



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
PO BOX 778
DOVER, DELAWARE 19903

JACK MARKELL
GOVERNOR

SHAILEN BHATT
SECRETARY

VIA OVERNIGHT DELIVERY

(302) 760-2030
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October 31, 2011

Contract No. T201206202.01
PAVEMENT & REHABILITATION, SOUTH I-II, 2012
Sussex County

Ladies and Gentlemen:

Enclosed is Addendum No. 2 for the referenced contract consisting of the following:

1. One (1) page, Table of Contents, page iii, revised, to be substituted for the same page in the Proposal.
2. Five (5) pages, Special Provisions, 401517 - Stone Matrix Asphalt (SMA) Wearing Surface, pages 12A through 12E, new, to be added to the Proposal.
3. Five (5) pages, Special Provisions, 401753 - Stone Matrix Asphalt Wearing Surface, Warm Mix, pages 37 through 41, deleted, to be removed from the Proposal and substituted with the enclosed sequencing pages.
4. Five (5) pages, Bid Proposal Forms, pages 1 through 5, revised, to be substituted for the same pages in the Proposal.
5. Nine (9) sheets, Construction Plans, sheets 1, 20, 21, 22, 23, 24, 28, 29, 32, revised, to be substituted for the same sheets in the Plan Set.
6. For proposal holders with the electronic bid option only, Amendment Disk No. 1.

Questions and Answers:

1. Item 401753 - STONE MATRIX ASPHALT (SMA) WEARING SURFACE, WARM MIX ASPHALT : It specifies that the production temperatures be no greater than 275°F. Given the fact that the contractor is required to use a material transfer machine in its paving train, would the temperature specification be waived to help alleviate the buildup of the material and to accommodate the other environmental factors which may preclude proper placement and densification of the material?

Addressed in Addendum No. 2.

2. There are no specification on the laboratory testing and evaluation of the SMA material. What exactly would be the testing requirements for the item including frequency of testing and type and quantity of equipment?

Addressed in Addendum No. 2.

3. Based on previous contract's poor experience with Warm SMA, would the Department consider using HOT MIX SMA (401517 STONE MATRIX ASPHALT WEARING SURFACE) in lieu of a WARM MIX ASPHALT SMA? Please find the attached letter in regards to contract T201206202.

Yes, the SMA warm mix has been deleted from the project and replaced with SMA hot mix item number 401517 addressed under addendum 2.

Please note the revisions listed above and submit your bid based upon this information.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott S. Gottfried". The signature is fluid and cursive, with the first name "Scott" and last name "Gottfried" clearly legible.

Scott S. Gottfried
Competitively Bid Contracts Coordinator
:ssg
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401517 - STONE MATRIX ASPHALT (SMA) WEARING SURFACE**Description:**

This work shall consist of mixing and placement of SMA pavement on a prepared foundation in accordance with these specifications. The requirements of Section 401 Hot-Mix, Hot-Laid Bituminous Concrete shall apply except as modified by this section.

Materials:

Aggregates used in SMA shall be non-carbonate.

Materials shall conform to the applicable requirements of Section 800 with the following modifications.

Coarse Aggregate. Coarse aggregate for SMA shall conform to Section 805 with the following modifications:

Test Property	Test Method	Specification Limits
Sodium Sulfate Soundness Loss, % Max. (5 cycles)	AASHTO T104	12
Absorption, % Max.	AASHTO T85	2.0
LA Abrasion Loss, % Max.	AASHTO T96	30
Flat and Elongated Particles: Retained on #4 Sieve, % Max. (Length to Thickness) 5:1 3:1	ASTM D4791	5 20

No gravel or slag shall be used in SMA mixes. A maximum of 10% RAP may be used.

Fine Aggregate. Fine aggregate shall consist of 100 % crushed aggregate and shall conform to the following:

Test Property	Test Method	Specification Limits
Sodium Sulfate Soundness Loss, % Max (5 cycles)	AASHTO T104	12
Sand Equivalent Value, % Min.	AASHTO T176	45
Uncompacted Void Content, % Min.	AASHTO T304	45
Liquid Limit, % Max.	AASHTO T89	25
Plasticity Index, %	AASHTO T90	Non-Plastic

Mineral Filler. Mineral filler shall conform to AASHTO M17 and shall be rock dust or crushed limestone free of organic impurities conforming to the following:

Test Property	Test Method	Specification Limits
Plasticity Index, % Max.	AASHTO T90	4

A sample of mineral filler shall be submitted to Materials & Research for hydrometer analysis performed as specified in AASHTO T88 for mineral filler.

Asphalt Cements. The asphalt cement shall be Superpave PG 76-22 Performance Grade Asphalt according to AASHTO M320, Table 1 and tested according to AASHTO R29.

Stabilizers. Stabilizers have been used to ensure the draindown requirements below are met (<0.3% draindown). Other technologies, in addition to various types of fibers, may be used in this item if test data and field performance demonstrate these specifications are met.

