



Position Description

Job Title: **Water Resource Engineer**

Reports to: **Manager, Plan Review and Permitting Services**

Purpose

The Water Resource Engineer is responsible for delivering and supporting key technical programs, including, watershed hydrology and mapping and the study of Natural Hazards. Flood mitigation and preparedness initiatives and technical reviews related to development and natural hazards.

In addition, this position will serve as a Flood Duty Officer for the Authority, overseeing flood forecasting, emergency response coordination, and communication during flood events.

Primary Responsibilities (This is not an exhaustive list)

- Manages, updates and monitors regulatory mapping including hydrologic and hydraulic modelling and associated reporting.
- Provide technical review of the engineering aspects of development applications circulated under the *Planning Act*, Section 28 of the *Conservation Authority Act* and other applications/proposals as directed, consistent with natural hazard management principles, Provincial, Municipal and Authority guidelines, and accepted engineering standards.
- Prepare for senior leadership's approval, updates to the Natural Hazard Study and Mapping Strategy which incorporates erosion hazard priorities and other mapping objectives.
- Review flood plain mapping and natural hazard feature assessments as support development review and S28 regulations.
- Provide expert testimony on hydrologic, hydraulic, civil engineering and fluvial geomorphologic issues as required.
- As a flood duty officer, ensure the successful operation of the Authority's Flood Forecasting and Warning Program. Liaise with other agencies and represent the Authority on regional/provincial networks and committees as required.
- Maintain the Authorities Information Management System for the administration of the planning and regulations programs.
- Prepare court documents and evidence during Ontario Land Tribunal, or the proceedings of any other related tribunal/hearing as required.

- Remain current in water resources, engineer principles and practices and government or professional guidelines.
- Assist in the collection of field data in support of Authority's programs and services.

Required Skill and Qualifications

- Member in good standing with the Professional Engineers Ontario.
- Minimum five years of relevant progressive experience.
- Proficiency in hydrology and hydraulic methods and modeling programs such as HYMO-based packages, SWMM derivatives, HEC-HMS, Mike Flood and HEC-RAS.
- Knowledge and working experience with continuous hydrology modelling and 2D flood modelling.
- Current knowledge of the relevant legislation and technical guidelines including River & Stream Systems technical guides, Stormwater Management Planning and Design Manual, Low Impact Development Stormwater Management Planning and Design Guide.
- Ability to interpret earth processes, natural features and land uses from a variety of maps and plans, and use of air photo interpretation in the field.
- Knowledge of applied fluvial geomorphology, natural channel design non-structural erosion control and bioengineering techniques.
- Proficiency with Microsoft 365, GIS applications, and GPS technology.
- Maintain the Authorities Information Management System for the administration of the planning and regulations programs.
- Provide technical and engineering assistance to projects design, work plan development, survey methods and techniques and contract management.
- Valid Ontario Class G driver's license and clean driving record.
- Satisfactory Criminal Background Record Check

Core Competencies

Accountability

Takes personal ownership and responsibility for the quality and timeliness of work commitments; follows organizational guidelines, professional standards, regulations and principles; demonstrates reliability and integrity on a daily basis; determines what will be accomplished including the required steps and actions that incorporate regulations and principles consistent with organization practices; recognizes errors in processes and practices and recommends corrective action; takes responsibility and ownership of mistakes.

Critical Thinking

Monitors and analyzes the internal and external environment to identify current and future opportunities, challenges and risks; uses multiple sources in order to gather complete and accurate data; reflects on past experience and organizational practices and processes in order to develop consistent action plans; anticipates when situations will require higher level support and involves the right people in addressing needs in order to develop outcomes.

Planning and Organizing

Accurately estimates duration and level of difficulty of tasks and projects and sets goals, objectives and work plans to complete; develops, maintains and oversees multiple plans that impact others, aligns necessary resources in order to ensure completion of plans; anticipates obstacles and has contingency plans, demonstrates judgment and flexibility as necessary.

Service Orientation

Provides superior service to both internal and external customers; revises approach or actions based on client concerns or additional information; recognizes potential problems and works to resolve issues before they progress.

Teamwork

Works cooperatively and effectively with others to reach a common goal; participates actively in group activities fostering a team environment; communicates effectively to team members regarding job task, responsibilities and project process; shares knowledge and experience with team members and others and solicits input and feedback from others.

Effort

- Fatigue resulting from focusing and juggling priorities, high degree of concentrated attention, focused thinking/analysis
- Occasionally, and for short distances, lift or drag up to 27 kilograms (60 pounds).
- Occasionally, traverse irregular or uneven surfaces and terrain during completion of assigned field work.

Working Conditions

- Working time is spent in a combination of office and field environments.