

STATE OF DELAWARE  
DEPARTMENT OF TRANSPORTATION  
MAINTENANCE AND OPERATIONS



PLANS AND SPECIFICATIONS FOR  
Contract Number: T201607702  
Federal Aid Project Number: ESTP – 2016(14)  
Structure Maintenance, North District, Open End, FY16-19

PLANS PREPARED BY: he k  
NORTH DISTRICT CONTRACTS ENGINEER

DATE: 11/30/15

DATE RECOMMENDED: 11/30/15

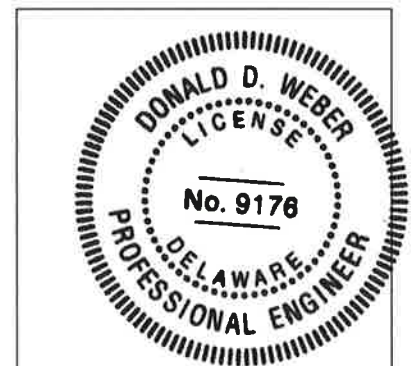
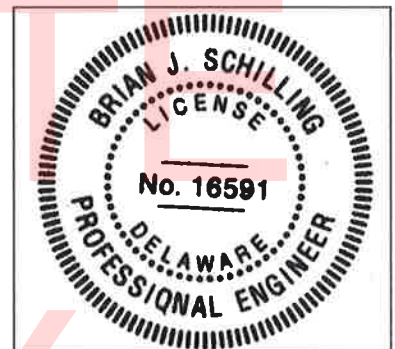
FR Lohman  
NORTH DISTRICT DESIGN ENGINEER

DATE RECOMMENDED: 30 November 2015

Maureen Elizabeth Mauger  
NORTH DISTRICT MAINTENANCE ENGINEER

DATE APPROVED: 11/30/15

Donald D. Weber  
NORTH DISTRICT ENGINEER



# **DELAWARE DEPARTMENT OF TRANSPORTATION**

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

## **CONTRACT DESCRIPTION**

The purpose of this open-ended contract is to initiate repairs and preventative maintenance to bridges and culverts. Work shall include but not be limited to crack sealing decks, warm-mix repair, coating parapets and sidewalks, expansion joint replacement, riprap placement, and concrete repair. Some work may be in the channel including but not limited to placing riprap, installing sandbag dike diversions and channel excavation. All work shall be done as directed by the Engineer on the individual work orders.

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

## **GENERAL NOTES**

1. All work shall be performed in accordance with the Delaware Department of Transportation Standard Specifications dated August 2001 (as amended by the Supplemental Specifications), the DelDOT Special Provisions, Standard Construction Details, and these project notes.
2. The contract shall be for a period of three (3) years from the date of Initial Notice To Proceed, with the option to extend the contract for one (1) additional one-year period. If it is determined that a contract extension is needed and agreed upon by both parties, unit prices for all pay items during the extension shall remain the same as bid in the original contract. The one-year extension must be approved by both parties in writing, at least 30 days prior to the expiration of the existing contract. The Performance Bond shall be submitted with the contract extension and shall be subject to any such agreed upon renewal for the extension period. Failure on the part of the Contractor to submit the Performance Bond for the extension period prior to the last working day before the end of the previous period shall result in the contract being cancelled. It shall be the contractor's responsibility to obtain the forms necessary to renew the Performance Bond each year the contract is in force.
3. An updated Performance Bond shall be submitted at the beginning of each fiscal year. Failure on the part of the Contractor to submit the Performance Bond shall result in the Contract being cancelled.
4. Whenever the word "Contractor" is used in this contract, it shall refer to the person or persons, company or corporation furnishing the services required.
5. Whenever the word "Department" or "Engineer" is used, it shall refer to the person or persons, representing the Delaware Department of Transportation (DelDOT).
6. Tasking of work is contingent upon authorization of Federal and State funding.

**DELAWARE DEPARTMENT OF TRANSPORTATION**

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

7. 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 DelDOT Project Manager to secure such trespass needs.
8. It is anticipated that all work will occur within DelDOT's right of way. Should the need occur to trespass onto railroad property, including the highway-rail crossing; it will be the responsibility of the Project Manager to contact the DelDOT Railroad Coordinator and obtain written authorization before entering.
9. 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 District Engineer. Any adjustments and/or relocations of municipally owned facilities shall be done by the State's contractor in accordance with the respective agencies' standard specifications as directed by the District Engineer.

10. Prosecution and Progress of Work:

The Contractor shall commence work indicated on the work order no later than the third (3<sup>rd</sup>) business 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 (1<sup>st</sup>) working day following the delivery date of materials.

Failure to start assigned work orders in the allowed time constitutes "Failure to Pursue the Work" and subjects the Contractor to Liquidated damages as outlined in Section 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 and based on the total value of that work order.

Each work order shall be considered a separate unit of work. 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. The Engineer reserves the right to require the Contractor to add Work or make repairs to completed locations 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.

## DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

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.

11. Payment will be monthly for the completed work as outlined in Section 109.07.
12. Clearing and grubbing of trees, shrubs and other vegetation less than six (6) inches in diameter within ten (10) feet of the bridge structure shall be incidental to the applicable repair, replacement or excavation Pay Item. There shall be no separate payment for clearing and removal of trees, shrubs and vegetation less than six (6) inches in diameter within the area of the bridge structure. Grubbing activities performed in wetland areas require environmental permit approvals prior to commencement of work.
13. No work will begin on structures without written approval from the DelDOT Environmental Studies Office prior to commencement of work. Lists of bridges to be repaired will be provided to the Environmental Studies Office prior to commencement of work.
14. The Contractor shall not trespass on private property unless the District has acquired a "Temporary Trespass Agreement" 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 in writing of the proposed work dates, scope of work, proposed work hours, and DelDOT contact phone number. Compensation for notification shall be incidental to the Contract.
15. No environmental permits are required for this work provided no jurisdictional wetlands or waters are impacted. If there is any question as to whether or not a water or wetland is jurisdictional, contact the DelDOT Environmental Section at (302) 760-2264.
16. Work within waters/wetlands shall not begin on locations requiring environmental permits until all applicable permits have been obtained by DelDOT. Confirm permit status with DelDOT Engineer prior to commencement of applicable work.
17. Excavated material not needed on the project shall be removed from the site at the Contractor's expense.
18. Proper disposal of construction related wastes shall be the sole responsibility of the Contractor.
19. Underground utilities may be present at all locations. Therefore, all standard practices and procedures regarding utilities shall be followed. The Contractor shall contact Miss Utility of Delaware prior to starting each work order. The Contractor is responsible for the support and protection of all utilities when excavating. The Contractor is responsible for ensuring proper clearances, including safety clearances, from overhead utilities for construction equipment. The

**DELAWARE DEPARTMENT OF TRANSPORTATION**

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

Contractor is advised to check the site for access purposes for his equipment, and make arrangements directly with utility companies for field adjustments for adequate clearances if necessary.

