**THE STATE OF DELAWARE**

**DEPARTMENT OF TRANSPORTATION**
**MAINTENANCE AND OPERATIONS**
**CONSTRUCTION PLANS AND SPECIFICATIONS FOR**

# Sinkhole Repair II, North District, Open End, FY20-22

**CONTRACT NUMBER – T202003401**
**FEDERAL AID NUMBER – N/A**

**PRIMAVERA ID – 19-22004**
**COUNTY: NEW CASTLE**

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NORTH DISTRICT DESIGN ENGINEER — DATE 11/13/19

NATHAN S. DRAPER
LICENSE
No. 21487
DELAWARE
PROFESSIONAL ENGINEER

**APPROVED FOR ADVERTISEMENT**

DIRECTOR OF MAINTENANCE AND OPERATIONS — DATE 11/19/19

## CONTRACT DESCRIPTION

The purpose of this contract is to repair storm drainage systems where partial or complete failures have occurred. The repair work will include, but not be limited to, the repair or complete replacement of pipes, drainage structures, damaged curb, and associated distressed pavement patching. Some of the drainage system failures have resulted in "cave-ins"/sinkholes of the pavement areas, sidewalk, curb, and/or landscaped areas near the drainage systems. In addition to the repair work, the Contract may include installation of new drainage systems or additional components to existing systems as requested by the Engineer. The work shall be performed on the pipe systems, drainage inlets, curbs, structures, or pavement 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.

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## GENERAL NOTES

1. All work shall be performed in accordance with the Delaware Department of Transportation Standard Specifications dated August 2016 (As amended by the Supplemental Specifications up to the day of Contract advertising), the DelDOT Special Provisions, Standard Constructions Details, the current Delaware MUTCD (including revisions up to the day of Contract advertising) and these project notes.

2. This contract shall be for a period of three (3) years from the date of Initial Notice to Proceed.

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 may result in the Contract being cancelled. Costs to be included in the price bid for Item 763000 (Initial Expense).

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 State funding.

7. Payment will be monthly for the completed work as outlined in Section 109.07.

8. 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.

9. 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.

10. 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.

11. 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.

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12. 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 any location in this Contract, 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 Item 801000.

13. Section 101.03 is amended. There will not be a winter shutdown from December 16th to March 15th. The Department reserves the right to issue work and charge time between these dates.

14. 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 prior to commencement of applicable work.

15. Prosecution and Progress of Work:

    The Contractor shall commence on work indicated on the work order no later than the third (3rd) business day after issuance unless required materials, rail road access, or railroad authorizations 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 (NTP) with the work described on the work order. Time charges commence from the date of the NTP and continue until substantial completion, as determined by the Engineer, of the individual 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 materials.

    The Contractor may have up to six (6) active work orders at any time until all assigned work has been completed. The Contractor is required to have a minimum of two working crews readily available to work on this contract simultaneously, with the ability to provide additional working crews if requested by the Engineer. Each crew is required to have a qualified superintendent as outlined in Section 105.07 of the Standard Specifications.

    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 108.08 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 until the work order is substantially completed as determined by the Engineer.

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Each work order shall be considered a separate unit of work. Upon 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 105.16. 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. Failure to start and complete assigned punch list items within the time frame assigned subjects the Contractor to Liquidated Damages as outlined in Section 108.08 of the Standard Specifications. Liquidated Damages will be assessed based on the total value of the work order.

A Final Inspection will be completed on an annual basis for work orders completed in a calendar year. Upon satisfactory completion of the Final Punch list, 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 Contractor will be advised of work to be performed or deleted via a work order. The work order will indicate the allowable time to perform work. Time to perform the work assigned per work order shall be developed by the following method:

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Legend:

3 Days = Startup time, from date of issue, of each new work order location.
2 Day = Time to adjust and repair one drainage inlet/manhole/junction box
3 Days = Time to remove and replace one drainage inlet/manhole/junction box
1 Day = Time to dig and wrap 1 pipe joint
1 Day = Time to remove and replace 40 lf of pipe
1 Day = Time to remove and replace 150 $ft^2$ of 4 inch or 6 inch sidewalk
1 Day = Time to remove and replace 50 ft of curb and/or curb and gutter
1 Day = Time to remove 30 CY of a ditch or swale
2 Days = Restoration (Topsoil, grass seed, straw mulch, and/or warm-mix patch replacement, sit cleanup)
1 Day = Time to remove and replace 538 $ft^2$ of warm-mix patching, for warm-mix quantities greater than 108 $ft^2$. Warm-Mix Patching quantities less than 108 $ft^2$ are considered to be part of the time alloted for restoration.

