

## 11.0 BITUMEN SURFACING - DESIGN & CONSTRUCTION

### 11.1 SPRAYED SEALING

All aspects of design, material quality, and field procedures for sprayed sealing work shall be in accordance with the R.TA. "Sprayed Sealing Guide" (1992). The submission of spray seal sheets and appropriate A.L.D. test results to Council for approval following sealing will be necessary.

The appropriate seal designs shall be submitted on appropriate forms (generally the R.TA. spray seal form) to Council for approval at least 24 hours prior to commencement of sealing.

### 11.2 QUALIFICATION OF CONTRACTORS

Work shall be carried out by operators with established competence in hot bitumen sealing or asphaltting as appropriate. Prior advice shall be given of proposed contractors for Council's approval.

### 11.3 MERGING WITH EXISTING WORK

All new roads shall be surfaced for the full extent as shown on plan and cross sections, and shall extend to merge with the existing seal of any adjoining or intersecting roads so as to form a trafficable junction.

Where shoulder flush sealing adjoins centre seals a splayed transition at a minimum 45° angle is to be provided at both ends of the work and with a minimum overlap of between 300 to 500mm as directed.

### 11.4 FLUSH SEAL COMPOSITION

All flush seals shall comprise two coats of binder and two coats of aggregate.

### 11.5 WEARING SURFACE

Generally the recommended wearing surface will be as follows:

Road Type	Surface Treatment	Aggregate
Residential streets	7mm or 10mm primer seal	1 <sup>st</sup> coat 14mm 2 <sup>nd</sup> coat 7mm
Rural streets	7mm or 10mm primer seal	1 <sup>st</sup> coat 14mm 2 <sup>nd</sup> coat 10mm
Main Roads	7mm or 10mm primer seal	1 <sup>st</sup> coat 14mm 2 <sup>nd</sup> coat 7mm
Commercial streets	7mm primer seal	Asphaltic concrete
Industrial streets.	7mm primer seal	Asphaltic concrete

Appropriate time to allow the cutter to cure between coats will be necessary. Council's Engineer shall determine the appropriate time, generally a minimum of three (3) months, but will be dependent upon weather conditions.

Enquiries to determine Council's requirements should be made at the initial design stage. Variations to these requirements may be approved under special circumstances.

Information regarding approved sealing aggregates is readily available from Council's Works Department.

## **11.6 PRECOATING**

Precoating of all sealing aggregate bigger than 7mm is mandatory.

## **11.7 ADHESION AGENT**

All binders for sprayed sealing and asphalt work shall have added an approved adhesion agent dosed in accordance with the manufacturers specification.

## **11.8 ASPHALT.**

### *11.8.1 General*

Asphalt wearing surfaces will be required in cul-de-sac turning circles and all industrial, commercial subdivision roads. Required thicknesses and asphalt type are as specified in Sections 4.6.3 and 4.6.4.

Asphalt may also be required at major road intersections in residential areas where a flush seal may not withstand heavy turning and braking movements by traffic. This requirement is to be assessed as part of the engineering design procedures,

Where asphalt is used in isolation (i.e. cul-de-sac turning circles, major intersections) requirements for base course remain the same as adjacent flush seal pavement. Where the developer adopts an asphalt wearing surface throughout (in lieu of flush seal) the base course will be required not to exhibit shrinkage cracking (in the case of modified base material in accordance with Sections 4.6.3 & 4.6.4).

### *11.8.2 Primer Seal*

A 7mm primer seal is required under all sealing on flexible pavements and all asphalt other than cul-de-sac turning circles and major intersections where the asphalt will be applied over the two coat flush seal.

A minimum of 14 days in the case of a primer seal and two days in the case of a two coat flush seal will be required to elapse before application of the asphalt surface.

### *11.8.3 Asphalt Mix Design*

In light to medium trafficked residential streets (design traffic up to approximately  $3 \times 10^5$  ESA's), the mix design shall be in accordance with the gap-graded mix in ARAB Special Report No. 41, Table XV, "Aggregate Composition of the ARRB Gap Graded Mix".

In medium to heavily trafficked roads (design traffic greater than  $3 \times 10^5$  ESA's), the asphalt mix shall be designed in accordance with M.R. Form No. 612 (1985).

Asphalt mix designs shall be submitted to and approved by Council prior to placement of any asphalt work.

### *11.8.4 Asphalt Field Procedures*

Construction practice for asphalt works shall be in accordance with M.R. Form No. 612, with the exception that Table 4 "Mix Laying Temperatures shall be replaced by Table XVI "Asphalt Laying Temperatures Based on Research Information", from ARRB Special Report No. 41.

### *11.8.5 Adjustment of Flexible Pavement Thickness for Asphalt Wearing Surface*

Where total pavement thickness and layer thickness is not determined by minimum requirements (as per Sections 4.6.3 and 4.6.4), the inclusion of asphalt wearing surface will allow a reduction of equivalent thickness in the sub-base layer thickness.

Where total pavement thickness and layer thickness is driven by minimum requirements, any asphalt thickness shall be additive to total pavement thickness and not reduce base course or sub-base minimum thickness requirements.