



SENIOR ENGINEER

Job ID: 27888

Job Category: Engineer & Technical

Division & Section: Toronto Water, Water Infrastructure Management

Work Location: Metro Hall, 55 John Street, Toronto

Job Type & Duration: Full-time, permanent

Salary: \$104,340.60 - \$122,595.20

Shift Information: Monday to Friday, 35 hours per week

Affiliation: Non-Union

Number of Positions Open: 1

Posting Period: 26-Aug-2022 to 23-Sept.-2022

Job Description:

As a member of Toronto Water's Water Infrastructure Management (WIM) team, the Senior Engineer in the Infrastructure Planning and Programming (IPP) Unit leads the development of the Watercourse Management Capital Program, and provides project management, stakeholder management, technical support, water quality management expertise, and coordination with the City's internal divisions and external agencies. The Watercourse Management Capital Program involves stream restoration management, protection of Toronto Water infrastructure, especially within ravines and valleylands, stormwater management (SWM) infrastructure such as outfalls, and stormwater management facilities. The projects are generated as a result of Emergency Works, Environmental Assessment studies, state-of-good-repair priorities and Council-directed initiatives for the purpose of mitigating, and building resilience to reduce, the risk of flooding, degraded water quality and extreme erosion impacts.

Major Responsibilities:

- Leads the capital planning for new watercourse management projects, including environmental assessments (in the form of Geomorphic Systems Master Plans), and design assignments, and their associated work scopes for delivery by others.
 - Collaborates with other staff to assess Emergency Works issues.
 - Leads an IPP team of Watercourse Management specialists charged with collaborating with other WIM Units and TRCA to develop and maintain a stream asset management database for Toronto's Watercourses.
 - Supervises water quality modelling projects to assess improvements in Toronto's receiving waters, with a focus on watercourses and Lake Ontario, resulting from Water Weather Flow Master Plan and other Toronto Water Infrastructure Projects.
 - Assists in applying water quality modelling tools for quantifying the effectiveness of Toronto's capital projects, such as the Don River and Central Waterfront Project, in concert with water quality monitoring programs.
 - Works with Toronto Water Watercourse Consultants, improves the structural design of sewer encasement of sanitary sewer crossings and design that extends the geomorphic stability of bedforms (such as riffles) at such crossings, and develops long-term monitoring programs to document these improvements.
 - Leads the development of monitoring programs for natural channel projects to assess improvements.
 - Develops restoration projects related to Toronto Water infrastructure.
 - Coordinates the annual Watercourse Management program with other IPP and external capital projects.
 - Is responsible for planning, defining scope, scheduling, and budgeting through the development of Business Cases for projects related to surface waters, stream restoration, stormwater
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management, and stream erosion control and infrastructure protection.

- Develops, reviews, and implements detailed work plans, recommends policies and ensures criteria regarding program-specific requirements.
- Manages assigned studies, design activities and associated permits and compliance requirements, ensuring effective teamwork and communication, and following high standards of work quality.
- Establishes linkages on construction assignments by interacting with site administration and inspection, change and risk management and other construction activities, especially Divisional Operations Services construction projects.
- Conducts investigations and engineering research into assigned area, ensuring that such research takes into account developments within the field, corporate policies and practices, legislation and initiatives by other levels of government.
- Maintains industry knowledge in assigned topics, including Stream Restoration and Stormwater Management, including comparable peer cities, and regulatory proposals and changes by other levels of government that may impact the City of Toronto.
- Works closely with Stream Restoration Delivery Groups to develop Costing databases to assist WIM in the preparation of Capital Projects.
- Assesses current practices and improves procedures and protocols in collaboration with City divisions.
- Assists in the development, implementation, and evaluation of pilot projects and new technologies; and contributes to policy formulation with respect to water and wastewater systems, stormwater management, and aquatic system restoration.
- Maintains an awareness of project expenditures and approved budget limitations of Delivery Group Project Managers.
- Participates in the preparation of capital and operational budgets for their assignments.
- Deals with complex cost-sharing arrangements for stream restoration partnership projects.
- Leads multi-disciplinary project teams throughout various projects, including technical personnel.
- Provides specialized design and technical advice and expertise to support the sections and units of the Department.
- Identifies, evaluates, and provides technical expertise and recommendations to resolve planning and design issues.
- Represents the Division/Department at meetings with the public, stakeholders and Councillors.
- Represents the Department as a specialist at project and organizational meetings with consulting companies, contractors, associations involved in planning studies and design work, and other external service providers, as well as at court proceedings and other tribunals.
- Prepares Briefing Notes, Committee and Council reports, presentations, scope documents and cost estimates for Request for Proposals and Request for Quotations, evaluates proposals, and makes recommendations for award of professional contracts.
- Evaluates the work performance of external service providers with respect to quality, timelines, cost and completion of required tasks.
- Secures permits and approvals, as required, from external agencies.
- Works closely with the project delivery group in maintaining relations with Councillors, the public, consultants, government agencies, developers, suppliers and contractors regarding additions or alterations during the design and construction project phases.
- Analyzes the continuous improvement and control measures for quality, efficiency and effectiveness of services, and formulates recommendations.
- Reviews and analyzes new technologies for utilization in existing or future service requirements.
- Performs site inspections and assessments of changed conditions on construction projects, as a part of the delivery group team and to evaluate future modes of failure of natural channel designs.
- Conducts technical problem investigations and participates in conducting studies, analyses, surveys, research and development for effective resolution of complex engineering problems.

