

**CONTRACT AWARD**

**CK09MERCER2023-04 OPTION TO EXTEND ROAD MATERIALS FOR THE COUNTY OF MERCER AND THE MERCER COUNTY COOPERATIVE FOR A PERIOD OF ONE (1)**

**CONTRACT TERM: JUNE, 21, 2024 THROUGH JUNE 20, 2025**

**RESOLUTION: 2024-563**

**CONTRACT NUMBER:**

<b>NAME OF BIDDER:</b>	<b>TRAP ROCK INDUSTRIES LLC.</b>	<b>DOSCH KING COMPANY, INC.</b>	<b>CRAFCO, INC.</b>	<b>GARDN STATE ASPHALT MATERIALS INC.</b>	<b>AMERICAN BITUMINOUS COMPANY, INC.</b>
ADDRESS	PO BOX 419	16 TROY HILL ROAD	6165 W. DETROIT STREET	100 BILBY ROAD	100 MAIN STREET
CITY, STATE, ZIP	KINGSTON, NJ. 08528	WHIPPANY, NJ. 07981	CHANDLER, AZ. 85226	HACKETTSTOWN, NJ. 070840	W. COLLINGSWOOD HEIGHTS, NJ. 08059
CONTACT	MICHAEL J. CROWLEY	PETER KING	TODD ZIEMS	JOSEPH AHART	PATRICK POLAZZO
TELEPHONE	609-252-8927	973-887-0145	602-276-0406	908-850-5000	856-456-2899
FAX	609-497-0135	973-887-4942	480-961-0513	908-850-3737	856-456-6749
E-MAIL	<a href="mailto:TRISALES@TRAPROCK.COM">TRISALES@TRAPROCK.COM</a>	<a href="mailto:GENERALINFO@DOSCHKING.COM">GENERALINFO@DOSCHKING.COM</a>	<a href="mailto:BIDS@CRAFO.COM">BIDS@CRAFO.COM</a>	<a href="mailto:JAHART@GARDENSTATEASPHALT.COM">JAHART@GARDENSTATEASPHALT.COM</a>	<a href="mailto:PSANCHEZ@AAIJ.COM">PSANCHEZ@AAIJ.COM</a>
NJ SAVI DESIGNATION	N/A	N/A	N/A	SMALL BUSINESS ENTERPRISE	N/A
EXTEND TO COOPERATIVE	NO	NO	YES	NO	NO

**AMERICAN BITUMINOUS COMPANY INC.**

**DID NOT EXTEND TO THE COOP MEMBERS**

ITEM NO	ROAD MATERIALS FOR THE COUNTY OF MERCER AND COOP MEMBERS - COST PER TON MUST BE CONSISTENT FOR THE COUNTY AND COOP MEMBERS IF THE AWARDED CONTRACTOR CHOOSES TO EXTEND PRICING.	COUNTY REQUIREMENTS IN TONS OR GALLONS	UNIT COST PER TON OR GALLON	TOTAL COST
<b>EZ STREET OR EQUIVALENT HIGH PERFORMANCE COLD ASPHALT MIX (F.O.B. PLANT)</b>				
4	EZ STREET OR EQUIVALENT HIGH PERFORMANCE COLD ASPHALT MIX (F.O.B. PLANT)	100	\$ 172.50	\$ 17,250.00
<b>COURSE AGGREGATE ALLOWANCE (\$200,000.00) INSERT COST PER TON (OPEN END)</b>				
6	PERMANENT ASPHALT REPAIR MATERIAL (F.O.B PLANT)	1	\$ 172.50	\$ 172.50

**DOSCH KING COMPANY INC.**

**DID EXTEND TO COOP MEMBERS**

ITEM NO	ROAD MATERIALS FOR THE COUNTY OF MERCER AND COOP MEMBERS - COST PER TON MUST BE CONSISTENT FOR THE COUNTY AND COOP MEMBERS IF THE AWARDED CONTRACTOR CHOOSES TO EXTEND PRICING.	COUNTY REQUIREMENTS IN TONS OR GALLONS	UNIT COST PER TON OR GALLON	TOTAL COST
23*	PG6422 COST PER GALLON (DELIVERED TO ROAD SITE) OR 23A	3,000	\$ 10.60	\$ 31,800.00

**GARDEN STATE ASPHALT MATERIALS INC.**

**DID NOT EXTEND TO COOP MEMBERS**

ITEM NO	ROAD MATERIALS FOR THE COUNTY OF MERCER AND COOP MEMBERS - COST PER TON MUST BE CONSISTENT FOR THE COUNTY AND COOP MEMBERS IF THE AWARDED CONTRACTOR CHOOSES TO EXTEND PRICING.	COUNTY REQUIREMENTS IN TONS OR GALLONS	UNIT COST PER TON OR GALLON	TOTAL COST
22*	TACK COAT (CUTBACK ASPHALT) GALLON (F.O.B. PLANT) OR 22A	15,000	\$ 6.95	\$ 104,250.00
22A*	TACK COAT (EMULSIFIED ASPHALT) GALLON (F.O.B. PLANT) (INSERT COST PER GALLON IF PRICING IS HIGHER OR LOWER THAN CUTBACK) OR 22	15,000	\$ 4.95	\$ 74,250.00

## TRAP ROCK INDUSTRIES LLC.

**DID NOT EXTEND TO THE COOP MEMBERS**

ITEM NO	ROAD MATERIALS FOR THE COUNTY OF MERCER AND COOP MEMBERS - COST PER TON MUST BE CONSISTENT FOR THE COUNTY AND COOP MEMBERS IF THE AWARDED CONTRACTOR CHOOSES TO EXTEND PRICING.	COUNTY REQUIREMENTS IN TONS OR GALLONS	UNIT COST PER TON OR GALLON	TOTAL COST
<b>BITUMINOUS CONCRETE SURFACE COURSE SUPERPAVE HOT MIX ASPHALT 9.5M-64 OR 12.5M-64 (F.O.B. PLANT) THE COUNTY WILL AWARD A PRIMARY CONTRACT</b>				
<b>1 OR 1A</b>	BITUMINOUS CONCRETE SURFACE COURSE SUPERPAVE HOT MIX ASPHALT 12.5M-64 (F.O.B. PLANT) OR 1A: 9.5M-64 (F.O.B. PLANT)	5,000	\$ 60.00	\$ 300,000.00
<b>BITUMINOUS CONCRETE SURFACE COURSE SUPERPAVE HOT MIX ASPHALT 9.5M-64 OR 12.5M-64 (DELIVERED)</b>				
<b>1 OR 1A</b>	BITUMINOUS CONCRETE SURFACE COURSE SUPERPAVE HOT MIX ASPHALT 12.5M-64 (DELIVERED TO COUNTY PROJECT SITE) OR 1A: 9.5M-64 (DELIVERED TO COUNTY PROJECT SITE)	35,000	\$ 61.00	\$ 2,135,000.00
<b>BITUMINOUS STABILIZED BASE COURSE, SUPERPAVE HOT MIX ASPHALT 19M-64 (F.O.B. PLANT) THE COUNTY WILL AWARD A PRIMARY CONTRACT</b>				
<b>2</b>	BITUMINOUS STABILIZED BASE COURSE SUPERPAVE HOT MIX ASPHALT 19M-64 (F.O.B. PLANT)	6,000	\$ 59.00	\$ 354,000.00
<b>BITUMINOUS STABILIZED BASE COURSE, SUPERPAVE HOT MIX ASPHALT 19M-64 (DELIVERED)</b>				
<b>3</b>	BITUMINOUS STABILIZED BASE COURSE SUPERPAVE HOT MIX ASPHALT 19M-64 (DELIVERED TO COUNTY PROJECT SITE)	6,000	\$ 60.00	\$ 360,000.00
<b>PLANT MIX BITUMINOUS PAVEMENTS P-401 B, C OR D, DELIVERED ALLOWANCE (\$150,000.00) INSERT COST PER TON (OPEN END) (AIRPORT)</b>				
<b>5B</b>	PLANT MIX BITUMINOUS PAVEMENTS P-401B (DELIVERED TO COUNTY PROJECT SITE)	1	\$ 95.00	\$ 95.00
<b>5C</b>	PLANT MIX BITUMINOUS PAVEMENTS P-401C (DELIVERED TO COUNTY PROJECT SITE)	1	\$ 95.00	\$ 95.00
<b>5D</b>	PLANT MIX BITUMINOUS PAVEMENTS P-401D (DELIVERED TO COUNTY PROJECT SITE)	1	\$ 95.00	\$ 95.00

