

**MINISTRY OF TRANSPORTATION AND HIGHWAYS  
JOB DESCRIPTION**

| X     | GEU  | FIN | ADMIN                            | PEA | MJEP |
|-------|--|-----|----------------------------------|-----|------|
| 1.    | Position Number (PMS):                           |     | Various                          |     |      |
| 2.    | Functional Job Title:                            |     | <b>Snow Avalanche Technician</b> |     |      |
| 3.    | Classification:                                  |     | STO 5                            |     |      |
| 4.    | Location:  |     | Maintenance Branch               |     |      |
| <hr/> |  |     |                                  |     |      |
| 5.    | Position Number:                                 |     | Various                          |     |      |
| 6.    | Functional Job Title<br>of Immediate Supervisor: |     | <b>Various</b><br>Various        |     |      |
| 7.    | Classification:                                  |     |                                  |     |      |
| 8.    | Location:  |     | Maintenance Branch               |     |      |

|                    |   |
|--------------------|---|
| <b>JOB SUMMARY</b> | Briefly describe the reporting relationship, purpose, scope and content of the job. May be used for posting purposes. |
|--------------------|---|

Under the direction of the District Highways Manager or Regional Operations Technician and the technical direction of the Manager, Snow Avalanche Programs; (dependent on avalanche areas of responsibility the Manager, Snow Avalanche Programs may provide both general and technical direction):

Manages a snow avalanche safety program for specific avalanche areas in the Province. Areas of responsibility consist of; avalanche forecasting, area closures, safety of the public and operating personnel, and monitoring and conducting avalanche search and rescue operations;

Organizes and conducts a program for observation, consolidation, analysis and evaluation of relevant information for snow stability analysis and avalanche forecasting;

Oversees and conducts avalanche control measures, using explosives and other measures to stabilize avalanche hazards;

Conducts snow avalanche awareness, safety, and search and rescue training for Ministry personnel and conducts public information sessions on avalanche safety;

Supervises a technical staff of avalanche assistants and Avalanche Aides (where applicable);

Performs other duties;

|                   |   |
|-------------------|---|
| <b>JOB DETAIL</b> | List key duties assigned and percentage of time spent on each. State what is done, why it is done, and how it is done. Add additional sheets if required. |
|-------------------|---|

**35%**

**1. Manages a snow avalanche safety program for specific avalanche areas in the Province, areas of responsibility consist of; avalanche forecasting, area closures, safety of the public and operating personnel, and monitoring and conducting avalanche search and rescue operations by:**

- forecasting snow avalanche hazard conditions; responding to changes in avalanche hazard conditions at all times, from the beginning of winter to late spring;

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- initiating specific actions and states of alertness by Ministry and contracted personnel for current or anticipated snow avalanche hazards to the highway;
- initiating highway closures as required by conditions;
- controlling the movement of operating personnel, traveling public and commercial traffic within the control area, according to the level of avalanche hazard to provide acceptable standards of safety;
- making decisions and effective recommendations regarding the operation and safety of emergency vehicles, road clearing crews and highway closure and opening;
- organizing, directing and conducting snow avalanche search and rescue operations;
- liaising with other Provincial Ministries and agencies, and Federal, Regional, and Municipal government agencies, and private industry regarding the coordination and dissemination hazard information and road closures, and operations within those closures;
- recommending and initiating changes and improvements to avalanche prevention and safety programs;
- evaluating snow avalanche reporting, computerized data systems and operations procedures and recommending changes and improvements;
- preparing program estimates and controlling budget expenditures;
- identifying, requisitioning and providing safety and search and rescue equipment, avalanche warning signs and closure gates appropriate to specific sites.

25%

#### **2. Organizes and conducts a program for observation, consolidation, analysis and evaluation of relevant information for snow stability analysis and avalanche forecasting by:**

- maintaining and monitoring a manual and electronic data reporting network for standardized meteorological and glaciological observations to ensure a high level of quality and accuracy;
- conducting avalanche hazard forecasting in specific areas on a day to day basis, including daily observation and evaluation of snowpack, meteorological conditions, effect of terrain, and snow avalanche activity;
- disseminating and analyzing information for forecasting purposes, utilizing a computerized data system for data analysis, including statistical and analytical modeling programs, to analyze snow stability and forecast avalanche hazard;
- selecting data sets from a complex variety of snow and meteorological observations, historical patterns, and avalanche occurrence records;
- coordinating and/or conducting effective short-term avalanche control measures, such as the use of recoilless rifles, avalaunchers, helicopter bombing, explosive charges, or road closures;
- deciding the application of the most effective and economic short term avalanche control measure under a given circumstance;

10%

#### **3. Oversees, coordinates and conducts avalanche control measures, using explosives and other measures to stabilize avalanche hazards by:**

- organizing and assembling crews, equipment and materials for road closures and patrols, explosive delivery, while ensuring that appropriate safety measures are taken;
- coordinating and/or conducting safe dud search and disposal procedures;

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- deciding the application of the most effective and economic short term avalanche control measure under a given circumstance.

