

Memorandum

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To: DEPUTY DISTRICT DIRECTORS, Construction
DEPUTY DIVISION CHIEF, Structure Construction
CONSTRUCTION MANAGERS
SENIOR CONSTRUCTION ENGINEERS
RESIDENT ENGINEERS

Date: August 9, 2019

File: Division of Construction
CPD 19-10

For 
From: RACHEL FALSETTI, Chief
Division of Construction

Subject: **CONCRETE PAVEMENT SMOOTHNESS**

Caltrans is implementing an incentive/disincentive specification for concrete pavement smoothness. The revised specification encourages better concrete paving practices and smoother pavement with incentives and requires payment deductions for rougher pavement.

This directive incorporates the new smoothness acceptance ranges using the mean roughness index (MRI) values of the revised specification. Upon completion of paving work, the contractor may request to take disincentive pay deductions rather than grinding to meet acceptable smoothness requirements of the existing specification. The existing specification has MRI requirements equal to MRI 60 inches per mile. The deductions will start at MRI 60 and extend to the upper limit of the acceptance values of the revised specification. In addition, the area of localized roughness (ALR) acceptance requirement will be increased from 120 to 160 inches per mile. Additional funds are not available for incentive payments.

In the revised specification, pavement smoothness requirements are defined for two concrete pavement types used for new alignments or reconstruction and for widening or lane replacements. The four pavement scenarios are: Continuously Reinforced Concrete Pavement (CRCP) New Alignment, CRCP Widen, Jointed Plain Concrete Pavement (JPCP) New Alignment, and JPCP Widen. The attached four sample change orders address the four concrete pavement scenarios, incorporating the new smoothness acceptance requirements and associated deductions instead of grinding. The deductions are prorated from the required smoothness of MRI 60 inches per mile in the existing specification to the smoothness deduction limit defined in the revised specification.

The attached change orders can be summarized as follows:

CRCP New Alignment or Reconstruction:

Existing contract specification smoothness requirements of maximum MRI = 60 inches per mile and maximum ALR = 120 inches per mile

- Change order allows prorated deductions instead of grinding
- Prorated deduction zone for MRI 60 – 80; \$112.50 per MRI point

- Maximum deduction = \$2,250 for 0.1 mile of a lane
- Mandatory correction if MRI is greater than 80 inches per mile
- Mandatory correction if ALR is greater than 160 inches per mile

CRCP Widen:

Existing contract specification smoothness requirements of maximum MRI = 60 inches per mile and maximum ALR = 120 inches per mile

- Change order allows prorated deductions instead of grinding
- Prorated deduction zone for MRI 60 – 90; \$75.00 per MRI point
- Maximum deduction = \$2,250 for 0.1 mile of a lane
- Mandatory correction if MRI is greater than 90 inches per mile
- Mandatory correction if ALR is greater than 160 inches per mile

JPCP New Alignment or Reconstruction:

Existing contract specification smoothness requirements of maximum MRI = 60 inches per mile and maximum ALR = 120 inches per mile

- Change order allows prorated deductions instead of grinding
- Prorated deduction zone for MRI 60 – 90; \$75.00 per MRI point
- Maximum deduction = \$2,250 for 0.1 mile of a lane
- Mandatory correction if MRI is greater than 90 inches per mile
- Mandatory correction if ALR is greater than 160 inches per mile

JPCP Widen:

Existing contract specification smoothness requirements of maximum MRI = 60 inches per mile and maximum ALR = 120 inches per mile

- Change order allows prorated deductions instead of grinding
- Prorated deduction zone for MRI 60 – 90; \$50.00 per MRI point
- Maximum deduction = \$1,500 for 0.1 mile of a lane
- Mandatory correction if MRI is greater than 90 inches per mile
- Mandatory correction if ALR is greater than 160 inches per mile

There should be no contract time extension for implementing the contractor requested change order. A sample change order memorandum, four sample change orders, and a Federal Highway Administration (FHWA) blanket prior approval for allowing deductions for 0.1-mile segments that do not meet the specified MRI requirement for pavement smoothness are attached to this directive. This directive serves as the delegation of authority from Division of Construction and approval from FHWA for change orders implemented under its requirements.

If you have questions or comments regarding this directive, please contact Deborah Yost, Division of Construction, at Deborah.Yost@dot.ca.gov or (916) 227-5166.

Attachments:

1. Sample CEM-4903, "Change Order Memorandum"
2. Sample CEM-4900, "Change Order" For CRCP New Alignment or Reconstruction (Target 60)
3. Sample CEM-4900, "Change Order" For CRCP Widen (Target 67.5)
4. Sample CEM-4900, "Change Order" For JPCP New Alignment or Reconstruction (Target 67.5)
5. Sample CEM-4900, "Change Order" For JPCP Widen (Target 75)
6. Form FHWA CA-358(c) "Record of Blanket Prior Approval for Major Contract Change Order"