**TRAP ROCK INDUSTRIES CONT'D**

8	COARSE AGGREGATE #57 (3/4") ( F.O.B. PLANT)	1	\$ 27.00	\$ 27.00
9	COARSE AGGREGATE #4 (1 1/2") ( F.O.B. PLANT)	1	\$ 30.00	\$ 30.00
10	COARSE AGGREGATE #2 (2 1/2") ( F.O.B. PLANT)	1	\$ 30.00	\$ 30.00
11	WASHED 1 1/2" SEPTIC STONE (F.O.B. PLANT)	1	\$ 35.00	\$ 35.00
12	4" STONE (2" TO 6") (F.O.B. PLANT)	1	\$ 40.00	\$ 40.00
13	SMALL CORE STONE (6" TO 9") (F.O.B. PLANT)	1	\$ 40.00	\$ 40.00
14	LARGE CORE STONE (5" TO 15") (F.O.B. PLANT)	1	\$ 40.00	\$ 40.00
15	HAMMER STONE 24" (F.O.B. PLANT)	1	\$ 60.00	\$ 60.00
16	JETTY ROCK (F.O.B. PLANT)	1	\$ 75.00	\$ 75.00
17	STONE DUST/SCREENINGS (F.O.B. PLANT)	1	\$ 25.00	\$ 25.00
18	1" BLEND (F.O.B. PLANT)	1	\$ 21.00	\$ 21.00
19	1 1/2" BLEND (F.O.B. PLANT)	1	\$ 22.00	\$ 22.00
20	2 1/2" BLEND (F.O.B. PLANT)	1	\$ 23.00	\$ 23.00
21	DENSE GRADED AGGREGATE BASE COURSE (F.O.B. PLANT)	1	\$ 21.00	\$ 21.00

**CRAFCO INC.**

*(DID EXTEND TO COOP)*

24	CRACKMASTER 3405 OR EQUIVALENT HOT POUR CRACK SEALANT	60,000	\$ 0.62	\$ 37,200.00
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Approved as to Form and Legality

Date

County Counsel

September 12, 2024

COUNTY EXECUTIVE AND CLERK TO THE BOARD AUTHORIZED TO "EXERCISE AN OPTION TO EXTEND" THE AWARD OF BID CONTRACT WITH MULTIPLE VENDORS FOR ROAD MATERIALS FOR THE COUNTY OF MERCER AND THE MERCER COUNTY COOPERATIVE PURCHASING SYSTEM FOR A PERIOD OF ONE (1) YEAR. PERIOD JUNE 21, 2024 THROUGH JUNE 20, 2025. TOTAL AMOUNT NOT TO EXCEED \$1,575,000.00. (CK09MERCER2023-04)

WHEREAS, pursuant to the provision of N.J.S.A. 40A:11-15, the governing body may include provisions for a contract extension upon a finding by the governing body that the services are being performed in an effective and efficient manner; and,

WHEREAS, the County of Mercer entered into an Award of Bid Contract with multiple vendors for Road Materials for the County of Mercer and the Mercer County Cooperative Contract Purchasing System for a period of one (1) year with an Option to Extend one (1) year as per Resolution No. 2023-465, adopted June 22, 2023; and,

WHEREAS, during the contract term American Bituminous Company was acquired by Earle Holdco on November 30, 2023 changing their name from American Bituminous Company to Walter R. Earle Burlington Inc; and,

Clerk to the Board

RECORD OF VOTE													
COMMISSIONERS	Aye	Nay	N.V.	Abs.	Res.	Sec.	COMMISSIONERS	Aye	Nay	N.V.	Abs.	Res.	Sec.
Frisby	X				✓		Stokes	X					
Lewis	X						Walter	X					✓
McLaughlin	X						Cimino	X					
Melker	X												

X—Indicates Vote      Abs.—Absent      N.V.—Not Voting  
 Res.—Resolution Moved      Sec.—Resolution Seconded

WHEREAS, the County of Mercer is desirous of exercising the option to extend the contract for the period of June 21, 2024 through June 20, 2025, in the amount not to exceed \$1,575,000.00, with following vendors;

<b>WALTER R. EARLE-BURLINGTON INC.</b> 1800 ROUTE 34 SOUTH BUILDING 2 SUITE WALL NJ. 07719	<b>DOSCH KING COMPANY INC.</b> 16 TROY HILL ROAD WHIPPANY NJ. 07981
<b>GARDEN STATE ASPHALT MATERIALS INC.</b> 100 BILBY ROAD HACKETTSTOWN NJ. 07840	<b>TRAP ROCK INDUSTRIES, LLC.</b> PO BOX 419 KINGSTON NJ. 08528
	<b>CRAFCO INC.</b> 6165 W. DETROIT STREET CHANDLER AZ. 85226

WHEREAS, the Chief Financial Officer of Mercer County has certified in writing the availability of funds, for the purposes set forth in this Resolution, said certification is on file with the Clerk to the Board and funds for this purpose are available in the 2024 Mercer County Budget and are contingent upon the inclusion in ad adoption of the 2025 Mercer County Budget; now, therefore,

BE IT RESOLVED, that the County Executive and Clerk to the Board are hereby authorized to "exercise the option to extend" the Award of Bid Contract with multiple vendors for the County of Mercer and the Mercer County Cooperative Contract Purchasing System from June 21, 2024 through June 20, 2025, in the amount not to exceed \$1,575,000.00 on behalf of the County of Mercer, when presented in a form approved by County Counsel; and,

BE IT FURTHER RESOLVED, that the Clerk to the Board shall forward a copy of this Resolution to the Purchasing Agent for further distribution.

  
.....  
Clerk to the Board

**SPECIFICATIONS FOR ROAD MATERIALS FOR THE COUNTY OF MERCER AND THE MERCER COUNTY  
COOPERATIVE CONTRACT PURCHASING SYSTEM FOR A PERIOD OF ONE (1) YEAR WITH AN OPTION  
TO EXTEND ONE (1) YEAR  
ROAD DEPARTMENT CONTACT: STEVEN BENNER 609-530-7500 X 104**

**INTENT**

The County of Mercer requests bids for Road Materials for use by the County of Mercer and the Mercer County Cooperative Contract Purchasing System. The contract shall be for a period of one (1) year with an option to extend one (1) year. The Road Department has estimated that they will require the following materials; however, the following are estimates based upon projections over the next year and the County may require more or less. Bidders shall provide the cost per ton for Superpave Hot Mix Asphalt materials and CrackMaster, or equivalent, Hot Pour Crack Sealant for delivery to the job site and FOB Plant(s). Bidders must have the ability to provide same day delivery to the job site and same day FOB Plant. The County will make every effort to provide orders two days in advance of the project; however, there are projects that will require same day delivery and pick up. The county will not pay charges over and above the bid pricing. The County will award primary contracts only for each category as reflected on the proposal pages. **The contract shall commence on June 22, 2023.** All questions shall be submitted in writing to the Department of Purchasing, to [imaldonado@mercercounty.org](mailto:imaldonado@mercercounty.org) by March 23,2023.

