



IDENTIFICATION

Department	Position Title	
Infrastructure	Manager, Surface Design and Construction	
Position Number(s)	Community	Division/Region(s)
33-0098	Yellowknife	Transportation/HQ

PURPOSE OF THE POSITION

The Manager, Surface Design and Construction is responsible for leading and the direct management of a diverse project team of multi-discipline professionals and technicians providing the delivery of major capital and Operations and Maintenance (O&M) projects in support of the Territorial surface transportation network. The Manager, Surface Design and Construction provides direct leadership and technical expertise in project planning, design and construction and project delivery (implementation) of a wide variety of civil engineering projects in support of the transportation network.

SCOPE

Located in Yellowknife, this position reports directly to the Director, Transportation. The Manager, Surface Design and Construction (Manager) is responsible for the successful delivery of Capital and O&M projects with a value ranging from \$10,000,000 up to as high as \$1 billion depending on the size and scope of the project; consulting with other Government Departments, Communities and Community Organizations.

The Department of Infrastructure is highly decentralized in the delivery of its programs and services and is responsible for territory-wide government programs such as the operation and maintenance of public buildings and transportation infrastructure and systems, project management, facilities planning, design and technical support services, environmental assessment and remediation, property management, procurement shared services, information technology, information management, disposal of surplus property and goods motor vehicle and mechanical/electrical regulatory services and fleet management.

The Department is also responsible for programming aimed at increasing the use of domestic

energy resources and reducing energy costs in the NWT (Northwest Territories), delivering renewable energy solutions, providing energy supply services to non-market communities, and leading efforts in energy conservation and efficiency.

On behalf of the GNWT, the Department of Infrastructure also carries the responsibility for strategic planning for the GNWT's (Government of the Northwest Territories) long term investment in the development of public transportation and energy production and distribution systems for the Northwest Territories, as well as the continuity of marine transportation services for the provision of fuel and dry goods to northern destinations.

The Manager, Surface Design and Construction is responsible for the development and implementation of strategic five-year and 20 year project plans by reviewing proposed projects including strategies for the implementation of assigned projects. These projects are primarily highways, access roads, airfields, and marine related civil engineering projects.

The Manager, Surface Design and Construction will play a lead role to independently manage complex civil engineering projects as defined by the government and the Department and will act as the senior engineer for the surface transportation network. These projects are managed in accordance with current geometric design standards, the Transportation Association of Canada (TAC) Pavement Management guide, Canadian Road and Highway design guide, current Canadian Highway Engineering design standards, generally accepted professional engineering standards and all standard government financial regulations.

To accomplish this, the incumbent works with client departments, senior management, community officials, council members, contractors, professional engineers, consultants, technicians, the press (media) and the general public. The incumbent may act as a resource person to government counsel in court cases involving: projects and or accidents related to the surface transportation network and other projects the incumbent is responsible for.

The incumbent has \$100,000 signing authority for contract initiation and \$250,000 for contract performance. The incumbent directly manages unit staff and resources, and will be required to lead and manage up to 50 private consultants and engineers depending on the project size.

RESPONSIBILITIES

1. Produces and developments an annual, a five year and a 20 year strategic capital plan for the highways.

- Reviews proposed projects and assesses requirements for detailed engineering, environmental, hydrological and financial information.
- Establishes detailed schedules and Gantt charts to undertake and complete assigned projects.
- Develops cost estimates for inclusion in the overall plans.
- Produces detailed project descriptions.

- Reviews existing policies and procedures affecting the project management process and recommends changes to improve effectiveness.
 - Develops plans and strategies for using capital projects to enhance local employment, training, capacity building and business opportunities.
 - Contributes to Department's strategic plan.
 - Develops a risk assessment for the plan.
- 2. Develops plans and strategies for the implementation of a program of assigned projects to ensure adequate project management resources are available to ensure successful completion.**
- Produces terms of reference and detailed specifications and project descriptions for each project.
 - Establishes schedules and detailed Project Management plans for all stages of project planning and implementation for each project.
 - Estimates and assigns staff requirements to implement each project, arranging for additional staff and labour as required and identifies projects which will require the services of a consultant.
 - Reviews and assess proposals and or designs submitted by consultants and is part of the evaluation team to make the final selection.
 - Ensures all staff receive professional development required for specific projects and that the appropriate expertise is assigned to the correct project.
 - Assigns projects to Project Officers and technicians and manages the overall progress of all projects keeping the leadership informed at all times.
- 3. Manages and monitors the Initiating, planning, design, construction and warranty phases of all assigned projects to ensure projects completed to terms of reference, on schedule and on budget. Monitors collection of preliminary engineering data and the preparation of detailed designs and specifications to ensure projects are developed on schedule and In accordance with project requirements.**
- Analyzes survey data and field reports prepared by Project Officers, consultants or in-house specialist staff.
 - Analyzes design alternatives and selects optimum design.
 - Reviews Project Officers work and/or consultants work on a regular basis to ensure adherence to design concepts and governing standards.
 - Verifies and approves working drawings, specifications and tender documents to ensure that they conform to project terms of reference and that they are complete and accurate.
 - Reviews detailed cost estimates developed by Project Officers and/or consultants.
 - Certifies and affixes stamps to designs and drawings for work.
- 4. Administers and manages the construction phase of all assigned projects to ensure projects are completed safely, within terms of reference, on schedule, in accordance with all National and Departmental guidelines, follows regulatory requirements and on budget.**