Key Qualifications:

- A professional Engineering Licence and membership in good standing with Professional Engineers Ontario (PEO), with specialization in water resources engineering or environmental engineering.
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- Experience working with loose boundary hydraulics and hydraulic jumps in engineering systems, including watercourses, and water quality hydrologic and hydraulic models, such as HECRAS, PC-SWMM, HSPF, and MIKE3.
- Experience working with interdisciplinary teams of engineers, physical aquatic habitat biologists, and geomorphologists in engineered natural channel projects in the urban or rural environment.
- Considerable experience in developing scope of work for Watercourse Environment Assessment (EA) projects (called Geomorphic Systems Master Plan EA studies) and watercourse design projects, development of standards and guidelines, and project management, including consultant assignments.
- Considerable experience in construction management related to flooding and erosion mitigation or similar scope of work, including scope change management, risk mitigation and contract administration.
- Considerable experience handling multiple and diverse projects and priorities, from inception through to implementation and evaluation, in a detail- and deadline-oriented environment.
- Ability to exercise tact and diplomacy when dealing with citizen stakeholders, senior management and political staff on sensitive issues or customer service issues and inquiries related to capital works delivery, particularly in Toronto's ravines and construction access points from the public right-of-way.
- Knowledge of GIS tools such as ESRI ArcGIS.
- Knowledge of receiving water quality modelling, such as demonstrated by professional reports, consultant projects supervised, and published papers.
- Knowledge of legislation related to the Ontario Water Resources Act, Environmental Assessment Act, Environmental Protection Act, Conservation Authority Act, Lakes and Rivers Improvement Act, Federal Navigable Waters Act, Federal Fisheries Act, Occupational Health and Safety Act, Construction Lien Act, and Permit to Take Water (PTTW).
- Ability to read, interpret, and report on engineering plans, drawings, technical memos, reports and specifications.
- Ability to plan, organize and coordinate multiple interdisciplinary assignments and meet required timelines.
- Ability to communicate complex technical issues to a variety of audiences, using a customer services focus.
- Highly developed interpersonal, client service and teamwork skills.
- Ability to collaborate and work effectively with consultants, contractors, colleagues, elected officials, developers and other internal and external clients and stakeholders.
- Ability to travel to various work locations and construction sites in a timely and efficient manner, a valid Province of Ontario Class "G" Driver's Licence and access to a vehicle.

Note: All City of Toronto employees are required to be fully vaccinated as a condition of hire in accordance with the City's [Mandatory Vaccination Policy](https://www.toronto.ca/city-government/accountability-operations-customer-service/city-administration/corporate-policies/people-equity-policies/covid-19-mandatory-vaccination-policy/) < <https://www.toronto.ca/city-government/accountability-operations-customer-service/city-administration/corporate-policies/people-equity-policies/covid-19-mandatory-vaccination-policy/> >.

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How to Apply:

For more information on this and other opportunities with the City of Toronto, visit us online at <https://jobs.toronto.ca/jobsatcity/>. To apply online, submit your resume, quoting **Job ID 27888**, by **Friday, September 23, 2022**.

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Should you require Code-protected accommodation through any stage of the recruitment process, please make them known when contacted and we will work with you to meet your needs. [Disability-related accommodation during the application process is available upon request](#). Learn more about the City's [Hiring Policies and Accommodation Process](https://jobs.toronto.ca/jobsatcity/content/Hiring-Policies-and-Statements/?locale=en_US) < https://jobs.toronto.ca/jobsatcity/content/Hiring-Policies-and-Statements/?locale=en_US >.
