

**Job Class Profile:**            **Engineer I**

**Pay Level:**                      **CG-33**                      **Point Band:**                      **718-741**

Factor	Knowledge	Interpersonal Skills	Physical Effort	Concentration	Complexity	Accountability & Decision Making	Impact	Development and Leadership	Environmental Working Conditions	Total Points
Rating	5	4	2	5	4	4	4	3	4	
Points	233	67	13	24	120	87	83	64	43	734

## JOB SUMMARY

The Engineer performs basic entry level engineering and project management work in the field and office environment under the close supervision of professional engineers.

### Key and Periodic Activities:

- Designs, plans and monitors work on marine structures, highways, bridges and other related highway structures throughout the province.
- Prepares public tenders including quantity estimates and supplemental general conditions.
- Prepares and reviews specifications and cost estimates for engineering projects.
- Travels to and conducts site visits for pre, during and post construction stages of projects.
- Prepares permits for projects requiring approval under the Water Resources Act, such as culverts, bridges which requires specific terms and conditions to ensure compliance with policies and legislation.
- Assesses designs provided by engineering consultants and reviews conceptual information and design of smaller hydraulic structures.
- Evaluates, reviews and assesses applications for their feasibility, proper hydrology and effects on water resources. Conducts site visits during project development to ensure regulatory compliance.
- Responds to public complaints concerning water related problems.
- Prepares technical reports of field investigations including recommendations for corrective action.
- Participates in the selection and mentoring of Engineering work term students.
- Practices continuing professional development by staying abreast of new codes and standards, material technologies and project management by attendance at seminars, self directed study and reading.

## SKILL

### Knowledge

#### General and Specific Knowledge:

- Knowledge of various software for spreadsheet, database and design applications
- Knowledge of engineering project management

**Formal Education and/or Certification(s):**

- Minimum: An undergraduate degree in Engineering

**Years of Experience:**

- Minimum: none to 1 year.

**Competencies:**

- Project Management skills.
- Ability to use computer software for spreadsheets, database and design application.
- Ability to apply the public tendering process.
- Ability to work with others.

**Interpersonal Skills**

- A range of interpersonal skills include listening to receive instructions and obtain guidance, asking questions to gain information for work processes, providing routine information and direction, and communicating complex ideas to others.
- Communications occur with contractors and consultants to obtain and/or clarify information or provide advice and gain their cooperation, employees within immediate work area, senior engineers, supervisors/managers.
- Most significant interactions are daily with supervisor, employees in the immediate work area and peers/employees in the department to ask questions or seek advice, respond to enquiries about work progression and problems, to report on projects and get direction.

**EFFORT****Physical Effort**

- Work occasionally results in considerable fatigue requiring periods of rest.
- Work also requires occasional lifting of light objects less than 10 lbs.
- Work requires standing and walking occasionally when on construction sites or conducting site investigations, occasional driving, and constant fine finger work when at the computer.

**Concentration**

- **Visual** concentration of high intensity is required when reviewing and preparing engineering drawings with a high amount of detail, and preparing design documents and specifications.
- **Alertness for the health and safety** of self is required on job sites and **higher than normal levels of alertness** may be required when conducting site visits around water bodies, on high structures, using equipment such as a bucket truck and around heavy machinery in operation.
- **Auditory** concentration occurs when working and listening to conversation on noisy work sites.
- There are **time pressures** and **interruptions** which occur on a regular basis. Pre-construction work must be completed so permits can be obtained and tenders can be prepared and awarded before construction season; review and approval of shop drawings so contractors are not held up as it is critical to meet timelines and budgets.
- **Exact results and precision** are regularly required when performing design calculations, completing quantity estimates and tender evaluations of projects.

**Complexity**

- Tasks typically range from occasionally repetitive/well defined to regularly different and unrelated which require a broad range of skills and knowledge.
- Typically, work is performed with defined and standard work processes, have obvious or limited solutions and/or can be addressed by following procedures or guidelines. The most typical issues to solve are: overcoming site related issues/restrictions and preparing site geometry and layout before project design work can commence to ensure feasibility and compliance of structure with codes.
- Regularly there are challenges or problems that must be defined and practical solutions found.
- Departmental Specifications books, construction equipment specification manuals, Canadian Highway Bridge Design Codes, Department Specifications and design standards, National Codes and regulations, OHS regulations, precedents and professional Engineering and other expert staff are available as references or resources.

## RESPONSIBILITY

### Accountability and Decision-Making

- Work tasks are moderately prescribed or controlled. Projects are assigned with general guidance, with day-to-day work proceeding independently.
- Discretion and judgement are used in detailing with an economical and structurally stable design in accordance with code and site specific direction.
- Final drawings are reviewed and stamped by the supervising Engineer. Discretion is used in assessing designs for compliance with legislation. Also, conducts investigations of problems/complaints and recommends solutions.
- Cannot make major changes to projects during construction or issue permits without approval.

### Impact

- Results are directly felt within the immediate work area, department, within and outside the organization and by clients and the general public.
- Results directly impact equipment, processes, finances, contractors, the general public, and health and safety.
- Consequences of errors could be moderate and felt outside the department by clients and the public, however likelihood of significant error and thus consequences of errors are mitigated by the structure, review and control of work.

### Development and Leadership of Others

- There is no supervision of staff. Performs in a project management role for assigned projects.
- May assist with mentoring and training of engineering work term students.

## WORKING CONDITIONS

### Environmental Working Conditions

- Work tasks require Standard Personal Protection Equipment protective gear and precautions when conducting site visits.
- The likelihood of injury or illness is limited.
- Regularly exposed to glare from computer screens.

- Occasionally exposed to a variety of undesirable environmental conditions and hazards such as dust, wet or slippery surfaces, dangerous heights or depths, temperature extremes, isolation and travel and heavy machinery when inspecting construction projects/sites and/or conducting investigations.