



Florida Department of Transportation

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M E M O R A N D U M

DATE: November 15, 2016

TO: Specification Review Distribution List

FROM: Dan Hurtado, P.E., State Specifications Engineer

SUBJECT: Proposed Specification: **0090103LS-2 Measurement and Payment.**

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change.

This change was proposed by Maria Irizarry of the State Construction Office to update the language.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or online at <http://www2.dot.state.fl.us/ProgramManagement/Development/IndustryReview.aspx> . Comments received after **December 13, 2016**, may not be considered. Your input is encouraged.

DH/dt
Attachment

MEASUREMENT AND PAYMENT.

(REV ~~3-28-16~~11-4-16) (~~FA 7-26-16~~) (~~1-17~~)

SUBARTICLE 9-1.3 is deleted and the following substituted:

9-1.3 Determination of Pay Reduction: In measurement of areas of work, where pay reductions are to be assessed, the Engineer will use the lengths and/or widths in the calculations based upon station to station dimensions in the Contract Documents, the station to station dimensions actually constructed within the limits designated by the Engineer; or the final dimensions measured along the final surface of the completed work within the neat lines shown in the Contract Documents or designated by the Engineer. The Engineer will use the method or combination of methods of measurement which will reflect with reasonable accuracy, the actual surface area of the finished work as the Engineer determines.

Failure on the part of the Contractor to construct any item of work to plan or authorized dimensions within the Specification tolerances will result in: reconstruction to acceptable tolerances at no additional cost to the Department; acceptance at no pay; or, acceptance at reduced pay, all at the discretion of the Engineer.

When acceptance at no pay occurs for any material not listed in 9-2, the Engineer will apply a reduction in payment for the material in question based on the weighted average unit price in the Six Month Moving Statewide Averages report. The dates will be the six months prior to the letting date for this Contract.

ARTICLE 9-2 is deleted and the following substituted:

9-2 Scope of Payments.

9-2.1 Items Included in Payment: Accept the compensation as provided in the Contract Documents as full payment for furnishing all materials and for performing all work contemplated and embraced under the Contract; also for all loss or damage arising out of the nature of the work or from the action of the elements, or from any unforeseen difficulties or obstructions which may arise or be encountered in the prosecution of the work until its final acceptance; also for all other costs incurred under the provisions of Division I.

The Contract Lump Sum Price will include overhead, profits, and direct and indirect costs required to complete the project except as described below.

9-2.1.1 Fuels: On Contracts with an original Contract Time in excess of 120 calendar days, the Department will make price adjustments on each applicable progress estimate to reflect increases or decreases in the price of gasoline and diesel from those in effect during the month in which bids were received. The Contractor will not be given the option of accepting or rejecting these adjustments. Price adjustments for these fuels will be made only when the current fuel price (CFP) varies by more than 5% from the price prevailing in the month when bids were received (BFP), and then only on the portion that exceeds 5%.

The Contractor will certify the number of gallons of fuel (gasoline and/or diesel) used on this Contract during the period represented by each Contractor's Certified Monthly Estimate invoice.

~~The Department will determine the API for each month by averaging quotations in effect on the first day of the month at all terminals that could reasonably be expected to furnish fuel to projects in the State of Florida.~~

Price adjustments will be based on the monthly bulk average price for gas and diesel as derived by the Department. These average indexes shall be determined by averaging bulk fuel prices on the first day of each month as quoted by major oil companies that are reasonably expected to furnish fuel for projects in the State of Florida. Average price indices for gasoline and diesel ~~The API~~ will be available on the State Construction Office website before the 15th of each month at the following URL:

<http://www.dot.state.fl.us/construction/fuel&Bit/Fuel&Bit.shtm>.

Payment on progress estimates will be adjusted to reflect adjustments in the prices for fuel in accordance with the following:

When fuel prices have decreased between month of bid and month of this progress estimate:

$A_i = F_i (P_i - 0.95 P_b)$ during a period of decreasing prices.

