The State of Delaware Department of Transportation

**Maintenance and Operations** 

#### **Plans and Specifications for**

Contract Number T2015-064-03 Hot Mix and PCC Patching, Canal District, Open End FY 15–FY 17



## DELAWARE DEPARTMENT OF TRANSPORTATIONContract No. T2015-064-03FY15 - FY17Hot Mix and PCC Patching - Canal District – Open EndPage 2 of 20

#### **Contract Description**

The purpose of this contract is to repair hot mix (HM) and portland cement concrete (PCC) pavement in the Canal District. The Canal District (New Castle County) is composed of DelDOT maintenance areas 9 and 10. Maintenance Area 9 of Canal District extends from the Kent County line northward to the C&D Canal. Maintenance Area 10 extends from the C&D Canal northward to the I-95 corridor/City of Newark limits (see maps on pages 12 and 13).

Work includes saw cutting, milling, removal of existing pavement, placing HM, PCC and dowel bars, placing temporary roadway material (TRM), providing maintenance of traffic (MOT) and replacing striping.

The specific work sites are not listed herein, but will be assigned as available by the District via work orders.

This is a working day contract that will end three years (1,095 calendar days) from issuance date of Notice To Proceed (NTP).

# Website Copy

#### Project Notes

- 1. Construction of this contract shall conform to Delaware Department of Transportation Standard Specifications dated August 2001, as amended by the Supplemental Specifications, the Special Provisions and these Plans.
- 2. Depending on fund availability, the department reserves the right to increase or decrease quantities of items specified in this contract. Such additions or subtractions shall not be cause for an increase or decrease in contract unit bid prices. The total contract value, with all additional work if added, shall not exceed 150 percent of the original contract value. When total alterations involve an increase or decrease of more than 50 percent in the quantity of any contract item, either party to the contract shall be entitled to demand a Supplemental Agreement on that portion of the work.
- 3. The Contractor and all others shall perform all work in a manner that shall ensure the least practical obstruction to the traveling public. MOT shall conform to the requirements of the latest version of the Manual entitled "Delaware Manual on Uniform Traffic Control Devices For Streets And Highways (DE MUTCD)", in effect at the time of advertisement for bids.
- 4. No utility relocation involvement is anticipated. Should any conflicts be encountered during construction requiring adjustment and/or relocation of the agencies' existing facilities, the necessary relocation work shall be accomplished by the respective agencies' forces, as directed by the Engineer. Any adjustments and/or relocations on municipally owned facilities shall be done by the State's contractor in accordance with the respective agencies' Standard Specifications as directed by the Engineer.
- 5. No environmental permits are required for this work provided no jurisdictional wetlands or waters are impacted. If there is a question as to whether or not a water or wetland is jurisdictional, contact the DeIDOT Environmental Section at 302-760-2264.
- 6. It is anticipated that all work will occur within DelDOT's existing right of way or easement areas. Should the need occur to trespass onto private property; it will be the responsibility of the contractor's project manager to secure such trespass needs. The contractor may contact DelDOT's inspection representative for this contract to arrange ROW stakeouts (if needed).
- 7. No work near or within railroad Right-of-Way is anticipated. If any railroad property or facilities are near or within the proposed limits of work or if the proposed work encroaches upon the railroad's Right-of-Way, the contractor shall be responsible for obtaining the required clearances and insurances for each involved railroad in accordance with the appropriate DelDOT Maintenance of Railroad Traffic item. DelDOT's Railroad Section Manager must be contacted at (302) 760-2183 to coordinate the execution of the appropriate agreements and authorizations required from any railroad company involved, including coordination for railroad flagging, if necessary.

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- 8. The Contractor shall not trespass on private property unless a "Temporary Trespass Agreement" has been acquired from the property owner. If the work is within a permanent easement, the work shall not begin until the adjacent property owners have been notified. Prior to starting work on private property, the Contractor shall notify affected property owners of proposed work dates.
- Work located in Municipalities requires Town Agreements and work in these locations cannot commence before obtaining them. To obtain a Town Agreement, the contractor must work with DeIDOT's TEAM Support section at (302) 760-2251.
- 10. The Project Manager shall be responsible for coordinating with the Traffic Section relating to any impacts to Traffic Section facilities (including but not limited to traffic loops, junction wells, etc.) at least four weeks in advance of the start of the construction activity. Prior to initiating any work on this contract (or sites), the Project Manager shall be responsible for preparing and submitting for approval of the Safety Section, a Maintenance of Traffic Plan. Sufficient time shall be provided for the review and approval of the plan. The Maintenance of Traffic Plan shall include proposed time restrictions on the closure of travel lanes subject to the approval of the Safety Section. Typically, the work shall be done using Typical Application 11A of the MUTCD. Restricted working hours will be included on the work orders and will be in effect on state numbered roads as dictated by traffic volumes.

