issues and bringing the pavement on Runway 05-23 and Taxiway Alpha to acceptable standard conditions (2016 and 2017).

Horizon Aerodrome, Alberta – Airport Pavement and Materials Specialist – pavement condition visual inspection on the runway and developing recommendations for addressing observed pavement failures to bring the pavement to acceptable standard conditions. Pavement design, specifications development and construction supervision and acceptance (2015 and 2017).

Chaddi Jagan Airport extension, Timehri, Guyana – Senior Pavement Engineer – consultations including pavement investigation and design review, consultations for the extension of the runway and terminal facilities including pavement designs and materials including asphalt, concrete, cement stabilized layers and granular layers. The runway extension will be over very high embankments constructed over soft soils. Golder is also providing geotechnical foundation engineering review. The investigation and the design are done by China Harbour Engineering Company (CHEC) (2014 and 2017).

Red Deer Airport, Alberta - Senior Airport Pavement and Materials Engineer – Runway 16-34, Taxiways Alpha Bravo, and Charlie, Aprons I and VII pavement investigation, pavement rehabilitation design, specification development and construction supervision and Quality Assurance (QA) testing and acceptance. The investigation includes pavement visual condition inspection, borehole and core investigation and Falling Weight Deflectometer (FWD) testing. Addressing the subject of clays with swelling potential in condition of fluctuating water table (2015 to 2017).

Grande Prairie Airport, Alberta - Senior Airport Pavement and Materials Engineer – Taxiway Bravo and Runway 07/25 pavement investigation, pavement rehabilitation design, specification development and construction supervision and Quality Assurance (QA) testing and acceptance (2015 to 2017).

Billy Bishop Toronto City Airport – Airport Pavement Specialist – pavement and geotechnical investigation, FWD testing, pavement design, constructability analysis for the extension of Runway 08-26. The existing runway is located on an island. The project includes the extension of about 300 m on each side into Lake Ontario. Golder is doing marine foundation design for the extension. The pavement includes pavement rehabilitation over the existing section, and new pavement over the seawall and new embankment in the lake (2015 and 2016).

Greater Toronto Airport Authority, Pearson International Airport – Airport Pavement and Materials Specialist – pavement evaluation and design for Holding Bay 24R, specification updates, construction consultations. Groundside pavements design and construction consultations (2014 to 2017).

Government of Northwest Territories – Airport Pavement Specialist – Yellowknife and Hay River Airports - site inspection, documentation review, pavement and materials and geotechnical consulting, review of roughness analysis following Boeing methodology, providing recommendations how to address severe pavement deformations – heaving and settlements due to melting permafrost, frost heaving and failed drainage systems (2015).

Greater Sudbury Airport, Sudbury, Ontario - Airport Pavement Specialist – geotechnical investigation, pavement condition inspection, falling weight deflectometer testing, pavement rehabilitation recommendations for the runway and apron (2012).

Prince Rupert Airport, Prince Rupert, British Columbia - Airport Pavement Specialist – rehabilitation recommendations for airfield pavements (runway, two taxiways and apron), pavement condition inspection and geotechnical investigation (2012).

Churchill Falls Airport, Churchill Falls, Newfoundland - Airport Pavement Specialist – Pavement condition assessment and geotechnical and Ground Penetrating Radar investigation, pavement rehabilitation designs (5 alternatives), development of paving specifications (2011/2012).

Lester B. Pearson International Airport, Toronto – Airport Pavement Specialist - airport tunnel and culvert condition assessment and repair recommendations including geotechnical investigation and pavement condition evaluation of runways, taxiways and airside roads (2010/2011).

North Bay Jack Garland Airport, Ontario - Senior Airport Pavement and Materials Engineer – Runway 18-36 pavement investigation, pavement rehabilitation design, specification development and construction supervision and Quality Assurance (QA) testing and acceptance (2015).

Sault Ste. Marie Airport, Ontario - Senior Airport Pavement and Materials Engineer – Runway 04-22 and corresponding taxiways pavement investigation, pavement rehabilitation design, specification development and construction supervision and Quality Assurance (QA) testing and acceptance (2015).

Region of Waterloo International Airport, Ontario – Airport Pavement and Materials Specialist - geotechnical investigation, FWD testing and pavement rehabilitation and reconstruction design recommendations for Runway 08-26 and groundside pavements, specifications development, construction inspection and Quality Assurance testing and acceptance (2011/2017).

