

## SECTION 109 MEASUREMENT AND PAYMENT

### 109.1-MEASUREMENT OF QUANTITIES:

All work completed under the Contract will be measured by the Engineer according to United States standard measure.

The method of measurement and computations to be used in determining of quantities of materials furnished and of work performed under the Contract will be those methods generally recognized as conforming to good engineering practice.

Unless otherwise indicated, the requirements prescribed shall govern.

Earthwork will be computed by the average end area method, using the horizontal length measured along the centerline as the distance between sections, applying corrections for curvature where the apparent error exceeds 25 percent of the volume in any one cut. Other acceptable methods may be used.

Unless otherwise specified, longitudinal measurements for area computations will be made horizontally and no deductions will be made for individual fixtures having an area of nine square feet (one square meter) or less.

Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the Plans or ordered in writing by the Engineer.

Structures will be measured according to neat lines shown on the Plans or as altered to fit field conditions.

All items which are measured by the linear foot (meter), such as pipe culverts, guardrail, underdrains, etc., will be measured parallel to the base or foundations upon which such structures are placed.

The term "gage" when used in connection with the measurements of plates, will mean the U.S. Standard Gage.

The galvanized sheet thicknesses to be used in the manufacture of metal cribbing, corrugated steel culvert pipe, underdrain pipe, plate pipe, pipe arches, plate pipe arches and plate arches shall be as specified in AASHTO M 36 or AASHTO M 167. The sheet thicknesses to be used in the manufacture of corrugated aluminum alloy culvert pipe, underdrain pipe, plate pipe, pipe arches, plate pipe arches and plate arches shall be as specified in AASHTO M 196 or AASHTO M 219.

The "size number" used in the measurement of wire will be as specified in AASHTO M 32 or AASHTO M 225.

The term ton will mean the short ton consisting of 2,000 lb (The term megagram is defined as a mass of 1,000 kg). All materials which are measured or proportioned by weight shall be weighed on approved scales by competent, qualified personnel. Scales for weighing shall be of either the beam type, springless-dial type or digital recorder type. All plant and truck scales and metering devices shall be inspected, approved and sealed in accordance with the requirements of the West Virginia Division of Labor, Bureau of Weights and Measures, or other appropriate agencies of the State or its political

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subdivisions. Poises shall be designed to be locked in any position to prevent unauthorized changes. When the beam type scales are used, provisions for a "telltale" dial shall be made for indicating to the operator that the required load in the weighing hopper is being approached. A device on the weighing beams shall clearly indicate the critical position.

If material is shipped by rail, the car weight may be accepted provided the actual weight of material only will be paid for. However, car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul materials being paid for by weight shall be weighed empty prior to each load, except at automatic batch plants approved to operate without truck scales.

Devices, used to meter or measure component or other materials in a simultaneous manner, shall be located so as to be readily accessible and visible to a single Inspector, unless otherwise directed by the Engineer.

Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured at the point of delivery. Vehicles for this purpose may be of any size or type acceptable to the Engineer, provided that the body is of such shape that the actual contents may be readily and accurately determined. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.

When approved by the Engineer, material specified to be measured by the cubic yard (meter) may be weighed and these weights converted to cubic yard (meter)s for payment purposes. Further, when it is impractical to measure the material by weighing, or in its original position, the material will be measured in its final position and adjusted by a volume change factor. These conversion factors will be determined by the Engineer and shall be agreed to by the Contractor before these methods of measurement are used.

When bituminous material is measured by volume, the measured volume at loading temperature shall be converted to volume at 60° F (15° C) using the temperature correction factors in 705 for asphaltic materials and 706 for tar materials, except that when volume is measured by an approved temperature compensated metering device, no further volume correction for temperature shall be required. When bituminous material is measured by weight, the actual specific gravity, API gravity, or weight per gallon (liter) of the material shall be used to convert the measured weight to volume at 60° F (15° C). The Contractor shall furnish all information necessary as determined solely by the Division to determine the amount of bituminous material actually incorporated into the project.

Net certified scale weights or weights based on certified volumes in the case of rail shipments will be used as a basis of measurement, subject to correction when bituminous material has been lost from the car or the distributor, wasted, or otherwise not incorporated in the work.

When bituminous materials are shipped by truck or transport, net certified weights or volume, subject to correction for loss or foaming may be used for computing quantities.