If a road closure is required, the Contractor shall be required to submit the proposed detour route to the Traffic Engineer for approval. The Contractor shall coordinate the closure with the Engineer. The detour route must be approved by the Engineer prior to closure. All Traffic Control Devices shall be compliant as per NCHRP Report 350. The Contractor shall be responsible for furnishing and maintaining the MOT apparatus at the closure (i.e. Type III Barricade, Road Closed signs, etc.) and all advance warning signs. The Contractor shall be responsible for placement of detour trailblazers. If necessary, the Engineer will assign the detour route.

Drums with florescent sheeting will be required in work areas where completion time will extend beyond one daylight operation. For roadways with a posted speed limit of 25 MPH or less, a minimum of three drums with florescent sheeting will be required and warning lights will not be required.

All open excavations shall be secured with plastic drums with florescent sheeting and orange, plastic snow fence. If the construction activity results in a vertical difference or drop-off along, adjacent to or across a travel way, the Contractor shall eliminate or remedy this hazard by the methods detailed in Section 6G.20 of the MUTCD as directed by the Engineer. The snow fence, tie wire, etc. shall be incidental to the work it protects.

11. The Contractor's project manager is responsible for ensuring any required documents and analysis as part of the adopted Work Zone Safety and Mobility Procedures and Guidelines has been completed prior to any work starting on this contract.

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- 12. The Contractor shall protect all driveways from damage due to Contractor's equipment and shall be responsible for all such damage done by Contractor's equipment.
- 13. Underground utilities may be present at all locations. Therefore, all standard practices and procedures regarding utilities shall be followed. Contractor is required to make Miss Utility calls to have utilities marked-out prior to starting each work order.
- 14. Prosecution and progress of work:

The Contractor shall commence work indicated on the work order no later than the third (3<sup>rd</sup>) day after issuance unless required materials are not available. Non-availability of materials shall be verified by at least three (3) different sources. Verification shall be formal and supplied by the Contractor in writing.

Issuance of each work order constitutes the notice to proceed with the work described on the work order.

If there is a verified non-availability of materials, time charges shall commence on the first (1st) working day following the delivery date of said materials.

The work will be scheduled via work orders from the department. Work sites will vary in complexity. The work orders will indicate the work to be performed at each site. Any questions pertaining to any locations, during construction, shall be referred to the Engineer or his/her representative.

The Contractor shall have up to four (4) active work orders at any one time until all assigned work has been completed. The Contractor shall be required to have simultaneous operations up to the limit of four (4) active work orders. The District will attempt to issue the work orders grouped together by location. The Contractor shall be required to work in multiple areas concurrently to engage in the limit of four (4) work orders simultaneously. The Contractor is required to have a minimum of three viable working crews readily available to work on this contract unless otherwise directed by the Engineer or representative. Each crew is required to have a qualified superintendent as outlined in Section 105.07 of the Standard Specifications and at least two (2) qualified equipment operators.

Failure to complete assigned work orders in the calculated time constitutes "Failure to Pursue the Work" and subjects the Contractor to liquidated damages as outlined in Subsection 108.09 of the Standard Specifications. If work on a specific work order is not completed within the allotted time, liquidated damages will be assessed in accordance with Subsection 108.09 of the Standard Specifications and based on the total value of that work order.

A final inspection will be performed in accordance with Subsection 105.20 of the Standard Specifications on each work order and if the work is satisfactorily completed it will be accepted by the department. When seeding is required on the work order, a full

stand of grass will be required. The stand shall be established for a minimum of seven days prior to final inspection.

15. Each work order shall be considered a separate unit of work. The Engineer will make payment monthly for the completed invoices as outlined in Section 109.07.

