



# INDIANA DEPARTMENT OF TRANSPORTATION

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Indianapolis, Indiana 46204

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**Eric Holcomb, Governor**  
**Michael Smith, Commissioner**

January 10, 2024

## CONSTRUCTION MEMORANDUM 24-01

**TO:** District Deputy Commissioners  
District Construction Directors  
District Technical Services Directors  
District Area Engineers, Project Engineers/Supervisors  
District Project Management Director, Project Management Director  
District Traffic Engineers, District Testing Engineers  
District LPA Coordinators, Field Engineers, Division of Materials and Tests

**FROM:** Gregory G. Pankow, P.E., Chief Engineer of Construction  
Division of Construction Management and District Support

A handwritten signature in blue ink, appearing to read "Gregory G. Pankow".

**SUBJECT:** QC/QA-HMA 19.0 mm substitution clarification in SS 401.22

The purpose of this memorandum is to provide clarification regarding SS 401.22 Basis for Payment, specifically lines 1030 thru 1041 of the 2024 Standard Specifications and is attached for reference. It was brought to the Department's attention that there has been confusion regarding the purpose of this language and how the unit price is to be calculated, often resulting in overpayment or underpayment to the Contractor.

The point of this language is to give the Contractor the opportunity to pave both QC/QA-HMA courses of pavement with 19.0 mm intermediate, when the project plans call for 19.0 mm intermediate over a 25.0 mm base course. The option is at the Contractor's discretion and at no additional cost to the Department for facilitating the change. When elected, it is determined to be an advantage to the Department. The reason being 19.0 mm is more desirable than 25.0 mm HMA is because there is typically more binder, and it is easier to achieve density. This is also an advantage to the Contractor as it can reduce construction costs and allow for thicker paving courses. Although, this does not exempt the Contractor from the limitations of finished paving thickness per SS 401.14, where 19.0 mm HMA can be paved up to 5 inches. A simplified course lift thickness chart is attached for reference.

When this option is elected, a new 19.0 mm HMA pay item shall be created via change order with a computed unit price based on the original contract quantities and bid prices of the 19.0 mm and 25.0 mm HMA pay items. The new pay item shall be the same course binder grade, and category as the original 19.0 mm intermediate HMA pay item. An example calculation is attached for reference. The assigned quantity for the new pay item shall be the summation of the original contract quantities of the 19.0 mm and 25.0 mm HMA pay items. Furthermore, the original 19.0 mm and 25.0 mm HMA pay item quantities shall be subtracted on the change order to balance the new pay item.

Any questions should be directed to your assigned Construction Management Field Engineer.

GGP/NEA/ddh

**Attachments:**

- 1. 401.22, lines 1030 thru 1041 of the 2024 Standard Specifications
- 2. Example calculation of new unit price
- 3. Simplified Course Lift Thickness Chart

**401.22, Lines 1030 Thru 1041 of the 2024 Standard Specifications**

1030	If QC/QA-HMA 19.0 mm over QC/QA-HMA 25.0 mm mixtures are specified, QC/QA-HMA 19.0 mm mixture may be considered as a substitute for the QC/QA-HMA 19.0 mm and QC/QA-HMA 25.0 mm mixtures upon a written request by the Contractor. The request for the substitution shall be prepared in advance of the work. A computation will be made in order to obtain a unit price for the QC/QA-HMA 19.0 mm mixture. The quantity and amount for QC/QA-HMA 19.0 mm mixture shall equal the sum of the contract quantities and amounts shown for QC/QA-HMA 19.0 mm and QC/QA-HMA 25.0 mm mixtures. The unit price for QC/QA-HMA 19.0 mm mixture shall be equal to the sum of contract amounts divided by the sum of contract quantities. Payment for the QC/QA-HMA 19.0 mm mixture will be made at the unit price per ton
1040	for QC/QA-HMA 19.0 mm mixture. No payment will be made for additional work or costs which may result due to this change.

**Example Calculation of New Unit Price**

Using the original contract quantities with the contract documents:

CLN Item Description	Unit Price	Original Quantity Amount
0038 QC/QA-HMA, 4, 70, INTERMEDIATE, 19.0 mm	\$94.20 TON	840.00000 \$79,128.00
0039 QC/QA-HMA, 4, 64, BASE, 25.0 mm	\$80.00 TON	2,056.00000 \$164,480.00

$$\begin{aligned} \text{New Unit Price} &= \text{Sum of Contract Amounts} / \text{Sum of Contract Quantities} \\ &= (\$79,128.00 + \$164,480.00) / (840.00 \text{ ton} + 2,056.00 \text{ ton}) \\ &= \$243,608.00 / 2,896.00 \text{ ton} \\ &= \$84.12/\text{ton} \end{aligned}$$

A new pay item for “QC/QA, 4, 70, Intermediate, 19.0 mm” should be created via change order with a unit price of \$84.12/ton for 2,896.00 tons.

### Simplified Course Lift Thickness Chart

Modified from design manual 602-3.02:			Design Target			
mix designation (NMAS)	NMAS (in)	Max Particle Size (in)	2x	3x	4x	5x
9.5mm	0.375	0.5	1	1.5	2	2.5
12.5mm	0.5	0.75	1.5	2.25	3	3.75
19mm	0.75	1	2	3	4	5
25mm	1	1.5	3	4.5	6	7.5

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