Cement will be measured by the cwt (hundredweight = 100 lb) (kilogram). For the purpose of determining the total amount used in the mixture, one bag

of cement shall be considered as weighing 0.94cwt (42.64 kg), and one barrel of cement shall be considered as weighing 3.76 cwt (175.55 kg).

Timber will be measured by the thousand feet board measure (mfbm) (cubic meters) actually incorporated in the structure. Measurement will be based on nominal widths and thicknesses and the extreme length of each piece.

The term "lump sum" when used as an item of payment will mean complete payment for the work described in the Contract.

When a complete structure or structural unit (in effect, "lump sum" work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.

When standard manufactured items are specified such as fence, wire, plates, rolled shapes, pipe conduit, etc., and these items are identified by gage, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in cited specifications, manufacturing tolerances established by the industries involved will be accepted.

### **109.2-SCOPE OF PAYMENT:**

The Contractor shall receive and accept compensation provided for in the Contract as full payment for furnishing all materials and for performing all work under the Contract in a complete and acceptable manner and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the prosecution thereof, subject to the provisions of 107.20.

If the "Basis of Payment" clause in the Specifications relating to any unit price in the bid schedule requires that the unit price cover and be considered compensation for certain work or material essential to the item, this work or material will not also be measured or paid for under any other pay item which may appear elsewhere in the Specifications, except as provided in 104.6.

When the Contract specifies payment of an item or a portion of an item on a plan quantity basis, the quantities for payment will be those shown on the Plans with deductions from or additions to such quantities resulting from authorized deviations from the Plans.

If the Contractor believes that a quantity which is specified for payment on a plan quantity basis is incorrect, the Contractor may request the Division in writing to check the questionable quantity. The request shall be accompanied by calculations, drawing, or other evidence indicating why the plan quantity is believed to be in error. If the plan quantity is found to be in error, payment will be made in accordance with the corrected plan quantity.

The Division reserves the right to check the quantity of an item which is specified for payment on a plan quantity basis if there is reason to believe that it is inaccurate. If the quantity is found to be in error, payment will be made in accordance with the corrected plan quantity.

Should the Division determine during construction that conditions have varied from those anticipated in design to the extent that actual measurement of a plan quantity item is warranted, the Division will make such measurement, and payment will be based in lieu of the plan quantity.

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### 109.2.1-General Basis of Adjusted Payment:

**109.2.1.1-Single Deficiency:** In the case of the single characteristic deficiency, the resulting deficiency shall be used directly to determine an adjusted price.

**109.2.1.2-Multiple Deficiency:** In the case of a multiple deficiency, the related adjusted percentage of contract price as determined by the acceptance plan for each characteristic shall be determined and the resulting percent of contract price to be paid shall be the product of these related adjusted percentages.

**109.2.2-Basis of Charges for Additional Testing:** When additional acceptance testing is performed by the Division for reworked lots or sublots in accordance with 106.3.1.2, the cost of such testing will be deducted on current estimates from the amount due the Contractor by the Division. The cost of such testing will be determined in accordance with the unit costs per test as shown in Table 9-1, published in MP 109.00.20.

### 109.3-COMPENSATION FOR ALTERED QUANTITIES:

When the accepted quantities of work vary from the quantities in the bid schedule, the Contractor shall accept as payment in full, so far as contract items are concerned, payment at the original contract unit price for the accepted quantities of work done. No allowance except as provided in 104.2 will be made for any increased expense, loss of expected reimbursement, or loss of anticipated profits suffered or claimed by the Contractor resulting either directly from such alterations or indirectly from unbalanced allocation among the contract items of overhead expense on the part of the bidder and subsequent loss of expected reimbursements therefore or from any other cause.

Increased work involving supplemental agreements will be paid for as stipulated in such agreements. The Contractor shall furnish substantiating data required in the preparation of these agreements.

### 109.4-FORCE ACCOUNT WORK:

If directed by the Division, as provided for in 104.3, the Contractor shall perform extra or unforeseen work on a force account basis and shall be compensated in the following manner:

**109.4.1-Labor:** For all labor and for foremen and superintendence in direct charge of the specific force account operations, the Contractor or subcontractor shall receive the actual current local rate of wage, agreed to in writing before beginning work, paid for each and every hour that the labor and foremen are actually engaged in the work.

