

**New**

Ministry

**Describe: Basic Job Details****Position**

Position ID

Position Name (200 character maximum)

Requested Class

Job Focus

Supervisory Level

Agency (ministry) code

Cost Centre

Program Code: (enter if required)

**Employee**

Employee Name (or Vacant)

**Organizational Structure**

Division, Branch/Unit

 Current organizational chart attached?

Supervisor's Position ID

Supervisor's Position Name (30 characters)

Supervisor's Current Class

**Design: Identify Job Duties and Value****Job Purpose and Organizational Context**

Why the job exists:

Reporting to the Team Lead South, the Water Project Engineer coordinates and administers the design and construction of Alberta Agriculture and Irrigation's (AGI) Southern Region's water management infrastructure projects. The Water Project Engineer ensures the design, construction, and rehabilitation work activities are consistent with national codes and department guidelines, standards, policies, acts, and technical and functional requirements. The position is responsible for the development of department standards, guidelines and specifications in support of the delivery of water management infrastructure projects.

The Water Project Engineer provides the leadership for the safe, efficient, timely and fiscally responsible delivery of the projects by consultants and contractors. The position is responsible for the selection, assessment and evaluation of consultants, and for ensuring that all engineering work is reviewed throughout all phases of the project and that the construction phase of the project is monitored to ensure the work is completed safely and in accordance with department requirements and contract specifications.

## Responsibilities

Job outcomes (4-6 core results), and for each outcome, 4-6 corresponding activities:

### **1. Engage consultants to provide a full range of engineering services for the delivery of the water management construction and rehabilitation program on behalf of AGI.**

#### Activities

- Assist the Team Lead with the planning and prioritization of water management projects.
- Provide input to the planning and programming for the development of the department's water management projects construction and rehabilitation program.
- Review project implementation reports and engineering assessment reports and complete site visits to identify and determine the scope of the project.
- Prepare terms of reference within the required schedule for the project and act as a resource for questions and concerns from consultants during the proposal preparation period.
- Review and evaluate consultant proposals and serve as a member of Consultant Selection Committee to provide recommendations for the award of the project.
- Select consultants for service agreement assignments and limited solicitation contracts. Review and evaluate proposals and provide comments and recommendations to Team Lead.
- Review and evaluate engineering services provided by consultants and provide input to department's consultant performance evaluation process.

### **2. Manage consultants to ensure engineering services provided are in accordance with department guidelines, standards and policies.**

#### Activities

- Ensure consultant submissions for the conceptual design, preliminary engineering, final design and tender documents are complete.
- Review all engineering reports, designs, drawings and tender documents to ensure the work completed by consultants meet department guidelines, standards, policies and provide the best value.
- Solicit and coordinate input from AGI, departmental technical support and, if required, external technical experts / review boards in the review of reports, designs and drawings.
- Review all applicable permits, approvals, authorizations, licenses and certificates that are obtained for the project by the consultant.
- Ensure work is within scope, meets department requirements, and is practical, constructible, maintainable and cost effective.
- Liaise and provide technical support and advice to AGI on water infrastructure projects.
- Complete final review of engineering services provided by consultants and sign off recommending acceptance of the work.
- Administer consultant agreements and review and evaluate consultant staff substitution and change of scope requests, providing recommendations to the Team Lead for acceptance or rejection.

### **3. Ensure water management infrastructure projects are constructed in accordance with department standards and specifications.**

#### Activities

- Monitor the construction tendering process. Ensure the tender package is prepared by the consultants and delivered to Procurement. Participate in the pre-bid meeting and the review of bids.
- Schedule and attend construction pre-construction meetings to ensure that the department's guidelines and standards will be followed during construction.
- Monitor progress of construction to ensure the work of consultants and contractors is in accordance with applicable guidelines, standards, policies, specifications and contract requirements.
- Conduct regular construction site inspections to ensure the consultant enforces and adheres to the contract specifications and to all regulatory permits, approvals and authorizations issued for the project, and that the

traffic accommodation measures and construction safety procedures are in accordance with the approved plans and industry standards. Approximately 30% of the position's time may be required for travel to project sites.

- Review and evaluate the need and cost of extra work orders and provide recommendations to the Team Lead.
- Review First-Party claims on construction contracts and provide recommendations to the Team Lead
- Support the resolution of disputes between contractors, consultants, landowners, municipalities and other stakeholders.
- Address public concerns and problems related to water management infrastructure construction activities.
- Participate in the final inspection of the project and advise the Team Lead of any significant problems or concerns.

**4. Ensure the department's technical guidelines, standards, specifications and policies are followed and feedback is given to the Team Lead and the Director of Water Management Infrastructure when problems are encountered.**

**Activities**

- Develop and maintain individual expertise in the area of water management infrastructure engineering, including planning, design, construction, and project management, through applied experience, courses, seminars, and self-study.
- Develop and maintain expertise in the water management specifications, technical standards and guidelines and standard designs and apply that expertise in a coherent and consistent manner on all projects.
- Identify technical or operational issues that need to be addressed for future improvement.
- Contribute to the revision and enhancement of department guidelines and manuals.
- Participate in and contribute to cross-functional department and cross-department teams to develop design and construction standards and specifications.
- Serve on technical committees such as standards/guidelines development working groups, environmental issues working group, etc.

**5. Manage projects such that water management projects and maintenance are coordinated, administered and delivered effectively, on schedule and on budget.**

**Activities**

- Administer and coordinate the delivery of water management projects from project inception to final completion, including the asset transfer to AGI.
- Ensure department funding estimates are accurate and up to date.
- Ensure project milestone schedules are submitted, tracked and met.
- Review all project expenditures including consultant invoices, contractor progress estimates and provide recommendation for payment.
- Coordinate and ensure non-engineering aspects of a project are addressed, including stakeholder relations, land purchases, utility agreements, and regulatory requirements. Such issues will require coordination between, consultants, other department branches, AGI and other external agencies or individuals.
- Support the delivery of non-operational maintenance on water management infrastructure as required.