20. Section 101.91(4) is amended. There will not be a winter shutdown from December 16<sup>th</sup> to March 15<sup>th</sup>. The Department reserves the right to issue work and charge time between these dates.

21. Delete Section 104.05 of the DelDOT Standard Specifications, and replace with the following:

The Department reserves the right to, at any time prior to completion of the contract, issue plan revisions, make adjustments in Contract item quantities, or make such alterations considered necessary to satisfactorily complete the Contract.

The Department reserves the right to increase or decrease the quantities of Pay Items specified in the Contract. Such additions or deletions shall not be cause for an increase or decrease in Contract unit bid prices. The "Change" threshold of plus or minus 25%, as described in Subsection 104.05 of the DelDOT Standard Specifications dated August 2001 shall not apply to this Contract. Quantity increases or decreases of plus or minus 25% or greater shall not be justification for adjustments to unit prices.

The plan revisions and quantity adjustments described above do not invalidate the Contract or release the Contract surety. Payment for these changes shall exclude any amount for loss of anticipated profits alleged to result from the change.

When payment for the Contract work cannot be agreed upon by the Contractor and the Department prior to starting such work ordered, the Department may direct the Contractor to perform the work under Force Account provisions of Subsection 109.04. The Contractor will proceed immediately with the work so ordered and such direction shall neither invalidate the Contract, nor release the surety.

22. Submittals for wet and dry applications are required for Item 602611 (Repair of Concrete Structure by Epoxy Injection).
23. Trash, rubbish, debris or brush that hampers repair / maintenance work in this Contract (as determined by the Engineer), shall be removed within the project limits and shall be incidental to Pay Item 763000 (Initial Expense).
24. Grass and soil areas within State right-of-way that have been damaged by equipment during this contract, shall be restored with topsoil, seed and mulch at Contractor's own expense.
25. Portable Light Assemblies will be required for all night time operations and as directed by the Engineer. Payment for portable lighting shall be under pay item 743005.
26. All costs for access beneath bridges (such as scaffolding, bucket trucks, ladders, etc.) shall be included in the bid price for each applicable maintenance and repair pay item. No separate payment will be made for access. Contractor is responsible for ensuring compliance with all applicable OSHA safety regulations related to access for maintenance and repair beneath all



## DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

bridges. This includes any structure within Bridge Management inventory for North District, which may include structure bridges such as Tyler McConnel Bridge and Brandywine River Bridge.

27. Material specification for Pay Item 605636 (Clean and Lubricate Bridge Bearings) shall comply with the following:
  - For bridges with steel structural components painted green, the grease shall be coated with a matching coat of finish (green, Federal specification #24172, Standard 595B). The grease shall be applied to the entire steel bearing component for each bridge bearing.
28. Prior to application of concrete sealants under Pay Item 602646 (Water Based Acrylic Concrete Sealer and Silicone Acrylic Concrete Sealer), submit Federal color samples to DelDOT for approval.
29. Concrete block slope paving for embankments under bridges (paid under 712526) shall match existing in color and texture to the satisfaction of DelDOT.
30. Power washing of vertical and horizontal surfaces (pier caps and abutments) and faces:
  - Many structures will require sealing of vertical and horizontal surfaces on pier caps and abutments. Prior to application of sealant, the vertical and horizontal surfaces must be prepared in accordance with the specified special provision. When using pressure wash, Contractor shall protect roadside drainage inlets and above ground drainage systems as necessary to comply with DelDOT NPDES Environmental Permit (National Pollutant Discharge Elimination System). All costs for this work shall be incidental to the existing applicable maintenance/ repair pay item.
31. Epoxy or Methacrylate based crack sealer shall be applied to bridge decks under Pay Item 602620 or 602629 in locations directed by the Engineer. The Contractor shall submit the Product Data sheet for the proposed material for use prior to commencement of work. The Product Data Sheet shall specify drying time for crack sealer. The product drying time shall allow for lane opening to traffic within six (6) hours (or less) of application.
32. When performing spall repairs on vertical concrete surfaces under pay item 602586 (Rehabilitation of Concrete Structure), the Product Data Sheet for proposed material must state that the material is suitable for repairs on vertical surfaces.
33. Asphaltic Plug Joint (Item 605654) :

Installation of Asphaltic Plug Joint systems for bridge decks shall be performed in accordance with Special Provision 605654 (Asphaltic Plug Joint). Payment shall be under item 605654. Payment for saw-cutting, removal and disposal of existing deck joint material and anchoring system shall be incidental to pay item 605654. If the Contractor must cut existing anchoring system at limits of deck removal, the costs of cutting shall be included in the bid price for Item 605654. Repairs to

## DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

damage of existing concrete deck to remain in place shall also be included in the bid price for Item 605654.

The Contractor shall place rapid hardening, high early strength gaining mortar as leveling course to firm concrete prior to placement of 2" depth asphaltic material. Mortar shall be SikaQuick 2500 or Dayton Superior HD-25, or approved equal. The mortar shall have a minimum compressive strength of 2000 psi in 3 hours. Adhere to manufacturer's recommendations for use of aggregate based on depth of repair. Follow manufacturer's recommendations for lift thickness. Payment for mortar placement shall be incidental to pay item 605654.

Place bituminous concrete for Temporary Roadway Material (TRM) as required to maintain day time open lanes of traffic during construction. Placement and removal of Bituminous concrete for Temporary Roadway Material shall be incidental to Item 605654. TRM shall be placed in accordance with DelDOT standard specification 402. Contractor shall place TRM material in such a manner as to facilitate ease of removal of material, such as placement of fabric material beneath the TRM, or other method as approved by DelDOT. Payment for fabric or other materials required to facilitate removal of TRM shall be incidental to Item 605654.