If cellulose fiber or mineral fiber stabilizers are chosen by the producer, they shall meet the requirements below and be specifically designed for use in hot-mix asphalt paving mixtures. The producer shall supply the Engineer with certified test results showing the stabilizers are specifically designed for hot-mix asphalt paving mixtures. A representative of the manufacturer of the stabilizers shall be present at initial production to provide technical assistance.

Cellulose Fibers. Cellulose fibers shall conform to the following requirements:

Test Property	Test Method	Specification Limits
Ash Content, % Non-Volatiles Max.	ASTM D128	23
pH	AASHTO MP8	6.5 to 8.5
Moisture Content, % Max by Mass	AASHTO MP8	5.0
Fiber Length, Max inches	AASHTO MP8	0.25

Mineral Fibers. Mineral fibers shall be made from virgin basalt, diabase, slag, or other silicious rock and shall conform to the following requirements:

Test Property	Test Method	Specification Limits
Fiber Length, Max inches	AASHTO MP8	0.25
Fiber Thickness, Max inches	AASHTO MP8	0.0002
Shot Content No. 60 Sieve No. 230 Sieve	ASTM C612	85 – 95 60 - 80

Antistripping Additives. An approved heat stable anti-stripping additive shall be added to the asphalt cement used for SMA if the TSR value dictates the need.

MIX DESIGN:

Aggregates. The washed gradation (AASHTO T11) of the final mixture for the SMA shall conform to the following gradation:

Sieve	% Passing
12.5 mm (1/2")	100
9.5 mm (3/8")	70 - 95
4.75 mm (#4)	30 - 50
2.36 mm (#8)	20 - 30
1.18 mm (#16)	0 - 21
0.60 mm (#30)	0 - 18
0.30 mm (#50)	0 - 15
0.075 mm (#200)	8.0 – 12.0

Mix Design. The SMA shall meet the following mix design parameters at 100 design gyrations ($N_d=100$) in the Superpave Gyrotory Compactor:

Property	Requirement
Air Voids, %	4.0
VMA, % Min.	18.0
Draindown at production temperature (AASHTO T305), % Max at 1 hour	0.30
Target Asphalt Content, % Min	6.0

Anti-Strip Additives. Tensile Strength Ratio (TSR) values, as determined by the AASHTO T283 Test Method, shall be a minimum of 80. If an anti-strip additive is required, the amount of the additive used shall be 0.25 to 1.0 % by weight of the asphalt cement as determined by the TSR testing, recommended by the additive manufacturer, and approved by the Engineer.

Stabilizer Content. The dosage rates of any stabilizing agent shall be determined by the Contractor to meet these specifications.

Plant Control:

Mineral Filler Supply. Mineral filler dust shall be added to the mixture in a consistent manner to ensure the job mix formula requirements are met. The mineral filler supply system shall be submitted to the Engineer for review and the approval of the submitted system will be at the discretion of the Engineer.

Stabilizer Supply System. When stabilizing additives are required in the mixture, a separate system for feeding shall be used to proportion the required amount into the mixture so that uniform distribution is obtained. The feeding system shall be interlocked into the production plant to ensure correct proportioning.

When a batch plant is used, the stabilizer shall be added through a separate inlet directly into the weigh hopper above the pugmill. The addition of the stabilizer shall be timed to occur during the hot aggregate charging of the hopper. Adequate dry mixing time is required to ensure proper blending of the aggregate and the stabilizer. Dry mixing time shall be increased 5 to 15 seconds. Wet mixing time shall be increased at least 5 seconds for the stabilizer to ensure adequate blending with asphalt cement.

When a drum plant is used, the stabilizer shall be added into the drum mixer to ensure complete blending of the stabilizer into the mix. For this purpose, when adding loose fiber, a separate fiber feeding system shall be utilized that can accurately and uniformly introduce fiber into the drum at such a rate as not to limit the normal production of mix through the drum. An in-line no-flow detector shall be installed in the output side of the fiber blower to ensure that a flow of fiber is entering the drum. It shall be connected to an approved alarm system which will indicate when fiber is not entering the drum. Also, an easily visible portion of the fiber feed tube shall be clear to allow the Engineer to ensure that fiber is flowing into the drum. At no time shall there be any evidence of fiber in the baghouse or returned/wasted baghouse fines.

All stabilizer addition systems shall be approved by the Engineer prior to start-up of the contract.

Construction Methods:

Demonstration:

Before proceeding with the actual production paving work, the Contractor shall demonstrate that an acceptable mix can be produced, placed, and compacted to these Specifications. A minimum of 100 tons of acceptable SMA material shall be produced, placed, and compacted utilizing all paving equipment that will be used on the mainline paving, over a suitable and representative hot-mix base, approved by the Engineer, outside the project limits.

Weather Restrictions:

Placement of SMA will be permitted only when the ambient and surface temperatures are at least 50°F and rising.

Hauling Units:

Hauling units shall be as specified in Section 401.31 and the following:

The time between plant mixing and shipment shall not exceed one half hour, i.e. the SMA shall not be stored in the silo for more than one half hour.

