

## **Chip Seal Information Sheet**

“Chip Sealing” is a common pavement maintenance practice that extends pavement life and provides a good driving surface. Spring Creek Association is responsible for the maintenance of about 150 miles of roadway.

The chip seal will last an average of five-seven years, which will vary with the type and amount of daily traffic. The candidate roads are reviewed annually for condition, and added to the chip seal program if warranted.

The Fact sheet is to provide the residents of the Spring Creek Association information about the chip seal program by answering some of the frequently asked questions.

### **How is Chip Seals Different from Asphalt Overlays?**

The difference is in the construction method. Hot Mix Asphalt pavement is produced by heating liquid asphalt and mixing it with aggregate, with the mix then spread and compacted to form a durable road structure and riding surface. *Chip Sealing* uses the same ingredients as asphalt concrete paving, but the construction method is different. With chip seals, a thin film of heated asphalt liquid is sprayed on the road surface, followed by the placement of small aggregates ("chips"). The chips are then compacted to orient the chips for maximum adherence to the asphalt, and excess stone is swept from the surface. The ingredients of hot mix asphalt and chip seals are the same; only the construction methods are different.

### **Why Use Chip Seals?**

1. Chip seals provide Spring Creek Association with the opportunity to maintain the roads for very low cost.
2. A chip seal is about one fourth to one fifth the cost of a conventional asphalt overlay.
3. By extending the time between asphalt overlays, chip seals result in lower costs over the long term.
4. By placing a chip seal sooner than an asphalt overlay would be placed, the traveling public benefits from roads maintained in better condition.
5. Chip seals enhance safety by providing good skid resistance.
6. Chip seals provide an effective moisture barrier for the underlying pavement against water intrusion by sealing cracks in the pavement.
7. Chip seals prevent deterioration of the asphalt surface from the effects of aging and oxidation due to water and sun.
8. In hot weather, chip seals re-seal cracks by flowing back together.

### **What steps are involved in Chip Seals?**

We start with properly cleaning the road surface sweeping debris and patching holes. Once prep-work is completed, Spring Creek Association crews averaging 5

employees start application. An asphalt distributor truck starts by spraying one lane with hot liquid asphalt to assure an even application. The asphalt used is applied at a temperature of approximately 190 degrees Fahrenheit. A chip spreader follows as rapidly as possible with a rock application, preferably within one minute. The asphalt must be fluid so the rock will be embedded by the displacement of the asphalt. The rocks are an aggregate crushed to a special specification for size and cleanliness. Next, pneumatic rollers set the rock into the liquid asphalt. Rolling orients the flat sides of the rock down and produces a tighter chip seal. It takes two to four passes of the roller to set the rock.

Two or three days after the application, the road is watered, excess rock is swept from the surface, warning signs are removed, and speed limit is re-established. Permanent road striping is redone before the end of the season.

### **What does it cost?**

A mile of chip seal costs Spring Creek Association about \$24,000 compared to \$250,000 + per mile for asphalt overlay, it is very a cost effective program.