A_i = Total dollar amount - positive or negative - of the cost adjustment for each kind of fuel used by the Contractor during the month "i."

F_i = Total gallons calculated as being used during the month.

P_i = Average price for fuel prevailing during month "i."

P_b = Average price for fuel prevailing during the month "b" when bids were received on this Contract.

When fuel prices have increased between month of bid and month of this progress estimate:

$A_i = F_i (P_i - 1.05 P_b)$ during a period of increasing prices.

A_i = Total dollar amount - positive or negative - of the cost adjustment for each kind of fuel used by the Contractor during the month "i."

F_i = Total gallons calculated as being used during the month.

P_i = Average price for fuel prevailing during month "i."

P_b = Average price for fuel prevailing during the month "b" when bids were received on this Contract.

~~$\$ \text{ Adjustment} = (\text{ID})(\text{gallons})$~~

~~Where ID = Index Difference = $[\text{C API} - 0.95(\text{B API})]$ when the API has decreased between the month of bid and month of this progress estimate.~~

~~Where ID = Index Difference = $[\text{C API} - 1.05(\text{B API})]$ when the API has increased between the month of bid and month of this progress estimate.~~

Gallons will be derived only from the established Standard Fuel Factor list posted on the State Construction Office website at the following URL:

<http://www.dot.state.fl.us/construction/fuel&Bit/Fuel&Bit.shtm>.

The Department will provide a computer application that will calculate and print the gallons of gasoline and/or diesel for the items that these factors represent. The Contractor will attach this worksheet and record these gallons on the Contractor's Certified Invoice Monthly Estimate as required in 9-11.43.

Payment will be based on the quantities shown on the Contractor's Certified Invoice Monthly Estimate on all items for which established standard fuel factors are posted on the State Construction Office website at the following URL:

<http://www.dot.state.fl.us/construction/fuel&Bit/Fuel&Bit.shtm>.

Payment will be made on the current progress estimate to reflect the index difference at the time work was performed.

Adjustments will be paid or charged to the Prime Contractor only. Any Contractor receiving an adjustment under this provision shall distribute the proper proportional part of such adjustment to subcontractors who perform applicable work.

9-2.1.2 Bituminous Material: Prepare a Contractor's Certification of Quantities, using the Department's current approved form for Superpave Asphalt Base, Turnout Construction (Asphalt), Asphalt Treated Permeable Base, Superpave Asphaltic Concrete, Miscellaneous Asphalt Pavement, Asphalt Concrete Friction Course, and Asphalt Rubber Membrane Interlayer items. On Contracts having an original Contract Time of more than 365 calendar days, or more than 5,000 tons of asphalt concrete, the Department will adjust the bid unit price for bituminous material, excluding cutback and emulsified asphalt to reflect increases or decreases in the Asphalt Price Index (API) of bituminous material from that in effect during the month in which bids were received. The Contractor will not be given the option of accepting or rejecting this adjustment. Bituminous adjustments will be made only when the current API (CAPI) varies by more than 5% of the API prevailing in the month when bids were received (BAPI), and then only on the portion that exceeds 5%.

The Department will determine the API for each month by averaging quotations in effect on the first day of the month at all terminals that could reasonably be expected to furnish bituminous material to projects in the State of Florida.

The API will be available on the State Construction Office website before the 15th day of each month at the following URL:

<http://www.dot.state.fl.us/construction/fuel&Bit/Fuel&Bit.shtm>.

The Department will provide a computer application that will calculate and print the number of gallons of bituminous material for the items that these factors represent. The Contractor will attach this worksheet and record these gallons on the Contractor's Certified Invoice mMonthly eEstimate as required in 9-11.34.