The haul trucks shall deliver the SMA to a material transfer device capable of continuously re-mixing and/or re-blending the material internally to ensure that the SMA is free from physical and thermal segregation. The material transfer device shall be self-propelled and capable to move freely between delivery trucks and the asphalt paver, equipped with a hopper insert, without requiring additional equipment.

The Engineer will evaluate the performance of the paving operation by measuring the temperature of the mat surface immediately behind the screed of the paver during placement to develop a temperature profile. Surface temperature profile measurements shall be taken transversely across the mat, at any time during the project, to determine if the equipment is working properly.

Each temperature profile will consist of three surface temperature measurements; the location of the temperature measurements will be at the approximate center and one foot to three feet from the edge of each side of the mat parallel to the paver screed. The difference between the maximum and minimum temperature within each temperature profile shall not be more than 25°F.

If the difference between any two temperatures taken in a single profile exceeds 25°F, the paving operation shall be halted and adjustments made to ensure that the hot-mix placed is within the temperature profile requirements. Once adjustments are made, the Engineer will take measurements for an additional temperature profile to verify that corrective actions taken resulted in the mix placed meeting temperature differential requirements.

Mix Placement Temperature:

The temperature of the mixture at the time of placement shall not be less than 290°F.

Compaction:

The pavement shall be compacted to 94% of maximum theoretical density or 6% air voids. Item 401699 will be used by the Engineer to calculate payment for this item; Table 5 is modified as referenced below for this item:

<u>Degree of Compaction (%)</u>	<u>Pay Adjustment Factor (%)</u>
>97	-100*
96	-10
95	0
94	+5
93	0
92	-10
91	-15
90	-25

Table 5: Compaction Price Adjustment Highway Locations	
89	-30
≤88	-100*
*or remove and replace at Engineer's discretion.	

Opening to Traffic:

Traffic shall not be allowed on the finished roadway until the roadway temperature cools to at least 140°F.

Method of Measurement and Basis of Payment:

This work will be measured and paid for at the Contract unit price bid per ton for Stone Matrix Asphalt complete, in place, and accepted, which price and payment will be full compensation for furnishing, hauling, preparing and placing all materials; for labor, equipment, tools; and incidentals necessary to complete this item.

Materials produced and striping used for the demonstration will not be paid for but will be considered incidental to the item Stone Matrix Asphalt.

2/3/11

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CONTRACT ID: T201206202.01 PROJECT(S): T201206202

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS CTS	BID AMOUNT DOLLARS CTS
SECTION 0001 Category 0001				
0010	302005 GRADED AGGREGATE BASE COURSE, TYPE B	250.000 TON		
0020	401696 ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVING SURCHARGE	1400.000 TON		
0040	401755 RECYCLED ASPHALT PAVEMENT MILLINGS FOR ROADWAY EDGE	1500.000 CY		
0050	401801 WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)	28930.000 TON		
0060	401823 WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22, PATCHING	940.000 TON		
0070	402000 HOT-MIX BITUMINOUS CONCRETE AND/OR COLD-LAID BITUMINOUS CONCRETE (TRM)	270.000 TON		
0080	406001 HOT-MIX PATCHING	15600.000 SYIN		
0090	701010 PORTLAND CEMENT CONCRETE CURB, TYPE 1	250.000 LF		

DELAWARE DEPARTMENT OF TRANSPORTATION
SCHEDULE OF ITEMS

PAGE: 2
DATE:

CONTRACT ID: T201206202.01 PROJECT(S): T201206202

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0100	705007 SIDEWALK SURFACE DETECTABLE WARNING SYSTEM	190.000 SF				
0110	705008 CURB RAMP, TYPE 1	150.000 SF				
0120	705009 CURB RAMP, TYPE 2, 3, AND/OR 4	2975.000 SF				
0130	708500 REPLACING CATCH BASIN GRATES	6.000 EACH				
0140	708504 REPLACING CATCH BASIN FRAMES	6.000 EACH				
0150	710001 ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET	29.000 EACH				
0160	710002 ADJUSTING AND REPAIRING EXISTING MANHOLE	7.000 EACH				
0170	727502 ADJUSTING EXISTING MONUMENT BOX	1.000 EACH				
0180	732004 TOPSOIL (TON)	80.000 TON				
0190	734013 PERMANENT GRASS SEEDING, DRY GROUND	1700.000 SY				

DELAWARE DEPARTMENT OF TRANSPORTATION
SCHEDULE OF ITEMS

PAGE: 3
DATE:

CONTRACT ID: T201206202.01 PROJECT(S): T201206202

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0200	743003 ARROWPANELS, TYPE C	102.000 EADY				
0210	743004 FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	112.000 EADY				
0220	743005 FURNISH AND MAINTAIN PORTABLE LIGHT ASSEMBLY	408.000 EADY				
0230	743007 TRAFFIC OFFICERS	1020.000 HOUR	75.00000		76500.00	
0240	743010 FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	131.000 EADY				
0250	743051 FLAGGER, KENT COUNTY, STATE	3000.000 HOUR	40.83000		122490.00	
0260	743052 FLAGGER, SUSSEX COUNTY, STATE	3240.000 HOUR	42.00000		136080.00	
0270	743063 FLAGGER, KENT COUNTY, STATE, OVERTIME	450.000 HOUR	59.20000		26640.00	
0280	743064 FLAGGER, SUSSEX COUNTY, STATE, OVERTIME	486.000 HOUR	60.90000		29597.40	
0290	746774 SUPPLY AND INSTALLATION OF LOOP DETECTOR WIRE	1040.000 LF				