Bidders shall be prepared to deliver materials as stated in the bid specifications. The penalty is contract default. As stated in the bid specifications on page 39, "In case of default by the contractor, the County may procure the goods or services from other sources and hold the contractor responsible for any excess cost."

**This contract covers a twelve month period, including winter paving; therefore all bidders MUST have the ability to provide materials throughout the year. The County will pay only for those materials purchased.**

**PRICE ADJUSTMENT FOR PURCHASE OF ASPHALT CEMENT**

The asphalt price adjustment is calculated based on the basic asphalt price index as published by the New Jersey Department of Transportation in its "Standard Specifications for Road and Bridge Construction," as those standards may be revised by the department. The price adjustment pay item applies to each ton purchased or used and is not limited to tonnage exceeding the threshold. When any bid specification includes the purchase or use of less than 1,000 tons of hot mix asphalt, there shall be allowable a price adjustment, in accord with law for any quantity of hot mix asphalt over 1,000 tons that may be used in the work in the event that the performance of the work, including change orders, requires more than 1,000 tons of hot mix asphalt.

"Hot mix asphalt" shall include equivalent asphalt cement-based products, such as warm mix asphalt.

Refer to Section 160.03.02 for the Asphalt Price Adjustment calculation.  
<http://www.state.nj.us/transportation/eng/specs/2007/spec150.shtm#s160> .

The asphalt price adjustment is to be calculated based on the asphalt price index published by the New Jersey Department of Transportation (NJDOT) for the month preceding the month in which the bids are opened (the "basic asphalt price index"). All invoices for payment shall be accompanied by the calculation of any asphalt price adjustment and a display of both the current month's asphalt price index and the basic asphalt price index.

**FUEL PRICE ADJUSTMENTS FOR ALL CONTRACTS P.L. 2015, c. 201**

“Fuel price adjustment” shall apply to all bid specifications, not just those for the construction, alteration or repair of a public building, where a pay item is eligible. Pay items shall not be eligible for a fuel price adjustment that are either 1) not determined by NJDOT to be eligible, or 2) eligible but call for less than 500 gallons of fuel. Items eligible for a fuel price adjustment are set forth under Contract Requirements (Section 160.03.01) for NJDOT's Standard Specifications for Road and Bridge Construction.

Fuel price adjustments shall not be made in those months for which the NJDOT's monthly fuel price index has changed by less than five percent (5%) from the basic fuel price. The term “pay item”, as defined by N.J.S.A. 40A:11-13(f), means a “specifically described item of work for which the bidder provides a per unit or lump sum price in a bid specification determined and published by the New Jersey Department of Transportation.” Under no circumstances may the quantities of hot-mix asphalt or equivalent be disaggregated for the purpose of avoiding compliance with the provisions of P.L. 2015, c.201.

### **MANDATORY PRICE ADJUSTMENT FOR ASPHALT CEMENT AND FUEL P.L. 2009, c.187; APPLIES TO PAVING CONTRACTS:**

**PAVING CONTRACTS** executed after May 1, 2010 allow for increases and decreases in asphalt and fuel prices over the course of large construction contracts. The calculation is based upon 2007 NJDOT Specifications – Division 150 Contract Requirements, Section 160.01 through 160.03.

The law requires that **ANY CONSTRUCTION CONTRACT** involving more than 1,000 tons of hot mix asphalt include a contract provision that allows for price adjustments in the cost of asphalt. Fuel price adjustments are based on DOT standards for the type of construction equipment and the work done by different equipment. For fuel price adjustments, at least 500 gallons of fuel based on the DOT equipment standards are required for a price adjustment, and then, only in those months when the price fluctuated more than five percent.

DOT maintains a web site of index rates for asphalt and fuel that are adjusted monthly. The law provides that when the quantity or equipment use thresholds are reached, fuel price adjustments are made, using the change in index rate from the time of bidding to when the work was performed. The change is treated as a “pay item” in construction contracts.

### **MERCER COUNTY COOPERATIVE CONTRACT PURCHASING (CK09MERCER)**

County Cooperative Contract Purchasing is a Cooperative Purchasing System that may be created only by a county. Using only its own needs, the county advertises for the receipt of bids and awards a contract to the successful bidder. With the approval of both Mercer County and the vendor, all contracting units located within the geographic boundary of Mercer County may purchase under the contract subject to the cost per ton or gallon, specifications, terms and conditions of the contract awarded by the County. If the awarded Contractor chooses to extend to the Mercer County Cooperative Contract Purchasing System, the contractor is required to provide the Co-Op members with all materials at the same rate provided to the County. Please note, bidders are not required to extend to the Cooperative Members.

### **REGULAR BUSINESS HOURS**

**Delivery shall be provided between the hours of 7:30 A.M. and 3:30 P.M, Monday through Friday.**



## **OFF HOURS**

On the rare occasion, the County may require delivery between the hours of 6:00 A.M. and 7:29 A.M. and between the hours of 3:31 P.M. and 7:30 P.M., Monday through Friday and Saturday and holidays between the hours of 6:00 A.M. through 7:30 P.M. The County will pay a differential in the amount of five (5) percent for all off hour deliveries. Delivery times reflect those hours for on-site delivery.

## **P-401B, C, D PLANT MIX BITUMINOUS PAVEMENTS**

P-401 Plant Mix Bituminous Pavements shall comply with all requirements of the 2014 Federal Aviation Administration, AC 150/5370-10G, Standards for Specifying Construction of Airports, Part V Flexible Surface Courses. The County has budgeted \$150,000.00 for P-401 Plant Mix. Bidders shall provide the cost per ton delivered to the County job site at the Trenton-Mercer Airport (TTN) for material entitled P-401 Plant Mix Bituminous Pavements and the award shall be made to the bidder providing the lowest cost per ton. The County will purchase on an as needed basis. The County will purchase between \$0.00 and \$150,000.00 and shall not be bound by minimums or maximums but reserves the right to purchase all, part, or none, of the budgeted amount. The County requires P-401B, P401C and P401D delivered. Refer to the proposal pages.

## **CRACKMASTER 3405 OR EQUIVALENT HOT POUR CRACK SEALANT**

Hot Pour Crack Sealant shall comply with all requirements of the 2014 Federal Aviation Administration, AC 150/5370-10G, Standards for Specifying Construction of Airports. The County has budgeted \$60,000.00 for Hot Pour Crack Sealant. Bidders shall provide the cost per pound delivered to the County job site or the Trenton-Mercer Airport (TTN) for material entitled Hot Pour Crack Sealant and the award shall be made to the bidder providing the lowest cost per pound. The County will purchase on an as needed basis. The County will purchase between \$0.00 and \$60,000.00 and shall not be bound by minimums or maximums but reserves the right to purchase all, part, or none of the budgeted amount. The County required Hot Pour Crack Sealant delivered.

## **WINTER PAVING**

All potential bidders shall be able to provide Hot Mix Asphalt 9.5m-64, 12.5m-64, 19M-64, and P-401 during the non-paving winter months. These months include November 1<sup>st</sup> to March 1<sup>st</sup> and could potentially be 5 days per week for pick-up and/or delivery. The County will make every effort to provide orders two days in advance; however, there are instances that will require same day delivery and pick up. Below are estimated quantities for winter paving.

