

**TITLE:** DISTRICT AVALANCHE TECHNICIAN

**CLASSIFICATION:** STO 21

**MINISTRY:** TRANSPORTATION AND INFRASTRUCTURE

**WORK UNIT:** WEST KOOTENAY DISTRICT

**SUPERVISOR TITLE:** DISTRICT AVALANCHE SUPERVISOR

**SUPERVISOR POSITION #:** VARIOUS

## **CONTEXT**

*A primary function of the ministry is to ensure the safe and efficient movement of goods, services and people. The ministry avalanche programs are in place to support these objectives, ensuring the safety of all highway users while minimizing the frequency and duration of avalanche related road closures.*

*The District administers the road and bridge maintenance contracts, avalanche programs, commercial vehicle safety and enforcement, development approvals, portions of the rehabilitation program, and provides support for the provincial capital program. District Avalanche Programs operate in accordance with the Avalanche Safety Plan and in conjunction with other programs within the District.*

*Avalanche staff work closely with other ministry representatives, the maintenance contractors and key stakeholders throughout the winter months (October through May) to minimize the risk to the travelling public through avalanche areas. The program is required 24 hours per day, 7 days per week throughout the winter months. The severity of weather and snowpack conditions determine the requirements for avalanche staff to work extended shifts, to be on call or to work on scheduled days off.*

## **JOB OVERVIEW**

This position works under the mentorship and direction of the District Avalanche Supervisor and conducts site snow observation and evaluation, avalanche forecasting and control, and gathers safety, weather and road information for a designated avalanche area. During peak avalanche times, the position is in regular contact with a wide variety of public and private sector employees and representatives, as well as members of the public.

A primary focus of this position is delivery of the structured avalanche forecasting and avalanche risk mitigation program. Of equal importance is the delivery of the comprehensive avalanche risk management program for all of the workplace activities related to achieving the primary objectives of the program.

## **ACCOUNTABILITIES**

- Assists with the delivery of the operational program for managing the avalanche risks present in the operation of highways in avalanche areas and the risk management program for all of the workplace activities related to achieving the primary highway operational objectives of the program.
- Assists with the delivery of a program for collecting avalanche information from various locations in mountain terrain. Conducts avalanche hazard forecasting through daily observation and statistical and analytical modeling to evaluate the stability of the snowpack, meteorological conditions, terrain, and avalanche activity. This includes the identification and selection of information and workplace appropriate study sites and travel routes, adherence to safe work practices and preparedness for emergency response. Contributes to the development and implementation of improved short or long

term avalanche risk assessment and mitigation measures at the local and provincial scale in a collaborative manner.

- Assists with the delivery of a program for the safe and secure storage, transportation, handling, fixing and firing of explosives and explosive delivery devices at the highest standard and in full compliance with all regulatory and ministry requirements.
- Initiates/implements effective and economically sensitive temporary avalanche mitigation measures including traffic management and artificial triggering of avalanches to reduce the uncertainty of future avalanche size and timing. Conducts avalanche control measures, using explosives and helicopter bombing to stabilize avalanche hazards. Ensures consumable explosives and field equipment, materials, and goods are used economically.
- Recommends highway closures when and where required and implements safe, effective, measures to facilitate highway operational recovery from these activities. Provides timely direction and response in emergency situations including organizing, directing, and conducting avalanche search and rescue.
- Ensures appropriate snow avalanche safety training of ministry and maintenance contractor personnel and/or other personnel who provide services for the operation of the highway in avalanche areas.
- Maintains clear, timely and accurate records of all aspects of the work conducted on an electronic network with a high level of accuracy and quality. Produces reports on avalanche program events and information. Frequently uses computer systems and a variety of commercial and proprietary software to store, retrieve, analyze, review and report on information from a variety of sources. Works with a variety of team members and stakeholders to ensure timely and accurate reporting of incident and near miss events.
- Participates in the development and testing of computerized avalanche systems and collects and maintains all related data. Assists with the development of maps; maintains manual records of snow, weather and terrain observations.
- Issues avalanche hazard forecasts to ministry and maintenance contractor personnel.
- Authorizes purchase of supplies (explosives, helicopters) up to and sometimes exceeding \$40,000.
- Provides support to the Weather Network Program staff by assisting in conducting routine minor maintenance and monitoring of the electronic data reporting network as required.
- Acts as the Avalanche Program Supervisor, including supervising staff and assigning work, as required.