DELAWARE DEPARTMENT OF TRANSPORTATION
SCHEDULE OF ITEMS

PAGE: 4
DATE:

CONTRACT ID: T201206202.01 PROJECT(S): T201206202

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CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0300	746776 LOOP DETECTOR SPLICE	13.000 EACH				
0310	748015 PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND ALKYD-THERMOPLAST IC	2370.000 SF				
0320	748019 TEMPORARY MARKINGS, PAINT, 4"	324010.000 LF				
0330	748026 TEMPORARY MARKINGS, PAINT SYMBOL/LEGEND	2770.000 SF				
0340	748502 RAISED/RECESSED PAVEMENT MARKER	1210.000 EACH				
0350	748548 PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	313010.000 LF				
0360	750000 ADJUST WATER VALVE BOXES	15.000 EACH				
0370	758000 REMOVAL OF EXISTING PORTLAND CEMENTCONCRETE PAVEMENT, CURB, SIDEWALK, ETC.	21.000 SY				
0380	760502 PAVEMENT MILLING, TAPER CUT	1400.000 SYIN				
0390	760504 RUMBLE STRIPS, HOT MIX	122600.000 LF				

CONTRACT ID: T201206202.01 PROJECT(S): T201206202

All figures must be typewritten.

CONTRACTOR : _____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE		BID AMOUNT	
			DOLLARS	CTS	DOLLARS	CTS
0400	760507 PROFILE MILLING, HOT-MIX	30800.000 SYIN				
0410	761001 BUTT JOINTS, HOT MIX	3475.000 SY				
0420	762001 SAW CUTTING, HOT MIX	1840.000 LF				
0430	762002 SAW CUTTING, CONCRETE, FULL DEPTH	20.000 LF				
0440	763000 INITIAL EXPENSE	LUMP	LUMP			
0450	763502 MAINTENANCE OF RAILROAD TRAFFIC	LUMP	LUMP			
0460	763621 CONSTRUCTION ENGINEERING, RE-SURFACING	LUMP	LUMP			
0470	763643 MAINTENANCE OF TRAFFIC, ALL INCLUSIVE	LUMP	LUMP			
0471	401517 STONE MATRIX ASPHALT WEARING SURFACE	20690.000 TON				
	SECTION 0001 TOTAL					
	TOTAL BID					



DEPARTMENT OF TRANSPORTATION
OFFICE OF TRANSPORTATION SOLUTIONS
PLANS AND SPECIFICATIONS FOR

CONTRACT NUMBER - T201206202.01

CENTRAL MAINTENANCE

FEDERAL AID NUMBER - NONE

PRIMAVERA ID - 12-06202

CONTRACT TITLE - PAVEMENT & REHABILITATION - SOUTH I-II, 2012

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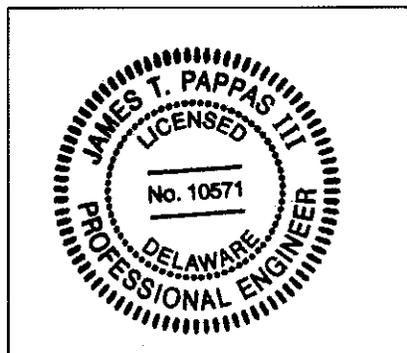
PLANS PREPARED BY: Paul Fabas
DESIGN TECHNICIAN

DATE RECOMMENDED: 7/22/2011

Bradford L. Salms
GROUP ENGINEER, CONSTRUCTION

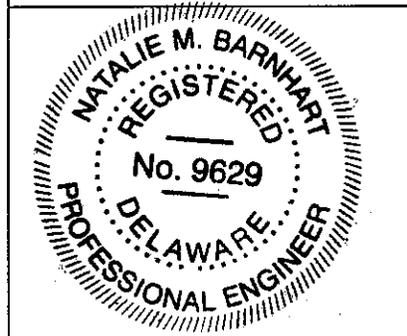
DATE RECOMMENDED: 7-1-11

James T. Pappas III
ASSIST. DIRECTOR, DESIGN



DATE RECOMMENDED: 7/5/11

Natalie Barnhart
CHIEF ENGINEER



SOUTH
MAINTENANCE

PAVEMENT & REHABILITATION, SOUTH I-II, 2012

LOCATION 2

US13 SOUTHBOUND LANES ONLY (S4) FROM DE404(S6) TO CANNON RD(S18)

LENGTH 2057.4000 m 6750.0000 L.F. AADT 24782

GENERAL IMPROVEMENTS

HM PATCHING AND 2" FULL WIDTH OVERLAY.

