



JOB DESCRIPTION

CIVIL TECHNOLOGIST/PROJECT COORDINATOR

TITLE: **CIVIL TECHNOLOGIST/PROJECT COORDINATOR**

DEPARTMENT: **PUBLIC WORKS**

SUMMARY OF DUTIES: The Civil Technologist is responsible for designing and preparing detailed engineering drawings of Municipal Infrastructure and projects for construction purposes. The detailed drawings are then used by the Civil Technologist to calculate cost estimates, using current market prices, to complete the projects, thus providing the basis for the City's annual construction budget.

This position is also responsible for the preparation and issuance of Proposals, Quotations and Tender Documents for not only construction projects, but for routine services and other major City purchases, at the request of various departments.

The Civil Technologist is responsible for the creation and review of current Design and Document Standards for the Municipality.

SUPERVISED BY: Manager of Infrastructure

EDUCATION: 3-year College Diploma in Building, Architectural, Structural, Civil or Survey Technology or equivalent. Achieved or working towards Certified Engineering Technologist (C.E.T.) designation from OACETT.

EXPERIENCE: 5 years' experience in municipal design, engineering and/or construction.

MAJOR RESPONSIBILITIES (The following sets out the principle functions of the position and shall not be considered as a detailed description of all work requirements).

1. Program/Services

- Prepare detailed design drawings from base plans, while utilizing existing resources to create Construction Drawings of various municipal infrastructure and projects.
- Alter detailed drawings upon completion of construction to ensure accurate data for coordination with GIS mapping.
- Preparation of technical and detail drawings of mapping for various Municipal departments.
- Prepare future project lists for all types of infrastructure including the annual road and sidewalk review, for budget preparation to be considered by the Manager.
- Participate in the annual infrastructure review for the distribution system, as required by the Drinking Water Quality Management Standard, in accordance with the City's procedure
- Prepare quantity and cost estimates for Engineering Projects.
- Organize and review data and engineering drawings, interpret notations and coordinate with internal and external parties to minimize conflicts which may arise during the construction phase.
- Prepare Proposal, Quotation and Tender documents, with an understanding of the procedures and policy of the municipality and current industry standards.
- Provide inspection and contract administrative services for operational maintenance and construction projects.
- When required, evaluate proposal/quotation/tender submissions for completeness. Together with the Manager, determine which submission to recommend the project be awarded to.
- Prepare reports with an understanding of current policies and municipal procedures.
- Create and maintain Municipal standards for the drafting, design and documentation of engineering plans to be issued for construction.
- Undertakes research relative to current construction methods and materials, relating to cost efficiency and durability of construction works.
- Provide information on municipal services, plans and projects to contractors, utilities, other municipal departments and consultants.
- Execute the required calculations necessary to the preparation of engineering design to acquire all pertinent approvals from the appropriate Ministries/Agencies for infrastructure projects.
- Perform engineering related duties such as surveying, drafting/CAD work, and drawing review
- Perform traffic data analysis and reporting
- Complete investigations and respond to inquiries
- Maintain open communication with public utilities for ongoing project coordination.
- Attend meetings as assigned.
- The position is responsible for management and inspection activities involving contractor forces, on an as needs basis.
- Perform other Engineering Division functions as assigned by the Manager or Director.

- Responsible for performing design, analysis, reviewing construction and maintenance functions for municipal water, sanitary, and drainage systems
- Ensure all work is performed in accordance with contractual terms, city standards, and all other applicable regulations

2. Human Resources

- The position works under the general supervision of the Manager of Infrastructure
- The position is responsible for advising contractor and consultant forces to the work required for data acquisition and plan preparation.
- The position is responsible for supervision and training of students.

3. Financial Resources

- Assist in the preparation of the budgets for the Public Works Department
- Prepare, evaluate and recommend payments for contract services.
- Approval of the Manager of Infrastructure required for acquisition of equipment and supplies.

4. Material Resources

- Carries out work assignments using a variety of equipment including:
 - AutoCAD Civil 3D work station
 - Survey level
 - GPS
 - City vehicle

SKILL AND EFFORT

5. Knowledge

- Proficient comprehension of engineering drawings, principles, design procedures and standards.
- Comprehensive technical knowledge of AutoCAD Civil 3D and engineering software.
- Thorough technical knowledge of MS Windows operating system, MS Office Suite, Adobe Acrobat Professional and City Wide.
- Knowledge of survey methods and procedures, basic trigonometry, and calculation.
- Technical understanding of total station, GPS units, ability to download & manipulate engineering data for use with CAD software.
- Knowledge of applicable procedures, legislation and requirements.
- Knowledge of Municipal Construction practices, principles and criteria including field safety requirements.
- Proficient understanding of Contract documents and legal requirements associated with construction practices.
- Knowledge and understanding of MTO Book 7 including any other safety requirements/regulations as it pertains to specific job tasks.
- General knowledge of routine office procedures, practices and equipment.
- Working knowledge of the Ontario Building Code, Ontario Provincial Standards, and Niagara Peninsula Standard Contract Document

6. Physical Skill and Effort

- Manual dexterity required to perform drafting and graphical function.
- Continuous periods of visual, mental concentration.
- Job involves walking, sitting, climbing and driving.
- Occasional lifting of computer hardware and equipment
- Occasional use of hand/power tools/equipment.

7. Decision Making and Judgement

Ability to understand both written and oral direction.

Judgement is exercised in:

- Preparation of detailed engineering drawings, documents and cost calculations for construction projects. The impact of errors for design and construction is noted to be considerable both on cost and also the public relations impact to the corporation.
- Recognition and resolution of field construction issues, relative to design.
- Excellent organizational and analytical skills, including the ability to prioritize multiple demands.
- Above average ability to deal with issues and problems on a conceptual level.
- Exercises reliable judgement and excellent public relations.
- Demonstrated aptitude for problem solving and trouble shooting.
- Capable of adaptations to change including learning new skills and programs.
- Selection of equipment and drafting techniques.
- Use of proper procedures and manuals.

8. Interpersonal Skills/Contacts

- Must have excellent oral and written skills.
- Must have excellent organizational skills.

Internal:

- Must be able to communicate effectively with staff of all departments to receive and exchange information and data.
- Must be able to communicate effectively with Management in order to provide appropriate recommendations.
- Must work harmoniously with internal customers.

External:

- Must be able to communicate and provide information to public utilities for the purpose of obtaining/sharing information on engineering projects.
- Provide municipal infrastructure information to contractors and the public.
- Must work harmoniously with external customers and staff from other agencies.
- Aid in the preparation and implementation of public information sessions to support projects.

WORKING CONDITIONS

9. Environment

- Works in an office setting.
- Required to visit construction sites.
- Occasional survey work.

10. Control Over Work Schedule

- Expected to work in excess of normal working hours in order to adhere to project schedules, as needed.