The following quantities are estimates and are based upon the prior years:

**1 OR 1A BITUMINOUS CONCRETE SURFACE COURSE SUPERPAVE HOT MIX ASPHALT 12.5M-64 (F.O.B. PLANT) OR 1A: 9.5M-64 (F.O.B. PLANT) JANUARY THROUGH MARCH:**

**1,000 TONS**

**1 OR 1A BITUMINOUS CONCRETE SURFACE COURSE SUPERPAVE HOT MIX ASPHALT 12.5M-64 (DELIVERED TO COUNTY PROJECT SITE) OR 1A: 9.5M-64 (DELIVERED TO COUNTY PROJECT SITE) JANUARY THROUGH MARCH:**

**5,000 TONS**

**2 BITUMINOUS STABILIZED BASE COURSE SUPERPAVE HOT MIX ASPHALT 19M-64 (F.O.B. PLANT) JANUARY THROUGH MARCH:  
500 TONS**

**3 BITUMINOUS STABILIZED BASE COURSE SUPERPAVE HOT MIX ASPHALT 19M-64 (DELIVERED TO COUNTY PROJECT SITE) JANUARY THROUGH MARCH:  
500 TONS**

**ROADWAY SURFACE MATERIAL REQUIREMENTS**

Hot Mix Asphalt 9.5M-64 or 12.5M-64	45,000	Tons
<b>Total Hot Mix Asphalt 9.5M-64 or 12.5M-64:</b>	<b>45,000</b>	<b>Tons</b>

**BASIS FOR AWARD**

**AWARD FOR HOT MIX ASPHALT 9.5M-64 AND 12.5M-64 DELIVERED TO PROJECT SITE**

The County will award Hot Mix Asphalt 9.5M-64 and 12.5M-64 materials to the bidder providing the lowest cost per ton delivered to the project site.

**AWARD FOR HOT MIX ASPHALT 9.5M-64 AND 12.5M-64 F.O.B. PLANT**

The County will award Hot Mix Asphalt 9.5m-64 and 12.5m-64 materials FOB plant, factoring the cost of transportation and tolls to the bidder providing the lowest unit cost plus transportation as described under "Determination of Award for Materials Bids F.O.B. Plant, Quarry or Dock Lowest Bid and Amount of Award". The County will factor the cost of transportation into the calculation for FOB plant; however the transportation calculation does not apply for materials delivered directly to the project site.

**AWARD FOR HOT POUR CRACK SEALANT DELIVERED TO PROJECT SITE**

The County will award Hot Pour Crack Sealant materials to the bidder providing the lowest cost per pound delivered to the project site.

**F.O.B. PLANT SUPERPAVE HOT MIX ASPHALT 19M-64:  
6,000 Tons**

**DELIVERED PLANT SUPERPAVE HOT MIX ASPHALT 19M-64:  
6,000 Tons**

**EZ STREET HIGH PERFORMANCE  
COLD ASPHALT MIX F.O.B. PLANT  
100 Tons**

**HOT POUR CRACK SEALANT DELIVERED  
150,000 Pounds**

**PLANT MIX P401 B, C OR D DELIVERED  
\$150,000.00 ALLOWANCE**

**TACK COAT CUTBACK OR EMULSIFIED  
F.O.B. PLANT**

15,000 Gallons

**AEXON OR EQUIVALENT TACK COAT PG6422 OR PG7622**

**3,000 Gallon Delivered**

**THE PROJECT LOCATIONS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING SITES:**

<b>Yardville Allentown Rd.</b> - NJ Turnpike to County Line	Hamilton
<b>South Mill Rd.</b> - Rt. 571 to Woodmere Way	West Windsor
<b>Whitehead Rd.</b> - East State St. to Third Ave.	Hamilton
<b>Parkway Ave.</b> - Pennington Rd. to Prospect St.	Ewing
<b>Parkway Ave.</b> - Prospect St. to W. Ingham Ave.	Ewing
<b>Church St. (Crosswicks)</b> - Bridge to South Broad St.	Hamilton
<b>Rt. 571</b> - One Mile Rd. to Rt. 130	East Windsor
<b>Clarksville Rd.</b> - Quakerbridge Rd. to Meadow Rd.	West Windsor
<b>Woodsville Rd.</b> - Fox Run Rd. to Rt. 654	Hopewell
<b>N. Olden Ave.</b> - Princeton Ave. to New York Ave.	Trenton
<b>Chambers St.</b> - Greenwood Ave. to Hamilton Ave.	Trenton
<b>Stockton St.</b> - Rt. 33 to Summet Ave.	Hightstown
<b>Stockton St.</b> - Summet Ave. to Rt. 130	Hightstown
<b>Flock Rd.</b> - Quakerbridge Rd. to Paxson Ave.	Hamilton
<b>Flock Rd.</b> - Paxson Ave. to Edinburg Rd.	Hamilton
<b>Bear Tavern Rd.</b> - Church St. to Penn. Harb. Rd.	Hopewell
<b>Chambers St.</b> - Liberty St. to Cedar Lane	Trenton/Ham.
<b>Jacobs Creek Rd.</b> - NJ 29 to Bear Tavern Rd.	Ewing
<b>Spruce St.</b> - Princeton Ave. to Artic Parkway	Law./Ewing
<b>Edinburg Windsor Rd.</b> - South Lane to Main St.	Robbinsville
<b>Lawrence Station Rd.</b> - Quakerbridge to the Fire School	Lawrence
<b>Edinburd Dutchneck Rd.</b> - Conover to Old Trenton	West Windsor
<b>South Olden Ave.</b> - Cedar Lane to Arena Dr.	Hamilton
<b>Lalor Street</b> - Liberty St. to South Broad St.	Ham./Trenton
<b>Quakerbridge Rd.</b> - Sloan Rd. to Youngs Rd.	Hamilton
<b>Quakerbridge Rd.</b> - Youngs Rd. to Hughes Dr.	Hamilton
<b>Old Trenton Rd.</b> - Colt Circle to Village Rd. East	West Windsor
<b>Princeton Hightstown Rd.</b> - Clarksville to Cranbury	West Windsor

**COARSE AGGREGATE**

The County has budgeted \$200,000.00 for Coarse Aggregate Materials. Bidders shall provide the cost per ton for materials entitled Coarse Aggregate and the award shall be made to bidder providing the lowest cost per ton.

Coarse Aggregate consisting of the following materials:

- Permanent Asphalt Repair Material
- Coarse Aggregate No. 8, (3/8")

- Coarse Aggregate No. 57 (¾")
- Coarse Aggregate No. 4 (1 ½")
- Coarse Aggregate No. 2 (2 ½")
- Washed 1 ½" Septic Stone
- 4" Stone (2" to 6")
- Small Core Stone (6" to 9")
- Large Core Stone (5" to 15")
- Hammer Stone 24"
- Jetty Rock
- Stone Dust / Screenings
- 1" Blend
- 1 ½" Blend
- 2 ½" Blend
- Dense Graded Aggregate Base Coarse

## GENERAL PROVISIONS

The material under this contract shall comply with all requirements of the 2007 New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction and the latest supplementary Specifications for State Aid Projects, except as amended, by these supplementary specifications. **Note: Job Mix Formula for each material shall be included with bid.**

Proposal shall be submitted on the form of proposal furnished by the Purchasing Department and shall be properly filled out and duly executed. The bidder shall state in the proposal form, in figures, the price per unit of measure for each scheduled item, the product of the respective estimated quantity and the unit price bid therefore. All figures shall be typewritten or written in ink. The bidder shall submit the same unit price; cost per ton or gallon for the County of Mercer and the Cooperative Contract Purchasing System.

This form of proposal includes materials to be provided for municipal assistance projects, participating municipalities may, by resolution award, execute contracts (similar form) for materials specified and bid in the proposal.

Wherever alternates are called for to be bid upon in the proposal, the contractor may submit a price on any or all types of material on which proposals are requested. The governing body may consider the prices as alternates and award contracts according to Chapter 2, Title 27 of the revised statutes.

The quantities, which will be awarded, are approximate only and the County reserves the right to increase or decrease them to the extent of twenty percent (20%) at the awarded quantity at the unit price bid. Such change, however, will be only upon written order of the County Road Supervisor and /or County Engineer.

The material herein designated is to be supplied for one year from date of execution of the contract, unless an agreement is entered into by the contraction parties to continue the contract in force until other contracts are entered into.

The award of the contract will be on the unit price bid basis; that is cost per ton or gallon, as indicated in the proposal.

