



### 365.6 STANDARD DRAWINGS

Applicable standard drawings are contained in the 500 series of the Ontario Provincial Standard Drawings (OPSD) Manual.

### 365.7 DESIGN

Premature failure of concrete pavement with longitudinal cracks that are along the wheelpath or mid-slab should be tied with cross-stitching to prevent further widening of the cracks and to help preserve aggregate interlock. Cross-stitch tie bars are installed alternately on each side of the crack so that the concrete slab is fully tied together.

Upon completion of the cross-stitching, the longitudinal crack shall also be sealed as specified in OPSS 369, Sealing or Resealing of Joints and Cracks in Concrete Pavement and Concrete Base. See CDED B369 for details.

Cross-stitching is done on the recommendation of the Regional Geotechnical Section. Often a representative of the Regional Geotechnical Section will be present when locations for cross-stitching are identified or verified by the Contract Administrator.

### 365.8 COMPUTATION

#### 365.8.1 Source of Information

The main source of information for the above tender item is in field note books, plans, profiles, standard cross sections, Pavement Design Reports and the Regional Geotechnical Section.

#### 365.8.2 Method of Calculation

The unit of measurement for cross-stitching longitudinal cracks in Concrete Pavement is “each”, based on the number of bars installed. The number of bars is determined based on the length of cracks and the cross-stitching spacing interval specified in the standard drawing for the work. Consideration is also given to the required distance from any transverse joint, longitudinal joint or edge of concrete pavement.

## 365.9 DOCUMENTATION

### 365.9.1 Contract Drawings

The contract drawings shall show the locations requiring cross-stitching. Individual cracks may be illustrated provided that their locations are known to a reasonable accuracy. Each separate location of cross-stitching shall have only one slab thickness, with variation not greater than  $\pm 10$  mm.

### 365.9.2 Quantity Sheets

The location of each repair area is shown on the Quantities - Miscellaneous sheet. Each line in the Quantities - Miscellaneous sheet shall represent a grouping of cross-stitching bars. The start and end chainage shall be provided to identify the area covered by each grouping. The length of each grouping typically represents the repair of one cracked slab. However, the length may be up to 100 m, at the designer's discretion, provided that the slab thickness, T, remains constant throughout. Where appropriate, groupings of cross-stitching bars are shown as left or right of the road centreline.

Cross-Stitching Longitudinal Cracks in Concrete Pavement and Concrete Base is a variation item, with the variation being the slab thickness, T. The entered variation value shall be one of the T depth values shown on OPSD 560.025. Each variation requires a separate column on the quantity sheet. The quantity (estimated number of cross-stitching bars for the location) for each repair location is entered in the appropriate variation column.

The individual column entries are totaled into the tender total which is transferred to the Form of Tender.

### 365.9.3 Documentation Accuracy

Stations limits are shown to the nearest metre.