# Optional Shoulder JSP-13-03A

**1.0** The bid item for the shoulder material is for the bituminous asphalt option, however, a Concrete Shoulder option is allowed as shown on the typical section and as specified herein.

**1.1** Should the contractor choose to construct the Concrete Shoulder option, notification should be given to the engineer in advance of the work so that a change order can be issued to facilitate payment of the Concrete Shoulder with a contingent item as specified herein.

**1.2** For the Concrete Shoulder option, a zero-cost change order will be issued to deduct the theoretical tonnage of asphalt mixture necessary to construct the shoulder, and a contingent item for the total volume of Concrete Shoulder will be added to the change order. The engineer will determine the theoretical tonnage of asphalt and the total cubic yards of Concrete Shoulder. No additional payment will be made for a Concrete Shoulder rumble strip.

**1.3** The theoretical tonnage of asphalt will be determined by converting the theoretical volume to weight using a factor of 1.98 tons/cubic yard. The theoretical volume is the total amount of asphalt material needed to construct the shoulder and Safety Edgesm, according to the typical section.

**1.4** The tonnage will be deducted from the contract and replaced with the computed volume of Concrete Shoulder (cubic yards). The contingent item for Concrete Shoulder would include both providing and placing the Concrete Shoulder. The total price for the concrete shoulder will be equivalent to the computed total price of the theoretical tonnage of asphalt mixture necessary to construct the shoulder. A unit price will be determined by dividing the total concrete price by the total computed concrete volume.

**2.0 Construction Requirements.** Concrete Shoulder shall meet the applicable requirements of Sec 502. Roller Compacted concrete is an allowable option for the Concrete Shoulder.

**3.0 Method of Measurement.** For the Concrete Shoulder option, measurement shall be made per cubic yard.

**4.0 Basis of Payment.** For the Concrete Shoulder option, the accepted quantity of Concrete Shoulder will be paid for at the established unit price. The Concrete Shoulder rumble strip will be paid for at the unit price bid for the bituminous shoulder rumble strip.

**4.1 Price Adjustment for Fuel.** If the contractor accepts the option for fuel adjustment in the bid proposal, a fuel adjustment will be applied in accordance with Sec 109.14 for the type of pavement constructed.