Example: A work order with the following repair items issued to the Contractor on Thursday, June 1.

A = 1 drainage inlet adjust and repair
B = 1 drainage inlet, remove and replace
C = 40 lf of remove and replace pipe

Formula:

Time To Complete = 3 Days startup + A(2 Day/CB Adjust and Repair) + B(3 Days/CB Replacement) + C(1 Day/40 lf pipe remove and replace) + 2 Restoration

= 3 + 2 + 3 + 1 +2

Time To Complete = 11 Days

Liquadated damages will be assessed if the work is not complete on Calendar Day 12 and remain in effect until all work is completed and accepted by the Department. For this contract, Saturdays, Sundays, and State Holidays will not be charged, regardless of whether the Contractor decides or is allowed to work. Rain days will also not be charged.

17. Delete Section 104.06 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 104.06 of the DelDOT Standard Specifications dated August 2016 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.

The Contract shall not expire upon reaching the award amount. Depending on fund availability, the Contract amount may be increased. Any increase shall not be cause for the contractor to discontinue work, nor is the contractor owed the entire award amount if the entire award amount is not met.

18. The Contractor shall provide residents 24-hour prior written notice for all phases of conract 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. All costs associated with this work is incidental to 801000 (Maintenance of Traffic).

19. The Contract shall not expire upon reaching the award amount, it expires when the allotted amount of calendar days has been exhausted. Depending on fund availability, the Contract amount may be increased. Any increase shall not be cause for the contractor to discontinue work nor is the contractor owed the entire award amount if the entire award amount is not met.

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20. Initial Expense (763000) shall only be paid once and shall not be paid again if the value of the Contract exceeds the award value.

21. Maintenance of Traffic (801000) shall be paid monthly starting from the date of notice to proceed (NTP). It shall not be paid in full until the contract time has been exhausted. It shall not be paid in full, nor is the contractor owed additional compensation, if the contract reaches or exceeds contract value before contract time is exhausted.

22. Construction Engineering (763501) shall be paid monthly starting from the date of notice to proceed (NTP). It shall not be paid in full until the contract time has been exhausted. It shall not be paid in full, nor is the contractor owed additional compensation, if the contract reaches or exceeds contract value before contract time is exhausted.

23. There shall be no additional compensation or time, nor is it deemed outside the nature of the Contract, for work to occur between houses or other obstructions that require one-way in, one-way out access. It is to be expected that there will only be one-way in, one-way out access at each location on this Contract. The Contract primarily does work within permanent easements in northern New Castle County, which are characterized by tight access, lack of ability to store excavated material next to the trench, and close proximity to homes. There shall be no additional time or compensation for any of the reasons listed above.

24. During the Contract, the contractor shall submit two-week (or as required) "look ahead" schedules to the area engineer/manager no later than noon of each Thursday. Details shall include a description of each work activity, the planned days of work, multiple crews or shifts, and scheduled working hours. Failure to comply will result in a suspension of all contract

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## CONSTRUCTION NOTES

25. The Contractor shall protect all driveways from damage due to the Contractor's equipment, and shall be responsible for all such damage done by the Contractor's equipment. If the Contractor chooses to excavate a driveway access, then the Contractor will be responsible for maintaining the driveway access by the end of each day until a permanent access has been installed.

26. It is the responsibility of the Contractor to supply all necessary incidentals to complete the applicable work, including but not limited to electricity, water, etc. Procuring water, electrical, etc. from the work site is prohibited.

27. Clearing and grubbing of weeds, trees and shrubs less than 6 inches in diameter shall be incidental to applicable items of work. Grubbing activities performed in wetland areas require enviornmental permit approvals.

28. Replacement of PCC sidewalk at driveways and entrances shall be a minimum of 6 inches in depth and placed per the PCC Sidewalk Standard Detail, or as directed by the Engineer.

29. Excavated material not needed on the project shall be removed from the site at the Contractor's expense.

30. Proper disposal of construction related wastes shall be the sole responsibility of the Contractor.

31. 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).