Upon the substantial completion of the work at an individual location, the Engineer will stop time at that location and perform a semi-final inspection for the work order location in accordance with Subsection 105.20. If the work is satisfactorily completed, the Engineer will release the Contractor from maintenance responsibility for that location. The Engineer reserves the right to require the Contractor to add work or make repairs to completed locations at the Engineer's expense until such a location has been accepted by the Department. The Contractor must repair all defects in the work caused by poor workmanship or materials at his/her own expense until the Department accepts the Contract after the Final Inspection.

A Final Inspection will be completed on an annual basis for work orders completed in a calendar year. Upon satisfactory completion of the Final Punchlist, the Department will accept the location and release the Contractor from responsibility for the work at that location. If a work order is sufficiently large and complex as determined by the Engineer, a Final Inspection may be held upon the individual completion of that work order.

- 16. The following changes to the Standard Specifications are applicable to this contract:
  - (a) Delete subsection 108.02 of the Standard Specifications.
  - (b) Delete the second sentence of subsection 104.05 and subsections A through E of the Standard Specifications.
- 17. Paragraph three of Section 406.05 of the Standard Specifications shall be deleted. When patching is required, the removal of pavement material (hot mix, graded aggregate base course, etc.) shall be paid for under Section 406, hot-mix patching. For patches needed to work on pipe crossings, material removed below the pavement box will be paid for by Section 212 of the Standard Specifications. For patches needed to work on structures, removal of material below the pavement box will be negotiated or performed by Force Account procedures.
- 18. All additional work shall be performed by contract unit prices. In the case where contract prices are not available, prices are to be negotiated or performed by Force Account procedures.
- 19. At the discretion of the Engineer or representative, there may be periodic winter shutdowns due to inclement weather, low temperatures, or supplier equipment change over. During winter shutdowns, time charges will be suspended.
- 20. All flaggers utilized by the Contractor for this project shall be ATSSA certified. All flaggers shall have certification cards with them while working. Absence of a

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certification card will be justification for flagger dismissal from the site and corresponding suspension of work. All construction and Contractor vehicles and self-propelled equipment shall be equipped with an operating roof mounted amber flashing light.

21. The location of the work to be performed shall be designated by mobilization and paving surcharge zones. The zone limits are depicted on numbered zone maps (see pages 14 through 18 of these contract plans). The boundaries of the zones are roads, rivers, county lines and other natural boundaries.

The Department expects to issue work orders such that when one location is completed, the Contractor can immediately move to the next location. The Department will make every attempt to minimize the distance between locations. When a work order contains a divided highway where work is to be done on both

directions of the highway, the work shall be considered continuous and the Contractor will be paid one mobilization.

One mobilization fee shall be paid for each location, except when another location or work order can be completed without using a trailer to transport the equipment (i.e. paver, roller, miller). This determination shall be agreed upon by the Contractor and Department prior to mobilization.

- 22. The Contractor shall submit a traffic control plan for approval before the start of the work at each location. Restricted working hours will be in effect on state numbered roads (the larger feeder and collector roads) as dictated by traffic volumes. These hours are 9:00 am to 3:30 pm. Night time hours are 8:00 pm to 5:30 am.
- 23. The work will be scheduled via work orders from the District Maintenance office. Work sites will vary in size. Typically, the work will involve hot mix and/or pcc patching the roadway.

The work orders will indicate the work to be performed at each site. Any questions pertaining to any locations, during construction, shall be referred to the Engineer or his/her representative.

- 24. All required maintenance of traffic warning signs will be paid under Item 743024, temporary warning signs. All warning signs shall be diamond-shaped (square with one diagonal vertical) with a black legend and border on a yellow background. Warning signs shall be designed in accordance with the sizes, shapes, colors and legends contained in Section 1A.11 of the Delaware MUTCD manual (see <u>www.deldot.gov</u> website for copy). A fluorescent yellow background should be used for overhead warning signs.
- 25. No separate payment shall be made for use of traffic cones. Traffic cones and/or work associated with their use, such as set up, removal, cleaning, etc., shall be incidental to the work for which they protect.