## **JOB REQUIREMENTS**

### **Avalanche Risk Management Experience**

- A post-secondary diploma in forestry, geography, engineering or meteorology with emphasis on avalanche phenomenon and snow science research along with three winter seasons of experience in an operational avalanche program is preferred; OR
- Secondary school graduation with a minimum of five winter seasons of experience in an operational avalanche program.

Note: Operational avalanche program experience must include at least three winter seasons in an avalanche risk management program with at least one of those seasons (more preferred) in a

resource and transportation program managing avalanche risk, directing and participating in assessments of avalanche risk, and communicating information regarding avalanche risks.

### **Training Certificates/Professional Associations**

- Must be registered, or be eligible to be registered, with the Canadian Avalanche Association, as a professional member in good standing.
- Canadian Avalanche Association (CAA) certification (or CAA prior learning equivalency assessment) in:
  - Minimum Level 2, with Level 3 preferred;
  - Introduction to Weather preferred;
  - Avalanche Search and Rescue Response is preferred; and
  - Introduction to Snow Avalanche Mapping preferred.
- WorkSafe BC Occupational First Aid Level 2, or equivalent,
- Incident Command System 200 preferred.

### **Blasting Certification and Explosives Experience**

- Avalanche Control Blasting Certification – for Hand Charge and Helicopter Control Missions - acceptable to WorkSafe BC or other equivalent Canadian regulatory agency certification, understanding that certification in BC must occur within 6 months and blasting cannot take place until certification is confirmed.
- Workplace experience that demonstrates three or more winter seasons of experience with storing, transporting, handling, fixing and firing explosives for avalanche control operations.
- Knowledge of various provincial and federal regulations including, but not limited to; the *Transportation of Dangerous Goods Act*, Federal and Provincial explosives and blasting regulations, WorkSafe BC regulations and guidelines and Workplace Hazard Information Management Systems (WHMIS).

### **Other Requirements**

- Operational field experience making and collecting weather, snowpack, and avalanche activity observations for avalanche forecasting and risk management.
- Computer and communication skills to conduct data analysis and to write clear and concise technical reports.
- Valid Class 5 BC Driver's Licence.
- Physically fit to regularly lift in excess of 20kg, to climb towers in excess of 4m high, to travel on foot in the mountains in winter, and experience traveling in avalanche terrain in a variety of conditions.
- Willingness to safely work outdoors in adverse winter weather.
- Experience with managing and conducting helicopter field work.
- Willingness to be on call 24/7 during elevated avalanche hazard forecast levels.
- Willingness to speak in public.

**Date: October 15, 2019**

- Successful completion of security screening requirements of the BC Public Service, which may include a criminal records check, and/or Criminal Records Review Act (CRRA) check, and/or enhanced security screening checks as required by the ministry.

Note: May be asked to respond to Provincial Emergency Program callouts for mutual aid, however this is not a job requirement and participation would be at the discretion of the individual/Supervisor.

## BEHAVIOURAL COMPETENCIES

- **Decisive Insight** combines the ability to draw on one's own experience, knowledge and training and effectively problem-solve increasingly difficult and complex situations. It involves breaking down problems, tracing implications and recognizing patterns and connections that are not obviously related. It translates into identifying underlying issues and making the best decisions at the most appropriate time.
- **Analytical Thinking** is the ability to comprehend a situation by breaking it down into its components and identifying key or underlying complex issues. It implies the ability to systematically organize and compare the various aspects of a problem or situation, and determine cause-and-effect relationships ("if...then...") to resolve problems in a sound, decisive manner. Checks to ensure the validity or accuracy of all information.
- **Relationship Building** is working to build or maintain ethical relationships, networks or contacts with people who are, or may be, potentially helpful in achieving work-related goals and establishing advantages. These people may include customers, clients, counterparts, colleagues, etc.
- **Service Orientation** implies a desire to identify and serve customers/clients, who may include the public, co-workers, other branches/divisions, other ministries/agencies, other government organizations and non-government organizations. It means focusing one's efforts on discovering and meeting the needs of the customer/client.
- **Teamwork and Cooperation** is the ability to work cooperatively within diverse teams, work groups and across the organization to achieve group and organizational goals. It includes the desire and the ability to understand and respond effectively to other people from diverse backgrounds with diverse views.
- **Initiative** involves identifying a problem, obstacle or opportunity and taking appropriate action to address current or future problems or opportunities. As such, initiative can be seen in the context of proactively doing things and not simply thinking about future actions.
- **Business Acumen** is the ability to understand the business implications of decisions and the ability to strive to improve organizational performance. It requires an awareness of business issues, processes and outcomes as they impact the client's and the organization's business needs.