**The foregoing paragraph does not apply in the case of materials bid on a unit price basis F.O.B. plant, quarry or dock. Material bid in this manner shall be awarded on F.O.B. unit price plus added costs and conditions on page 15 of this specification.**

In the event that the awarded contractor is unable to provide same day delivery or pick-up the county reserves the right to purchase on the open market. The County will not compensate for truck waiting time.

Materials will not be permitted from firms or individuals included in the report of suspensions, debarments and disqualifications of firms and individuals as maintained by the Department of Treasury, General Services, Administration, CN-039, Trenton NJ 08625-0039 (Telephone: 609-292-5400).

If delivery is required, the delivery is to be according to the direction of the County Road Supervisor or County Engineer, and if any material of which they do not approve is furnished, it is to be removed at the expense of the contractor.

Should any difference arise between the contracting parties as to the meaning or intent of this specification, the County Road Supervisor or County Engineer's decision is to be final and conclusive.

#### **QUANTITY AND PAYMENT**

Payment for Permanent Asphalt Repair Material shall be made for the quantity as above determined, measured in tons at the price bid per ton for the item, which price shall include the price of all materials including bituminous materials.

All bid prices for bituminous concrete and other bituminous materials shall include the price of furnishing and incorporating all materials including asphalt cement and other bituminous materials.

The quantities of material for which payment will be made, will be those actually received in accordance with the orders for said materials, and conforming to the specification requirements.

When payment for materials is specified on a ton basis, each truckload of material shall be weighed by a certified weigh master on certified scales approved by the state Department of Weights and Measures.

The weigh master shall furnish to the truck driver weigh master slips showing the gross, tare and net weight. To each weigh master slip, his signature and official seal shall be affixed.

The County does not pay finance charges or late fees. Following the contract award, the County will issue a draw down to the awarded vendors to ensure that vendors are paid in a timely manner. Finance pays invoices on a bi-weekly basis.

#### **F.O.B. DELIVERY POINT**

All prices bid must be on the basis of F.O.B. delivery point, unloaded at the plant and shall include any and all fees and/or service costs incurred at the bidder's place of delivery.

Bids will be accepted from manufacturers or suppliers provided their equipment is equivalent to the specifications and suitable for the purpose for which intended.

If the bidder proposes any feature other than specified, the compliance answer must be clearly indicated "NO." Bidder shall elaborate on a separate sheet of paper any and all deviations from the specifications. Bidders must furnish with the bid, the latest printed technical specifications, unaltered, on the product or equipment they propose to furnish, to receive consideration.

Proposals submitted which, in our judgment, are not in conformance with the specifications of this bid proposal, will be rejected.

Any wrong, vague or deceptive responses to the foregoing, or neglecting to respond, can be considered justification for disqualification of the bid.

Acceptance of bids will be based on such factors as; ability to perform, ease of operation, operator comfort and acceptance, safety factors, durability, long range performance, product support and proven record for good resale value.

In conformance with the State of New Jersey Statute C. 40A: 11-18, only goods and products manufactured or produced in the United States, where possible, and wherever available, are to be used for this proposal.

Quantities used are, unless otherwise stated, **ESTIMATED ANNUAL USAGE** and are for the purpose of this bid only. Quantities will be determined by the actual needs of the County during the term of the contract. The County will purchase on an as needed basis. Under normal circumstances, the County will purchase between 0 and 100% of the **ESTIMATED ANNUAL USAGE**. The County will not be bound by minimums or maximums but reserves the right to purchase all, part, or none, of the quantities.

## **ITEMS ORDERED AND DELIVERED**

The contract involves materials which are necessary for the continuation of ongoing critical services provided by the County to the residents of the municipalities within Mercer County. Any delay in delivery of these items would disrupt the County's services and would force the County to immediately seek alternative sources of supply on an emergency basis. Timely delivery is critical to meeting the County's ongoing needs; therefore **all awarded vendors are required to deliver at a rate of at least two hundred (200) tons per hour** to the authorized job site. The County reserves the right to request a certain number of trucks and total tonnage to accommodate our working hours of 7:30 am to 3:30 am.

## **ASPHALT DELIVERY AND PICK UP**

In general, trucks will pick up at a plant located in Mercer County and deliver asphalt from the primary vendor awarded the zone in which the work site is located unless exigent

circumstances exist. In the event that exigent circumstances exist, the County reserves the right to obtain the material from whichever vendor can provide the material required.

Exigent circumstances shall include, but not be limited to, the following:

- The primary vendor's inability to produce asphalt
- The primary vendor's inability to supply the daily quantities ordered
- The primary vendor's inability to provide continuous one for one loading
- The primary vendors' unauthorized and unacceptable change in mix quality production
- Plant production stoppage of one (1) hour or more.

## **RIGHT TO DECLARE CONTRACTOR IN DEFAULT**

In addition to those instances specifically referred to in other sections herein, the County shall have the right to declare the contractor in default of the whole or any part of the contract in the happening of any one or more of the following events:

- The contractor fails to commence service, and/or deliver goods, when notified to do so by the County
- The contractor refuses to proceed with service and/or delivery of goods when and as directed by the County
- The County is of the opinion that the contractor is or has been unnecessarily, unreasonably or willfully delaying the performance of the contract
- The County and County Counsel are of the opinion that the contractor is not or has not been executing the contract in good faith and in accordance with its terms

**DETERMINATION OF AWARD FOR PICK-UP (FOB PLANT)  
MATERIALS F.O.B. PLANT, QUARRY OR DOCK**

The following elements will be considered and taken as constituent parts of each bid for material F.O.B. plant, quarry or dock and used in determining the quantities to be awarded and ultimately taken. This calculation does not apply for materials delivered by the awarded contractor(s).

1. Price per ton as stated in the bid.
2. Estimated hauling costs shall be determined by:

Distance computed at the rate of \$1.50 per mile for each ton of material. The distance shall be calculated as the straight line measurement from the assumed geographic center of Mercer County (the intersection of US Route 1 and I-295) to the FOB plant location. This rate shall include all costs associated with Mercer County hauling materials including fuel, labor, vehicle operating costs and tolls. This calculation is based upon a point to point distance and this is a straight linear distance and the shortest possible route.

Furthermore, unsatisfactory materials furnished by any bidder shall be rejected and replaced by materials from another bidder.

Location of Plant, Quarry or Dock (Please provide Street Address, City or Town and State)

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shall have a plasticity index of not more than 6 and a liquid limit of not more than 25 when tested in accordance with ASTM D 4318.

Natural (non-manufactured) sand may be used to obtain the gradation of the aggregate blend or to improve the workability of the mix. The amount of sand to be added will be adjusted to produce mixtures conforming to requirements of this specification. If used, the natural sand shall meet the requirements of ASTM D 1073 and shall have a plasticity index of not more than 6 and a liquid limit of not more than 25 when tested in accordance with ASTM D 4318.

The aggregate shall have sand equivalent values of 45 or greater when tested in accordance with ASTM D 2419.

**c. Sampling.** ASTM D 75 shall be used in sampling coarse and fine aggregate, and ASTM C 183 shall be used in sampling mineral filler. The Contractor shall furnish documentation to the Engineer confirming that all aggregate proposed for use meet the requirements specified herein. When deemed necessary by the Engineer, the Contractor shall furnish aggregate samples to the Engineer for testing by him to verify compliance with the requirements specified herein. Sampling of the aggregates will be observed and monitored by the Engineer. Initial tests by the Engineer will be at no expense to the Contractor. Costs for testing additional sources shall be borne by the Contractor. No aggregate shall be used in the production of mixtures without prior approval.

**401-2.2 MINERAL FILLER.** If filler, in addition to that naturally present in the aggregate, is necessary, it shall meet the requirements of ASTM D 242.