Winnipeg Airport, Manitoba – Airport Pavement Specialist, concrete and asphalt pavement designs, pavement structural condition evaluation using FWD, specifications development, quality control and quality assurance, consultation on materials and pavement construction (2007 to 2012).

Canadian Forces Base (CFB) Trenton, Mountainview Airport, Ontario – Airport Pavement Specialist, main runway pavement extension, pavement structural evaluation using FWD load/deflection testing, analysis and developing recommendations (2008 and 2009).

Chatham Municipal Airport, Ontario – Airport Pavement Specialist – pavement structural condition evaluation using FWD load/deflection testing, analysis and recommendations development (2007 and 2008).

Winnipeg Airport, Manitoba – Airport Pavement Specialist, concrete and asphalt pavement designs, specifications development, quality control and quality assurance, consultation on pavement construction (2007).

Oakland Municipal Airport, Oakland, California, U.S.A. – Project Engineer for the implementation of MicroPAVER Pavement Management System including pavement condition survey, database development, pavement performance modelling development of maintenance and rehabilitation strategy, plan and budget analysis, reporting and staff training (2004/2005).

Lester B. Pearson International Airport, Toronto, Ontario - Project Manager for the implementation of MicroPAVER Pavement Management System including pavement condition survey, database development, pavement performance prediction modelling, development of pavement maintenance and

rehabilitation strategy, work plan, budget analysis, GIS interface preparation using initially ESRI ArcCad and ArchView software, and then Intergraph Geomedia system, reporting and staff training (2000 to 2003). Lester B. Pearson International Airport, Toronto, Ontario – Quality Assurance services (soils, granulars, concrete and asphalt) for the construction of Taxiway Foxtrot Extension. Mr. Uzarowski also provided pavement and materials consultations (2003).

Quito International Airport, Ecuador – main runway pavement design using ICAO and FAA methodology (2005).

Ottawa Airport, Ontario – Airport Pavement Specialist, apron concrete and asphalt pavements design and construction consultations (2006).

Hamilton International Airport, Hamilton, Ontario – Pavement engineer, airside facilities (main runway, taxiways and apron) pavement condition evaluation, development of maintenance and rehabilitation strategies (2002).

Lester B. Pearson International Airport, Toronto, Ontario - Pavement design and condition evaluation for Runway 05/23. The project includes concrete and composite pavement visual condition survey, pavement structural condition evaluation using the High Capacity Falling Weight Deflectometer, probehole investigation, laboratory testing and pavement design using three different methods (2002).

Thunder Bay International Airport, Ontario - Pavement design and condition evaluation for the proposed extension of Runway 07/25 and Taxiway A (2002).

Lester B. Pearson International Airport, Toronto, Ontario - Project Manager/Project Engineer for the composite pavement investigation and technical evaluation of rutting, shearing and extensive shoving of the new hot-mix asphalt pavement on Taxiways Alpha and Hotel. The investigation included the development of remedial measures (with asphalt paving specifications) and repair works supervision and QA (2002).

Ottawa MacDonald-Cartier International Airport – geotechnical and material engineering and testing consultations (quality control and quality assurance) for the current Airport Expansion Program (2002).

Department of National Defence - Updating and revising airport asphalt and concrete paving specifications (2002).

Department of National Defence – Instructor for pavement design, construction inspection, quality assurance testing and airport pavement structural evaluation training course (1999 to 2002).

First Energy Corporation, Stow, Ohio, United States – evaluation of asphalt concrete lining in the Seneca Upper Reservoir in Pennsylvania (2000/2001).

Bombardier Aerospace – design and contract administration of ground facilities expansion including roads, parking loads and landscaping. The services included detailed design, preparation of contract documents, contract tendering, review of contractor's progress claims, site inspection, quality assurance, reporting progress to the client, arranging and attending site meetings, issuing a substantial performance and completion certificate, checking progress and final invoices (1998/1999).

Canadian Forces Base (CFB) Greenwood, Nova Scotia – Pavement Engineer for evaluation of flexible pavements on Runways 08-26 and 13-31 and Taxiway Foxtrot and PCI pavement condition survey and MicroPAVER system analysis (1999).

Vancouver International Airport (YVR) – Pavement Engineer on concrete pavement evaluation of new and existing aprons. The project included FWD testing of concrete pavement joint load transfer and voids detection, pavement condition survey, remedial measures recommendations and expert consultations (1997).

