

March 31, 2000

**MEMORANDUM 00-08**

To: District Directors  
District Materials and Tests Engineers  
Toll Road Operations Engineer      District Construction Engineers  
Area Engineers                              Project Engineers\Supervisors

From: Timothy D. Bertram, Chief                              Timothy D. Bertram  
Contracts and Construction Division

Subject: HMA Roller

The special provision, HMA Revised, is included in all contracts with HMA items. Within this special provision is section 402.13 that addresses roller speeds of the Standard Roller Train. In this special provision the speed of the break down roller has been lower from 3.5 km/h (3 mph) for static rollers and 4 km/h (2.5 mph) for vibratory rollers to 2.25 km/h (1.5 mph) for all rollers. Research has shown slower roller speeds and slower vibratory roller speeds with higher frequency and lower amplitudes improve density. This change was to make ensure the contractors slow the rollers down from what was witnessed in the 1998 & 1999 construction seasons. Project personnel should not be getting tapes and stop watches out to enforce this provision. Normal walking speed is a good indicator as to proper speed of a roller.

Also, please note that the minimum temperature of 80 °C (180 °F) has been removed and evidence of tenderness is the control.

Another issue discovered is the use of vibratory rollers in the static mode. The specifications do not address the use of vibratory rollers without the vibrators being operated. The specifications, 408.03(d) require that a tandem roller shall have a minimum mass of 9 Mg (10 tons). It also states that a three wheel roller shall have a minimum bearing of 5.3 kg/mm (300 lbs/in.) on the rear wheels and a tandem roller with a 5.3 kg/mm (300 lbs/in.) bearing of the drive wheel may be substituted for a three wheel roller. Vibratory rollers shall be from the approved lists and operated with the frequency and amplitude as indicated on the approved list. Vibratory rollers do not necessarily meet the requirements of a tandem roller. The minimum mass and bearing of the drive wheel must be verified for all tandem rollers.

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cc: Materials and Tests Division  
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