Alberta

Job Description

New

Ministry

Environment and Protected Areas

Describe: Basic Job Details

Position

Position ID

[redacted]

Position Name (200 character maximum)

Water storage Engineer

Requested Class

Engineering & Related Level 2

Job Focus

Operations/Program

Supervisory Level

00 - No Supervision

Agency (ministry) code

[redacted]

Cost Centre

[redacted]

Program Code: (enter if required)

Employee

Employee Name (or Vacant)

Vacant

Organizational Structure

Division, Branch/Unit

Water and Circular Economy, WRP

[redacted]

Supervisor's Position ID

[redacted]

Supervisor's Position Name (30 characters)

S enio Mgr, Watershed Resilien

Supervisor's Current Class

S nior Manager (Zone 1)

Design: Identify Job Duties and Value

Job Purpose and Organizational Context

Why the job exists:

Reporting to the Senior Manager, Watershed Resilience, the Water Storage Engineer is responsible for supporting the delivery of work related to watershed resilience and water storage in Alberta, including reviews of water storage opportunities, water storage feasibility studies and reviews of drought and flood mitigation infrastructure.

With a background in geotechnical, water resources, civil, or a related field, the Water Storage Engineer will provide project management, engineering expertise and technical support.

This position will support project coordination, prepare briefings, manage records, track project status and financials, manage grants and contracts, and provide evidence-based input, and support strategic and operational plan delivery.

Responsibilities

In delivery of these responsibilities, this position is expected to work independently based on general direction and guidance from senior leaders, while applying discretion in determining how responsibilities are performed.

1. Lead and support strategic assessments of water storage opportunities

- Provide project management, engineering advice and technical support to develop and maintain a list of strategically valuable water storage sites that have the potential to enhance water security and mitigate drought and flood impacts.
- Collaborate with subject matter experts in other business areas (e.g., across the department, Agriculture and Irrigation, Transportation and Economic Corridors, etc.) to ensure alignment with other government-led projects and programs (e.g., dam and canal safety programs, water management plans, etc.).
- Support engagement with stakeholders to understand their water management infrastructure priorities (e.g., public, local governments, Indigenous groups, Watershed Planning and Advisory Councils, irrigation districts, industry groups, etc.).
- Provide technical advice and assist in preparing briefings senior government officials, including the Minister, on provincial water storage opportunities.

2. Lead and support feasibility studies for potential new water storage infrastructure

- Apply engineering skills and judgement to determine viable options for major water storage infrastructure that could help increase water security, reduce provincial flood and drought exposure, and support a growing economy and communities.
- Develop Requests for Proposals, project terms of reference, lead the consultant selection process, and manage contracts and project teams.
- Manage multiple contracts, budgets, and timelines to successfully deliver projects on schedule, on scope and on budget.
- Develop responses to queries from external parties regarding impacts of water management infrastructure projects, and engage with local governments, Indigenous communities, stakeholders, and the public, ensuring they understand the projects' benefits, impacts, and risks, and gather their input to projects.

3. Provide engineering advice to enhance provincial resilience to flood and drought

- Provide advice and support flood and drought resilience strategies, program development, implementation, and communications, including risk provincial assessments.
- Support alignment with and influence federal programs in water infrastructure, nature-based solutions, and flood and drought mitigation.
- Maintain alignment with other ministries on flood and drought policies and programs (e.g., Public Safety and Emergency Services, Municipal Affairs, Agriculture and Irrigation) and agencies (e.g., Alberta Emergency Management Agency).
- Where appropriate, recommend natural, non-structural flood and drought mitigation projects to improve aquatic ecosystem health and increase the capacity of the province's watersheds to reduce the intensity, magnitude and duration of drought and flooding.
- Assist in planning and coordinating the development of long-term planning and budget requests (capital and

operating).

- Support the department's grants programs (e.g., Drought and Flood Protection Program) by providing engineering review and input on grant applications, amendments and design changes.
- Develop and maintain relationships with communities that support resilience strategies and plans, including investigating options for infrastructure protection and supporting community emergency management plans.

4. Collaborate with team members to ensure effective delivery of projects and programs

- Contribute to various projects and programs using your experience with Geographic Information Systems (GIS) to access, analyze and produce geospatial information (e.g., maps, graphics, etc.).
- Maintain awareness and work within the parameters of established legislation, policies, plans (including Government of Alberta strategic business plan, Ministry business plan, Minister's mandate letter), guidelines and standard practices.
- Draft briefing notes and responses to inquiries, ensuring issues are appropriately researched and responses are clear and in line with expected requirements and timelines.
- Represent the department at various committees and events.

5. This position will also support key programs and priorities as required by the employer.

- Lead or support other branch, division, department or Government of Alberta initiatives, as required.

Problem Solving

Typical problems solved:

Examples of difficult or challenging situations faced by the position include:

- Completing high-profile and high cost government projects that include a wide range of stakeholder perspectives, complex engineering and environmental considerations and unknowns (e.g., future federal regulatory legislation, future flood or drought events, economic and population trends).
- Providing clear and timely direction to consultants and others to ensure they can deliver their services in a manner that provides high value to Alberta and Albertans.
- Preparing and updating briefing materials, budgets and financial reporting under short timelines.
- Building effective relationships and teams with individuals who possess different perspectives and business areas to facilitate planning, consensus building, and decision-making processes for major water infrastructure projects.
- Managing resources and competing demands from the multiple departments who share responsibility for delivering water infrastructure planning, construction and operations.