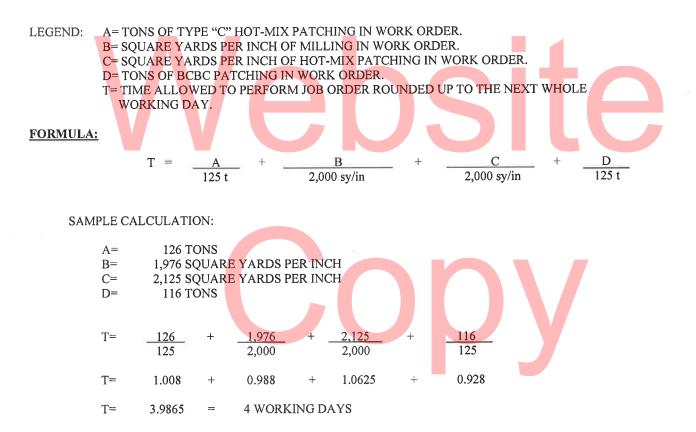
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- 26. Butt joints shall be placed at all intersecting hot mix roads and any other locations as directed by the Engineer. Butt joints at railroad crossings and at bridge or drainage structures not to be resurfaced shall be as per the included plan detail. Butt joints cut prior to the day of the pavement overlay shall be ramped with hot mix TRM. Pavement milling material will not be allowed for this purpose. Butt joints, in full mill areas as well as removal and cleanup of the hot mix residue wedge left from roto-milling operations shall be negotiated or performed by Force Account procedures.
- 27. Taper mill means milling in the area of fixed structures where the milled depth at the structure will be below the existing elevation the depth of the proposed overlay and zero inches at 6 feet +/- away from the structure. Milled depth computation will be the average of these two. Taper milling will be paid under Item 760000 Pavement Milling, Hot Mix (sy/in).
- 28. All pavement edge treatments (termed Safety Edges) installed on this contract shall comply with DelDOT Design Guidance Memorandum 1-25, which may be referenced at www.deldot.gov.
- 29. All excavated and milled material shall remain the property of the Contractor.
- 30. The Contractor, with the Engineer or his/her representative, shall inventory all signs on all roads subject to improvements. Necessary signs shall be maintained in operation during construction and any other signs shall be properly stored with the Contractor, who shall be responsible for loss or damage. Immediately prior to final inspection, the Contractor and Engineer shall again inventory the traffic signs and account for any lost or damaged signs.
- 31. The Contractor shall provide residents 24-hour prior written notice for all phases of contract work. This notice shall be given to all residents whose property is adjacent to the street on which work is to be performed. Failure to give notice will result in a suspension of work.
- 32. The Contractor shall take care in removing pavement around utilities, butt joints, curb edges and other objects to be paved around when cleaning after a milling operation. Care should be taken so as not to dig deeper than the required depth. Failure to do so will result in the Contractor placing leveling courses at his/her own expense.
- 33. Before the start of a day's milling or paving operations, and where there is existing striping, the Contractor shall be required to provide proof that enough material of an approved striping method is available onsite to ensure striping is complete before traffic is allowed on the roadway.
- 34. For work locations in this contract, a patch thickness of 9.0" (+/- 1 inch) should be assumed. Additional thickness can be paid using Item 503503 Patching Concrete.

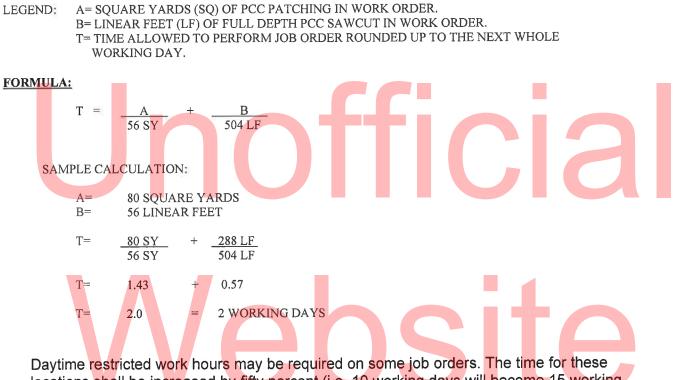
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- 35. All milled patch areas must be backfilled with B.C.B.C. the same day. The Engineer may allow the Type C Hot Mix to be placed the next day depending on quantities at a given location.
- 36. When a location is designated for night time paving operations, all paving work, pavement milling, patching, and restoration shall be performed at night during the hours set by the Engineer (see note #22).
- 37. Time to perform the work assigned per work order shall be developed by the following method and items:

