

## **1.0 GENERAL**

### **1.1 REFERENCE STANDARDS**

- .1 ASTM Standards, Part 15.
- .2 ASTM D698 "Moisture Density Relationship of Soils" - Standard Compaction Tests.
- .3 The Asphalt Institute Manual Series No. 2, 3, 4, 8 and 13.

### **1.2 PROTECTION**

- .1 Protect structures and buildings against damage caused by paving operations.

## **2.0 PRODUCTS**

### **2.1 MATERIALS**

- .1 Primer: SS-1
- .2 Tack Coat: SS-1H diluted with water
- .3 Asphalt Pavement: City of Medicine Hat Type S2
- .4 Asphalt Cement: 150/200 A penetration viscosity graded asphalt cement
- .5 Aggregate: Minimum of 80% by weight of the aggregate shall have two faces produced by fracture on all sieves greater than 5000.

Crushed stone, crushed gravel, sand, mineral dust or a combination of these materials, conforming to the following Alberta Transportation and Utilities gradation:

<b>Sieve Size</b>	<b>% Passing</b>
16,000	100%
12,500	90 – 100%
10,000	75 - 90%
5,000	55 - 70%
2,500	40 – 65%
1,250	26 - 45%
630	18 - 38%

	315	12 - 30%
	160	8 - 18%
	80	4 - 10%
.6	Mix Physical Property Requirements:	
	Marshall Stability (Kn)	8 min.
	Marshall Flow (mm)	2.0 – 4.0
	Air Voids (%)	4.3 – 4.7
	Voids in Mineral Aggregate (%)	12.5 – 14.0
	Voids Filled with Asphalt (%)	60 - 70

## **2.2 ASPHALT PAVEMENT MIXTURE**

- .1 Asphalt Paving: Hot plant mix consisting of crushed gravel aggregate, and asphalt cement binder as specified in this section.
- .2 Asphalt plant standards to ASTM D995.
- .3 Asphalt mixes to be prepared according to ASTM D3515.
- .4 Submit to the Project Manager a design mix formula for approval three (3) days prior to actual paving work in field.
- .5 Do not change proportions of the design mix. The design mix shall not be changed during the work without submission of a new design mix formula.
- .6 Submit a Design Mix based on the following criteria: 16 mm (1/2 inch) mix with 50 blows per specimen.

## **3.0 EXECUTION**

### **3.1 BASE**

- .1 Examine prepared base before paving. Report defects in base to the Project Manager. Do not commence work if base is unsatisfactory.
- .2 Construct gravel base according to specifications herein.
- .3 Provide equipment to load test base.
- .4 Excavate soft areas of subgrade, replace with sub-base gravel as required.

### **3.2 PRIMER**

- .1 Apply primer at rate of 0.90 litres per square metre to 2.20 litres per square metre with asphalt pressure distributor.
- .2 Allow primer to set.

### **3.3 TACK COATS**

- .1 Apply tack coat at rate of 0.23 litres per square metre to 0.50 litres per square metre with pressure distributor.
- .2 Ensure tack coat is thin and applied lightly.

### **3.4 ASPHALT CONCRETE PLACEMENT**

- .1 Notify the Project Manager seventy-two (72) hours prior to paving.
- .2 Apply asphalt when temperature is above 8 degrees Celsius, monitor weather forecasts to determine optimum paving schedule.
- .3 Apply asphalt in one full lift to achieve a total laid thickness of 75mm (3 inches) to the specified elevations and grades.
- .4 Top elevation of the finished asphalt surface shall be 50 mm (2 inches) higher than adjacent grades.
- .5 Compact to 97% of Marshall Design Density.
- .6 No payment will be made for asphalt areas with a compaction less than 93% of Marshall Design Density. Remove and replace any asphalt with a Marshall Design Density of less than 93% at no expense to the Project Manager.
- .7 Trueness of surface: 5 mm (3/16 inch) maximum depression per 3.0 m (10 feet)
- .8 Finish roll with a rubber-tired roller.

**3.5 MANHOLES, VALVES, ETC.**

- .1 During paving operations, ensure positive surface drainage to catch basins and catch basin manholes.
- .2 Ensure that surface run off will not drain into sanitary sewer manholes.
- .3 Do not pave over manholes or water valves.

**3.6 TRAFFIC**

- .1 Keep vehicular traffic off newly paved areas until pavement surface temperature has cooled below 30 degrees Celsius. No stationary loads shall be permitted on the pavement until twenty-four (24) hours after placement.
- .2 Provide access to buildings at all times. Arrange paving schedule so as not to interfere with normal use of premises.

**3.7 JOINTS**

All cold joints are to be cut back and a butt joint formed.

**END OF SECTION**