The Contractor or subcontractor shall also receive the actual costs paid to, or in behalf of, workmen by reason of subsistence and travel allowances,

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Worker's Compensation insurance premiums, unemployment insurance contributions, Social Security and Medicare taxes, health and welfare benefits, and pension fund benefits when such amounts are required by employment contract generally applicable to the classes of labor employed on the work. The Contractor or subcontractor shall furnish satisfactory evidence of the rate or rates and the amount paid for insurance premiums and taxes.

For overhead and profit, an amount equal to sixteen percent of the sum of the above labor costs shall also be paid to the Contractor or subcontractor.

**109.4.2-Materials:** For all materials used in the specific force account operation and incorporated into the project, the Contractor or subcontractor shall receive the actual cost of materials delivered including labor charges for employees of the material supplier who are required to perform an incidental amount of work in conjunction with the material furnished and freight charges paid exclusive of equipment rentals as hereinafter set forth. The Contractor or subcontractor shall furnish invoices to document actual materials costs; however, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor's or subcontractor's inventory, then in lieu of the invoices the Contractor or subcontractor shall furnish an affidavit certifying that such materials were taken from inventory, that the quantity claimed was actually used, and that the price and freight claimed represent the Contractor's or subcontractor's actual cost.

For overhead and profit, an amount equal to sixteen percent of the sum of the above materials costs shall also be paid to the Contractor or subcontractor. All materials paid for will become the property of the Division.

**109.4.3-Equipment:** The movement of equipment to and from the specified force account operation shall be as directed by the Engineer. All equipment must be in good operating condition to qualify for rental payment. For all Contractor or subcontractor equipment either rented or owned, the rental rates and operating costs include full compensation for major repairs, repairs due to normal wear and tear, labor and parts needed for routine daily servicing of the equipment, operating expendables such as fuel, lubricants, tires and ground engaging components, and the percentage of mechanic's wages and related maintenance vehicles chargeable to preventive and field maintenance.

Payable time periods shall not include time elapsed before the Engineer has advised the Contractor or subcontractor that the equipment is required for use in the force account or time elapsed after the Engineer has advised the Contractor or subcontractor that the equipment is no longer needed exclusive of costs for transportation, assembly and disassembly set forth in 109.4.3.4, time elapsed while equipment is broken down or time spent repairing equipment. No separate payment will be made for any type of repairs to equipment.

When equipment is rented from a rental agency which the Contractor or subcontractor owns or is part owner, the equipment shall be treated as owned equipment and rental rates determined accordingly.

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**109.4.3.1-Rented Equipment:** For required equipment which is not owned and must be obtained by rental, the Contractor or subcontractor shall be paid the actual rental cost for the equipment for the time that the equipment is required solely for use in the force account work. The Contractor or subcontractor shall furnish invoices to document actual equipment rental costs. Estimated operating costs shall also be paid for each hour the rented equipment is actually operated in the force account work, not to exceed the estimated operating cost per hour set forth for the equipment in the current Rental Rate Blue Book for Construction Equipment published by Dataquest, Inc.

For overhead and profit, an amount equal to sixteen percent of the sum of the above costs for rented equipment shall also be paid to the Contractor or subcontractor.

**109.4.3.2-Owned Equipment:** For owned equipment, other than small tools costing less than \$500 each, the Contractor or subcontractor shall be paid a rental rate determined from the current Rental Rate Blue Book for Construction Equipment published by Dataquest, Inc. The hourly rate shall be determined by dividing the monthly rate set forth in the Rental Rate Blue Book by 176 with appropriate adjustments made for age and region. The hourly rate for overtime work shall be determined by dividing the monthly rate set forth in the Rental Rate Blue Book by 176 with appropriate adjustments made for age and region. The estimated operating cost per hour set forth in the Rental Rate Blue Book shall also be paid for each hour the equipment is actually operated in the force account work.

If the owned equipment is not referred to in the current Rental Rate Blue Book, the hourly rental rate will be an agreed amount not to exceed the hourly rate computed as follows: A monthly rental rate equivalent to six percent of the Contractor's or subcontractor's original acquisition cost of the equipment shall be established. The hourly rental rate shall then be determined by dividing this monthly rental rate by 176. Operating costs in such cases shall be a reasonable agreed-upon amount for each hour the equipment is actually operated in the force account work.

