***ADD THE FOLLOWING SECTION TO DIVISION II – CONSTRUCTION DETAILS***

SECTION 410 – CRACK SEALANT

**DESCRIPTION**

**410.01.01 GENERAL**

A. This work shall consist of the application of rubber-asphalt crack sealant to an existing bituminous surface.

**MATERIAL**

**410.02.01 RUBBER-ASPHALT CRACK SEALANT**

A. The bituminous material shall meet the applicable requirements of Section 703, “Bituminous Material”. The sealant is to be a hot-melt, rubber-asphalt crack sealant formulated to be a stiff, non-tracking, flexible, sealant. The sealant is to be a thin, free flowing fluid which easily penetrates fine cracks and self-levels at application temperatures. The sealant shall be melted and applied to pavement using a pressure feed applicator units.

**410.02.02 HERBICIDE**

A. Pramitol 25E herbicide (distributed by Universal Cooperatives, Inc. Minneapolis, MN 55440) or an equal product approved by the Engineer, shall be applied to all cracks containing vegetation. The approved herbicide shall have an added color dye. The Contractor shall be responsible for all training or licensing of personnel related to the application of this product.

**CONSTRUCTION**

**410.03.01 EQUIPMENT**

A. Sealant placement equipment shall use circulation hot oil heat transfer for heating the product. No direct heat transfer units may be used. Maximum product tack capacity of sealant placement equipment shall not exceed 500 gallons unless approved by the Engineer. Squeegee equipment shall consist of an interchangeable dense rubber strike-off blade to assist with a flush surface application.

**410.03.02 WEATHER**

A. Sealant material shall not be placed at air temperature below 40 degree F or above 100 degrees F. Application of crack sealant will not be permitted when the surface to be treated is damp or wet, when weather conditions are unsuitable, or when the surface temperature is below 40 degrees F.

**410.03.03 PREPARATION OF SURFACE**

1. The work shall consist of applying an acceptable herbicide to all cracks containing vegetation at least two weeks prior to cleaning and sealing the cracks.
2. All cracks ¼-inch or greater in width shall be cleaned to the bottom of the crack or 1-1/2 inches, whichever is less. All vegetation, loose particles, dust, moisture, and other deleterious substance in cracks shall be removed by the use of compressed air immediately prior to applying the crack sealing material. When compressed air will not adequately remove vegetation and other deleterious substances, routing power brush, heat lance or other means approved by the Engineer, shall be used. At the direction of the Engineer pavement cracks containing excessive amounts of dust and debris shall be cleaned by the vacuum method. Hot air blasters may be used to dry the surface.

**410.03.04 APPLICATION OF CRACK SEALANT**

1. Sealing shall be done only after inspection and approval of prepared surface by the Engineer. Sealant manufacturer’s instructions on application temperature shall be observed. Material that has been overheated in excess of 30 degrees F above the manufacturer’s recommended maximum temperature for one hour, or 60 degrees F for one-half hour shall be wasted at the Contractor’s expense. Material below the manufacturer’s recommended minimum application temperature shall not be used.
2. A log of product tank temperatures shall be kept on one hour, ±10 minute intervals, and kept available for inspection by the Engineer. The operator shall have available at all times an operating ASTM-11-F thermometer with an intact mercury column or a certified, calibrated digital pyrometer, electronic thermometer, or equivalent direct reading temperature measurement device capable of reading within ±5 degrees F from 200 degrees F to 600 degrees F. Uncalibrated tank mounted temperature gauge readings are not acceptable.
3. Cracks shall be filled flush or may be overfilled and squeegeed. The squeegeed material shall be centered on the cracks and shall not exceed 3 inches in width and be flush with the surface of the existing pavement. Pavement cracks to be sealed on arterial roadways with a right-of-way width greater than 60 feet shall be filled flush or slightly under filled, no surface banding is allowed. All cracks ¼-inch to ¾-inch in width shall be filled. Cracks exceeding ¾-inches in width shall not be sealed.
4. Sealant material placed at asphalt/concrete joints shall not lap more than 1-inch into the concrete surface and be placed in a straight, uniform line.

**410.03.05 MAINTENANCE**

1. Sealant material picked up or pulled out by traffic or construction equipment will be replaced at the Contractor’s expense.

**410.03.06 ASPHALT OVERLAY**

1. Crack filling shall be completed a minimum of seventy-two hours prior to application of a slurry seal or asphalt overlay.

**410.03.07 MATERIAL INVENTORY CONTROL**

1. Prior to commencement of work, the Contractor will coordinate with the Engineer to establish a suitable method of inventory control. All materials shall be stored at the Contractor’s yard in a secure location. Materials will be inventoried by the Engineer in the presence of the Contractor. All subsequent removals by the Contractor will be made only in the presence of the Engineer.
2. No crack sealing material will be used in the work or considered for payment unless it is first delivered to and subsequently released from said storage yard inventory. Shipping invoices with gross and net weight shall be furnished to the Engineer for each shipment received.

**METHOD OF MEASUREMENT**

**410.04.01 MEASUREMENT**

No direct measurement shall be made for Crack Sealant.

**BASIS OF PAYMENT**

**410.05.01 PAYMENT**

Unless otherwise provided in the Special Provisions, no payment will be made for Crack Sealant as such. The cost thereof shall be considered as included in the price bid for construction or installation of the items to which Crack Sealant is required.

**END OF SECTION 410**