- Manages and professionally leads and assesses all Project Officers, Project Managers and/or consultants assigned.
- Reviews all bids and tenders submitted by contractors, analyzes capabilities and recommends award to the Director.
- Convenes and chairs all pre-construction meetings with contractors.
- Negotiates contracts and approves within delegated signing authority.
- Interprets contracts documents (plans and specifications) in case of disputes.
- Conducts detailed monitoring inspections of all projects to ensure work is progressing satisfactorily.
- Conducts interim and final inspections to identify any deficiencies.
- Reviews monthly capital management reports completed by Project Officers to ensure projects are on schedule and within budget. Also reviews quarterly capital outlook summaries.
- Reviews and recommends payment of contract progress claims and invoices received from Project Officers.
- Negotiates major change orders or claims with contractors and recommends resolution or approval to the Director.
- Investigates and resolves complaints from the community, public or other agencies in regard to any projects or issues related to the surface transportation network.
- Conducts project evaluations of the contractor and staff upon completion of project.
- Conducts annual reviews of staff performance, ensuring that they have access to required training and that professional competence is maintained.
- Ensures all parties concerned are regularly advised of the status of the projects.
- Acts as the Owner's (GNWT) representative as required.

WORKING CONDITIONS

Physical Demands

No unusual demands.

Environmental Conditions

No unusual demands.

Sensory Demands

No unusual demands.

Mental Demands

Field posting may involve up to six weeks travel during the construction season. During the other times of the year the incumbent will be required to travel at least one week per month for inspections, project review, planning and meeting with consultants and contractors. The incumbent deals with changing priorities, tight deadlines and schedule constraints.

KNOWLEDGE, SKILLS AND ABILITIES

- Knowledge of the Canadian and ASSHTO Guides for Highway Construction.
- Knowledge of all Transportation Association of Canada (TAC guidelines and Best Practices for Highway Construction.
- Requires expert knowledge and proven skills of project management with specific knowledge of civil engineering in the northern environment.
- Requires expert, proven and mature negotiation skills required to manage large complex projects and the ability to deal with contractors, consultants and stakeholders in an effective manner.
- Financial skills to develop and control budgets for Capital and O&M projects.
- Ability to develop and analyze short and long term construction projects.
- Ability to manage construction projects throughout all stages of their development.
- Proven problem solving skills to deal with all aspects of project issues.
- Ability to make decisions in the field during projects within tight time constraints and with limited information available.
- Knowledge of northern soil conditions, environment, logistics, and northern construction practices.
- Excellent communications skills- both oral and written and the ability to put together briefing notes, presentations and reports under tight timelines
- Well-developed negotiation skills to deal effectively with contractors and consultants.
- Knowledge of MS Operating Systems, MS Office, Computer Aided Engineer Design programs, Project Management Tools, the Internet and Email.

Typically, the above qualifications would be attained by:

A Bachelor's Degree in Civil Engineering including a minimum of 10 years of civil construction experience (5 within a northern environment) and project management, five of which would include supervisory experience and senior management experience.

The incumbent must be eligible for registration in the NWT Association of Professional Engineers and Geoscientists (NAPEG) and possess a valid Class 5 Driver's License.

ADDITIONAL REQUIREMENTS

Position Security (check one)

- No criminal records check required
- Position of Trust – criminal records check required
- Highly sensitive position – requires verification of identity and a criminal records check

French language (check one if applies)

- French required (must identify required level below)

Level required for this Designated Position is:

ORAL EXPRESSION AND COMPREHENSION

Basic (B) Intermediate (I) Advanced (A)

READING COMPREHENSION:

Basic (B) Intermediate (I) Advanced (A)

WRITING SKILLS:

Basic (B) Intermediate (I) Advanced (A)

French preferred

Aboriginal language: Choose a language

Required

Preferred