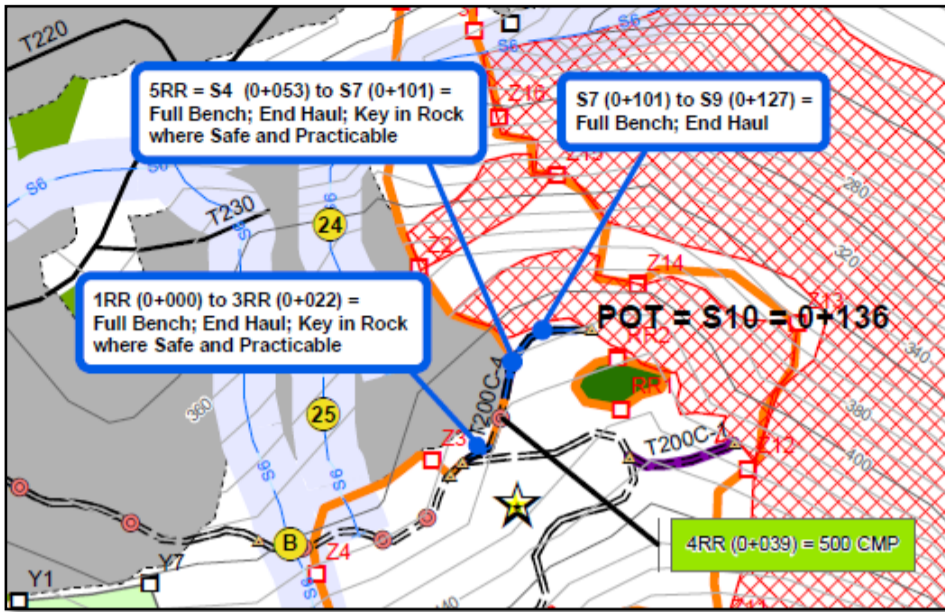


Guide for Road Construction Design Maps

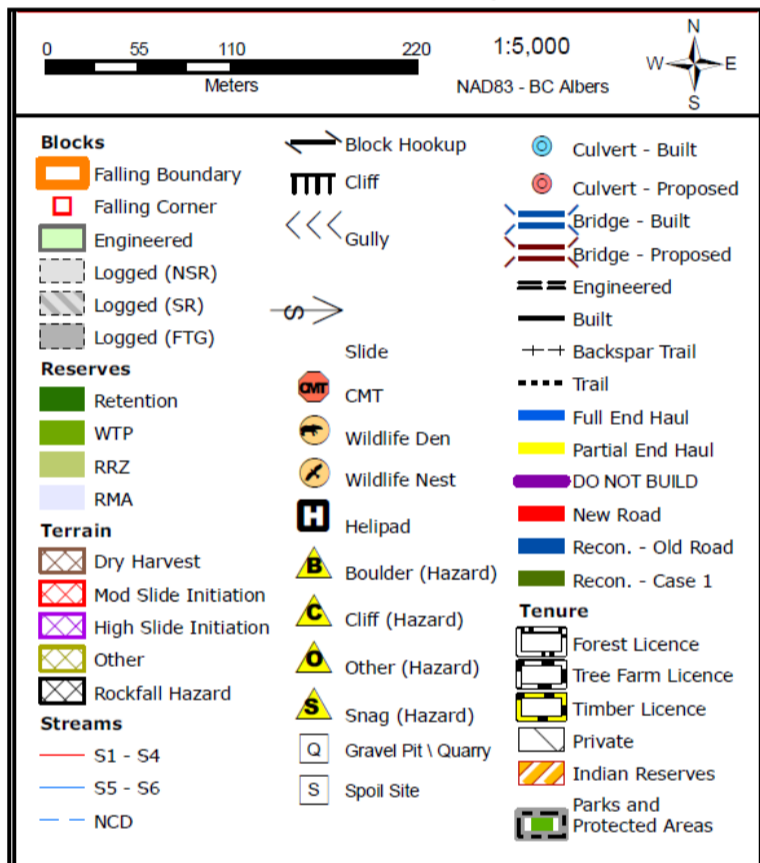
Key elements to maps, profiles and cross sections

Typical Map



Typical map for construction or reconstruction with detailed road prescriptions for operators. Areas of higher terrain hazards and detailed road prescriptions identified on the map for visual reference. Note “Full Bench and End Haul” sections. Often “Transition Zones” into and out of full bench construction may also be prescribed.

Typical Map Legend



Typical map legends cross-reference to the map. These outline harvest boundaries, retention patches, terrain hazards, worker safety hazards, streams, drainage plan, wildlife and biodiversity, key road prescriptions, emergency plans and more. More detailed information is usually found within accompanying reports.

Example of a Specific Terrain Stability Instruction

Adhere to Rainfall Shutdown Guidelines. Be aware of rain on snow events and incorporate snowmelt factor into rainfall shutdown. Rainfall records are to be turned in at the end of the project. Work to the standards of all relevant procedures. **Refer to Terrain Stability Assessment** for reference to details of shutdown criteria. Applies to the following sections:

- 1RR 0+000 to 3RR 0+022 = Full Bench; End Haul; Key in Rock where safe and practicable.
- 5RR 0+053 to S7 0+101 = Full Bench; End Haul; Key in Rock where safe and practicable.
- S7 0+101 to S9 0+127 = Full Bench; End Haul

Standard cut and fill construction is adequate for the remainder of the roads.

Where detailed prescriptions or safety is highlighted on the map, the operator should refer to these sections in provided professional reports such as the Terrain Stability Assessment Report. The reports will describe the prescriptions or hazards in greater detail, including mitigation techniques to follow, and when to request for professional help or site visits.