**6. Water management infrastructure design and project management expertise is retained in the department.**

**Activities**

- Complete engineering activities and training with respect to delivering assigned components of design and project management for water management projects.
- Identify and develop standards, guidelines and specifications to support effective delivery of water management projects.

**Problem Solving**

Typical problems solved:

This position administers and delivers the the department's capital program related to water management infrastructure projects owned by AGI. A strong water engineering background and extensive experience is required to oversee the design, construction, and maintenance activities that are contracted externally to industry engineering and construction partners. This position has direct authority over the day to day activities for delivery of water management projects. Impacts of changes on the project(s) with respect to cost and schedule to the overall project would be presented to the Team Lead, Director, and/or Executive Director for final decision.

Types of guidance available for problem solving:

While established practices, guidelines, specifications, and policies are referenced, there is considerable variety in the issues encountered and their complexity varies greatly. Evolving practices, lessons learned, and new materials must be combined with technical creativity and innovative solutions in the daily delivery of the projects. This position has considerable freedom to act, basing decisions on engineering principles and fiscal responsibilities. Some decision making is collaborative with input from contractors, consultants, and senior management. Project management principles, contract law, department specifications, and the Technical Standards Branch are all resources at the disposal of the position.

Direct or indirect impacts of decisions:

This position has the ability to influence the outcome of the direction of the projects on which they are engaged, take responsibility for the outcomes of the project delivery and partnering initiatives with industry, and overall day to day management of the project(s) on which they are assigned. The ability to problem solve and make informed decisions in a timely manner will have direct impacts on the ability to deliver projects on time and within the program budget. This may also have lasting impacts on relationships with local stakeholders, First Nations, regulatory agencies, etc.

**Key Relationships**

Major stakeholders and purpose of interactions:

AGI, Alberta Environment and Protected Areas (EPA), contractors, consultants, landowners, homeowners, utility companies, regulatory agencies, interest groups, municipal governments, provincial government - MLAs, Minister's office, other GOA ministries, federal government ministries and agencies, the general public, and Indigenous groups.

**Required Education, Experience and Technical Competencies**

Education Level	Focus/Major	2nd Major/Minor if applicable	Designation
Bachelor's Degree (4 year)	Engineering		

If other, specify:

Job-specific experience, technical competencies, certification and/or training:

Registered or eligible to be registered as a Professional Engineer (P.Eng) in Alberta.  
 - Minimum of five years related experience in heavy civil engineering projects including project management, planning, design and construction.  
 - Extensive knowledge of design concepts and construction practices relating to heavy civil engineering projects.  
 - Knowledge of project management methodologies and processes.  
 - Experience in water infrastructure projects is considered an asset.  
 - Valid driver's license and ability to travel within Alberta.

**Behavioral Competencies**

Pick 4-5 representative behavioral competencies and their level.

Competency	Level					Level Definition	Examples of how this level best represents the job
	A	B	C	D	E		
Systems Thinking	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Considers inter-relationships and	Must consider roles and projects in the broader

		<p>emerging trends to attain goals:</p> <ul style="list-style-type: none"> <li>• Seeks insight on implications of different options</li> <li>• Analyzes long-term outcomes, focus on goals and values</li> <li>• Identifies unintended consequences</li> </ul>	<p>context of the Water Management program. Evaluation of the options both during design and construction and consider the short term (1-3 years) impact to the program and the long term (5-30 year) impacts to operations of the infrastructure.</p> <p>Reviewing cost benefit analyses completed by the consultant and recommending a suitable option based on lifetime costs as opposed to capital cost alone.</p> <p>Review and recommend infrastructure options based on intended use and capital cost</p> <p>Incorporate lessons learned on the projects in which they are engaged.</p>
Creative Problem Solving	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Engages the community and resources at hand to address issues:</p> <ul style="list-style-type: none"> <li>• Engages perspective to seek root causes</li> <li>• Finds ways to improve complex systems</li> <li>• Employs resources from other areas to solve problems</li> <li>• Engages others and encourages debate and idea generation to solve problems while addressing risks</li> </ul>	<p>The nature of construction projects often requires creative solutions to resolve issues. This may include researching topics, contacting industry experts, outside of the box thinking, etc.</p> <p>Work with Alberta Infrastructure and Alberta Environment to ensure that the legislative and regulatory requirements are met for the projects.</p>
Drive for Results	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Takes and delegates responsibility for outcomes:</p> <ul style="list-style-type: none"> <li>• Uses variety of resources to monitor own performance standards</li> <li>• Acknowledges even indirect responsibility</li> <li>• Commits to what is good for Albertans even if not immediately accepted</li> </ul>	<p>Ensures that lessons learned are incorporated on the projects are incorporated on the projects under their supervision</p> <p>Deliver projects within the approved budget, on time, and employ sound project management</p>

		<ul style="list-style-type: none"> <li>• Reaches goals consistent with APS direction</li> </ul>	principles to guard against predatory claims against the Province.
Build Collaborative Environments	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	Collaborates across functional areas and proactively addresses conflict: <ul style="list-style-type: none"> <li>• Encourages broad thinking on projects, and works to eliminate barriers to progress</li> <li>• Facilitates communication and collaboration</li> <li>• Anticipates and reduces conflict at the outset</li> <li>• Credits others and gets talent recognized</li> <li>• Promotes collaboration and commitment</li> </ul>	Work with AGI staff to ensure that mutual concerns are addressed.

**Benchmarks**

List 1-2 potential comparable Government of Alberta: [Benchmark](#)

**Assign**