34. When repairing concrete vertical surfaces, such as abutments, piers, pier caps, columns, and wingwalls, and when repairing concrete deck haunches and culverts, perform repairs in accordance with the following requirements:
- For spall and delamination repairs less than or equal to 2.0" deep, use Item 602572 (Repairing Existing P.C.C. Structures) with no exposed reinforcing steel.
  - For spall and delamination repairs greater than 2.0" in depth, or when reinforcing steel is exposed before or during repair activities, payment shall be under Item 602586 (Rehabilitation of Concrete Structure).
  - For spall and delamination repairs with a uniform depth of 5" or greater, resulting in 1.5" minimum clear removal depth between the back edge of steel reinforcement bar and concrete repair surface, and with a total volume greater than 1 cubic yard, payment shall be under the following Items:
    - Item 602001 - Portland Cement Concrete Masonry, Class A (CY)
    - Item 602580 - Partial Removal of P.C.C. Masonry (CY)
  - Spalls with surface area less than 0.25 SF, and depth less than 3", shall be paid under Item 602572.
  - Perform sounding for delamination of concrete around visible cracks, spalls and other deterioration. Sounding of concrete shall be incidental to pay item 602572. Remove and replace delaminated and deteriorated concrete at the direction of the Engineer.

## DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

- When reinforcing steel is exposed before or during repair activities, remove concrete behind bar a minimum of 1.5" and prepare surface in accordance with the special provision. Payment shall be under Item 602586.
  - When performing shallow and deep spall repairs under pay items 602572 and 602586, Contractor shall have the option to use pneumatically placed concrete in lieu of placement methods specified in special provisions 602572 and 602586. If Contractor chooses the pneumatically placed concrete option, then work shall be performed in accordance with the requirements of special provision 602595 (Pneumatically Placed Concrete). However, basis of payment and unit price compensation shall be as described in Pay Item and special provisions 602572 and 602586 for shallow and deep spall repair respectively. There shall be no additional compensation for Contractors' choice of the optional repair method. Payment shall be made in accordance with the bid unit price for Item 602572 and 602586. Contractor shall submit personnel qualifications to DelDOT for approval prior to application of pneumatically placed concrete. Personnel and equipment qualifications shall comply with all provisions of "The Guide to Shotcrete" by ACI Committee 506.
  - Crack widths larger than one half inch shall be repaired by grouting. Payment will be under Item 602572.
35. All concrete spall repair performed under Pay Item 602572 or 602586 shall be performed in accordance with the requirements as stated in the respective Special Provision, and in accordance with the following additional requirements:
- Perform abrasive blasting of reinforcing steel as necessary to remove corrosion and other contaminants prior to placement of patching mortar or concrete. The Contractor is responsible for containing and cleaning up the abrasive material.
  - Prepared concrete surface shall be roughened by abrasive blasting prior to placement of patch mortar or concrete. This roughening improves the mechanical bond when patch material is applied. The Contractor will be responsible for containing and cleaning up the abrasive material.
36. Spall repairs to the riding surface of **approach slabs** and **back walls/joint headers** shall be paid for with deck patching items 602575 (Deck Repair, 1" To 3" Depth) and 602576 (Deck Repair, 3" To < Full Depth) as follows:
- For spall and delamination repairs of depths 3" or less, use pay item 602575.
  - For spall and delamination repairs of depths 3" to 6" use pay item 602576.



## DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

- Repairs that have a uniform depth of greater than 6" will use pay items 602001 (Class A Concrete) and 602580 (Partial Removal of PCC Masonry).

### 38. Culvert Repair Notes:

- Repair spalls in concrete culvert and wingwalls. Payment shall be under Item 602572, 602586, or 602001 as described above. Repairs shall be performed to culvert walls, ceiling and floor as required.
- Repair cracks in concrete culvert and wingwalls. Payment shall be under Item 602626 or 602611, as directed by the Engineer.

### 39. Sizing of Deck Joint Seal Material:

Prior to replacing compression seals or strip seal gland material for bridge deck joints, the Contractor shall submit the following to DelDOT Engineer for approval:

- Documented measurements of gap width for each deck joint. Contractor shall document width, date, time, and temperature at time of recordation. Show measurements on rough plan view layout of bridge, showing joint locations and span lengths.
- Vendor's Product data sheet for each joint material proposed for use.
- Computations for joint widths, listed at increments ranging from zero degrees to 120 degrees Fahrenheit, in accordance with formula in DelDOT Bridge Design Manual, Figure 5-9b, Section 5, page 18.
- Proposed width of joint seal material.

Any widths listed in these Project Notes or pay item lists in this Contract are approximations, and must be verified and computed by Contractor prior to installation. Contractor is responsible for installing appropriately sized compression and strip seal material accordingly, with accommodation for anticipated expansion and contraction of joint width due to temperature changes.

40. The paint system used for the structural steel shall be applied in a three (3) coat system application.
41. All painted steel structures in this contract are assumed to contain lead based paint on all of the structural steel, unless noted otherwise by the Engineer. For bridges requiring spot painting, the Contractor shall use Pay Item 605629 (Cleaning Existing Steel Structures, Hazardous (S.F.)) for the paint removal on the structures.

## DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

42. Prior to applying new paint system, all existing coatings on the structural steel shall be completely removed, in accordance Items 605629. There shall be no overcoating of existing paint or sealant systems. This applies to zone painting and spot painting of steel, as well as bridges to be completely re-coated in entirety.
43. If any cleaning to be performed requires pre-cleaning by pressure washing as determined by the Engineer, then this pressure washing shall be incidental to Item 605629.
44. For bridges with existing steel structural components painted green, the color of paint shall be green (# 24172) as federal standard 595B. The color shall be submitted to DelDOT for approval prior to commencement of work.
45. For bridges with existing steel structural components painted tan (or taupe), no federal specification number is on file. Therefore, the Contractor shall match existing color, and shall submit Federal Color samples to DelDOT for approval prior to commencement of work.
46. Bridge bearings shall be cleaned and painted as directed by the Engineer. Care shall be taken when cleaning "frozen" bearings, because the abrasive blasting operation sometimes causes the bearings to "unfreeze". Pitted areas of the structural steel shall be brush painted along with spraying when applying every coat of paint of the three-coat system. After bearings have been painted, and after the paint has cured, the Contractor shall apply grease to all the bearings.
47. Hazardous waste generated during steel cleaning operations shall be disposed of in accordance with requirements stated in Item 605629, and in accordance with all State, Federal and local regulations. Contractor shall submit copies of all hazardous waste manifests and tickets to DelDOT.
48. Concrete deck spalls shall be repaired in accordance with Items 602575 (Deck Repair, 1" to 3" Depth), 602576 (Deck Repair, 3" to < Full Depth) and 602577 (Deck Repair, Full Depth), unless directed otherwise by the Engineer. Sawcut a rectangular shape around the periphery of each spall, shaped to be 1" wider than the spall periphery. Remove existing concrete deck to a depth necessary to reach sound concrete. Apply an epoxy bonding coat to roughened concrete surface. Thoroughly clean the surface prior to application of bonding coat. Where existing concrete deck is covered with additional concrete overlay, saw cut to a depth necessary to penetrate the entire overlay depth (typically 2" to 3" deep). All work described in this project note shall be included in the bid price for the applicable concrete deck spall repair pay item.
49. If required during the placement or repair of Portland Cement Concrete (PCC) Pay Items, half-inch cork expansion material shall be placed at designated locations as directed by the Engineer. Payment for furnishing and placing the half-inch cork expansion material shall be incidental to the PCC pay items
50. When applying concrete sealant to abutments and backwalls, Contractor shall apply temporary masking to surfaces as necessary to provide straight edge cut-off at locations where painting

## DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

application ends. Payment for temporary masking shall be incidental to the sealant application pay item.

51. The following work may be performed at various bridge locations, depending on the site-specific repair and maintenance requirements. The following list is not comprehensive or all inclusive. This list is intended to describe the types of work that *may* be performed at different sites, and the pay items that *may* be specified at the discretion of the Engineer. DelDOT reserves the right to add to and revise the following list of work. DelDOT reserves the right to revise the methods and pay item usage as deemed necessary by the Engineer, with no accompanying increase in the Contractor's unit bid price for each pay item.

\* Replace deteriorated compressions seals in bridge deck. Payment shall be under Item 605692 (Silicone Joint Seal) or other as directed by the Engineer. See General Project Notes for this contract for further requirements.

\* Seal cracks on bridge deck. Payment shall be under Item 602629 (Crack Sealing Bridge Decks, Approach Slabs, Sidewalk, Etc. – LF) or Item 602620 (Crack Sealing Bridge Decks, Approach Slabs, Sidewalk, Etc. – SF) , as directed by the Engineer.

\* Seal cracks in approach slabs. Payment shall be under Item 602629 or 602620, as directed by the Engineer.

\* Repair spalls and delamination in concrete bridge deck and approach slabs. Payment shall be under Items 602575, 602576 or 602577, as directed by the Engineer. All costs for removal of delaminated concrete shall be incidental to the applicable spall repair pay item (602575, 602576 or 602577).

\* Replace existing deck joint with Asphaltic Plug Joint system. Payment shall be under Item 605654. Refer to General Project Notes above for further details concerning this pay item.

\* Replace pourable deck seals (entire width of deck). Remove existing material, and install new Silicone Joint Seals. Payment shall be under Item 605692.

\* Replace gland material in strip seal deck joints. Payment shall be under Item 605659, 605660, or 605661.

\* Clean / flush scupper drains on bridge deck. Payment shall be under Item 605582 (Cleaning Bridge Scupper).

\* Apply sealant to joints surrounding approach slabs. Joints are longitudinal and transverse. Payment shall be under Items 503501 or 503502.

## DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

\* Repair spalls and impact damage on parapet walls and curb. Payment shall be under Item 602572, Item 602586, or as directed by the Engineer. Repair cracks in parapet under Item 602626.

\* Apply sealant coating to entire parapet wall and curbing. Payment shall be under Item 602646.

\* Repair cracks and spalls in concrete median and sidewalks. Payment shall be under Items 602629, or as directed by the Engineer.

\* Repair cracks in wingwalls. Payment shall be under items 602611 or 602626, as directed by the Engineer.

\* Apply sealant at base of wingwall, to prevent stormwater from penetrating beneath wingwall foundation. Payment shall be under Item 406507. All vegetation, plants and small trees growing in vicinity of base of wingwall joint shall be removed prior to applying sealant, as well as existing deteriorated and debonded sealant at joint (incidental to pay item 406507).

\* Repair spalls on concrete abutments, backwalls, piers, pier caps, columns, wingwalls, deck haunches or other locations as directed by the Engineer. Locations and extent of repairs will vary at each site. Payment shall be as described in the "General Notes" in this Contract for spall repair.

\* Repair cracks on pier caps, pedestals and columns. Crack repair shall be performed under Pay Items 602611 or 602626, as approved by DelDOT Engineer. Consult with DelDOT Engineer prior to commencing work.

\* Repair cracks in concrete abutments and backwalls. Crack repair shall be performed under pay item 602626 or 602611, as directed by the Engineer.

\* Apply sealant along entire length of joint located at base of abutment, where abutment and slope embankment meet. Payment shall be under Item 406507.

\* Apply silicone acrylic sealant to vertical and horizontal surfaces of concrete abutments and backwalls (including top and face of abutments). See General Project Notes above for additional clarification of sealant coating requirements. Payment shall be under Item 602646. Ensure proper surface preparation prior to application of sealant, in accordance with special provision requirements.

\* Apply silicone acrylic sealant to top and sides (vertical and horizontal surfaces) of concrete pier caps. In addition, apply sealant to all surfaces of concrete pedestals (if applicable) and beam seats on pier caps. Payment shall be under Item 602646. Ensure proper surface preparation prior to application of sealant, in accordance with special provision requirements.

\* Apply sealant coatings to pier columns. Payment shall be under Item 602646.

## DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

\* Clean, paint and apply grease to bridge bearings:

- For bearings with visible corrosion, remove existing paint in accordance with pay item 605629, and prepare surface prior to application of new paint coatings. Payment shall be under Items 605629 and 605620. Bearings are to be cleaned and painted includes locations over pier caps and abutments. Apply grease. Application of grease shall be incidental to Item 605620. Specifications for grease shall comply with General Project Notes for this Contract.
- For remaining bearings not to be re-coated with paint, apply grease to bearings. Payment shall be under Item 605636 (Clean and Lubricate Bearings). Prior to application of grease, prepare bearing surface for application as required for proper adherence of the grease, and as approved by the DelDOT Inspector. Use low pressure water blasting to remove existing debris. Hand wipe to remove existing debris in locations approved by the DelDOT Inspector. Avoid damage to existing paint coating by using low pressure water blasting sufficient to remove existing debris and contaminants. The Contractor is responsible for following all rules and regulations for containing water, debris, contaminants, etc.
- Grease shall be applied to all bearings on bridge, unless directed by the Engineer.

\* Repair spalls on underside (bottom) of bridge deck and haunches. Perform sounding for concrete delamination on underside of deck around visible spalls, cracks and deterioration (with DelDOT Inspector present). Repair delaminated and deteriorated concrete. Payment shall be as described in "General Notes" for spall repair. Repairs over travel lanes, road shoulders, piers, bridge embankments and abutments will be required.

\* Repair cracks on deck haunches. Payment shall be under Items 602626 or 602611. Repairs over travel lanes, road shoulders, piers, bridge embankments and abutments will be required.

\* Apply sealant to joints between concrete slope paving sections as required to prevent stormwater runoff from infiltrating beneath the concrete embankment. Payment shall be under Items 406507 or 602578 as required.

\* Replace deteriorated concrete block slope paving on bridge embankment (paid under Item 712526). Repair cracks and seal joints in existing block slope paving (Paid under Item 602578). Repair settled and heaved embankment areas (paid under Items 712526, 209001, and 713003). If existing unsuitable fill material must be removed prior to placement of new concrete block slope paving, then excavation shall be paid under Item 202000. Removal and disposal of existing concrete block slope paving shall be included in the bid price for Item 712526. New block slope paving shall match existing slope paving in size, and shall be painted to match existing (incidental to Item 712526).



## DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

\* Place R-5 riprap, DE #3 stone and geotextile on embankments. Payment shall be under items 712006, 302011 and 713003. Place 18" R-5 riprap on 6" DE#3 stone on geotextile. Excavate as required prior to placement to maintain same finished grade elevation as existing. Place silt fence as required for sediment control. Payment for excavation and bed preparation for Delaware #3 stone shall be included in the bid price for Item 712006 (Riprap, R-5). Finished grade elevation for embankment shall remain the same as existing surrounding embankment. Removal and disposal of existing concrete block slope paving shall be included in the bid price for Item 712006.

\* Perform cleaning and painting of structural steel components of bridge. Painting operations may include zone painting, spot painting, or painting of all structural components, as directed by the Engineer. Payment shall be under Items 605629 and 605620. Locations to be painted shall be where corrosion or deterioration of the existing paint coating is visible, and as approved by the DelDOT Engineer. Locations to be painted will be reviewed with the DelDOT Inspector prior to commencement of cleaning / painting operations. Locations to be painted include over travel lanes, shoulders, embankment slopes, pier caps, abutments, and waterways beneath bridge.

\* Perform cleaning and painting of downspouts where corrosion is visible. Payment shall be under items 605629 and 605620.

\* Repair spalls on concrete pedestals. Payment shall be under item 602572 or 602586. Consult with DelDOT Engineer prior to commencement of work. Choice of pay item to be used will be at discretion of DelDOT Engineer. Contractor shall sound for delaminated concrete on cracked and spalled pedestals (with DelDOT inspector present). Sounding shall be included in bid price for pay Item 602572.

## DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

### MAINTENANCE OF TRAFFIC

52. All work shall be performed in a manner that will reasonably provide the least practicable obstruction to all road users, including vehicular, pedestrian, and bicycle traffic, and shall conform to the requirements of the Delaware Manual of Uniform Traffic Control Devices (MUTCD), part 6, including revisions up to the date of advertisement for bids.
53. All shoulder or travel lane closures on I-95, I-495, I-295 and interstate ramps shall be performed at times directed by the Engineer with direction from the North District Safety Officer. Any deviation from the time restriction must be approved by the North District Engineer and North District Safety Officer prior to the commencement of work.
54. No lane closures will be permitted on holidays or holiday weekends, unless approved by the Engineer with consultation with DelDOT Safety Section. This requirement applies to all roads impacted in this Contract.
55. Upon selection of a location, the DelDOT Safety Section must be notified a minimum of three weeks in advance of the work in order to determine the type of and prepare a Transportation Management Plan (TMP) for the location. Should a Type "B" TMP be required, all time restrictions given in the TMP will be followed. Should a Type "A" TMP be required, above time restrictions will be followed or as directed by the Engineer with direction from the North District Safety Officer
56. If a road closure is required, the Contractor shall be required to submit the proposed detour route to the DelDOT Safety Officer for approval. Payment for detour plan preparation shall be included in the bid price for Item 763000 (Initial Expense). The Department will coordinate with the Safety Section and be responsible for the necessary notifications. The detour route requires approval by the Department prior to closure. A two week detour review lead time shall be required for any requested detour. The Contractor shall be responsible for furnishing and maintaining the Maintenance of Traffic apparatus at the closure (i.e. Type III Barricade, Road Closed signs, etc.) and all signs. The Contractor shall be responsible for placement of detour trailblazers. Payment will be under Item 743024 (Temporary Warning Signs and Plaques).
57. 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 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.
58. The 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.

## DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

59. Traffic control devices shall be provided and placed in accordance with the Delaware Manual on Uniform Traffic Control Devices (MUTCD). The Contractor shall prepare and submit a Traffic Control Plan for each bridge site to DelDOT for approval. The Traffic Control Plan must clearly indicate orientation of traffic control devices to be used for each site. The plan must be approved by the DelDOT Safety Officer and DelDOT Engineer prior to commencement of work on each bridge. Maintenance of Traffic Typical Applications is described in the Delaware MUTCD. The Contractor shall be responsible for determining the applicable Typical Application for each work application. The proposed Traffic Control Plan must be submitted to DelDOT a minimum of ten (10) working days prior to commencement of work at each location.
60. No lane closures or shoulder closures will be permitted unless applicable work activity is taking place.
61. All repair/maintenance equipment shall be removed from the job sites on a daily basis, except when approved by the Engineer. Contractor shall follow guidelines set forth by the Delaware MUTCD for storage of materials.
62. The Contractor shall be required to have an American Traffic Safety Services Association (ATSSA) certified Traffic Control Supervisor on the project. The ATSSA supervisor may be the Contractor's general superintendent for this project or another ATSSA certified member of the Contractor's project staff. The ATSSA certified Traffic Control Supervisor's responsibility shall be the maintenance of traffic throughout the project. This responsibility shall include, but is not limited to, the installation, operations, maintenance and service of temporary traffic control devices. Also required is the daily maintenance of a log to record maintenance of traffic activities, i.e. number and location of temporary traffic control devices; and times of installation, changes, and repairs to temporary traffic control devices. He/she shall also serve as the liaison with the Department concerning the Contractor's maintenance of traffic. The name and contact information for the ATSSA certified Traffic Control Supervisor shall be provided to the Engineer at the Preconstruction Meeting. A copy of the certifications for the ATSSA certified Traffic Control Supervisors proposed for the project shall be submitted to the Department with the Contractor's bid package. The responsibilities of the ATSSA certified supervisor shall be for the duration of the Open End Contract. Payment for the ATSSA certified traffic control supervisor shall be under Item 743000 (Maintenance of Traffic).
63. 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.
64. All open excavations shall be secured with plastic drums with retroreflective fluorescent orange and white prismatic sheeting. If the construction activity results in a vertical difference along, adjacent to, or across a travelway, the Contractor shall eliminate or remedy this hazard by the methods detailed in Table 6G-1 of the Delaware Manual on Uniform Traffic Control Devices (DEMUTCD), or as directed by the Engineer.

**DELAWARE DEPARTMENT OF TRANSPORTATION**

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

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65. Payment for relocation and re-positioning of Traffic Control devices shall be incidental to the respective unit price Pay Items for Maintenance of Traffic included in this Contract. There shall be no additional compensation for relocation or re-positioning of traffic control devices.
66. Costs for adjustment in position of traffic control devices due to variances from the standard Maintenance of Traffic (MOT) typical application numbers, or for any other reason, shall be included in the unit price for each respective MOT pay item.
67. All permanent warning signs shall be retroreflective, and constructed of rigid material complying with NCHRP 350 and/or MASH requirements.
68. The safety measures outlined within this Contract and the Delaware MUTCD are not necessarily sufficient in every instance to guarantee the protection of the traveling public or the persons working on the project. Therefore, the provisions of this Contract do not relieve the Contractor of the sole responsibility for the safety of all persons working within or traveling through the work zone throughout the duration of the project. The Contractor shall implement any additional safety measures that are not expressly required by the Contract and are necessary to ensure the safety of all persons. The Contractor shall submit to the Engineer justification for deviations from the Traffic Control Plan or Traffic Management Plan. Final approval of the deviations or additions shall rest with the Engineer with guidance from the Traffic Safety Section. All costs for this work shall be incidental to the applicable maintenance of traffic pay items as listed in the original contract.
69. The Department reserves the right to stop the Contractor's operations, if in the opinion of the Engineer the Contractor's operations are not in compliance with the Delaware MUTCD, the specifications, or the Plans. The Department also reserves the right to stop the Contractor's operations if the Engineer deems the operations to be unsafe.
70. The Department will not make payment to the Contractor for any and all temporary traffic control devices where the Contractor sets up temporary traffic control to perform work, but fails to perform any work.
71. Immediately prior to the implementation of any lane or roadway closures, the Engineer shall notify the DelDOT TMC at (302) 659-4600. Notifications shall also be given to the TMC when the closure is lifted. The Engineer shall notify the TMC and the DelDOT Safety Officer if lane closures cannot be removed prior to the end of the allowable work hours.
72. Any deficiencies related to temporary traffic control that are reported to the Contractor in writing shall be corrected within 24 hours or as directed by the Engineer. Corrective actions on severe deficiencies shall be taken immediately unless otherwise directed by the Engineer. Failure to comply will result in non-payment for those devices that are found to be deficient for the duration of the deficiency. Serious deficiencies that are not corrected immediately could result in possible suspension of work until items identified are brought back into compliance and/or the holding of the pay estimate until the serious deficiencies are corrected.



## DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

73. The use of millings and GABC in the travel way, temporary travel way, high volume entrances and access ramp for the purpose of providing a temporary roadway surface, pothole repair, tapered edge for utilities, butt joints, and longitudinal drop-offs (milling and paving operations) is prohibited unless it is otherwise designated to be used in the contract plans. Use cold patch, bituminous concrete, bituminous concrete wedge, or taper mill, as noted in the Contract Documents or approved by the Engineer. Payment for cold patch, bituminous concrete, or bituminous concrete shall be paid under the bituminous concrete milling item.

Millings or GABC shall be used at the following locations where access to a business residence, or edge drop off needs to be maintained unless otherwise noted in the plans or directed by the Engineer to use bituminous concrete or cold patch. All milling and GABC will be rolled and compacted to help prevent the material from unraveling.

- a. Driveways
- b. Entrances
- c. Low volume access ramps (Identified in the contract documents)
- d. Edge drop-offs adjacent to live roadway (lane, shoulder, or turn lane) and the proposed road construction
- e. Edge of roadway dropoff

Grading and maintaining base course that is being used for roadway wedge/fillet between travel lanes and pavement box, edge of travel way, driveway or entrance access shall be incidental to Item No. 743000 - Maintenance of Traffic. The base course material shall be placed at no greater than the slope specified in table 6G-1 and shall be compacted. Excess base course material shall be pushed ahead and used in the next segment and shall be incidental to the particular base course pay item. No separate payment shall be made for Millings or GABC temporary roadway material (TRM) used to protect edge drop-offs, unless the material is eventually utilized as part of a permanent roadway at which time the material would be paid for under the respective contract material item. Vertical differences shall be corrected in accordance with table 6G-1 of the Delaware MUTCD.

