TAYLOR PORTER

M.A.Sc., P.Eng.

CONTACT

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PROFILE

Areas of Expertise

Reinforced concrete & steel member design, Transit structures, Structural analysis & FEA, On-site QA/QC, Visually adept, Detail oriented, Client-focused.

Software

SAP2000, ETABS, SAFE, BlueBeam, S-Frame, S-Line, S-Concrete, SolidWorks, ABAQUS, MIDAS, MATLAB, Autodesk, Microstation, Microsoft Office.

Design Codes

NBC, OBC, CSA A23.3, CSA S16, CSA S6, CSA S136, CSA S304, AASHTO LRFD, ACI 318, AISC.

EDUCATION

M.A.Sc. | Structural Engineering

University of Waterloo
2014 – 2016

B.A.Sc. | Civil Engineering | Co-op

University of Waterloo
2009 – 2014

ACHIEVEMENTS

Published Research Paper & Presentation

Canadian Society for Civil Engineering London Conference
2016

International Student Competition 2nd Place

Cold-Formed Steel Engineers Institute
2015

Graduate Research Scholarship

University of Waterloo
2014-2016

Graduated with Distinction | Dean's Honour List (Final Term)

University of Waterloo
2009 – 2014

ACTIVITIES

Teaching Assistant

University of Waterloo
Jan 2015 – April 2016

Yoga and Acrobatic Yoga

2017 - Present

Baseball/Softball Competitor

1995 - Present

National Paintball Competitor

Canadian Professional Paintball League
2007 - 2010

EXPERIENCE

Engineering Intern / Structural Designer | RJC Engineers

Toronto, Ontario | Oct 2016 – Present

- Performed structural analyses and detailed designs for residential, commercial, transit, and heavy infrastructure projects following the requirements of the OBC, NBC, and CSA. This included, but was not limited to, the reinforced concrete and steel member design of various gravity and lateral restraining systems for Laird and Leaside Stations (Eglington LRT Project), The Well development (Front and Spadina), and the Woodbine Casino development. See "Projects" section for more details.
- Ensured the submission deadlines would be met on budget and allocated additional resources when required to successfully meet milestone deadlines established by our clients.
- Responsible for addressing AEC interdisciplinary coordination issues with other consultants in order to maintain accuracy across our drawings and specifications.
- Attend internal and external meetings for design intent and project progress updates.
- Managed CAD technicians to ensure BIM models and contract drawings accurately followed the design markups and sketches provided by the engineers.
- Reviewed structural calculations prepared by fellow EITs and provide guidance/feedback as required.

Fatigue Analysis Engineering Associate | POW Engineering

Ingersoll, Ontario | Apr 2014 – Jun 2014, Sept 2013 – Dec 2013

- Delivered innovative solutions to Toyota and Tesla who were experiencing new and repeating structural fatigue problems on their assembly lines.
- Designed, modelled, and prepared detailed shop drawings for weldments as per client's specifications.
- Regularly completed FEA for the design and simulation of static and dynamically loaded steel structures utilizing SolidWorks Simulation.
- Installed on-site instrumentation (i.e. strain gauges and accelerometers) to collect real-life data for comparison and implementation into the computer simulations.

Bridge Engineering Assistant | Ministry of Transportation Ontario, Bridge Office

St. Catharines, Ontario | Jan 2013 – April 2013

- Modeled and analyzed provincial bridges utilizing S-Frame and MIDAS structural software.
- Completed post-analysis studies comparing field collected data and data generated by the outputs of the software for calibration and to confirm accuracy.
- Assisted with the preparation and development of in-house research reports and memorandums for ongoing projects.

Engineering Assistant & Field Engineer | Armtec

Brampton, Ontario | May 2012 – Aug 2012

- Provided on-site QA/QC supervision for the concrete topping pours during the construction of the Trafalgar GO Train Station parking garage.
- Assisted engineers with contractor management and post-erection quality assessments.
- Prepared design calculations for various gravity and lateral restraining concrete elements.

PROJECTS

Eglington LRT Project (Laird & Leaside) | RJC Engineers

- I was responsible for the 3D model assembly, analysis, and reinforced concrete design for the Laird and Leaside station structures.
- The concrete slabs and wall reinforcement were curtailed in accordance to the CSA A23.3-14 and the Project Specific Output Specification (PSOS) document requirements for ULS and SLS.
- Represented RJC in AEC interdisciplinary meetings to rectify any ongoing and outstanding project issues, general coordination, to make aware of any foreseeable upcoming challenges in resource allocation, and to ensure the project was on budget and would be delivered on time.

The Well (Front & Spadina) | RJC Engineers

- With a total gross development area of approximately 4.475 million square feet, I was tasked with designing various structural elements that are currently being constructed today.
- This included the ULS and SLS design of suspended concrete slabs, beams, columns, footings, and foundation walls.

M.A.Sc. Research Project & Thesis | Ministry of Transportation Ontario

- Investigated the fatigue resistance and performance of various shear connectors in steel-precast composite girders.
- Research activities include: fatigue tests on 3m composite girders, finite element analysis, and reliability analysis.
- The research was conducted with the hope that the new technologies surrounding accelerated bridge construction will significantly reduce the societal and environmental costs of traffic delays associated with infrastructure renewal.
- The CHBDC is now in the process of changing the fatigue category of the headed studs based on the intensive research conducted to date by the University's research group.