CITY OF MISSION
PUBLIC WORKS DEPARTMENT

SUBJECT: PROPOSED SEALCOAT PAVEMENT ON AS NEEDED BASIS.

SEALCOAT STANDARDS

INSTALLATION

Surface must be clean and free from all loose material and dirt. Pavement surface repairs should be made with a suitable hot or cold asphalt mix. Cracks should be filled with hot pour or cold applied crack fillers.

Methods: Concentrate shall be applied by either pressurized spray application equipment or self-propelled squeegee equipment. Pressurized spray equipment shall be capable of spraying pavement sealer with sand added. Equipment shall have continuous agitation or mixing capabilities to maintain homogeneous consistency of pavement sealer mixture throughout the application process. Self-propelled squeegee equipment shall have at least 2 squeegee or brush devices (one behind the other) to assure adequate distribution and penetration of sealer into bituminous pavement. Hand squeegees and brushes shall be acceptable in areas where practicality prohibits the use of mechanized equipment.

Mixing Procedures: Shall be mixed in accordance with the following mix design (based on 100 gallons for ease of calculation):
Seal Concentrate.....100 gals.
Water.....15-25 gals.
Zetac or Top Tuff Polymer Additive.....1-2 gals.
Sand*.....300-500 lbs.
*(40-70 mesh AFS rating)

IMPORTANT

The above mix design is a typical recommendation. Alternative mix designs may be substituted to account for local pavement conditions and use of other pavement sealer additives. However, in all cases sand shall be used in the mix design.

Application: For optimum performance and durability apply two coats of properly mixed Sealcoat.

Application Rate: Apply properly mixed Sealcoat (Sealcoat, Water, Sand, Additive) at a rate of .11 to .13 gallons per square yard (70-82 square feet per gallon) per coat.

Note: Coverage rates may vary due to pavement age and porosity.

Precautions: Both surface and ambient temperature shall be a minimum of 50F. Temperature shall not drop below 50F in a 24 hour period following application. New asphalt surfaces should be

allowed to cure a minimum of four weeks under ideal weather conditions (70F) before applying Sealcoat.

SITE CONDITIONS

To be effective, fog seals need to break quickly (revert to solid asphalt) and cure completely (lose water to form a cohesive film). This should be at a rate that allows traffic to be accommodated without the binder being picked up by vehicle tires. To achieve this behavior, the film forming properties of the binder must be adequate (i.e., the binder must be able to coalesce into a continuous film prior to allowing traffic on the new seal). Asphalt films do not form well at low temperatures in the absence of low viscosity diluents. Thus, warm conditions with little to no chance of rain are necessary to ensure successful applications. Fog seals should not be applied when the atmospheric temperature is below 10C (50F), and pavement temperature below 15C (59F).

If unexpected rain occurs, prior to the emulsion breaking, the emulsion may wash out of the pores of the pavement and break on the surface of the pavement creating a slippery surface.

SURFACE PREPARATION

Immediately before applying a fog seal, the pavement surface must be cleaned with a road sweeper, power broom, or flushed with a water pump-unit to remove dust, dirt, and debris. The pavement surface must be clean and dry before applying the fog seal. If flushing is required, it should be completed 24 hours prior to the application of the fog seal to allow for adequate drying.

MATERIALS PREPARATION

Asphalt emulsions (original emulsions) contain up to 43% water, but must be diluted further before use. This additional dilution reduces viscosity and allows the application of small amounts of residual binder to be adequately controlled. Generally, the supplier will dilute the original emulsion, in the field or at the plant. A dilution rate of 50% (1:1) (equal parts water to equal parts emulsion) is recommended. Dilution water must be potable and free from detectable solids or incompatible soluble salts (hard water). The emulsion should be diluted no more than 24 hours before its intended use. This is to avoid settlement of the diluted emulsion. Water is always added to the emulsion and not the other way around. The emulsion may be circulated using a centrifugal or other suitable pump to ensure uniformity.

APPLICATION RATES AND SPRAYING

Properly calibrated distributor trucks shall be used to apply the emulsion. Spray nozzles with 4 to 5 mm (1/8" to 3/16") openings are recommended. The emulsion may be heated to 50C (122F) maximum, although, generally the emulsion is sprayed at ambient temperature. The emulsion is sprayed at a rate that is dependant on the surface conditions. A test section representative of the entire surface should be chosen to approximate application rates. Typical application rates for diluted emulsion (1:1) range from (0.03 to 0.22 gal/yd^2) depending on the surface conditions. A 1:1 diluted emulsion is an original emulsion that has been subsequently diluted with equal parts water. Ideally, one-half of the application should be sprayed in each direction to prevent build up on one side of stones only (this is particularly important in the case of chip seals) and rough surfaces. Build up on one side can result in a slippery surface and inadequate binder to fully enrich the surface or hold the stone.

TRAFFIC CONTROL PLAN

Contractor must follow MUTCD standards.