

CITY OF HAMILTON

PUBLIC WORKS DEPARTMENT

(ENVIRONMENT & SUSTAINABLE INFRASTRUCTURE DIVISION - DESIGN SERVICES - LOCATION – 100 KING ST. W, 2nd Floor)

DESIGN TECHNOLOGIST - CUPE 5167

SUMMARY OF DUTIES

Reports to the Senior Project Manager, Engineering Services, Design, under the general supervision of the Project Manager. The Design Technologist is responsible to provide detail design services for municipal infrastructure projects including road, streetscaping, watermain, sanitary and storm sewer, combined sewer, overflow tanks, Bridges and Roundabouts to be implemented in approved Capital Projects.

The position will conduct and/or oversee functional planning of the engineering elements for complex municipal infrastructure projects especially those undertaken as Class Environmental Assessments and as Local Improvements; and will present results in both written and verbal form at meetings, for elected officials, staff and the public.

The Design Technologist shall ensure that design of Municipal Infrastructure projects are delivered in accordance with City and Provincial guidelines in a cost effective, efficient and timely manner.

Possess a demonstrated record of technical competence and customer focus. In addition, The Design Technologist will assist with investigating and recommending new procedures for improving the section's technical performance.

GENERAL DUTIES

Produces detailed final engineering design drawings manually and by computer from base plans for sewer, watermain and roadway projects within contract tender deadlines. Produce prints and/or mylar copies.

The ability to interpret digital or hard copy engineering drawings and documents (e.g. plans, alignments, cross sections, profiles, engineering surveys, and contract specifications)

Process, analyze, and manipulate acquired raw survey data using Computer Aided Drafting (CAD) and 3D Civil data management software in order to produce 3D modeling/ rendering used for engineering plans, cross section and technical reports to facilitate Capital Works project development.

Prepares drainage areas, volume calculations, designs calculations and hydraulic flow sheets for sewer, water, roadway and drainage. To establish design parameters and guidelines, preliminary road design, pipe sizes and structures for sewer and drainage projects.

Prepares detailed quantity estimates for sewers, water mains, roads and other engineering projects through Digital Terrain Modeling (DTM) and/or field acquired data for projects final cost estimates.

Co-ordinate receiving and administering of applications for municipal infrastructure extensions related to Section 221 of the Municipal Act or the Local Improvement Act.

Reviews and responds to engineering designs prepared by staff and private engineering consultant/contractor work (e.g. final plans, shop fabrication drawings and job site constructions) submissions for completeness, accuracy, design criteria and conformity to City standards, By-laws and master plan.

Order specialized geotechnical investigation for sewer, water and roadway projects and make recommendation based on observation for present and future infrastructure conditions.

Composes routine correspondence, applications and reports for provincial and federal approval agencies such as M.E.C.P., O.P.S.D., M.T.O., etc. Aware of new legislation and comply with new standards such as A.O.D.A, Excess Soils etc..

Compiles information such as charts, create 3D models/renderings and graphs for reports and Public Information

Centers, government gatherings and media releases; attends and participate responding to queries raised by Council, staff and public.

Update standard drafting procedure and training manual for development of design engineering drawings

Effectively utilize ProjectWise system to organize and maintain electronic files developed explicitly for projects relating to the design and construction of architecture, engineering, construction, and infrastructure projects.

Liaise with private Utility companies & update base plans, reevaluate and identify conflicts. Coordinates the location and timing of the relocation of underground utilities.

Receives and answers inquiries by telephone, email or traditional mail from the public, Councillors and their Administrative Assistants, Engineering Consultants, external agencies, Contractors and internally from supervisors regarding municipal works.

Operates equipment such as printer/plotters and large format photocopier.

Prepare tender awards/ budget awards including documents like; Schedule A, Detailed Cost Sheets, Procurement Awards, Report Maps for Senior Engineering Project Manager approval.

Assume responsibility for preparation of Municipal Projects with minimum disturbance to the environment by reviewing the site conditions reports and addressing soil contamination issues and following Environmental Protection Act and municipal class Environmental Assessment Process.

Performs other duties as assigned which are directly related to the major responsibilities of the position.

Works in accordance with the provisions of applicable Health and Safety legislation and all City of Hamilton corporate and departmental policies and procedures related to Occupational Health and Safety.

QUALIFICATIONS

1. Demonstrated experience in Civil Engineering and/or Architectural Technology, with extensive knowledge in drafting and modeling normally acquired by attaining a minimum three (3) year Diploma in Civil Engineering Technology, or an equivalent combination of education and relevant experience. Preferred CET specializing in Civil Engineering or eligibility for membership in the OACETT or Engineer in Training EIT or approved equivalent combination of education and experience.
2. Proven knowledge in design/construction of municipal infrastructure such as road, water distribution, wastewater collection and stormwater management infrastructure.
3. Knowledge and understanding of all relevant regulations, statute, standards and practices as related to the Major Responsibilities of the position for example, the Occupational Health and Safety Act, Ontario Provincial Standards Specifications (OPSS), Ontario Provincial Standards Drawings (OPSD), Ministry of Environment, Climate Change and Parks (MECP) and Transportation Association of Canada (TAC) ...etc.
4. Knowledge of the Environmental Assessment process preferably gained thorough practical experience.
5. Knowledge of Local Improvement Act and Section 221 of the Municipal act as they relate to the extension of Municipal Services and the cost recovery mechanisms.
6. Knowledge/experience with Asset Management operation software i.e. Hansen, WIMS, PRISM and GeoMedia/GIS and other data applications would be an asset.
7. Demonstrated knowledge of engineering drafting and estimating techniques. Experience in a computerized environment with proficiency in Microsoft Office Word, Excel and Outlook. Skillful in using Civil Engineering CAD related design and drafting software such as Microstation, Geomedia (GIS) and InRoads/OpenRoad.
8. Knowledge and Understanding of Project Management Principles and Practices would be an asset.

9. Must be able to communicate effectively, both orally and in written form. Must be able to co-ordinate and relate well with professionals and non-professionals within and outside the organization.

THIS POSITION REQUIRES A VALID CLASS "G" DRIVER'S LICENCE AND PROOF THEREOF IS REQUIRED AFTER HIRE.

THE INCUMBENT SHALL COMPLY WITH ALL HEALTH AND SAFETY POLICIES AND PRACTICES FOR THIS POSITION AND THE WORKPLACE.