Payment on progress estimates will be adjusted to reflect adjustments in the prices for bituminous materials in accordance with the following:

$$\text{\$ Adjustment} = (\text{ID})(\text{gallons})$$

Where ID = Index Difference = [CAPI - 0.95(BAPI)] when the API has decreased between the month of bid and month of this progress estimate.

Where ID = Index Difference = [CAPI - 1.05(BAPI)] when the API has increased between the month of bid and month of this progress estimate.

For all asphalt concrete, the number of gallons will be determined assuming a mix design with 6.25% liquid asphalt weighing 8.58 pounds per gallon.

Payment will be made on the current progress estimate to reflect the index difference at the time work was performed.

Adjustments will be paid or charged to the Prime Contractor only. Any Contractor receiving an adjustment under this provision shall distribute the proper proportional part of such adjustment to subcontractors who perform applicable work.

9-2.2 General Basis of Adjusted Pay:

9-2.2.1 Deficiencies: When a deficiency occurs that results in the acceptance of a material at a reduced payment level as defined in these Specifications, the Engineer will apply a reduction in payment for the material in question based on the unit prices shown in Table 9-1.

| Item Description | Unit | Unit Prices |
|------------------|------|-------------|
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9-2.2.2 Asphalt Design Thickness/Spread Rate: The average spread rate per subplot will be used to determine if the amount of asphalt placed on the project meets the minimum requirements specified in the Contract Documents. Before placing asphalt mix, propose a target spread rate for each layer, which when combined with other layers, will meet the design thickness or spread rate specified in the Contract Documents. The weight of the mixture will be determined as provided in 320-3 (including the provisions for automatic recordation system).

On projects specifying a thickness in the Contract Documents for asphalt, the conversion of design thickness to target spread rate will be established by multiplying the maximum specific gravity of the asphalt mix (as indicated on the verified mix design) by 43.3 pounds per square yard for every inch of asphalt.

On projects specifying a total spread rate of mix in the Contract Documents for asphalt, calculate the average spread rate per subplot (as defined in Section 334) by the following formula:

Average spread rate per subplot = Total weight of asphalt mix (pounds) for the subplot/area covered by that subplot (square yard)

During construction, monitor the mix spread rate of each subplot at frequent intervals in accordance with 330-2.1 in order to meet the target spread rate for each subplot. Document the actual spread rate of each subplot on the Roadway QC Form.

The Engineer will determine if the material of the roadway pavement is acceptable to remain in place at full pay, remain in place at reduced pay or corrected at no cost to the Department. Final disposition of the finished roadway pavement will be based upon the comparison between the design spread rate specified in the Contract Documents and the combined value of the average spread rate of each subplot at the same area (including FC-6, but excluding FC-5). The acceptable tolerance of the combined spread rate evaluation of the roadway pavement is plus or minus 5%.

Reductions in pay will be determined per subplot by applying a proportional reduction in payment for the material in question, based on a ratio of the average spread rate for the subplot to the design spread rate, which will then be applied using the unit prices as shown in Table 9-1. Any quantity over the designed spread rate specified in the Contract Documents shall not be paid.

9-2.2.3 Asphalt Overbuild: Where overbuild is called for in the Plans for the correction of cross-slope, the Engineer will make an adjustment in payment should the quantity of material placed be less than the specified spread rate. In addition, should the material placed exceed the specified spread rate with no negative effect to the correction of cross-slope, an upward adjustment will be made representing the additional material placed. The upward adjustment in payment is limited to 5% of the original material required for overbuild. Adjustments in pay will be determined for the entire project by applying a proportional adjustment in payment for the material in question, based on a ratio of the average spread rate to the design spread rate, which will then be applied using the unit prices as shown in Table 9-2.

Table 9-2

| Item Description | Unit | Unit Prices |
|------------------|------|-------------|
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An average spread rate, per calculations as specified in 9-2.2, will be used to determine verification of the required amount of asphalt for the project.

