

CHANGE ORDER

CEM-4900 (REV 05/2015)

Sheet 1 of 3Change Requested by: ☒ Engineer ☐ Contractor

CHANGE ORDER NO.	SUPPL. NUMBER	CONTRACT NUMBER	CO-RTE-PM	FEDERAL NUMBER(S)
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TO

, **contractor**

*You are directed to make the following changes from the plans and specifications or do the following described work not included in the plans and specifications for this contract. **NOTE: This change order is not effective until approved by the engineer.***

Description of work to be done, estimate of quantities, and prices to be paid. (Segregate between additional work at contract price, agreed price, and force account.) Unless otherwise stated, rates for rental of equipment cover only such time as equipment is actually used and no allowance will be made for idle time. The last percentage shown is the net accumulated increase or decrease from the original quantity in the Bid Item List.

Produce a new job mix formula (JMF) for Type A hot mix asphalt (HMA) because the current amount of RAP allowed in the authorized project JMF exceeds the new maximum percentage of RAP pavement binder ratio (RPBR) requirements. The following are required for the new JMF to be authorized:

- 1) HMA mix design
- 2) Asphalt binder blending charts
- 3) Submittal of JMF for Type A HMA
- 4) JMF verification

For a Type A HMA mixture using RAP substitution greater than 15 percent of the aggregate blend, the asphalt binder grade from the HMA mixture must comply with the asphalt binder grade specified in Section 39-2.02C of the special provisions. The HMA mixture binder grade must not be stiffer than the PG binder grade specified and must be determined by blending charts for high, intermediate, and low critical temperatures. Original binder requirements, ductility requirements, and footnote "d" in the table in the first paragraph in Section 92-1.02B of the *Standard Specifications* do not apply in the determination of the HMA mixture binder grade using blending charts.

For RAP substitution greater than 15 percent of the aggregate blend, submit blending calculation sheets and blending charts for high, intermediate, and low critical temperatures. The blending calculation sheets and blending charts must be based on the seventh edition of the *MS-2 Asphalt Mix Design Methods* by the Asphalt Institute. The calculation sheets must be sealed and signed by an engineer who is registered as a civil engineer by the State of California or by the AMRL-AASHTO-accredited laboratory manager responsible for the calculations and blending charts.

Add to Section 39-2.01D(2)(c) of the RSS for Section 39:

39-2.01D(2)(c)(iii) Virgin and Recovered Reclaimed Asphalt Pavement Binder

Critical temperatures of RAP binder under test methods AASHTO T 313 and AASHTO T 315. Minimum testing frequency of testing 1 per project or 1 per 500 tons of augmented RAP. Extract binder from RAP under AASHTO T164, Method A and recovery asphalt binder under either ASTM D 1856 or AASHTO R59.

Include the following paragraph if the contractor chooses to use the actual critical temperatures of the virgin asphalt binder for the blending charts used to determine allowable RAP percentage.

Critical temperatures of virgin asphalt binder under test methods AASHTO T 313 and AASHTO T 315. Minimum testing frequency of 1 for every 5 paving days or 1 for every project, whichever is greater.

Determine the blended binder grade using blending charts under the seventh edition of the *MS-2 Asphalt Mix Design Methods* by the Asphalt Institute each time the critical temperatures are determined.

Payment Methods

Extra Work at Agreed Lump Sum Price

New JMF for Type A HMA including hot mix design, extracting and recovering RAP binder, performing virgin asphalt binder testing, recovered RAP binder testing, furnishing asphalt blending charts, JMF submittal, and JMF verification the contractor shall receive and accept the agreed lump sum price of \$ _____. This sum constitutes full and complete compensation including all markups for the new JMF including new mix design, required binder testing, preparation of

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asphalt binder blending charts, and verification of the JMF.

Total Extra Work at Agreed Lump Sum Price: \$ _____

Adjustment of Compensation at Agreed Unit Price

Use the following when the performance grade asphalt binder grade must be reduced to allow up to contract specified maximum allowable RAP percentage because of new maximum allowable RPBR requirement.

The contractor will accept the agreed unit price of \$ _____ per ton of HMA for each ton of HMA that includes performance graded asphalt binder performance grade *<insert binder grade>*.

Estimated net cost increase = *<insert tons>* tons @ \$ *<insert unit cost increase>* per ton = \$ *<insert total cost increase>*

Use the following when maximum allowable RAP percentage must be reduced because of new maximum allowable RPBR requirement.

The contractor will accept the agreed unit price of \$ _____ per ton of HMA for each ton of HMA that contains *<insert percentage>* percent RAP.

Estimated net cost increase = *<insert tons>* tons @ \$ *<insert tons>* per ton = \$ *<insert total cost increase>*

Extra Work at Agreed Unit Price

Performing quality control testing on RAP binder including, extracting and recovering RAP binder, recovered RAP binder testing, and furnishing asphalt blending charts, the contractor shall receive and accept the agreed unit price of \$ _____ whenever the RAP stockpile is augmented with 500 tons of RAP. This sum constitutes full and complete compensation including all markups for RAP binder recovery, required binder testing, and preparation of asphalt binder blending charts.

Estimated Extra Work at Agreed Unit Price: \$ _____

Performing virgin asphalt binder quality control testing and furnishing asphalt blending charts, the contractor shall receive and accept the agreed unit price of \$ _____ for tests performed every 5 days during HMA production. This sum constitutes full and complete compensation including all markups for the required binder testing and preparation of asphalt binder blending charts.

Estimated Extra Work at Agreed Unit Price: \$ _____

Time Adjustment

This change order will affect the controlling activity. A determination of a time adjustment will be deferred until completion of the planting work.

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Estimated Cost: ☒ Increase ☐ Decrease \$

For this order, the time of completion will be adjusted as follows:

SUBMITTED BY

SIGNATURE	(PRINT NAME AND TITLE)	DATE

APPROVAL RECOMMENDED BY

SIGNATURE	(PRINT NAME AND TITLE)	DATE

ENGINEER APPROVAL BY

SIGNATURE	(PRINT NAME AND TITLE)	DATE

We, the undersigned contractor, have given careful consideration to the change proposed and agree to provide equipment, furnish materials, and perform the work specified above, and will accept as full payment the prices shown above. **NOTE: If you do not sign this order, you are directed to proceed with the ordered work. You may file a Request for Information within the time specified.**

CONTRACTOR ACCEPTANCE BY

SIGNATURE	(PRINT NAME AND TITLE)	DATE