For overhead and profit, an amount equal to sixteen percent of the sum of the above costs for owned equipment shall also be paid to the Contractor or subcontractor.

**109.4.3.3-Idle Equipment:** For required equipment held on the site of force account work on an idle basis at the request of the Engineer, the Contractor or subcontractor shall be paid for such idle time at an adjusted hourly rental rate exclusive of estimated operating costs. For owned equipment, such payment shall be made at one-half the hourly rate determined by dividing the monthly rate set forth in the Rental Rate Blue Book by 176 with appropriate adjustments made for age and region.

Payment of idle time for owned equipment on force account work shall not exceed 8 hours each day less the hours the equipment operates that day.

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Payment for idle time shall not be made on Saturday, Sunday, holidays set forth in 101.42, when equipment is operated more than 8 hours per day or 40 hours per week, when equipment is idle due to the Contractor's or subcontractor's decision not to work on potential working days or when equipment is idle due to weather.

For overhead and profit, an amount equal to sixteen percent of the sum of the above costs for idle owned equipment shall also be paid to the Contractor or subcontractor.

**109.4.3.4-Miscellaneous:** Transportation charges for owned or rented equipment to and from the site of the force account work shall be paid provided the equipment is obtained from the nearest approved source, the return charges do not exceed the delivery charges, haul rates do not exceed the established rates of licensed haulers, and charges are restricted to those units of equipment not already available and not on or near the project. In the case of owned equipment, the Contractor or subcontractor shall be paid idle time rates for the equipment being hauled in addition to the applicable rental rates for the hauling equipment. All costs associated with the assembly and disassembly of the equipment for transport shall also be paid. All charges by persons or firms other than the Contractor or subcontractor shall be supported by satisfactory invoices.

**109.4.4-Taxes:** When the work is done by the Contractor, the amount of State and municipal taxes related to the force account work required to be paid by the Contractor will be reimbursed to the Contractor. For work performed by a subcontractor, the amount of extra cost paid by both the Contractor and the subcontractor for corporate and business taxes levied by the State and municipalities due to the force account work shall be paid to the Contractor.

For overhead and profit, an amount equal to sixteen percent of the sum of the above costs for State and municipal taxes shall also be paid to the Contractor or subcontractor.

For work performed by a subcontractor, the amount of extra cost incurred by the Contractor for increased business and corporate taxes shall be computed on the gross amount of the force account work, exclusive of the increased corporate and business taxes incurred by the subcontractor.

**109.4.5-Contract Bond:** The cost of premiums for contract bond required by 103.5 which is extra cost and related to the force account work will be paid to the Contractor.

For overhead and profit, an amount equal to sixteen percent of the sum of the above costs for contract bond shall also be paid to the Contractor or subcontractor.

**109.4.6-Insurance:** The cost of premiums for Contractor's Public Liability and Property Damage Liability Insurance required by 103.6.1 and Contractor's Protective Public Liability and Property Damage Liability Insurance required by 103.6.2 which is extra cost and related to the force account work will be

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paid to the Contractor.

For overhead and profit, an amount equal to sixteen percent of the sum of the above costs for insurance shall also be paid to the Contractor or subcontractor.

When the force account work involves a railroad and the Contractor is required to carry Railroad's Protective Public Liability Insurance or Railroad's Protective Property Damage Liability Insurance, or both, the cost of premiums for this insurance which is extra cost and related to the force account work will be paid to the Contractor.

For overhead and profit, an amount equal to sixteen percent of the sum of the above costs for railroad insurance shall also be paid to the Contractor or subcontractor.

**109.4.7-Administrative Allowance:** For force account work performed by an approved subcontractor, the Contractor shall be paid an administrative allowance equal to sixteen percent of the total amount paid for all work performed by the subcontractor on the specific force account operation exclusive of additives paid for overhead and profit.

**109.4.8-Records:** The Contractor's representative and the Engineer shall compare records daily of the cost of work done as ordered on a force account basis, and shall indicate agreement by signature on such records.

No payment will be made for work performed on a force account basis until the Contractor has furnished the Engineer an itemized statement of the cost of such force account work detailed as follows:

- a. Name, classification, date, daily hours, total hours, wage rate, fringe benefit rate and extended amounts for each laborer and foreman.
- b. Quantities of materials, unit prices and extended amounts.
- c. Transportation of materials.
- d. Designation, dates, daily hours, total hours, rental rate/hour, operating cost/hour, and extended amount for each unit of equipment.
- e. Transportation of equipment.
- f. Rates for property damage insurance, liability insurance, bond, municipal tax, subsistence and travel allowance, Worker's Compensation insurance, unemployment insurance, Social Security and Medicare taxes.

