Site 21 – Mount Wintour Rock Cut

This site consists of a rock cut along the east side of the highway approximately 2.8 km south of the junction between Highway 40 and Highway 742. There is a warning sign ("Watch For Fallen Rock") posted for northbound traffic approaching this site. The near-vertical cut slope exposes vertically bedded rock and has a maximum height of 7 to 8 m. The strike of the bedding is near-parallel to the highway, therefore the cut slope exposes a series of sheer bedding planes. Photos 1 and 2 show typical views of the cut slope.

The ditch along the toe of the cut is typically 4 m wide and 1.5 m deep. Rockfall debris from the cut slope has accumulated as a relatively small apron of debris between the toe of the near-vertical cut slope and the central portion of the ditch. It is not known how much time was required for this volume of debris to accumulate. There were no rocks on the pavement at the time of the inspection, nor were there any signs of damage to the pavement from past rockfalls.

The ditch sizing criteria shown on Figure B1 in Appendix B indicate that for the maximum height of this cut slope, the ditch should be at least 4.3 m wide and at least 1.2 m deep. The existing ditch does not meet the width criteria however it slightly exceeds the depth criteria. Based on the distribution of the rockfall debris within the existing ditch and lack of evidence of past rockfalls reaching the road, it is judged that the existing ditch is sufficient.

AMEC recommends the following Risk Level factors for this site using the rock fall frequency-severity matrix:

- Probability Factor of 12 based on the volume of debris in the ditch and the visual appearance of the rock exposed in the cut slope which together suggest that several rockfalls occur at this site each year.

- Consequence Factor of 1 based on no visual evidence of past rockfalls reaching the paved surface of the road.

Therefore, the recommended Risk Level for this site is 12.

It is recommended that the rockfall debris in the ditch at this site be cleaned out annually, or more frequently if required. This should be treated as an ongoing maintenance issue.

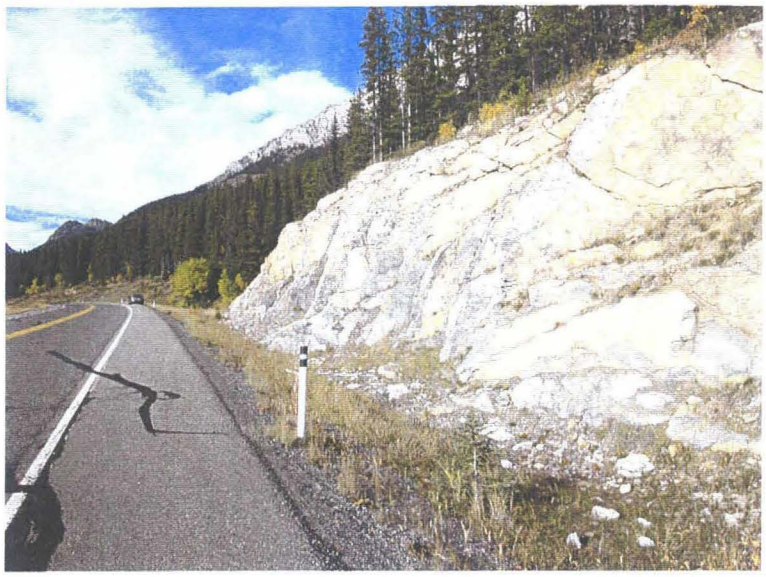

Photo 1 (top) – Facing north across the Mount Wintour Rock Cut site. The near-vertical cut slope exposes vertically dipping bedrock with the strike of the bedding almost parallel to the highway. Therefore, rockfall debris from this slope tends to land close to the toe of the cut slope with relatively little hazard to the highway.

Photo 2 (bottom) – Facing south across the Mount Wintour Rock Cut site. Note how the vertical bedding faces in the exposed rock are nearly parallel to the highway.