**401-2.3 BITUMINOUS MATERIAL.** Bituminous material shall conform to the requirements of AASHTO M 320 Performance Grade PG 64-22.

The Contractor shall furnish vendor's certified test reports for each lot of bituminous material shipped to the project. The vendor's certified test report for the bituminous material can be used for acceptance or tested independently by the Engineer.

**401-2.4 PRELIMINARY MATERIAL ACCEPTANCE.** Prior to delivery of materials to the job site, the Contractor shall submit certified test reports to the Engineer for the following materials:

**a. Coarse Aggregate.**

- (1) Percent of wear.
- (2) Soundness.
- (3) Percent fractured faces.

**b. Fine Aggregate.**

- (1) Liquid limit.
- (2) Plasticity index.
- (3) Sand equivalent.

**c. Mineral Filler.**

**d. Bituminous Material.** Test results for bituminous material shall include temperature/viscosity charts for mixing and compaction temperatures.

The certifications shall show the appropriate ASTM tests for each material, the test results, and a statement that the material meets the specification requirement.

The Engineer may request samples for testing, prior to and during production, to verify the quality of the materials and to ensure conformance with the applicable specifications.

**401-2.5 ANTI-STRIPPING AGENT.** Any anti-stripping agent or additive if required shall be heat stable, shall not change the asphalt cement viscosity beyond specifications, shall contain no harmful ingredients, shall be added in recommended proportion by approved method, and shall be a material approved by the Department of Transportation of the State in which the project is located.

**401-2.6 JOINT SEALING FILLER AND BACKUP MATERIAL.** Joint sealing filler and backup material shall be in accordance with ASTM D-6690, Type II or III - Joint Sealants, Hot Applied, for Concrete and Asphalt Pavements.

## **COMPOSITION**

**401-3.1 COMPOSITION OF MIXTURE.** The bituminous plant mix shall be composed of a mixture of well-graded aggregate, filler and anti-strip agent if required, and bituminous material. The several aggregate fractions shall be sized, handled in separate size groups, and combined in such proportions that the resulting mixture meets the grading requirements of the job mix formula (JMF).

**401-3.2 JOB MIX FORMULA.** No bituminous mixture for payment shall be produced until a job mix formula has been approved in writing by the Engineer. The bituminous mixture shall be designed using procedures contained in the FAA's Eastern Region Laboratory Procedures Manual (ERLPM), Section 2.

The design criteria in Table 1 are target values necessary to meet the acceptance requirements contained in paragraph 401-5.2b. The criteria is based on a production process which has a material variability with the following standard deviations:

Stability = 270 lb  
Flow (0.01 in) = 1.5 in  
Air Voids = 0.65%

If material variability exceeds the standard deviations indicated, the job mix formula and subsequent production targets shall be based on a stability greater than shown in Table 1

and the flow and air voids shall be targeted close to the mid-range of the criteria in order to meet the acceptance requirements.

Tensile Strength Ratio (TSR) of the composite mixture, as determined by ASTM D 4867, shall not be less than 75. Anti-stripping agent shall be added to the asphalt, as necessary, to produce a TSR of not less than 75. If an anti-strip agent is required, it will be provided by the Contractor at no additional cost to the Owner.

The job mix formula shall be submitted in writing by the Contractor to the Engineer at least 21 days prior to the start of paving operations and shall include as a minimum:

- a.** Percent passing each sieve size for total combined gradation, individual gradation of all aggregate stockpiles and percent by weight of each stockpile used in the job mix formula.
- b.** Percent of asphalt cement.
- c.** Asphalt performance, viscosity or penetration grade, and type of modifier if used.
- d.** Number of blows of hammer compaction per side of molded specimen.
- e.** Mixing temperature.
- f.** Compaction temperature.
- g.** Temperature of mix when discharged from the mixer.
- h.** Temperature-viscosity relationship of the asphalt cement.
- i.** Plot of the combined gradation on the Federal Highway Administration (FHWA) 45 power gradation curve.
- j.** Graphical plots of stability, flow, air voids, voids in the mineral aggregate, and unit weight versus asphalt content.
- k.** Percent natural sand.
- l.** Percent fractured faces.
- m.** Percent by weight of flat particles, elongated particles, and flat and elongated particles (and criteria).
- n.** Tensile Strength Ratio (TSR).
- o.** Anti-strip agent (if required).

p. Date the job mix formula was developed.

The Contractor shall submit to the Engineer the results of verification testing of three (3) asphalt samples prepared at the optimum asphalt content. The average of the results of this testing shall indicate conformance with the job mix formula requirements specified in Tables 1, 2, and 3.

When the project requires asphalt mixtures of differing aggregate gradations, a separate job mix formula and the results of job mix formula verification testing must be submitted for each mix.

The job mix formula for each mixture shall be in effect until a modification is approved in writing by the Engineer. Should a change in sources of materials be made, a new job mix formula must be submitted and approved by the Engineer in writing before the new material is used. After the initial production job mix formula has been approved by the Engineer and a new or modified job mix formula is required for whatever reason, the subsequent cost of the Engineer's approval of the new or modified job mix formula will be borne by the Contractor. There will be no time extension given or considerations for extra costs associated with the stoppage of production paving or restart of production paving due to the time needed for the Engineer to approve the initial, new or modified job mix formula.

**Table 1. Marshall Design Criteria**

<b>Test Property</b>	Pavements Designed for Aircraft Gross Weights of 60,000 Lb or More or Tire Pressures of 100 PSI or More
<b>Number of blows</b>	75
<b>Stability, pounds (Newtons) minimum</b>	2150 (9564)
<b>Flow, 0.01 in. (0.25 mm)</b>	10-14
<b>Air voids (%)</b>	208-4.2
<b>Percent voids in mineral aggregate, minimum</b>	See Table 2.

**Table 2. Minimum Percent Voids In Mineral Aggregate**

<b>Maximum Particle Size</b>		<b>Minimum Voids in Mineral Aggregate</b>
½ in	12.5 mm	16%
¾ in	19.0 mm	15%
1 in	25.0 mm	14%
1 ½ in	37.5 mm	13%

The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in Table 3 when tested in accordance with ASTM C 136 and C 117.

The gradations in Table 3 represent the limits that shall determine the suitability of aggregate for use from the sources of supply. The aggregate, as selected (and used in the JMF), shall have a gradation within the limits designated in Table 3 and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa, but shall be well graded from coarse to fine.

Deviations from the final approved mix design for bitumen content and gradation of aggregates shall be within the action limits for individual measurements as specified in paragraph 401-6.5a. The limits still will apply if they fall outside the master grading band in Table 3.

The maximum size aggregate used shall not be more than one-half of the thickness of the course being constructed except where otherwise shown on the plans or ordered by the Engineer.

**Table 3 Aggregate - Bituminous Pavements**

Sieve Size	Percentage by Weight Passing Sieve			
	P-401A 1-½" max	P-401B 1" max	P-401C ¾ " max	P-401D ½" max
1 ½ in. (37.50 mm)	100	--	--	--
1 in. (25.0 mm)	86-98	100	--	--
¾ in. (19.0 mm)	68-93	76-98	100	--
½ in. (12.5 mm)	57-81	66-86	79-99	100
⅜ in. (9.5 mm)	49-69	57-77	68-88	79-99
No. 4 (4.75 mm)	34-54	40-60	48-68	58-78
No. 8 (2.36 mm)	22-42	26-46	33-53	39-59
No. 16 (1.18 mm)	13-33	17-37	20-40	26-46
No. 30 (0.60 mm)	8-24	11-27	14-30	19-35
No. 50 (0.30 mm)	6-18	7-19	9-21	12-24
No. 100 (0.15 mm)	4-12	6-16	6-16	7-17
No. 200 (0.075 mm)	3-6	3-6	3-6	3-6
<b>Asphalt Percent:</b>				
Stone or gravel	4.5-7.0	4.5-7.0	5.0-7.5	5.5-8.0

The aggregate gradations shown are based on aggregates of uniform specific gravity. The percentages passing the various sieves shall be corrected when aggregates of varying specific gravities are used, as indicated in the Asphalt Institute Manual Series No. 2 (MS-2), Chapter 3.

