wsp

Years with WSP: 12+ Years in Role: 20+

Education

Master of Engineering, Carleton University, 1999

B.Eng. Civil Engineering (with Distinction), Carleton University, 1997

Professional Associations

Professional Engineers Ontario (PEO)

Awards

Ontario Association of Architects Lieutenant – Governor's Award for Excellence – Isabel Bader Centre for Performing Arts, Queens University, 2015

Ottawa Architectural Conservation Awards – Award of Excellence – Infill, Maison Accueil Sagesse – 434 Montreal Road, Ottawa, 2010

Ottawa Architectural Conservation Award – Strathcona on the Parc, 417, 419, 421 Laurier Avenue, Ottawa, 2009

Career

Director, Buildings - Structures, WSP, 2017 – Present

Principal, Senior Structural Engineer, Jp2g Consultants, Ottawa, ON, 2015 – 2017

Senior Principal, Structural Engineering, Halsall Associates (WSP Acquisition), Ottawa, ON, 2006 – 2015

Structural Engineer, Jp2g Consultants, Ottawa, ON, 2002 – 2006

Structural Engineer, Goodeve Manhire, Ottawa, ON, 1999 – 2002

IAN FULLER, M.Eng., P.Eng.

Director, Buildings Structures Senior Structural Engineer with Restoration and Heritage Building Conservation Specialty

PROFILE

Ian Fuller has been providing structural engineering services throughout Ontario for 20 years. His experience includes new construction, renovations, adaptive re-use of existing buildings, and restoration of contemporary and heritage structures. He is proficient in various types of structural materials including structural steel, cast in place concrete, wood/timber, new and heritage masonry (unitized or mass masonry units), precast concrete, and light gauge steel framing. Throughout his career he has also successful worked with and modified more unique structural systems as well.

Ian has completed many public and private projects including facilities for; government, industrial, police and first responders, secure military, correctional, educational (K-12 and post-secondary), residential and mixed use properties retail.

Working in the National Capital Region, Ian has had the opportunity to work on multiple heritage buildings. His combination of structural engineering experience, and knowledge of heritage building conservation, has allowed him and his structural engineering team to successfully complete dozens of structural and seismic upgrades associated with the adaptive renewal and repurposing of existing building stock.

SAMPLE RELEVANT CARLETON UNIVERISITY PROJECTS

- Carleton University, P9 Parking Garage 2014-ongoing Restoration Services, Ottawa, ON (2014): Structural Project Manager. This project consisted of concrete repairs and moisture protection for the restoration/rehabilitation of this existing 8-storey grouted post-tensioned concrete parking garage. The scope of work is consistent with the 2012 Capital Plan objectives previously outlined in the Capital Plan report. In addition, an analysis and report on the condition of the existing helical ramp was undertaken, including the structural analysis of the asbuilt PT beams, preparation of a report including management strategies and a modifying the existing capital plan comparing required capital repair expenditures relative to constructing and operating a new parking structure
- Carleton University, Engineering Design Centre, Ottawa ON (est. 2021): Lead Structural Engineer. This 3 storey structural steel building addition has a total area approximately 20,000 sq.ft.. It is constructed immediately adjacent the existing MacKenzie Engineering building and is founded on deep foundations to provide similar performance level to the existing building which is also founded on deep foundation. In order to achieve a brace free space, the lateral loads (seismic and wind) are resisted by rigid steel frames which has the added benefit of minimizing the foundation forces and eliminating the need for rock anchor. Additional challenges included increasing the stiffness of the structure in order to limit the deflections of the new structuring order to minimize the expansion dimension as well as providing foundation design to allow for the placement of the columns adjacent the existing structure. Client: Diamond Schmitt in JV with KWC Architects for Carleton University. Project Value: est \$7.8M
- Carleton University, River Building School of Journalism Renovations (2019): Senior Structural Engineer. Project involves the analysis of an existing reinforced concrete slab to determine it's adequacy to support a new folding partition as well as the design of the new structural steel folding partition suspension system. Client: Edward J. Cuhaci and Associates Architects Inc. Project Value: approx.. \$70k
- Carleton University, ARISE Building, Ottawa ON (2018): Principal/Senior Structural Engineer. Vertical addition and seismic upgrade to the original Life