COMMENTS:

Please see attached sheets for comments

MATERIAL ESTIMATE FOR LOCATION 2

302005	GRADED AGGREGATE BASE COURSE, TYPE B	50.00 TON
401517	 STONE MATRIX ASPHALT WEARING SURFACE	2,050.00 TON
401696	ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVING SURCHARGE	100.00 TON
401755	RECYCLED ASPHALT PAVEMENT MILLINGS FOR ROADWAY EDGE	400.00 C.Y.
401801	WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)	1,850.00 TON
401823	WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22, PATCHING	250.00 TON
402000	HOT-MIX BITUMINOUS CONCRETE AND/OR COLD-LAID BITUMINOUS CONCRETE (TRM)	25.00 TON
406001	HOT-MIX PATCHING	4,200.00 SY-IN
743003	ARROWPANELS, TYPE C	12.00 EA-DY
743004	FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	28.00 EA-DY
743005	FURNISH AND MAINTAIN PORTABLE LIGHT ASSEMBLY	48.00 EA-DY
743007	** TRAFFIC OFFICERS	120.00 HOUR
743010	FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	12.00 EA-DY
743052	** FLAGGER, SUSSEX COUNTY, STATE	480.00 HOUR
743064	** FLAGGER, SUSSEX COUNTY, STATE, OVERTIME	72.00 HOUR
748015	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND ALKYD-THERMOPLAST IC	200.00 S.F.
748019	TEMPORARY MARKINGS, PAINT, 4"	20,250.00 L.F.
748026	TEMPORARY MARKINGS, PAINT SYMBOL/LEGEND	200.00 S.F.
748502	RAISED/RECESSED PAVEMENT MARKER	85.00 EACH
748548	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	20,250.00 L.F.
761001	BUTT JOINTS, HOT MIX	600.00 S.Y.

** DENOTES FIXED PRICE ITEM

SOUTH
MAINTENANCE

PAVEMENT & REHABILITATION, SOUTH I-II, 2012

LOCATION 2 US13 SOUTHBOUND LANES ONLY (S4) FROM DE404(S6) TO CANNON RD(S18)

COMMENTS:

1. RECOMMENDED M.O.T. CASE NO. 7 (TRAVEL LANES).
CASE NO. 3 (SHOULDERS).
2. NIGHTTIME WORK HOURS:
. BEFORE SEPTEMBER 15; 8:00PM TO 6:00AM(SUNDAY TO THURSDAY).
. AFTER SEPTEMBER 15; 8:00PM TO 6:00AM(MONDAY TO FRIDAY).
3. ON THE MAIN CONSTRUCTION ROAD AND ALL INTERSECTING ROADS, "ROAD WORK AHEAD AND END" SIGNS FACING THE TRAFFIC SHALL BE PLACED AT 1500', 1000' AND 500' APPROACHING THE WORK ZONE. IN THOSE CASES, WHERE IT IS DIFFICULT TO MEET THE ABOVE CRITERIA BECAUSE OF DISTANCE LIMITATIONS, THE SIGN SHALL BE PLACED AS DIRECTED BY THE FIELD ENGINEER.
4. GABC ITEM 302005 AND QUANTITY IS FOR UNIMPROVED DRIVEWAYS.
5. TRM HOT-MIX ASPHALT SHALL BE USED ONLY, COLD-MIX ASPHALT (COLD PATCH) WILL NOT BE ACCEPTED.
6. THE TEMPORARY STRIPING SHALL BE PAID FOR ONE TIME PER LIFT.
7. HOT-MIX OVERLAY NOTES* 

USE SMA FOR TRAVEL LANES AND INTERSECTIONS.
USE 64-22 (C) TYPE C WARM-MIX FOR TURN LANES, MEDIAN CROSSOVERS AND OUTSIDE SHOULDERS.

*THE REMOVAL OF EXISTING RAISED PAVEMENT MARKERS SHALL BE INCIDENTAL TO THE OVERLAY INCLUDING PLACING BACK COMPACTED HOT-MIX MATERIAL TO FILL THE EXPOSED VOID.

A MATERIAL TRANSFER VEHICLE SHALL BE USED FOR MAINLINE PAVING OPERATIONS.

THIS LOCATION SHALL MEET THE TOLERANCES OF SUBSECTION 401580 - RIDE QUALITY OF HOT-MIX PAVEMENT REQUIREMENTS, AS SPECIFIED IN THE SPECIAL PROVISIONS.

ENTRANCE AND DRIVEWAY LOCATIONS:

- #18868 - 10'
- #20172 - 10'
- #20244 - 20'
- #20214 BRIDGEVILLE AUTO - 10'

ADDENDUM No. 1 – Revised Note - (10/26/11-PGF)

CONTRACT T201206202

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SOUTH
MAINTENANCE

PAVEMENT & REHABILITATION, SOUTH I-II, 2012

LOCATION 3

**US13, NORTHBOUND & SOUTHBOUND(S4) FROM HMJ NORTH OF ADAMS
RD(S583) TO KENT COUNTY LINE**

LENGTH 5169.4080 m 16960.0000 L.F. AADT 21568

GENERAL IMPROVEMENTS

HM PATCHING AND 2" FULL WIDTH OVERLAY. 