74. If the Contractor does not complete the contract work within the contract completion time as listed on the Work Order (including approved time extensions), the Contractor shall be responsible for providing the necessary temporary traffic control devices that are required to complete any remaining work. The cost of such temporary traffic control shall be borne by the Contractor. No additional payment will be made to the Contractor to maintain traffic in accordance with the Delaware MUTCD, specifications, and these Project Notes. Temporary traffic control items shall include, but not be limited to, warning lights, warning signs, barricades, plastic drums, P.C.C. safety barrier, flaggers, traffic officers, arrow panels, message boards, portable light assemblies and portable impact attenuators.



## DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

75. Pedestrian Maintenance of Traffic: This work shall consist of providing and maintaining an accessible pedestrian route throughout the project's limits in accordance with the Americans with Disabilities Act of 1990 (ADA) Title II, paragraph 35.130.

The contractor shall be required to review each curb ramp location and submit the appropriate maintenance of traffic detail and devices to the Engineer for each location at least 2-weeks before construction for review, comment, and approval.

The following considerations shall be taken into account when addressing accessible pedestrian maintenance of traffic:

- All pedestrians, including persons with disabilities, shall be provided with a reasonably safe, convenient and accessible path that replicates as much as practicable the existing pedestrian facilities.
- Maintain access to all business and residents at all times.
- Provide pedestrian access thru or around the work zone. If a detour is deemed necessary the Contractor must submit the detour route to the Engineer for review and approval by the Traffic Safety Section. The detour route must meet or exceed the current conditions.
- Work should be phased so that all areas of an intersection/sidewalk path are not under construction at the same time unless a clear path is provided and identified.
- Traffic control devices and other construction materials and features shall not intrude into the usable width of the sidewalk, temporary pathway or other pedestrian facility.
- Signs and other devices mounted lower than 7 ft above the temporary pedestrian pathway shall not project more than 4 in. into accessible pedestrian route.
- A smooth, continuous hard surface shall be provided throughout the entire length and width of the pedestrian route throughout construction.
- There shall be no curbs or vertical elevation changes greater than ¼ in. in grade or terrain that could cause tripping or be a barrier to wheelchair use.

**DELAWARE DEPARTMENT OF TRANSPORTATION**

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

**QUANTITY SUMMARY**

	ITEM DESCRIPTION	UNIT	QUANTITY
202000	Excavation and Embankment	CY	50.00
251000	Silt Fence	LF	150.00
302007	Graded Aggregate Base Course, Type B	CY	150.00
302011	Delaware No.3 Stone	TON	50.00
401821	Bituminous Concrete, Superpave, Type C, 160 Gyration	TON	50.00
401822	Bituminous Concrete, Superpave, Type B, 160 Gyration	TON	100.00
402000	Hot-Mix Bituminous Concrete and/or Cold-Laid Bituminous Concrete (TRM)	TON	50.00
406001	Warm-Mix Patching	SY-IN	1,000.00
503501	Crack And Joint Sealing Less Than 3/4" Wide	LF	200.00
503502	Crack And Joint Sealing 3/4" to 1 3/4" Wide	LF	200.00
602001	Portland Cement Concrete Masonry, Class A	CY	100.00
602526	Embedded Galvanic Anodes	EACH	100.00
602544	Constructing Latex Concrete Overlay	SY	500.00
602546	Waterproofing P.C.C. Masonry	SF	20,000.00
602572	Repairing Existing P.C.C. Structures	LB	3,000.00
602575	Deck Repair, 1" To 3" Depth	SF	4,000.00
602576	Deck Repair, 3" To < Full Depth	SF	4,000.00
602577	Deck Repair, Full Depth	SF	2,000.00
602579	Drilling Holes And Installing Dowels	EACH	500.00
602580	Partial Removal Of P.C.C. Masonry	CY	200.00
602586	Rehabilitation Of Concrete Structure	CF	1,000.00
602611	Repair Of Concrete Structures By Epoxy Injection	LF	100.00
602626	Rout And Seal Cracks	LF	100.00
602629	Crack Sealing Bridge Decks, Approach Slabs, Sidewalk, ETC.	LF	1,000.00
602646	Silicon Acrylic Concrete Sealer	SF	200.00
604000	Bar Reinforcement, Epoxy Coated	LB	5,000.00
605511	Prefabricated Expansion Joint System, 3"	LF	300.00
605582	Cleaning Bridge Scupper	EA	10.00
605604	Joint Repair With Elastomeric Concrete, 2"	LF	500.00
605620	Moisture Cured Urethane Paint System (Recoating)	SF	200.00
605629	Cleaning Existing Steel Structures, Hazardous	SF	1,100.00
605636	Clean and lubricate Bridge Bearings	EACH	15.00

**DELAWARE DEPARTMENT OF TRANSPORTATION**

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

605636	Clean and lubricate Bridge Bearings	EACH	15.00
605654	Asphaltic Plug Joint	LF	2,000.00
605659	Strip Seal Expansion Joint, 3"	LF	300.00
605686	Joint Repair With Elastomeric Concrete, 3"	LF	200.00
605692	Silicone Joint Seal	LF	2,000.00
607000	Removal Of Existing Masonry	CY	50.00
610001	Stone Masonry	SF	500.00
701010	Portland Cement Concrete Curb, Type 1-8	LF	200.00
701011	Portland Cement Concrete Curb, Type 2	LF	100.00
705001	P.C.C. Sidewalk, 4"	SF	200.00
705002	P.C.C. Sidewalk, 6"	SF	200.00
705007	Sidewalk Surface Detectable Warning System	SF	100.00
705008	Curb Ramp, Type 1	SF	100.00
705009	Curb Ramp, Type 2,3, And/Or 4	SF	100.00
712005	Riprap, R-4	SY	150.00
712006	Riprap, R-5	SY	150.00
713003	Geotextiles, Riprap	SY	150.00
732002	Topsoil, 6" Depth	SY	150.00
734013	Permanent Grass Seeding, Dry Ground	SY	150.00
741001	Tree Removal 6" to 10.9"	EACH	50.00
741002	Tree Removal 11" to 14.9"	EACH	50.00
741003	Tree Removal 15" to 18.9"	EACH	50.00
743000	Maintenance Of Traffic	LS	1.00
743003	Arrowpanels, Type C	EADY	1,000.00
743004	Furnish And Maintain Portable Changeable Message Sign	EADY	300.00
743005	Furnish And Maintain Portable Light Assembly	EADY	300.00
743006	Plastic Drums	EADY	30,000.00
743007	Traffic Officers	HR	1,000.00
743010	Furnish And Maintain Truck Mounted Attenuator, Type II	EADY	300.00
743013	Furnishing Portable P.C.C. Structure Mounted Safety Barrier	LF	500.00
743014	Relocating Portable PCC Structure Mounted Safety Barrier	LF	500.00
743015	Furnish And Maintain Portable PCC Safety Barrier	LF	1,500.00
743016	Relocating Portable Safety Barrier	LF	1,500.00
743023	Temporary Barricades, Type III	LFDY	500.00
743024	Temporary Warning Signs and Plaques	EADY	2,000.00
743025	Install Temporary Impact Attenuator	EA	3.00
743030	Relocate Temporary Impact Attenuator	EA	3.00