The Contractor must also furnish satisfactory evidence of the actual cost for each of the charges listed on the itemized statement (excluding those charges for owned equipment determined from the Rental Rate Blue Book).

**109.4.9-Basis of Payment:** The compensation provided in 109.4.1 to 109.4.7, inclusive, shall be received by the Contractor as payment in full for extra work done on a force account basis, including all labor, materials, equipment, fuel, lubricants, maintenance of equipment, administration,

overhead, use of small tools and equipment for which no rental is allowed, profit, taxes, bond costs, insurance premiums, unemployment contributions and any other expense arising from the performance of the force account work.

**109.5-ELIMINATED ITEM:**

Should any items contained in the proposal be found unnecessary for the proper completion of the work, the Engineer may, upon written order to the Contractor, eliminate such items from the Contract, and such action will in no way invalidate the contract. When a Contractor is notified of the elimination of items, the Contractor will be reimbursed for actual work done and all costs incurred, including mobilization of materials prior to the notification.

**109.6-PARTIAL PAYMENTS:**

The Engineer will make current estimates in writing, once each month on or before the date set by the Engineer at the time of starting the work, or from time to time as the work progresses, of the materials complete in place and the amount of work performed in accordance with the Contract, during the preceding month or period and the value thereof figured at the unit prices contracted. Current estimates may be prepared for payment on a semi-monthly basis at the discretion of the Engineer when the amount due the Contractor for work during the semi-monthly period exceeds \$10,000. Should there be any doubt by the Engineer as to the integrity of any part of the completed work, the estimates for that portion will not be allowed until the cause for such doubt has been removed.

From the total of the amounts ascertained as payable, an amount equivalent to two percent of the whole will be deducted and retained by the Division until completion of the entire Contract in an acceptable manner. The balance, or an amount equivalent to 98 percent of the whole, less all previous payments, will be certified for payment.

When the work under contract has been completed and its acceptance is recommended by the Engineer, and upon written request by the Contractor accompanied by proper release by the Contractor's surety, a part of the two percent retained as outlined above, in an amount determined by the Engineer, may be released and paid the Contractor. A minimum of 2 percent of the approximate total final contract amount will be retained until payment of the final estimate.

Unless otherwise requested by the Contractor in writing, all amounts retained by the Division will be invested in the Consolidated Investment Fund of the State of West Virginia with interest accrued in the name of the Contractor. Dividends will be paid annually and a service fee as determined by the Fund will be deducted from the interest earned.

**Substitution of Securities for Retainages:**

- i. The Contractor may, from time to time, withdraw the whole or any portion of the amount retained for payments to the Contractor, under the Contract, with the written release from Contractor's surety,

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- pursuant to the terms of the Contract, notwithstanding the provisions above, upon depositing with the State Treasurer, United States treasury bonds, United States treasury notes, United States treasury certificates of indebtedness or United States treasury bills, or bonds or notes of the State of West Virginia. A safe keeping receipt from a bank located in the State of West Virginia may be deposited with the State Treasurer in lieu of any of the definitive securities. No amount shall be withdrawn in excess of the market value of the securities at the time of deposit or of the par value of the securities, whichever is lower.
- ii. The State Treasurer shall on a regular basis, collect all interest or income on the obligations so deposited and shall pay the same, when and as collected, to the Contractor who deposited the obligations. If the deposit is in the form of coupon bonds, the State Treasurer shall deliver each coupon as it matures to the Contractor.
  - iii. Any amount deducted by the State, or by any public department or official thereof, pursuant to the terms of the Contract, from the retainages due the Contractor, shall be deducted, first from that portion of the retainages for which no security has been substituted then from the proceeds of any deposited security. In the latter case, the Contractor shall be entitled to receive interest coupons or income only from those securities which remain after such amount has been deducted.
  - iv. Any Contractor who has substituted a security or securities for retainages and the same matures before the completion and finaling of the Contract for which the security or securities were substituted for retainages may, from time to time, substitute another security or securities for the one or ones having so matured in the same manner that the original security or securities were substituted so long as the substituted security or securities are of a kind designated in (i) above, of equal value to the matured security or securities for which it is substituted. All interest and income accruing on such substituted security or securities shall be collected and paid and the security or securities themselves shall be held, handled and delivered by the State Treasurer in the same manner, as is provided in (ii) and (iii) above, for the original security or securities deposited.