COMMENTS:

Please see attached sheets for comments

MATERIAL ESTIMATE FOR LOCATION 3

302005	GRADED AGGREGATE BASE COURSE, TYPE B	50.00 TON
401517	 STONE MATRIX ASPHALT WEARING SURFACE	5,140.00 TON
401696	ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVING SURCHARGE	400.00 TON
401755	RECYCLED ASPHALT PAVEMENT MILLINGS FOR ROADWAY EDGE	450.00 C.Y.
401801	WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)	14,060.00 TON
401823	WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22, PATCHING	260.00 TON
402000	HOT-MIX BITUMINOUS CONCRETE AND/OR COLD-LAID BITUMINOUS CONCRETE (TRM)	100.00 TON
406001	HOT-MIX PATCHING	4,400.00 SY-IN
708500	REPLACING CATCH BASIN GRATES	4.00 EACH
708504	REPLACING CATCH BASIN FRAMES	4.00 EACH
710001	ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET	4.00 EACH
710002	ADJUSTING AND REPAIRING EXISTING MANHOLE	4.00 EACH
727502	ADJUSTING EXISTING MONUMENT BOX	1.00 EACH
743003	ARROWPANELS, TYPE C	40.00 EA-DY
743004	FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	28.00 EA-DY
743005	FURNISH AND MAINTAIN PORTABLE LIGHT ASSEMBLY	160.00 EA-DY
743007	** TRAFFIC OFFICERS	400.00 HOUR
743010	FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	40.00 EA-DY
743052	** FLAGGER, SUSSEX COUNTY, STATE	1,600.00 HOUR
743064	** FLAGGER, SUSSEX COUNTY, STATE, OVERTIME	240.00 HOUR
746774	SUPPLY AND INSTALLATION OF LOOP DETECTOR WIRE	1,040.00 L.F.
746776	LOOP DETECTOR SPLICE	13.00 EACH
748015	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND ALKYD-THERMOPLASTIC	900.00 S.F.
748019	TEMPORARY MARKINGS, PAINT, 4"	129,260.00 L.F.
748026	TEMPORARY MARKINGS, PAINT SYMBOL/LEGEND	900.00 S.F.
748502	RAISED/RECESSED PAVEMENT MARKER	500.00 EACH
748548	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	129,260.00 L.F.

ADDENDUM No. 1 – Revised Item Number - (10/26/11-PGF)

DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT T201206202

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SOUTH
MAINTENANCE

PAVEMENT & REHABILITATION, SOUTH I-II, 2012

LOCATION 3 US13, NORTHBOUND & SOUTHBOUND(S4) FROM HMJ NORTH OF ADAMS
RD(S583) TO KENT COUNTY LINE

LENGTH 5169.408 m 16960 L.F. AADT 21568

GENERAL IMPROVEMENTS

HM PATCHING AND 2" FULL WIDTH OVERLAY. 

COMMENTS:

Please see attached sheets for comments

MATERIAL ESTIMATE FOR LOCATION 3

760502	PAVEMENT MILLING, TAPER CUT	1,400.00 SY-IN
760504	RUMBLE STRIPS, HOT MIX	33,920.00 L.F.
761001	BUTT JOINTS, HOT MIX	1,275.00 S.Y.
762001	SAW CUTTING, HOT MIX	1,000.00 L.F.

** DENOTES FIXED PRICE ITEM

SOUTH
MAINTENANCE

PAVEMENT & REHABILITATION, SOUTH I-II, 2012

LOCATION 3 US13, NORTHBOUND & SOUTHBOUND(S4) FROM HMJ NORTH OF ADAMS RD(S583)
TO KENT COUNTY LINE

COMMENTS:

1. RECOMMENDED M.O.T. CASE NO. 7 (TRAVEL LANES).
CASE NO. 3 (SHOUDLERS).
2. NIGHTTIME WORK HOURS:
NORTHBOUND - 8:00PM TO 6:00AM(MONDAY TO FRIDAY).
SOUTHBOUND - BEFORE SEPTEMBER 15; 8:00PM TO 6:00AM(SUNDAY TO THURSDAY).
AFTER SEPTEMBER 15; 8:00PM TO 6:00AM(MONDAY TO FRIDAY).
3. ON THE MAIN CONSTRUCTION ROAD AND ALL INTERSECTING ROADS, "ROAD WORK AHEAD AND END" SIGNS FACING THE TRAFFIC SHALL BE PLACED AT 1500', 1000' AND 500' APPROACHING THE WORK ZONE. IN THOSE CASES, WHERE IT IS DIFFICULT TO MEET THE ABOVE CRITERIA BECAUSE OF DISTANCE LIMITATIONS, THE SIGN SHALL BE PLACED AS DIRECTED BY THE FIELD ENGINEER.
4. GABC ITEM 302005 AND QUANTITY IS FOR UNIMPROVED DRIVEWAYS.
5. 2" TAPER MILL IN FRONT OF EXISTING CURB.
6. TRM HOT-MIX ASPHALT SHALL BE USED ONLY, COLD-MIX ASPHALT (COLD PATCH) WILL NOT BE ACCEPTED.
7. THE TEMPORARY STRIPING SHALL BE PAID FOR ONE TIME PER LIFT.
8. HOT-MIX OVERLAY NOTES* 

USE SMA FOR TRAVEL LANES AND INTERSECTIONS.
USE 64-22 (C) TYPE C WARM-MIX FOR TURN LANES, MEDIAN CROSSOVERS AND OUTSIDE SHOULDERS.