**401-3.3 RECYCLED ASPHALT CONCRETE.** Recycled hot mix asphalt (HMA) concrete consisting of reclaimed asphalt pavement (RAP) shall not be used for the work of this contract.

**401-3.4 Job Mix Formula (JMF) Laboratory.** The Contractor's laboratory used to develop the job mix formula shall meet the requirements of ASTM D 3666 **or be approved by the NJDOT.** The laboratory accreditation must be current and listed on the accrediting authority's website. All test methods required for developing the JMF must be listed on the lab accreditation. A copy of the laboratory's current accreditation and accredited test methods shall be submitted to the Engineer prior to start of construction.

**401-3.5 BITUMINOUS MIXING PLANT.** Plants used for the preparation of bituminous mixtures shall conform to the requirements of ASTM D 995 with the following changes. The Contractor must submit evidence that the plant is currently certified in accordance with ASTM D 995 before the start of plant production.

Requirements for all plants include:

**(1) Truck Scales.** The bituminous mixture shall be weighed on approved scales furnished by the Contractor, or on certified public scales at the Contractor's expense. Scales shall be inspected and sealed as often as the Engineer deems necessary to assure their accuracy. Scales shall conform to the requirements listed below.

Scales for weighing materials which are required to be proportioned or measured and paid for by weight shall be furnished, erected, and maintained by the Contractor, or be certified permanently installed commercial scales.

Scales shall be accurate within one-half percent of the correct weight throughout the range of use. The Contractor shall have the scales checked under the observation of the inspector before beginning work and at such other times as requested. The intervals shall be uniform in spacing throughout the graduated or marked length of the beam or dial and shall not exceed one-tenth of 1 percent of the nominal rated capacity of the scale, but not less than 1 pound (454 grams). The use of spring balances will not be permitted.

Beams, dials, platforms, and other scale equipment shall be so arranged that the operator and the inspector can safely and conveniently view them.

Scale installations shall have available ten standard 50-pound (2.3 km) weights for testing the weighing equipment or suitable weights and devices for other approved equipment.

Scales must be tested for accuracy and serviced before use at a new site. Platform scales shall be installed and maintained with the platform level and rigid bulkheads at each end.

Scales "overweighing" (indicating more than correct weight) will not be permitted to operate, and all materials received subsequent to the last previous correct weighting-accuracy test will be reduced by the percentage of error in excess of one-half of 1 percent.

In the event inspection reveals the scales have been underweighing (indicating less than correct weight), they shall be adjusted, and no additional payment to the Contractor will be allowed for materials previously weighed and recorded.

All costs in connection with furnishing, installing, certifying, testing, and maintaining scales; for furnishing check weights and scale house; and for all other items specified in this subsection, for the weighing of materials for proportioning or payment, shall be included in the unit contract prices for the various items of the project.

In lieu of scales, and as approved by the Engineer, asphalt mixture weights may be determined by the use of an electronic weighing system equipped with an automatic printer that weighs the total paving mixture. Contractor must furnish calibration certification of the weighing system prior to mix production and as often thereafter as requested by the Engineer.

**(2) Testing Facilities.** The Contractor shall provide laboratory facilities at the plant for the use of the Engineer's acceptance testing and the Contractor's quality control testing. The Engineer will always have priority in the use of the laboratory. The lab shall have sufficient space and equipment so that both testing representatives (Engineer's and Contractor's) can operate efficiently. The lab shall also meet the requirements of ASTM D 3666.

The plant testing laboratory shall have a floor space area of not less than 150 sq ft, with a ceiling height of not less than 7-½ feet. The laboratory shall be weather tight, sufficiently heated in cold weather, air-conditioned in hot weather to maintain temperatures for testing purposes of 70 °F +/- 5 °F. The plant testing laboratory shall be located on the plant site to provide an unobstructed view, from one of its windows, of the trucks being loaded with the plant mix materials.

Laboratory facilities shall be kept clean, and all equipment shall be maintained in proper working condition. The Engineer shall be permitted unrestricted access to inspect the Contractor's laboratory facility and witness quality control activities. The Engineer will advise the Contractor in writing of any noted deficiencies concerning the laboratory facility, equipment, supplies, or testing personnel and procedures. When the deficiencies are serious enough to be adversely affecting the test results, the incorporation of the materials into the work shall be suspended immediately and will not be permitted to resume until the deficiencies are satisfactorily corrected.

As a minimum, the plant testing laboratory shall have:

- a. Adequate artificial lighting
- b. Electrical outlets sufficient in number and capacity for operating the required testing equipment and drying samples.
- c. Fire extinguishers (2), Underwriter's Laboratories approved
- d. Work benches for testing, minimum 2-½ feet by 10 feet.
- e. Desk with 2 chairs
- f. Sanitary facilities convenient to testing laboratory
- g. Exhaust fan to outside air, minimum 12 in blade diameter
- h. A direct telephone line and telephone including a FAX machine operating 24 hours per day, seven days per week
- i. File cabinet with lock for Engineer



- j. Sink with running water, attached drain board and drain capable of handling separate material
- k. Metal stand for holding washing sieves
- l. Two element hot plate or other comparable heating device, with dial type thermostatic controls for drying aggregates
- m. Mechanical shaker and appropriate sieves (listed in JMF, Table 3) meeting the requirements of ASTM E-11 for determining the gradation of coarse and fine aggregates in accordance with ASTM C 136
- n. Marshall testing equipment meeting ASTM D 6926, ASTM D 6927, automatic compaction equipment capable of compacting three specimens at once and other apparatus as specified in ASTM C 127, D 2172, D 2726, and D 2041
- o. Oven, thermostatically controlled, inside minimum 1 cubic foot
- p. Two volumetric specific gravity flasks, 500 cc
- q. Other necessary hand tools required for sampling and testing
- r. Library containing contract specifications, latest ASTM volumes 4.01, 4.02, 4.03 and 4.09, AASHTO standard specification parts I and II, and Asphalt Institute Publication MS-2.
- s. Equipment for Theoretical Specific Gravity testing including a 4,000 cc pycnometer, vacuum pump capable of maintaining 30 ml mercury pressure and a balance, 16-20 km with accuracy of 0.5 grams
- t. Extraction equipment, centrifuge and reflux types and Rotoflex equipment
- u. A masonry saw with diamond blade for trimming pavement cores and samples
- v. Telephone

Approval of the plant and testing laboratory by the Engineer requires all facilities and equipment to be in good working order during production, sampling and testing. Failure to provide the specified facilities shall be sufficient cause for disapproving bituminous plant operations.

The Owner shall have access to the lab and the plant whenever Contractor is in production.

**(3) Inspection of Plant.** The Engineer, or Engineer's authorized representative, shall have access, at all times, to all areas of the plant for checking adequacy of equipment;

inspecting operation of the plant: verifying weights, proportions, and material properties; and checking the temperatures maintained in the preparation of the mixtures.

**(4) Storage Bins and Surge Bins.** Use of surge and storage bins for temporary storage of hot bituminous mixtures will be permitted as follows:

- a. The bituminous mixture may be stored in surge bins for a period of time not to exceed 3 hours.
- b. The bituminous mixture may be stored in insulated storage bins for a period of time not to exceed 24 hours.

The bins shall be such that mix drawn from them meets the same requirements as mix loaded directly into trucks.

If the Engineer determines that there is an excessive amount of heat loss, segregation, or oxidation of the mixture due to temporary storage, no temporary storage will be allowed.