32. Time used for filling water truck(s) will not be considered "actively engaged" and shall not be included in payment of Item 601002 (Heavy Cleaning of Drainage Pipe).

33. All costs associated with connecting a new drainage pipe to a new drainage inlet/junction box/manhole is incidental to the applicable drainage pipe item. All costs associated with connecting a new drainage pipe to an existing drainage inlet/junction box/manhole with an equal or smaller outside diameter as the existing pipe is incidental to the applicable pipe item.

    Connecting a new drainage pipe to an existing drainage inlet/junction box / manhole with a larger outside diameter than the existing pipe shall be paid for via 0.5 multiplied by the unit cost of Item 602130

34. Payment for removal and disposal of existing drainage structures (inlets, junction boxes, manholes, etc) shall be incidental to the unit price bid for the applicable new drainage structure item.

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35. Installation of new drainage structures that have a depth less than or equal to 5 feet, as measured from the top of grate to the top of the footer, shall be paid at the applicable unit price for the new drainage structure. Installation of new drainage structures with the depth greater than 5 feet will be negotiated or performed by Force Account procedures.

36. In order to be eligible to be paid for a new inlet, the contractor must replace the footer, box, hood and frame.

37. Adjust and Repair of inlets, manholes, and junction boxes may include but will not be limited to the following:

    - Rebuilding multiple walls with concrete block or concrete from the footer up.
    - Rebuilding and/or pouring a new inlet lid or hood.

    Adjusting and Repairing inlets/manholes/junction boxes greater than 10 feet shall be negotiated or peformed by Force Account procedures. The depth of the repair, as determined by the Engineer and measured from the top of grate to the bottom of the repair, is the determination for the proper multiple and/or negotiation. Not the depth of the structure.

38. The PCC (Portland Cement Concrete) used for Item 602130 (Adjusting and Repairing Existing Drainage Inlet, Item 602132 (Adjust and Repair Existing Manhole), and Item 602133 (Adjusting and Repairing Existing Junction Box) shall conform to the requirements of Class A Concrete (6 Hour Roadway Mix) as stated within Section 503.03.7 of the Department's Standard Specifications. Also, the perimerter of the box adjustment will be sealed and will be considered incidental to the applicable adjustment item.

39. All costs associated with the use of High Early Concrete in curb, sidewalk, aprons, etc that require High Early Concrete, as directed by the Engineer, shall be paid via a 1.25 multiplier on the applicable unit bid price for curb, sidewalk, etc.

40. In locations that include a double grated drainage inlet, the payment for repair shall be item 602131 (Adjusting and Repairing Existing Double Drainage Inlet(s)). In locations that include a triple grated drainage inlet the payment for repair shall be two (2) times the rate of item 602130 (Adjusting and Repairing Existing Drainage Inlet).

41. Payment for Item 610010, Portland Cement Concrete Masonry Class B, will be made based on the actual measured quantity placed. Epoxy coated reinforcing, bonding agent, smooth bar dowels, ties, inserts, wire mesh, etc. as required by the Engineer shall be incidental to the concrete work.

42. There shall be no additional compensation for short load concrete. The minimum requested load is 1 CY for 610009 or 610010. If a plant requires a minimum that is greater than 1 CY, payment will only be made for 1 CY.

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43. Excavation of roadway materials for patching shall be incidental to the patching pay items being placed.

44. Warm mix patches that are over 1 ton require the use of a roller. Any costs associated with this are incidental to the applicable warm mix item.

45. Payment for furnishing and placing expansion material shall be incidental to the applicable items.

46. The Contractor shall acquire all necessary materials and equipment prior to starting work at a specific location. The equipment and material shall remain accessible and on-site through to the completion of work at that particular location unless prior approval from the Engineer is given.

47. There shall be no additional compensation for rented equipment when performing bid item work. Bid units shall cover any costs associated with renting equipment.

48. 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 expense.

49. Item 908001, topsoil, shall be screened so as no material greater than 0.5" is present. All costs associated with procuring screened topsoil is incidental to the unit cost for Item 908001.

50. There shall be no additional compensation for mobilizing to a location. Mobilization is incidental to the applicable repair item. There shall be no additional compensation for leaving and subsequentially returning to a site at a later date due to site conditions, site obstructions, material availabiltiy, or utlitiy conflicts.