**DELAWARE DEPARTMENT OF TRANSPORTATION**

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

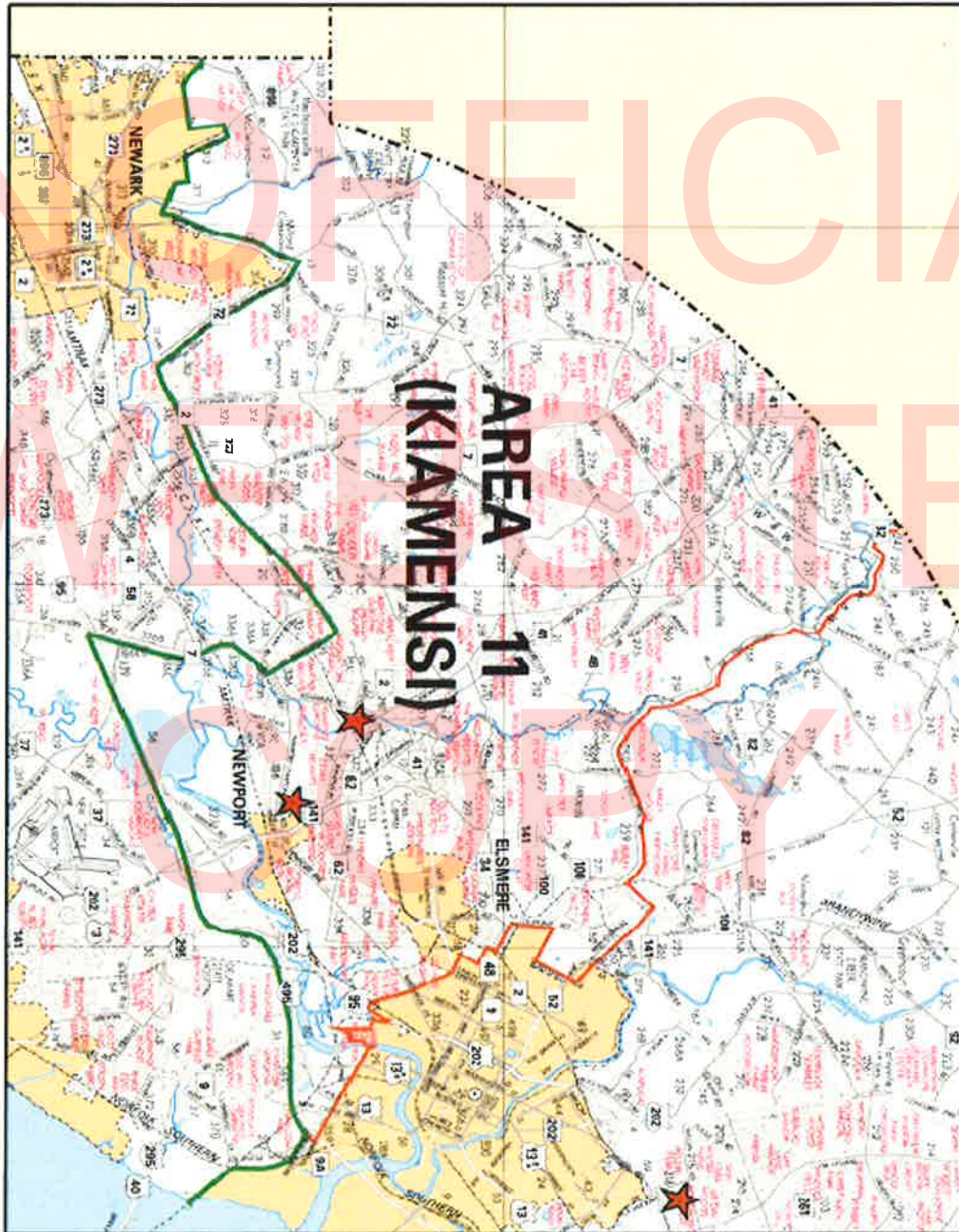
748019	Temporary Markings, Paint, 4"	LF	3,000.00
748506	Permanent Pavement Striping, Epoxy Resin Paint, 4"	LF	3,000.00
748507	Permanent Pavement Striping, Epoxy Resin Paint, White/Yellow, 6"	LF	10,000.00
748525	Temporary Markings, Tape, 4"	LF	500.00
748530	Removal Of Pavement Striping	SF	10,000.00
748547	Retroreflective Preformed Patterned Contrast Markings, 9"	LF	3,000.00
748548	Permanent Pavement Striping, Epoxy Resin Paint, White/Yellow, 5"	LF	4,000.00
748549	Permanent Pavement Striping, Epoxy Resin Paint, White/Yellow, 10"	LF	1,000.00
748557	Permanent Pavement Striping, Epoxy Resin Paint, Black 3"	LF	4,000.00
758000	Removal Of Existing Portland Cement Concrete Pavement, Curb, Sidewalk, ETC	SY	250.00
760000	Pavement Milling, Hot-Mix	SY-IN	400.00
760001	Pavement Milling, Concrete	SY-IN	2,000.00
762001	Saw Cutting, Hot Mix	LF	1,000.00
762002	Saw Cutting, Concrete, Full Depth	LF	2,000.00
763000	Initial Expense	LS	1.00



**DELAWARE DEPARTMENT OF TRANSPORTATION**

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19





# DELAWARE DEPARTMENT OF TRANSPORTATION

CONTRACT No : T201607702

Structure Maintenance, North District, Open End, FY16-19