**401-3.6 PREPARATION OF BITUMINOUS MATERIAL.** The bituminous material shall be heated in a manner that will avoid local overheating and provide a continuous supply of the bituminous material to the mixer at a uniform temperature. The temperature of the bituminous material delivered to the mixer shall be sufficient to provide a suitable viscosity for adequate coating of the aggregate particles, but shall not exceed 325 °F (160 °C), unless otherwise required by the manufacturer.

**401-3.7 PREPARATION OF MINERAL AGGREGATE.** The aggregate for the mixture shall be heated and dried prior to introduction into the mixer. The maximum temperature and rate of heating shall be such that no damage occurs to the aggregates. The temperature of the aggregate and mineral filler shall not exceed 350 °F (175 °C) when the asphalt is added. Particular care shall be taken that aggregates high in calcium or magnesium content are not damaged by overheating. The temperature shall not be lower than is required to obtain complete coating and uniform distribution on the aggregate particles and to provide a mixture of satisfactory workability.

**401-3.8 PREPARATION OF BITUMINOUS MIXTURE.** The aggregates and the bituminous material shall be weighed or metered and introduced into the mixer in the amount specified by the job mix formula. The combined materials shall be mixed until the aggregate obtains a uniform coating of bitumen and is thoroughly distributed throughout the mixture. Wet mixing time shall be the shortest time that will produce a satisfactory mixture, but not less than 25 seconds for batch plants. The wet mixing time for all plants shall be established by the Contractor, based on the procedure for determining the percentage of coated particles described in ASTM D 2489, for each individual plant and for each type of aggregate used. The wet mixing time will be set to achieve 95 percent of coated particles. For continuous mix

plants, the minimum mixing time shall be determined by dividing the weight of its contents at operating level by the weight of the mixture delivered per second by the mixer. The moisture content of all bituminous mixtures upon discharge shall not exceed 0.5 percent.

**401-3.9 HAULING EQUIPMENT.** Trucks used for hauling bituminous mixtures shall have tight, clean, and smooth metal beds. To prevent the mixture from adhering to them, the truck beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other approved material. Petroleum products shall not be used for coating truck beds. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.

**401-3.10 LAYDOWN THICKNESSES.** Laydown thicknesses shall be such that the compacted lifts fall within the following range, unless otherwise approved:

<u>Mix Type</u>	<u>Min. Lift</u>	<u>Max. Lift</u>
P-401A	3"	5"
P-401B	2"	3-3/4"
P-401C	1-1/2"	2-1/2"
P-401D	1"	1-3/4"

**401-3.11 TESTING LABORATORY.** The Contractor shall provide a fully equipped asphalt laboratory meeting the requirements of paragraph 401-3.5 located at the plant or job site. The Contractor shall provide the Engineer with certification stating that all of the testing equipment to be used is properly calibrated and will meet the specifications applicable for the specified test procedures.

#### **METHOD OF MEASUREMENT**

**401-4.1** Plant mix bituminous concrete pavement shall be measured by the number of tons of bituminous mixture used in the accepted work. Recorded batch weights or truck scale weights will be used to determine the basis for the tonnage.

#### **BASIS OF PAYMENT**

**401-5.1** The price shall be compensation for furnishing all materials, for all preparation, mixing and transportation to site and for all labor, equipment, tools, and incidentals necessary to complete the item.

Payment will be made under:

Item P-401-8.1 Bituminous Base Course, P-401A - per ton

Item P-401-8.1 Bituminous Base Course, P-401B - per ton

Item P-401-8.1 Bituminous Surface Course, P-401C - per ton

## **SUBMITTALS AND CERTIFICATIONS**

**401-6.1** The following "Shop and Setting Drawings", "Working Drawings", Catalogue Data" and "Certifications" shall be submitted for review during the project at the time that submittals are required.

- Certification and test results showing that Coarse Aggregate meets the requirements specified
- Certification and test results showing that Fine Aggregate meets the requirements specified
- Certification that filler meets the requirements specified
- Certification that bituminous material meets the requirements specified
- Certification that the anti-stripping agent meets the requirements specified
- Job Mix Formula in accordance with the FAA's ERLPM for each bituminous mix developed
- Certification that the bituminous plant meets the requirements specified.
- Certification that plant testing laboratory meets the requirements specified.

## **TESTING REQUIREMENTS**

ASTM C 29	Bulk Density ("Unit Weight") and Voids in Aggregate
ASTM C 88	Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C 117	Materials Finer than 75 $\mu\text{m}$ (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 127	Specific Gravity and Absorption of Coarse Aggregate
ASTM C 131	Resistance to Degradation of Small Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C 136	Sieve Analysis of Fine and Coarse Aggregates
ASTM C 183	Sampling and the Amount of Testing of Hydraulic Cement
ASTM C 566	Total Evaporable Moisture Content of Aggregate by Drying
ASTM D 75	Sampling Aggregates
ASTM D 979	Sampling Bituminous Paving Mixtures
ASTM D 995	Mixing Plants for Hot-Mixed Hot-Laid Bituminous Paving Mixtures
ASTM D 1073	Fine Aggregate for Bituminous Paving Mixtures

ASTM D 1188	Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens
ASTM D 1461	Moisture or Volatile Distillates in Bituminous Paving Mixtures
ASTM D 2041	Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D 2172	Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
ASTM D 2419	Sand Equivalent Value of Soils and Fine Aggregate
ASTM D 2489	Estimating Degree of Particle Coating of Bituminous-Aggregate Mixtures
ASTM D 2726	Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
ASTM D 2950	Density of Bituminous Concrete in Place by Nuclear Methods
ASTM D 3203	Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D 3665	Random Sampling of Construction Materials
ASTM D 3666	Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials
ASTM D 4125	Asphalt Content of Bituminous Mixtures by the Nuclear Method
ASTM D 4318	Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D 4791	Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D 4867	Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D 5444	Mechanical Size Analysis of Extracted Aggregate
ASTM D 6926	Preparation of Bituminous Specimens Using MARSHALL Apparatus
ASTM D 6927	MARSHALL Stability and Flow of Bituminous Mixtures
ASTM E 11	Wire-Cloth Sieves for Testing Purposes
ASTM E 178	Dealing with Outlying Observations
ASTM E 1274	Measuring Pavement Roughness Using a Profilograph
AASHTO T 30	Mechanical Analysis of Extracted Aggregate

AASHTO T 110 Moisture or Volatile Distillates in Bituminous Paving Mixtures

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Mix Design Methods for Asphalt Concrete

### **MATERIAL REQUIREMENTS**

ASTM D 242 Mineral Filler for Bituminous Paving Mixtures

ASTM D 946 Penetration Graded Asphalt Cement for Use in Pavement Construction

ASTM D 3381 Viscosity-Graded Asphalt Cement for Use in Pavement Construction

ASTM D 4552 Classifying Hot-Mix Recycling Agents

AASHTO M320 Performance Graded Asphalt Binder

## CRACKMASTER 3405 HOT POUR CRACK SEALANT

Hot Pour Crack Sealant is a single component, hot applied crack and joint sealant. When melted and properly applied it forms a resilient crack sealant for both asphaltic and cementitious pavements.

**Composition:** Supplied in solid blocks comprised of asphaltic resins and synthetic polymer rubber.

### Coverage

Use the following chart as a guideline for estimating material requirements (based upon pounds of material needed for 100 feet of cracks):

Crack Width	Depth	.lbs/100 ft.
3/8"	3/8"	6.9 lbs.
1/2"	1/2"	12.3 lbs.
3/4"	3/4"	27.8 lbs.

The above coverage rates are only a guideline. Actual material usage may vary due to width of application and thickness of material above pavement surfaces.

### MATERIAL REQUIREMENTS

ASTM D 6690 TYPE II & TYPE III     Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements

ASTM D 3405     Standard Specification

AASHTO M324 TYPE II

SS-S-1401C     Preservative and Sealing Compounds