#### **Hot Mix Patching**

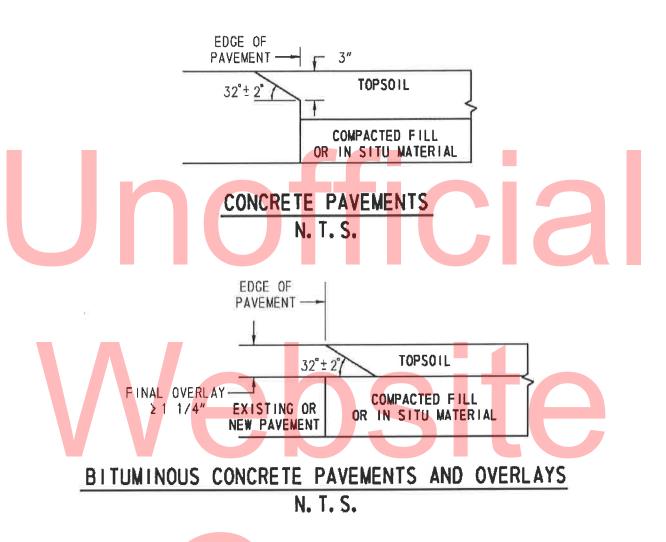


#### PCC Patching



locations shall be increased by fifty percent (i.e. 10 working days will become 15 working days).

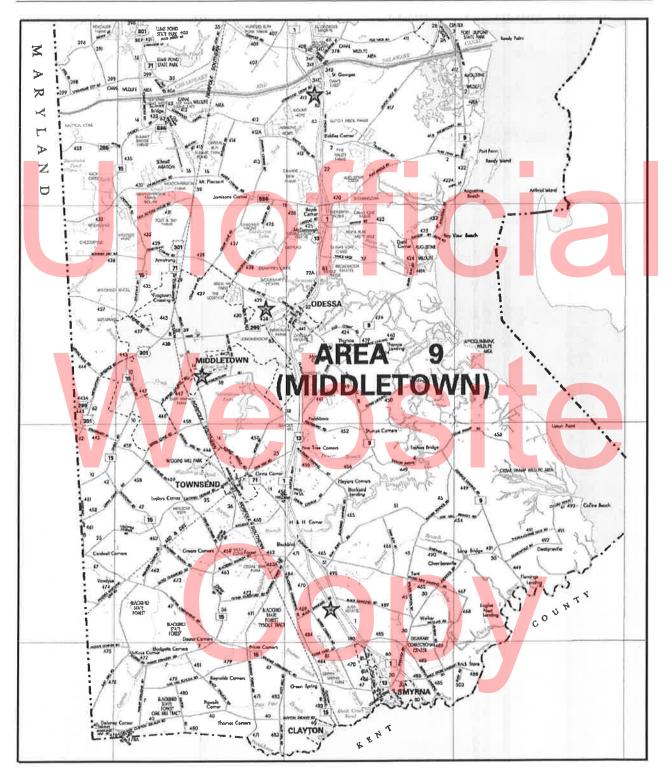
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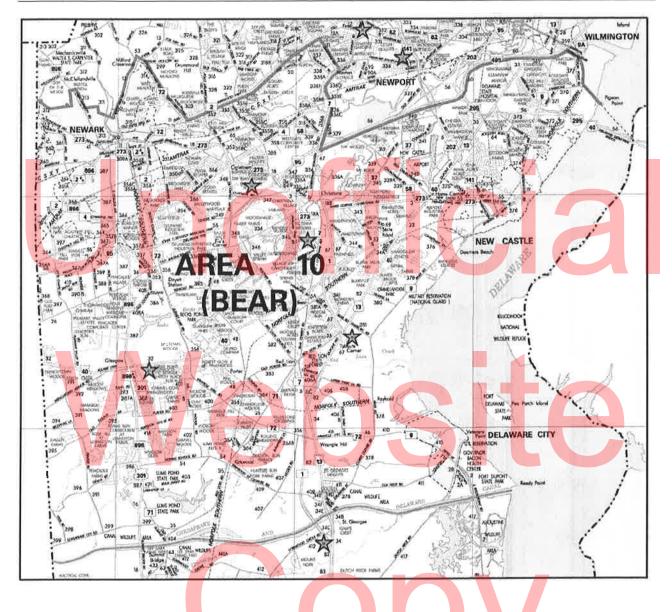
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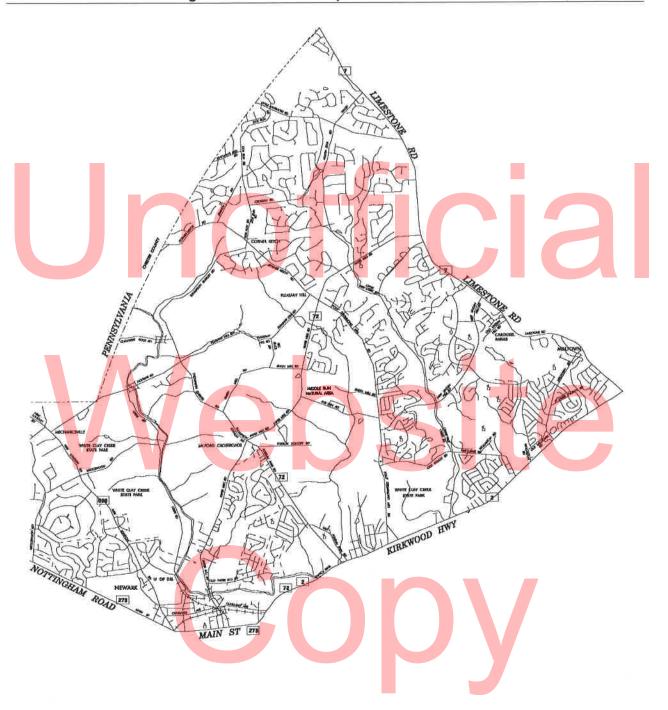