Example of Rainfall Shutdown Special Information

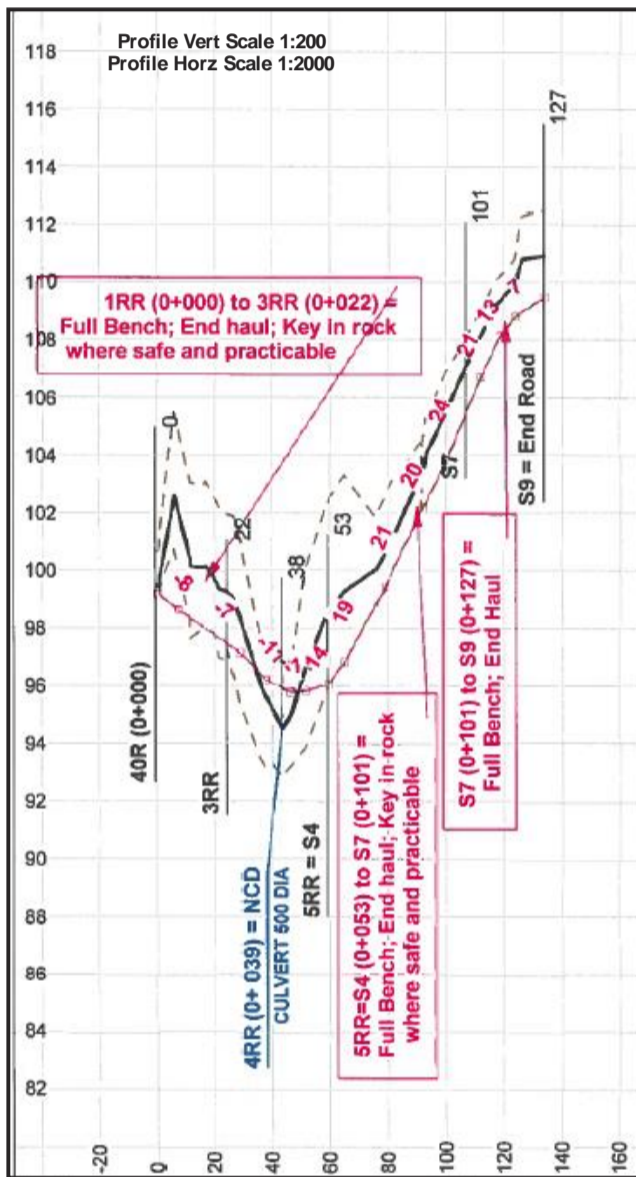
Reduced Rainfall Shutdown Guidelines:

Adhere to rainfall shutdown procedures. In cases where there is snowpack above the worksite, add snowmelt factor into the total measure rainfall as per operating procedures. Follow guidelines for Working in Areas of Questionable Stability”, e.g.

50mm In 12 hours
70mm In 24 hours
125mm In 48 hours
175mm In 72 hours

This is a typical reduced rainfall threshold for shutting down operations highlighted on the map. Rainfall shutdown policy should be provided along with details to calculate shutdown threshold. For example, considerations for tracking water balance, snow melt, old roads above work area, reduction of rainfall shutdown threshold in hazardous zones and how to track these on a daily basis should be identified.

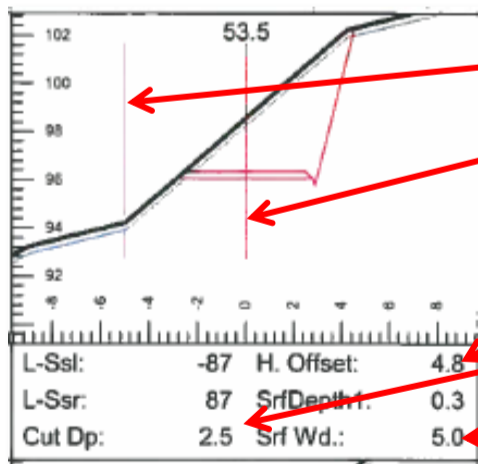
Profiles and Cross Sections



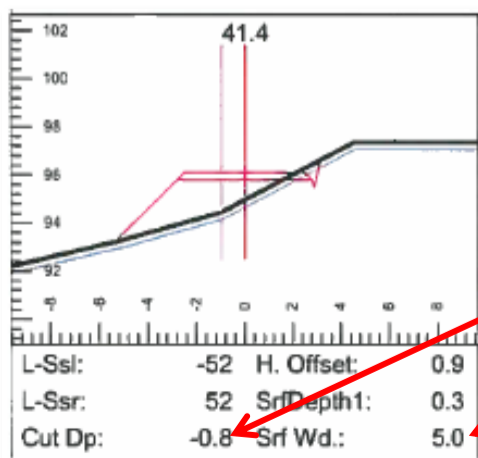
Special notes for profile design related to detailed prescription works with start and end stations. Defined terms should be available in terrain stability report with diagrams if possible.

- 1RR 0+000 to 3RR 0+022 = Full Bench; End Haul; Key in Rock where safe and practicable.
- 5RR 0+053 to S7 0+101 = Full Bench; End Haul; Key in Rock where safe and practicable.
- S7 0+101 to S9 0+127 = Full Bench; End Haul

Standard cut and fill construction is adequate for the remainder of the roads.



- Field Centerline flagging
- Design centerline offset by 4.8m and cut depth of 2.5m
- Offset distance from field flagging to where road centerline needs to be built in the field
- Cut depth noted as a “+” distance for cutting from ground surface to road grade elevation for built road
- Road surface driving width



- Fill depth noted as a “-“ for filling above surface to road grade elevation of the built road
- Final road surface running width