### **109.7-PAYMENT FOR MATERIAL ON HAND:**

Partial payment may be made to the extent of the delivered costs of material to be incorporated into the work, provided the material meets the requirements of the Plans and Specifications when delivered in the vicinity of the project or at approved off-site locations. In any event, partial payment for material on hand will not exceed the bid price. Such material shall be stored in acceptable storage places, and the Contractor shall furnish evidence of payment for the delivered cost of the material within 90 days of the cut-off date of the estimate on which this material was paid.

**109.8-ACCEPTANCE AND FINAL PAYMENT:**

When the project has been accepted, as provided in 105.16, the Engineer will prepare the final estimate of the quantities of the various classes of work performed. Before the final payment is made, the Contractor shall execute the Statement of Acceptance on the back of the final estimate. After the Contractor executes such final estimate or if the Contractor fails or declines to execute the final estimate within 30 days after receipt, the Division will consider the estimate approved and accepted and he will be paid the entire sum found to be due after deducting all previous payments and all amounts to be retained or deducted under the provisions of the Contract. Upon written request from the Contractor received within 30 days of his receipt of the final estimate, the time for review and execution of the final estimate will be extended up to 60 additional calendar days. Should the Contractor desire to reserve the right to file a claim with the State Court of Claims for any sum or compensation not included in the final estimate, growing out of the Contract, then a Reservation of Right stipulating the nature, each item and the amount claimed shall be added at the end of the acceptance statement. This claim must be filed with the State Court of Claims within 120 days of execution of the final estimate. The acceptance of final payment of the contractor shall be considered a release in full of all claims against the West Virginia Division of Highways, State of West Virginia arising out of said project, except for any claim reserved at the end of the acceptance statement on the back of the final estimate.

All prior partial estimates and payments will be subject to correction in the final estimate and payment.

**109.9-PRICE ADJUSTMENT OF FUELS:**

Because of the uncertainty in estimating the costs of fuels that will be used during the life of this contract, adjustment in certain contract items is provided for as follows:

Product price quotations for Bulk Gasoline, unleaded (octane rating 87), and for Fuel Oil No. 2 (diesel fuel), as published in Platt's Oilgram Price Report will be utilized to establish the contract base price as well as the monthly base price thereafter. These prices will be the average of the individual prices for the following locations:

Baltimore, Maryland  
 Norfolk, Virginia  
 Greensboro, North Carolina  
 Pittsburgh, Pennsylvania  
 Columbus, Ohio

As published for the first Monday of the month.

If the first Monday of the month falls on a holiday or the prices are otherwise not published for that date, the Index (Ip) will be based on prices in the next edition of Platt's Oilgram in which these prices are listed.

Base prices applicable to this contract are contained in the contract

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documents under NOTICE TO BIDDERS entitled Base Prices For Fuels and Items to be Adjusted for Price of Fuels

Each month the Engineer will be furnished with the current monthly base prices (Mbp) for gasoline and diesel fuel. When the ratio of the monthly base price (Mbp) divided by the contract base price (Cbp) is less than 0.950 or greater than 1.050, adjustment for fuel will be made in accordance with the following formula:

$$Pa = [(Mbp \div Cbp) - 1.00] \times Cbp \times Q$$

where:

Pa = Price Adjustment

Mbp = Monthly Base Price

Cbp = Contract Base Price

Q = Gallons (Liters) of fuel used in items of work performed during the estimate period, calculated in accordance with this Special Provision.

Adjustments in compensation for any period may be either plus or minus. If Mbp is greater than Cbp, the adjustment will be plus. If Cbp is greater than Mbp, the adjustment will be minus.