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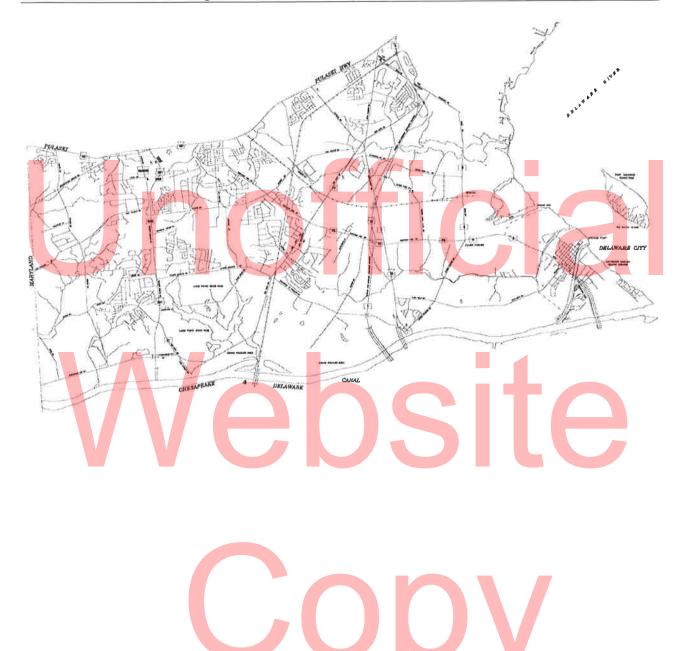


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MOBILIZATION ZONE - 7

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**MOBILIZATION ZONE - 8** 

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**MOBILIZATION ZONE – 9** 

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#### <u>Quantity Summary</u>