10%

#### **4. Conducts snow avalanche awareness, safety, and search and rescue training for Ministry personnel and conducts public information sessions on avalanche safety by:**

- identifying training needs and assisting in design of workshops, seminars and on-the-job training programs;
- presenting snow avalanche training programs to Ministry personnel, including training in meteorological and glaciological observations, snow stability analysis, avalanche hazard evaluation, daily (short term) avalanche hazard forecasting, and avalanche control;
- presenting information regarding the snow avalanche program to public information groups and developing public awareness of snow avalanche hazards;
- instructing Canadian Avalanche Association Transportation and Industry courses;

10%

#### **5. Supervises a technical staff of avalanche assistants by:**

- interviewing, selecting and training staff;
- working with employees to plan performance goals and monitoring and evaluating achievement of goals through regular consultation with employees;
- providing leadership, motivation and a progressive work environment;
- resolving employee related problems in accordance with the best interests of the Ministry and the employee.

10%

#### **6. Performs other duties such as:**

- assisting with development and testing of specialized computer software for avalanche activities;
- providing information and assisting in the collection of information for program evaluations and the evaluation and recommendation of long term hazard mitigation and/or other program improvements;
- provides technical expertise in snow avalanche hazards for avalanche accidents.

**CERTIFICATION**

|  |       |      |
|--|-------|------|
| <b>Employee</b><br>I have read and I understand the contents of this job description   |       |      |
| <hr/>  |       |      |
| Signature  |       | Date |
| <b>Manager</b><br>This description is an accurate statement of the position's assigned duties, responsibilities and reporting relationship as of _____ |       |      |
| <hr/>  |       |      |
| Signature  | Title | Date |
| <b>Personnel</b><br>Job description reviewed by Personnel Officer:   |       |      |
| <hr/>  |       |      |
| Signature  | Title | Date |

**MINISTRY OF TRANSPORTATION AND HIGHWAYS  
STAFFING CRITERIA**

|    |                        |                                  |
|----|------------------------|----------------------------------|
| 1. | Position Number (PMS): | Various                          |
| 2. | Functional Job Title:  | <b>Snow Avalanche Technician</b> |
| 3. | Classification:        | STO 5                            |
| 4. | Location:              | Maintenance Branch               |

**Educational and/or Occupational Certification**

Post-secondary technical diploma in forestry, geography, engineering, or meteorology with emphasis on avalanches and the properties of snow or related fields; or equivalent combination of training and experience. Registration as a Professional Member of the Canadian Avalanche Association.

**Experience and/or Achievements**

Abilities associated with seven years satisfactory experience in snow avalanche related work, with two years in a supervisory position responsible for meteorological and glaciological observations, snow stability analysis, avalanche hazard evaluation, avalanche control and training of staff and members of the public. Considerable experience in highway avalanche operations. A relevant diploma will be considered equal to three years experience. Experience supervising staff in a unionized environment.

**RATED QUALIFICATIONS**

**KNOWLEDGE**

Considerable knowledge of snow and avalanche phenomena and evaluation and management techniques including avalanche hazard forecasting, safety measures, avalanche control measures, and search and rescue procedures. Practical knowledge of meteorology, glaciology, and instructional techniques.

**SPECIALIZED ABILITIES AND SKILLS**

Ability to instruct effectively, to write technical reports, to supervise, and to work independently and to respond effectively in emergency situations.

Ability to conduct field work and travel safely in hazardous mountain terrain by skis and on foot under variable snow and weather conditions.

Ability to effectively communicate with the public, other government agencies, and with junior and senior technical and professional staff.

Ability to operate a computer using statistical data analysis software applications.

**OCCUPATIONAL CERTIFICATION**

Canadian Avalanche Association Levels 1 and 2;

Valid Blaster's Certificate (with avalanche control);

Instructional Techniques Course (or must obtain within six months);

Valid level 2 or 3 Occupational First Aid, E.M.T., or Standard Wilderness First Aid Ticket;

Valid B.C. Driver's License.

**PERSONAL SUITABILITY**

Capable of working well and/or taking charge in stressful situations with a high degree of tact and diplomacy in dealing with the public.

Willing and able to work outdoors in adverse winter weather, including blizzard conditions and extreme cold during snow investigations. Considerable exposure to moderate and high snow avalanche hazards.

Must be willing and able to respond as required for avalanche cycles during the winter season.