

**Mackenzie County
Fort Vermilion and La Crete Streets – 2014
Graded Aggregate Seal Coat and Other Work
Project Review**

The paved road surface of the streets that were chip sealed showed heavy wear and surface deterioration (pot holes). There were no base failures identified. To save the road surface from further deterioration leading to base failure and to reduce the maintenance cost the options were to either do a chip seal surface treatment or an asphalt overlay. Chip seal does not improve the existing road surface imperfections and settlements and is not effective on large cracks. Asphalt surfacing repairs must be completed prior to graded aggregate seal coat application.

The chip seal option is about 20% of the cost of a 50 mm hot mix asphalt overlay (Fort Vermilion \$264,000.00 versus \$1,400,000.00 - 19% and La Crete \$286,000.00 versus \$1,300,000.00 – 22%). The width covered by the chip seal is from white line to white line or 0.3 meter from edge of concrete gutters. The overlay considered is from paved shoulder to shoulder or the concrete gutter and includes the approaches. Hot mix asphalt overlays require asphalt cold milling at the start and end of project and along the concrete gutters. The graded aggregate seal coat seals the existing paved surface, fills the porous areas and the chips provides a wearing surface. The life expectancy is 10 years for the chip seal and the asphalt overlay is 20 years. The Project duration and interruption to traffic flow is much shorter for a Chip Seal project. The chip seal application and process produces dust from sweeping. About 2/3's of the applied material is wasted either by sweeping into the ditches or loaded and hauled to waste. This project was intended as a combination of both in each Hamlet. The dust is usually prevalent until the area has experienced two heavy rainfalls.