ltem	Description	UOM	Quantity
212001	UNDERCUT EXCAVATION, PATCHING	C.Y.	50
302007	GRADED AGGREGATE BASE COURSE, TYPE "B"	C.Y.	50
401502	ASPHALT CEMENT COST ADJUSTMENT (NOT A BID ITEM)	TON	1
<mark>4</mark> 01699	QUALITY CONTROL/QUALITY ASSURANCE OF BITUMINOUS CONCRETE	NONE	1
<mark>4</mark> 01821	WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22	TON	20,000
<mark>4</mark> 01823	WMA, SUPERPAVE, TYPE BCBC, PG 64-22, PATCHING	TON	20,000
402000	HOT-MIX BITUMINOUS CONCRETE AND/OR COLD-LAID BITUMINOUS CONCRETE (TRM)	TON	40
406001	WARM-MIX PATCHING	SY-IN	500,000
406507	CRACK SEALING	L.F.	1,000
503001	PATCHING P.C.C. PAVEMENT, 6' TO 20', TYPE "A"	S.Y.	1,700
503002	PATCHING P.C.C. PAVEMENT >THAN 20' TO 100', TYPE "B"	S.Y.	550
503006	DOWEL BARS	EACH	2,240
503009	PATCHING PCC PAVEMENT	S.Y.	134
503501	CRACK AND JOINT SEALING LESS THAN 3/4" WIDE	L.F.	9,000
50350 <mark>2</mark>	CRACK AND JOINT SEALING 3/4" TO 1 3/4" WIDE	L.F.	800
503503**	PATCHING CONCRETE	SY-IN	300
503517	P.C.C. PATCHING, PARTIAL DEPTH	SY-IN	240
701021	INTEGRAL PORTLAND CEMENT CONCRETE CURB & GUTTER, TYPE 2	LF	280
710001	ADJUSTING AND REPAIRING EXISTING DRAINAGE INLET	EACH	40
710002	ADJUSTING AND REPAIRING EXISTING MANHOLE	EACH	15
743003	ARROWPANELS, TYPE C	EA-DY	85
743004	FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	EA-DY	30
743005	FURNISH AND MAINTAIN PORTABLE LIGHT ASSEMBLY	EA-DY	100
743006	PLASTIC DRUMS	EA-DY	10,000
743007	TRAFFIC OFFICERS	HOUR	770
743009	FURNISH AND MAINTAIN TRUCK-MOUNTED ATTENUATOR, TYPE I	EA-DY	80
743010	FURNISH AND MAINTAIN TRUCK-MOUNTED ATTENUATOR, TYPE II	EA-DY	80
743023	TEMPORARY BARRICADE, TYPE III	LF-DY	500
743024	TEMPORARY WARNING SIGNS AND PLAQUES	EA-DY	1,700
743050	FLAGGER, NEW CASTLE COUNTY, STATE	HOUR	7,700
743062	FLAGGER, NEW CASTLE COUNTY, STATE, OVERTIME	HOUR	770
748001	PAINTING OF WHITE OR YELLOW, 4" LINE	L.F.	12,000

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Item	Description	UOM	Quantity
748015	PERMANENT PAVEMENT STRIPING, SYMBOL/LEGEND ALKYD-THERMOPLASTIC	S.F.	600
748019	TEMPORARY MARKINGS, PAINT, 4"	L.F.	12,300
748502	RAISED/RECESSED PAVEMENT MARKER	EACH	65
748507	PERMANENT PAVEMENT STRIPING, EPOXY RESIN, 6"	L.F.	65
748509	PERMANENT PAVEMENT STRIPING, EPOXY RESIN, 12"	L.F.	100
748529	RETROREFLECTIVE PERFORMED PATTERNED MARKINGS, SYMBOL/LEGEND	S.F.	50
7 <mark>48548</mark>	PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	L.F.	35,000
<mark>7</mark> 50000	ADJUST WATER VALVE BOXES	EACH	10
<mark>75</mark> 8000	REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT, CURB SIDEWALK, ETC	S.Y.	180
760000	PAVEMENT MILLING, HOT MIX	SY-IN	85,000
761001	BUTT JOINTS, HOT MIX	S.Y.	55
761002	BUTT JOINTS, CONCRETE	S.Y.	10
762001	SAW CUTTING, HOT MIX	L.F.	9,000
762002	SAWCUTTING CONCRETE, FULL DEPTH	L.F.	3,700
7630 <mark>00</mark>		L.S.	1
76354 <mark>6</mark>	ROAD LOCATION MOBILIZATION, ZONE 3	EACH	20
763549	ROAD LOCATION MOBILIZATION, ZONE 6	EACH	20
763550	ROAD LOCATION MOBILIZATION, ZONE 7	EACH	20
763551	ROAD LOCATION MOBILIZATION, ZONE 8	EACH	20
763552	ROAD LOCATION MOBILIZATION, ZONE 9	EACH	20
763563	PERFORMANCE AND PAYMENT BOND	L.S.	1
763632	REMOVAL OF RAISED PAVEMENT MARKER	EACH	77
908003	TOPSOIL, 4" DEPTH	S.Y.	4,000
908014	PERMANENT GRASS SEEDING, DRY GROUND	S.Y.	4,000

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\*DENOTES FIXED PRICE ITEM