Types of guidance available for problem solving:

- Ongoing, or recently completed, water infrastructure project materials, including reports, terms of reference and technical guidelines will inform daily actions.
- Guidance is available from the team lead, senior manager and director of the section. The branch also has a range of flood and drought subject matter experts who can be called upon for scientific and engineering advice.
- Subject matter experts from other departments are available, including from Agriculture and Irrigations and

Transportation and Economic Corridors.

- Access to guidance from various teams with legal, hydrology, water management, water policy, transboundary waters, and flood and drought mitigation expertise.

Direct or indirect impacts of decisions:

- The position directly supports high profile projects that could include the construction of new water management infrastructure that is potentially worth billions of dollars. These projects may have major impacts on the provincial water supply, flood protection, drought mitigation, and interprovincial commitments.

Key Relationships

Major stakeholders and purpose of interactions:

- Branch staff -collaborative with leadership and staff to deliver projects, provide advice and recommendations for water infrastructure to protect Albertans from drought and flood impacts.
- Other GoA branches and ministries - align with ongoing and planned water infrastructure projects (e.g., Agriculture and Irrigation, Transportation and Economic Corridors).
- Project stakeholders - engage with stakeholders to maintain strong relationships, provide project information, collaborate on issue identification and resolution, and represents the ministry's perspectives and directions.

Required Education, Experience and Technical Competencies

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

If other, specify:

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

The position requires a post-secondary degree in engineering or related degree, with specialization in civil, geotechnical, hydrotechnical or related, plus a minimum of five years of relevant experience. A graduate degree and/or directly related work experience is an asset.

Registered or eligibility for immediate registration as a Professional Engineer (P.Eng) with the Association of Professional Engineers and Geoscientists of Alberta (APEGA) is required.

The ideal candidate will have sound knowledge and understanding of:

- Knowledgeable and experienced in water storage infrastructure for drought and flood protection.
- Flood drought mitigation measures, such as diking, flood proofing, weirs, water intakes, bank stabilization and erosion control.
- Project management, including procurement and contract management.
- Proficient with tools, including Microsoft Office, SharePoint, ArcGIS Pro, and Adobe Acrobat.
- Strong, effective written and verbal communication skills.
- Strong interpersonal, leadership, and conflict resolution skills.
- Self motivated, able to prioritize work, establish and meet deadlines, and achieve expected results.
- Related legislation, regulations, directives and policies related to water management (e.g. *Water Act*, *Dam Safety Regulations*, Water for Life)
- Government strategic business plans, goals, policy direction and mandates.

- Effective communication skills to develop and maintain relationships with partners, the department, and other government ministries, municipalities, and the public.
- Experience working with Indigenous groups, directly impacted stakeholders (e.g., landowners) and the public.

Behavioral Competencies

Competency	Level A B C D E	Level Definition	Examples of how this level best represents the job
Creative Problem Solving	○ ◉ ○ ○ ○	Focuses on continuous improvement and increasing breadth of insight: • Asks questions to understand a problem • Looks for new ways to improve results and activities • Explores different work methods and what made projects successful; shares learning • Collects breadth of data and perspectives to make choices	Works with stakeholders to understand and address concerns. Consults with subject matter experts to find and implement appropriate changes to project design/delivery to improve project and relationship outcomes.
Build Collaborative Environments	○ ◉ ○ ○ ○	Facilitates open communication and leverages team skill: • Leverages skills and knowledge of others • Genuinely values and learns from others • Facilitates open and respectful conflict resolution • Recognizes and appreciates others	Fosters learning and a total project view, encouraging creative thinking when considering project outcomes. Collaboration with other ministries to ensure optimal project outcomes. Promote partnering when key elements of the project require multiple points of view.
Systems Thinking	○ ◉ ○ ○ ○	Considers inter-relationships and emerging trends to attain goals: • Seeks insight on implications of different options • Analyzes long-term outcomes, focus on goals and values • Identifies unintended consequences	Many water infrastructure projects will have multiple phases. A systems view and consideration of long-term objectives will be required ensure the success.

Agility	○ ○ ◉ ○ ○	Identifies and manages required change and the associated risks: • Identifies alternative approaches and supports others to do the same • Proactively explains impact of changes • Anticipates and mitigates emotions of others • Anticipates obstacles and stays focused on goals • Makes decisions and takes action in uncertain situations and creates a backup plan	Assess potential issues related to project complexity and develop approaches to achieve program and project goals. Respond to changing situations during the project. Use past experience and skills to assess the situation, seek input, and provide direction.
Drive for Results	○ ◉ ○ ○ ○	Works to exceed goals and partner with others to achieve objectives: • Plans based on past experience • Holds self and others responsible for results • Partners with groups to achieve outcomes • Aims to exceed expectations	Water storage projects are complex and happen within a complicated environment of stakeholders, rights holders and community groups with opinions. Each group will have their own interests and preferred outcomes. The project timelines and budgets are tight, requiring flexibility and a constant focus on the end deliverables and outcomes.