*THE REMOVAL OF EXISTING RAISED PAVEMENT MARKERS SHALL BE INCIDENTAL TO THE OVERLAY INCLUDING PLACING BACK COMPACTED HOT-MIX MATERIAL TO FILL THE EXPOSED VOID.

A MATERIAL TRANSFER VEHICLE SHALL BE USED FOR MAINLINE PAVING OPERATIONS.

THIS LOCATION SHALL MEET THE TOLERANCES OF SUBSECTION 401580 - RIDE QUALITY OF HOT-MIX PAVEMENT REQUIREMENTS, AS SPECIFIED IN THE SPECIAL PROVISIONS.

ENTRANCE AND DRIVEWAY LOCATIONS:

SOUTHBOUND

- FARM LANE - 10'
- #11474 - 10'
- CROSSOVER - 40'
- BERACHA HOMES - 15'
- #12036 - 10'
- MOTEL - 10'
- GREENWOOD INN - 5'
- #12058 - 5'
- #12104 - 10'
- #12104 - 10'

SOUTH
MAINTENANCE

PAVEMENT & REHABILITATION, SOUTH I-II, 2012

LOCATION 5 US13 NORTHBOUND & SOUTHBOUND(K6) FROM SUSSEX COUNTY LINE TO
TOWER HILL RD(K315)

LENGTH 13514.8320 m 44340.0000 L.F. AADT 21568

GENERAL IMPROVEMENTS

HM PATCHING AND 2" FULL WIDTH OVERLAY.

COMMENTS:

Please see attached sheets for comments

MATERIAL ESTIMATE FOR LOCATION 5

302005	GRADED AGGREGATE BASE COURSE, TYPE B	50.00 TON
401517	 STONE MATRIX ASPHALT WEARING SURFACE	13,500.00 TON
401696	ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVING SURCHARGE	600.00 TON
401755	RECYCLED ASPHALT PAVEMENT MILLINGS FOR ROADWAY EDGE	600.00 C.Y.
401801	WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)	10,500.00 TON
401823	WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22, PATCHING	170.00 TON
402000	HOT-MIX BITUMINOUS CONCRETE AND/OR COLD-LAID BITUMINOUS CONCRETE (TRM)	100.00 TON
406001	HOT-MIX PATCHING	2,800.00 SY-IN
743003	ARROWPANELS, TYPE C	50.00 EA-DY
743004	FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	28.00 EA-DY
743005	FURNISH AND MAINTAIN PORTABLE LIGHT ASSEMBLY	200.00 EA-DY
743007	** TRAFFIC OFFICERS	500.00 HOUR
743010	FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	50.00 EA-DY
743051	** FLAGGER, KENT COUNTY, STATE	3,000.00 HOUR
743063	** FLAGGER, KENT COUNTY, STATE, OVERTIME	450.00 HOUR
748015	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND ALKYD-THERMOPLAST IC	600.00 S.F.
748019	TEMPORARY MARKINGS, PAINT, 4"	146,970.00 L.F.
748026	TEMPORARY MARKINGS, PAINT SYMBOL/LEGEND	600.00 S.F.
748502	RAISED/RECESSED PAVEMENT MARKER	560.00 EACH
748548	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	146,970.00 L.F.
760504	RUMBLE STRIPS, HOT MIX	88,680.00 L.F.
761001	BUTT JOINTS, HOT MIX	1,300.00 S.Y.
762001	SAW CUTTING, HOT MIX	500.00 L.F.

** DENOTES FIXED PRICE ITEM

SOUTH
MAINTENANCE

PAVEMENT & REHABILITATION, SOUTH I-II, 2012

LOCATION 5 US13 NORTHBOUND & SOUTHBOUND(K6) FROM SUSSEX COUNTY LINE TO TOWER HILL RD(K315)

COMMENTS:

1. RECOMMENDED M.O.T. CASE NO. 7 (TRAVEL LANES).
CASE NO. 3 (SHOUDLERS).
2. NIGHTTIME WORK HOURS:
 . NORTHBOUND - 8:00PM TO 6:00AM(MONDAY TO FRIDAY).
 . SOUTHBOUND - BEFORE SEPTEMBER 15; 8:00PM TO 6:00AM(SUNDAY TO THURSDAY).
 . AFTER SEPTEMBER 15; 8:00PM TO 6:00AM(MONDAY TO FRIDAY).
3. ON THE MAIN CONSTRUCTION ROAD AND ALL INTERSECTING ROADS, "ROAD WORK AHEAD AND END" SIGNS FACING THE TRAFFIC SHALL BE PLACED AT 1500', 1000' AND 500' APPROACHING THE WORK ZONE. IN THOSE CASES, WHERE IT IS DIFFICULT TO MEET THE ABOVE CRITERIA BECAUSE OF DISTANCE LIMITATIONS, THE SIGN SHALL BE PLACED AS DIRECTED BY THE FIELD ENGINEER.
4. GABC ITEM 302005 AND QUANTITY IS FOR UNIMPROVED DRIVEWAYS.
5. TRM HOT-MIX ASPHALT SHALL BE USED ONLY, COLD-MIX ASPHALT (COLD PATCH) WILL NOT BE ACCEPTED.
6. THE TEMPORARY STRIPING SHALL BE PAID FOR ONE TIME PER LIFT.

7. HOT-MIX OVERLAY NOTES* 

 USE SMA FOR TRAVEL LANES AND INTERSECTIONS.
 USE 64-22 (C) TYPE C WARM-MIX FOR TURN LANES, MEDIAN CROSSOVERS AND OUTSIDE SHOULDERS.

*THE REMOVAL OF EXISTING RAISED PAVEMENT MARKERS SHALL BE INCIDENTAL TO THE OVERLAY INCLUDING PLACING BACK COMPACTED HOT-MIX MATERIAL TO FILL THE EXPOSED VOID.

A MATERIAL TRANSFER VEHICLE SHALL BE USED FOR MAINLINE PAVING OPERATIONS.

 THIS LOCATION SHALL MEET THE TOLERANCES OF SUBSECTION 401580 - RIDE QUALITY OF HOT-MIX PAVEMENT REQUIREMENTS, AS SPECIFIED IN THE SPECIAL PROVISIONS.

ENTRANCE AND DRIVEWAY LOCATIONS

 SOUTHBOUND

- FARMINGTON SIGN - 20'
- MAIN ST - 20'
- N/A - 20'
- SCHOOL - 20'
- KROUSEYS - 10'
- #21278 - 10'
- FOR RENT - 10'
- #21324 - 5'
- #21508 - 10'
- #21576 - 10'
- NINE FOOT - 25'
- #22696 - 10'
- #22752 ANTIQUE - 10'

ADDENDUM No. 1 – Revised Note - (10/26/11-PGF)

DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT: T201206202

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**SOUTH PAVEMENT & REHABILITATION, SOUTH I-II, 2012
MAINTENANCE**

CONTRACT QUANTITIES SUMMARY SHEET

302005	GRADED AGGREGATE BASE COURSE, TYPE B	250.00 TON
401517	STONE MATRIX ASPHALT WEARING SURFACE 	20,690.00 TON
401696	ENTRANCE, DRIVEWAY AND INTERSECTING STREET PAVING SURCHARGE	1,400.00 TON
401755	RECYCLED ASPHALT PAVEMENT MILLINGS FOR ROADWAY EDGE	1,500.00 C.Y.
401801	WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)	28,930.00 TON
401823	WMA, SUPERPAVE, BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22, PATCHING	940.00 TON
402000	HOT-MIX BITUMINOUS CONCRETE AND/OR COLD-LAID BITUMINOUS CONCRETE (TRM)	270.00 TON
406001	HOT-MIX PATCHING	15,600.00 SY-IN
701010	PORTLAND CEMENT CONCRETE CURB, TYPE 1	250.00 L.F.
705007	SIDEWALK SURFACE DETECTABLE WARNING SYSTEM	190.00 S.F.
705008	CURB RAMP, TYPE 1	150.00 S.F.
705009	CURB RAMP, TYPE 2, 3, AND/OR 4	2,975.00 S.F.
708500	REPLACING CATCH BASIN GRATES	6.00 EACH
708504	REPLACING CATCH BASIN FRAMES	6.00 EACH
710001	ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET	29.00 EACH
710002	ADJUSTING AND REPAIRING EXISTING MANHOLE	7.00 EACH
727502	ADJUSTING EXISTING MONUMENT BOX	1.00 EACH
732004	TOPSOIL (TON)	80.00 TON
734013	PERMANENT GRASS SEEDING, DRY GROUND	1,700.00 S.Y.
743003	ARROW PANELS, TYPE C	102.00 EA-DY
743004	FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	112.00 EA-DY
743005	FURNISH AND MAINTAIN PORTABLE LIGHT ASSEMBLY	408.00 EA-DY
743007	** TRAFFIC OFFICERS	1,020.00 HOUR
743010	FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	131.00 EA-DY
743051	** FLAGGER, KENT COUNTY, STATE	3,000.00 HOUR
743052	** FLAGGER, SUSSEX COUNTY, STATE	3,240.00 HOUR
743063	** FLAGGER, KENT COUNTY, STATE, OVERTIME	450.00 HOUR
743064	** FLAGGER, SUSSEX COUNTY, STATE, OVERTIME	486.00 HOUR

ADDENDUM No. 1 – Revised Item Number - (10/26/11-PGF)