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Sciences Building. The project involves adding 3 storeys to the original building by over spanning the existing reinforced concrete structure with a light weight steel structure. The new seismic force resisting system involved the application of a high ductility braced frames over newly reinforced concrete shear walls. Foundations were upgraded using micropiles drilled to rock (~130 ft below the lowest floor level). The project also involved the seismic upgrading of the existing building as required to accommodate the new building addition. Client: Montgomery Sisam Architects for Carleton University. Project Value: \$30M

- Carleton University, New Academic Health Science Building, Ottawa, ON (2018): Project Engineer. The new building is approximately 11 000 m² and is intended to house the department of Health Sciences and Neuroscience. The building will include public assembly space, a food service facility, lecture theatre, classrooms, resource and study rooms, high service labs, animal research and vivarium facility. A unique feature of the building's structural design is the 20 metre span post-tensioned concrete transfer beams located above the ground floor lecture theatre. The post-tensioned beams support the upper structure's central columns which are discontinuous at the second floor enabling a column free space to be achieved in lecture theatre. The new academic building is to be completed and occupied for July 2017. Client: Montgomery Sisam Architects Inc. and NXL Architects Inc. Project Value: \$41.6M.
- Carleton University, Steacie Building Stack Extension and Tunnel Link Connection –, Ottawa, ON (2017):* Structural Project Manager / Senior Engineer. Due to the proximity of the new Health Science Building, Ian was retained to review three possible options for the proposed stack extension. Two of the three options assumed some form of stability being offered by the existing building structure with the final option being a self-standing structure. An assessment of the existing lateral load resisting system determined that in one direction the existing building would likely require some form of upgrading in order to accommodate the stack extension. The preferred option was selected and implemented Ian is the Project Manager responsible for client liaison, overseeing all structural engineering design, and ensuring cross-disciplinary coordination with the architectural and M&E consultants
- Carleton University, MacKenzie Building Courtyard Tunnel Repair and Renewal, Ottawa, ON (2017): Subsequent to the tunnel evaluation survey completed in 2015 and as part of a 2017 accessibility upgrade of the courtyard landscaping, Ian was retained to plan, design and oversee the restoration of portions of the pedestrian and service tunnel system with in the MacKenzie Courtyard. Scope of work included full excavation, restoration and waterproofing. The project also involved the relocation of an existing sculpture to another location on the campus. Ian is the Project Manager responsible for client liaison, overseeing all structural engineering design, and ensuring crossdisciplinary coordination with landscape architecture and waterproofing subconsultants.
- Carleton University, Tunnel Repair and Renewal, Ottawa, ON (2017): Project Manager. Subsequent to the tunnel evaluation survey completed in 2015, Ian was retained to plan, design and oversee the restoration of portions of the pedestrian and service tunnel system with in the Residence Courtyard and at Southam Hall. Scope of work included full excavation, restoration and waterproofing. Ian is the Project Manager responsible for client liaison, overseeing all structural

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engineering design, and ensuring cross-disciplinary coordination with landscape architecture and waterproofing sub-consultants.