Lester B. Pearson International Airport, Toronto, Ontario - Quality Control/Quality Assurance Manager responsible for construction of Runway 15R-33L, six taxiways (including Echo, Romeo, Sierra, Victor) and a deicing facility, and materials laboratory testing. The project included inspection and testing for subgrade, granular backfill, asphalt pavements, concrete structures, utility trench backfilling, review and acceptance of concrete and asphalt mix designs and construction materials, communication with GTAA and contractors, reporting, and control of the quantities of built in materials. Mr. Uzarowski also provided pavement design and construction materials consultations (1996/1997).

El Dorado International Airport, Bogota, Columbia – Pavement and Materials Engineer, Runway 13R – 31L, design and construction of the runway that required the diversion of the Bogota River. Presence of very poor soils with swelling potential. Used solution - lime stabilization of soils (1994).

Nassau Airport, Bahamas – investigation of runway asphalt pavement premature deterioration (2006).

### **Publications:**

1. Uzarowski L, Henderson V, Tighe V and Halloran M, “Differential Shrinkage Cracking of HMA Placed Over Foamed Asphalt Base – A Case Study”, Canadian Technical Asphalt Association, Quebec City, Quebec (November 2011).
2. Uzarowski L, Henderson V, Henderson M and Kiesswetter B, “Innovative Infrared Crack Repair Method”, Transportation Association of Canada, Edmonton, 2011.
3. Uzarowski L, Prilesky H, Berube E, Henderson V and Rizvi R, “Evaluation of Mechanistic Properties of Hot-Mix Asphalt Containing Recycled Asphalt Shingles for Use in the Pacific Northwest Coastal Region”, Canadian Technical Asphalt Association, Edmonton, Alberta (November 2010).
4. Uzarowski L, Bashir I and Rizvi R, “Design of Continuously Reinforced Concrete Pavement with Heat Transfer System for a Bus Terminal in Hamilton”, Transportation Association of Canada, Halifax, 2010.
5. Uzarowski L, Prilesky H, Berube E, Henderson V and Rizvi R, “Laboratory Testing of Vancouver HMA Mixes Containing Recycled Asphalt Shingles”, Transportation Association of Canada, Halifax, 2010.
6. Uzarowski L, Maher M and Moore G, “Verification of Pavement Design Methodologies Using Measured In-Situ Response on an Urban Highway”, Canadian Technical Asphalt Association, Moncton, New Brunswick (November 2009).
7. Djane A, Manolis S, Lavorato S, Greco M and Uzarowski L, “Evaluation of Mechanistic Properties of Modified Foamed Asphalt Mixes”, Canadian Technical Asphalt Association, Moncton, New Brunswick (November 2009).
8. Uzarowski L, Moore G, Halloran M and Henderson V, “Construction of Durable Longitudinal Joints – The Courage to Use Innovations Pays Off”, Transportation Association of Canada, Vancouver (October 2009).
9. Uzarowski L, Chung W and Farrington G, “Pavement Preservation – Effective Way of Dealing with Scarce Maintenance Budget”, Transportation Association of Canada, Vancouver (October 2009).
10. Kazmierowski T, Chan S and Uzarowski L, “Full Life Performance of a Concrete Pavement Rehabilitation Project in Canada”, Proceedings, American Concrete Pavement Association, 9<sup>th</sup> International Conference on Concrete Pavements, San Francisco (August, 2008).

11. Uzarowski L and Moore G, “Sustainable Pavements – Making the Case for Longer Design Lives for Flexible Pavements”, Transportation Association of Canada, Toronto (September 2008).
12. Uzarowski L, Manolis S, Lum P and Greco M, “Initial Evaluation of Foamed Asphalt Stabilization Using Modified Asphalt Cement”, Canadian Technical Asphalt Association, Saskatoon (November 2008).
13. Uzarowski L, Moore G and Gamble P, “Innovative, Comprehensive Design and Construction of Perpetual Pavement on the Red Hill Valley Parkway in Hamilton”, Canadian Technical Asphalt Association, Saskatoon (November 2008).
14. Maher M., Uzarowski L. and Moore G., “Designing High Traffic Volume Urban Motorway Pavements to Maximise Sustainability”, 9<sup>th</sup> Highway and Urban Environment Symposium, Madrid 2008.
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