9-2.2.4 Foundations: Adjustment in the lump sum payment will be made for actual quantities installed of piling and drilled shafts, as additions or deletions for the total project quantity determined from the pile/drilled shaft elevations shown in the Contract Documents.

The Engineer will base all adjustments in payment on the unit prices as shown in Table 9-3.

Table 9-3

| Item Description | Unit | Unit Prices |
|------------------|------|-------------|
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Payment listed above for Piling and Drilled Shafts includes all work required to install the foundation element to the required capacity/depth.

9-2.2.5 Quality: Where an adjustment of payment for quality is called for in the Contract Documents, the Engineer will make such adjustments for the corresponding quantity of material based on the unit prices shown in Table 9-4, or the adjustment defined in Section 346, Developmental Specification Section 330, and Developmental Specification Section 350.

Table 9-4

| Item Description | Unit | Unit Prices |
|------------------|------|-------------|
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9-2.2.6 Adjustment to the Lump Sum Payment for Deleted Items of Work:

When items of work are shown in the Contract Documents to be constructed or installed and due to actual field conditions; it is determined by the Engineer that the items are not needed, a negative adjustment to the Contract will be made. The negative adjustment will be based on the actual cost of the items being deleted less all costs incurred prior to the date the Engineer determined the items are not needed and the Contractor will retain ownership. The negative adjustment will be processed in accordance with 4-3.2.

ARTICLE 9-3 is deleted.

SUBARTICLE 9-5.5.2 is deleted and the following substituted:

9-5.5.2 Partial Payment Amounts: The following partial payment restrictions apply:

1. Partial payments less than \$5,000 for any one month will not be processed.
2. Partial payment will not be made for aggregate and base course material received after paving or base construction operations begin except when a construction sequence designated by the Department requires suspension of paving and base construction after the initial paving operations, partial payments will be reinstated until the paving and base construction resumes.

SECTION 9 is expanded by the following new Article:

9-11 Submittals.

9-11.1 Submittal Instructions: The Contractor will prepare a monthly estimate for each project in the Contract. Submit the Contractor's monthly estimate to the Engineer. The Engineer will not pay for any item of work until the Contractor's monthly estimate is approved.

9-11.2 Schedule of Values: Within 21 calendar days after contract award or at the preconstruction conference, whichever is earlier, prepare and submit a schedule of values to the Engineer for approval prior to invoicing. Assign the schedule of values to the scheduled work activities in the project schedule with the total being the lump sum contract amount.

The schedule of values will be the basis for determining monthly payments. Quantities will be compared with the project schedule to determine the percentage earned. The percentage shall be that portion of the work completed as compared to the total work contracted.

9-11.3 Contractor's Certified Monthly Estimate: The Contractor must make a request for payment by submitting a monthly estimate, no later than 12 O'clock noon, Monday, after the estimate cut-off date or as directed by the Engineer, based on the amount of work done or completed. The Contractor's Certified Monthly Estimate must consist of the following:

1. Contract Number, Financial Project Identification Number, Estimate Number, Monthly Estimate Date and the period that the monthly estimate represents.
2. The basis for arriving at the amount of the monthly estimate including approximate quantities of work completed, less payments previously made and less an amount previously retained or withheld.
3. Contract Summary showing the percentage of dollar value of completed work based on the present Contract amount and the percentage of days used based on the present Contract Days.
4. Certify the number of gallons of gasoline used during the monthly estimate period.
5. Certify the number of gallons of diesel used during the monthly estimate period.
6. Certify the number of gallons of bituminous material used during the monthly estimate period.
7. Certify weight of steel for indexed items.

9-11.4 Payment to the Contractor: Upon receipt of the Contractor's monthly estimate and approval by the Engineer, payment will be made, less an amount retained or withheld per provisions included in the Contract. The monthly payments will be approximate only and will be subject to reduction for overpayments or increase for underpayments on preceding payments to the Contractor and to correction in the subsequent estimates and the final estimate and payment process.