- Carleton University, Steacie Building Stack Extension Feasibility Study, Ottawa, ON (2016):* Structural Project Manager / Senior Engineer. Feasibility study. Due to the proximity of the new Health Science Building, Jp2g was retained to review three possible options for the proposed stack extension. Two of the three options assumed some form of stability being offered by the existing building structure with the final option being a self-standing structure. An assessment of the existing lateral load resisting system determined that in one direction the existing building would likely require some form of upgrading in order to accommodate the stack extension. Ian is the Project Manager responsible for client liaison, overseeing all structural engineering design, and ensuring cross-disciplinary coordination with the architectural and M&E consultants.
- Carleton University, Tunnel Evaluation, Ottawa, ON (2016):* Structural Project Manager. Survey of the existing pedestrian and service tunnels throughout the entire campus to record signs of structural deterioration and waterproofing failures. The deliverable of this evaluation was a report summarizing areas of priority repairs to help inform the FMP group in focusing renewal and rehabilitation funding over the next 5-10 years.
- Carleton University, VSIM Building Turbine Installation, Ottawa, ON (2016):* Structural Project Manager/ Senior Engineer. Assessment of the existing structure to accommodate the installation of 2 new large turbines to be used to create the wind tunnel within the VSIM Building. As part of our assignment Jp2g provided an anchorage design which accommodated the unbalanced forces imparted to the base building structure.
- Carleton University, C-Rise, Ottawa, ON (2015): Structural Project Manager. Specialty facility being constructed as a joint effort between the mechanical engineering faculty and the architectural faculty. The facility will study the efficiencies of various energy efficient construction assemblies.
- Carleton University, Keith Harris Stadium, New Scoreboard, Ottawa, ON (2015): Structural Project Manager. Design and tender of a new foundation to support the new score board located on the southeast corner of the field.
- Carleton University, P18 Parking Structure, Ottawa, ON (2014): Structural Project Manager. This project consisted of a 3-level, 600 parking spot structure which is to span the O-Train property at the north end of the campus as part of the ongoing master plan redevelopment. The placement of the piers within the City of Ottawa property has been negotiated to provide allowance for possible future twining of the tracks. The above-grade structure is comprised of long-span precast concrete elements supported on a cast-in-place concrete pile supported structure. The seismic force resisting system is designed as a highly ductility reinforced concrete shearwall system to minimize foundation impacts. The proposed structure has been designed to receive 3 more levels in the future if required.
- Carleton University, Library Parking Structure Restoration, Ottawa, ON (2014-2015): Structural Project Manager. This project consisted of a 3-level 300 parking spot structure located below the footprint of the University's library. The original structure had been built in the 1970s and portions of the ramp and suspended slab waterproofing were no longer performing. A partial removal and

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replacement of the bonded asphalt waterproofing system was designed and implemented. Complexities included maintaining the parking garage in operation during repairs, working around existing mechanical and electrical services as well as a compressed window of time allowed for implementing the work.

- Carleton University, Herzberg Building Pedestrian Link, Ottawa, ON (2015): Structural Project Manager. Construction of a new pedestrian bridge interconnecting the third floor of the recent expansion to the existing higher grade on the northwest side of the building.
- Carleton University, MacKenzie Building, Granite Slab Support Frame, Ottawa, ON (2014): Structural Project Manager. Project consisting of the construction of a new steel frame to support a new 20,000 lb flat slab of grade used for experiments with the M&E engineering faculty lab space.
- Carleton University, MacKenzie Building, Helicopter Suspension, Ottawa, ON (2014): Structural Project Manager. This project involved the suspension of a helicopter within one of the multi-storey entry vestibules to serve as a teaching aid.
- Carleton University, Herzberg Vertical Expansion, Ottawa, ON (2013): Structural Project Manager. Project consisting of a 3-storey vertical addition to the pre-existing 2-storey Herzberg Building Inco Annex Wing. After analyzing the existing facility, determined that through the use of a ductile lightweight steel structure to form the vertical addition that the performance level of the "as designed" building was not reduced even though the existing structure was designed to the 1990 Ontario Building Code.
- Carleton University, Maintenance Building Renovation and Expansion, Ottawa, ON (2013): Structural Project Manager. Renovation and addition project. This project consists of an elevator addition and second floor expansion above and existing structure as well as reclaiming some exterior ground floor area to develop additional interior office space. Particular challenges associated with the development involve confirming that the seismic performance level of the existing facility is unaltered and reinforcing the adjacent roof due to the change in snow piling.
- Carleton University, Sudbury Neutrino Observatory, SNOLAB Surface Facility, Sudbury, ON (2009): Structural Project Manager. This project involved a singlestorey (9.2 m high) structural steel platform constructed in an existing underground cavern (~2000 m below grade). The platform is equipped to support and facilitate experiments being conducted by university and research groups from across North America. Particular challenges associated with the facility was the limited size of members that could be transported below grade, that no welding operations were permissible below grade due to the atmospheric control, and the fact that adjustability in the structure had to be ensured in the event of sudden stress relief of the rock formation.
- Carleton University, Sudbury Neutrino Observatory, SNOLAB Surface Facility, Sudbury, ON (2006): Structural Project Manager. This project involved a 2storey, 26,000 sq.ft. international research and laboratory facility. The building contains 4 Class 1,000 clean laboratories, meeting rooms, locker rooms/dries and ancillary spaces for the underground research facility. The surface building provides support for underground experiments at INCO's Creighton Mine through which all material is cleaned and delivered underground.