The adjustments in compensation for petroleum fuels used for the listed items will be made on the separate items on the basis of the average fuel requirements for processing a unit of the item as shown in the following table:

**COST ADJUSTMENT FACTORS FOR FUEL USAGE**

Class		Units	Diesel	Gasoline
1	Unclassified Excavation: Borrow Excavation	Gallons per cubic yard (Liters per cubic meter)	0.39 (1.94)	0.18 (0.89)
2	Aggregates	Gallons per ton** (Liters per megagram)	0.62 (2.59)	0.4 (1.68)
3	Bituminous Concrete	Gallons per ton** (Liters per megagram)	1.06 (4.43)	0 (0)
4	Portland Cement Concrete Pavement	Gallons per cubic yard (Liters per cubic meter)	0.76 (3.77)	0.23 (1.14)

\*\*Where the pay item for aggregate is in cubic yards (meters), conversion to tons (megagrams) for the purpose of fuel price adjustment will be made on the basis that one cubic yard (meter) equals 1.75 tons (2.08 megagrams).

Fuel requirements for the items listed above include the total of both diesel and gasoline.

The gallons (Liters) of fuel for price adjustment (Q) will be determined by multiplying the factors listed above by the amount of acceptable work performed on the separate items during an estimate period.

Any difference between the checked final quantity and the sum of quantities

shown on the monthly estimates for any item will be adjusted by the following formula:

$$FA = (FCQ \div PRQ) \times EA$$

where:

FA	=	Final Adjustment (dollars)
FCQ	=	Final Checked Quantity
PRQ	=	Total Quantity Previously Reported on Monthly Estimates
EA	=	Total Adjustment Shown on Monthly Estimates (dollars)

All adjustments will be made based on the gallons (Liters) of fuel indicated in the above table and no changes will be made for variations between these usage factors and the actual factors.

The monthly base price for determining price adjustments for all work performed after the contract completion date, as revised by approved time extensions, will be the monthly base price (Mbp) at the time of the contract completion date (as extended) or at the time the work was performed, whichever is less.

The final adjustment will consider any error(s) that may have been made in the computation of monthly adjustments

#### **109.10 - PRICE ADJUSTMENT OF ASPHALT CEMENT:**

Due to the uncertainty in estimating the costs of petroleum products that will be used during the life of this contract, adjustment in compensation for certain contract items is provided for as follows.

The contract items listed in the Proposal in the Table of Materials to be Adjusted for Price at the Time of Placement will be adjusted in accordance with the Division's index for asphalt cement. This index will be the average of the posted prices of asphalt cement per megagram as reported from the following sources:

Marathon Ashland Petroleum, LLC, Ashland, Kentucky  
 Asphalt Materials, Marietta, Ohio  
 Marathon Ashland Petroleum, LLC, Floreffe, Pennsylvania  
 Citgo Asphalt Refining Co., Baltimore, Maryland  
 Shell Oil Company, Bristol, Virginia

The bidding index ( $I_b$ ) as determined above is published elsewhere in the proposal. The price adjustment for the specified material at the time of placement will be based on an index price determined by averaging the posted prices reported by the six (6) sources listed above for the first working day of the month in which the work is performed.

If one of the sources listed above changes ownership and/or name the posted price from that terminal will continue in use as though the ownership and/or name change had not occurred.

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If one of the sources used for determining the index goes out of business the index in the proposal  $I_b$  and the index at the time of placement  $I_p$  will be based on the average of the remaining sources. Thus,  $I_b$  could be based on an average of 6 sources and the  $I_p$  on the average of 5 sources or vice versa. If a source that goes out of business reopens at a later date the index determined will once again be based on 6 sources as per the previous paragraph.

The posted price for each source will be compared to the average of all sources. If the difference between the average and the individual price is greater than 25 % of the average, that individual source will be excluded from the calculation of the average price  $I_b$  or  $I_p$  and a new average will be calculated using the remaining sources.

When the ratio of the price index at placement ( $I_p$ ) divided by the price index at bidding ( $I_b$ ) is less than 0.90 or greater than 1.10, the portion of the contract unit price which reflects the cost of the specified material will be adjusted for the change in accordance with the following formula.

$$Pa = [(I_p + I_b) - 1.00] \times Q \times \text{Applicable "C" Factor (C, C}_1 \text{ or C}_2)$$

where:

Pa	=	Price Adjustment
$I_p$	=	Price Index at Time of Placement
$I_b$	=	Price Index for Bidding
C, C <sub>1</sub> , C <sub>2</sub>	=	Adjustable Material Cost per Unit of Contract Item Bid
Q	=	"As Constructed" Quantity

The price index for determining price adjustments for all work performed after the contract completion date, as revised by approved time extensions, will be determined as follows: The price index ( $I_p$ ) shall be for the month in which the contract completion date (as extended) falls, or the price index for the month in which the work was performed, whichever is less.

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#### 109.20-PRICE ADJUSTMENT FOR LOAD LIMIT VIOLATIONS:

The Allowable Gross Weight for any vehicle being used to haul materials on publicly maintained highways under the terms of this contract shall be as follows unless otherwise vested by law.

<b>Vehicle Type</b>	<b>Allowable Gross Weight</b>
Two - Axle Truck	34,000 LBS (15.42 Mg)
Three - Axle Truck (Tandem Axle In Rear)	54,000 LBS (24.49 Mg)
Four - Axle Truck (Tri - Axle in Rear)	63,000 LBS (28.58 Mg)
Five - Axle Truck (Quad - Axle in Rear)	70,000 LBS (31.74 Mg)
Five or More Axles (Combination Vehicle)	80,000 LBS (36.29 Mg)

The Allowable Gross Weight shown above is the maximum gross weight that the majority of vehicles of that type can legally haul. Any vehicle that can legally have a gross weight different from that specified above may be inspected by the Division of Highways, Weight Enforcement Section and receive a certificate showing the maximum legal gross weight for that vehicle which shall be used in lieu of the Allowable Gross Weight from this provision.

All materials from a commercial source or a batch plant are subject to a price adjustment for load limit violations. The Division of Highways is not enforcing the West Virginia Motor Vehicle Laws with this provision, however, it is enforcing a contractual requirement that makes reference only to the provisions that are described. Nothing in this provision relieves any party from compliance with the State Law on load limits or any fines which may be assessed for violation of said law.

Material moved by the Division of Highways Special Permit for excess size or weight pursuant to West Virginia Code 17C-17-11 is exempt from this provision.

A weigh ticket shall be required with each load of material from a commercial source which would normally have truck scales. This includes, but is not limited to, all asphalt paving materials and all aggregates regardless of the contract pay unit. The weigh ticket shall include gross, tare, and net weights, time and date of loading, Item Number or Description of Materials, Contract Number or Project Number, number of axles on haul unit, license number of haul unit, and signature of the weigher certifying that all information on the ticket is correct. The weigh ticket shall be used to determine the Allowable Gross Weight and the Actual Gross Weight for each load of material delivered by that haul unit.

For material from a commercial source or a batch plant, which would not normally have truck scales, a weigh ticket documenting the tare weight, number of axles on the haul unit, license number of haul unit, date weighed, location of scales, and signature of the weigher certifying that all information on the ticket

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is correct, may be supplied for each haul unit as an alternate to the ticket required in the pervious paragraph. The tare weight ticket shall be supplied for each contract on a yearly basis and when modifications are made to the vehicle or combination of vehicles. In this situation the Allowable Gross Weight shall be determined from the weight ticket information. The Actual Gross Weight shall be determined by adding the tare weight of the haul unit to the weight of the material delivered. The weight of the material delivered shall be calculated and furnished by the vendor/supplier shipping the material to the project site or DOH facility. This includes, but is not limited to, concrete, structural steel, piling, reinforcing steel and all prepackaged material of known weight, such as cement, grout, fertilizer, lime, abrasives, etc.

If the haul unit is a combination of vehicles, the license number shall be supplied for each component. The tare weight shall be for the complete haul unit.

All weighing shall be done on scales approved and sealed by the West Virginia Division of Labor, Bureau of Weights and Measures. If the scales are moved or upon the request of the Engineer, the scales shall bereapproved and sealed. The Engineer shall be notified of any scale malfunctions. The Division of Highways may, at its option, accept inspection and sealing by out of state agencies when the material is being loaded outside West Virginia.

A price reduction shall be assessed for each load of material where the actual gross weight exceeds the allowable gross weight. The amount of the price reduction shall be twenty-five Dollars (\$25.00) per ton for each ton(twenty-eight Dollars (\$28.00) per megagram for each megagram), or portion thereof, in excess of the allowable gross weight except that no reduction shall be assessed if the amount in excess of the allowable gross weight is less than 500 lbs (225 kg). This amount shall be deducted as a price adjustment for load limit violations.

Any material, covered by this provision, which is delivered without the proper weigh ticket shall not be accepted by the Division of Highways.