51. De-watering, which will be performed as per Section 902, includes removal of water from springs, sump pumps, groundwater, roof drains, minor creeks, etc from the work zone and/or pipe trench, and is incidental to the applicable work item (Inlet, pipe, etc).

    Diversions of constantly flowing closed drainage systems up to pipe sizes of 36" (or the equivalent SF hydraulic opening for elliptical pipe) is incidental to the applicable work items.

    Stream diversions, which will be performed as per Section 909, of constantly flowing open channels identified by the Delaware Resources Registry as "blue line streams" and diversions of constantly flowing closed drainage systems with pipe sizes greater than 36" (or the equivalent SF hydraulic opening) shall be paid as per below:

    - All costs associated with furnishing, installing, maintaining, and removing sandbags shall be incidental to Item 909005 (Sandbag Diversion).

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- All costs associated with furnishing, installing, maintaining, and removing polyethylene sheeting shall be incidental to Item 905005 (Sandbag Diversion)

- All costs associated with installing and maintaing a sump pit, as per the Delaware Standard Construction Details, shall be incidental to Item 906003 (Sump Pit).

- Pumps/hoses shall be negotiated or performed under Force Account procedures as listed in 109.04.

52. There shall be no additional compensation for the use of a trench box. It is expected that a trench box will be needed at every location and the costs associated with its use are incidental to the items being installed.

53. Any costs associated with vibration monitoring or pre-assessing foundations of structures/buildings/homes (such as time spent taking pictures to document the condition inside and outside prior to the start of construction) is incidental to Item 763501. The decision of when to perform these activities is at the sole discretion of the contractor.

54. The contractor is solely responsible for any concerns about surcharge impacts from material, equipment, etc. on foundations of adjacent buildings/homes/structures. Any costs associated with evaluating the impacts of equipment, material, etc. on buildings/homes/structures is incidental to Item 763501. An independent review by a Delaware Licensed Professional Engineer (Delaware PE) is required in the event that there is concern from the Contractor that a location is not feasible. Any costs associated with a review by a Delaware Licensed Professional Engineer is incidental to Item 763501. Failure to pursue a Delaware PE in a timely manner will result in time charges resuming and liquidated damages being assessed.

55. Any and all construction engineering, including survey and layout shall be incidental to the items being installed. The contractor should anticipate the need for construction engineering and bid items accordingly.

56. Item 207000 (Structural Excavation), and 209005 (Furnishing Borrow Type C for Pipe and Utility Trench Backfill), shall be calculated and paid separately at each pipe location. Item 207000 shall be paid to the neat line of the excavation, subtracting out the inside open volume of the pipe, as directed by the Engineer. Item 209005 will be calculated based on the ticketed tonnage delivered and used; converted to cubic yard using the Materials and Research *Average Weight Chart* published October 28, 2013, with a weight of 113 lb/cubic foot.

57. Removal and disposal of existing pipes is incidental to Item 207000, Structural Excavation. Item 207000 will be paid to excavate pipe trenches in lieu of Item 202000 to the neat line. Any excavation outside the neat line will be paid as 202000, only if the Department specifically directs the contractor to do so. There shall be no additional payment for excavation beyond the neat line

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if the Contractor chooses to bench in lieu of using a trench box. No additional payment will be made to remove and properly dispose of existing pipes. In the event that all fill has washed away, the volume of the pipe minus the open inside volume shall be calculated and paid per CY.

58. Stabilized Construction Entrances (SCE) shall be constructed as per Section 908 and the Standard Construction Details. Any and all costs associated with creating, maintaining, and removing these entrances will be compensated by a 1.5 multiple on the unit cost for Item 302002 (No. 3 Stone) and 708003 (Geotextiles, Riprap). Use of temporary pipe to cross a ditch or swale shall also be incidental to Item 302002 and 708003.

59. Any and all costs associated with temporarily supporting utilities such as temporarily supporting a hydrant/valve/pole with straps, creating a deadman to temporarily move/support a utility line, and bracing/supporting pipes within excavations are incidental to 763501.

60. Any and all costs associated with excavating around a utility line to create "slack" in order to install a drainage structure, pipe, etc. is paid under 204000 (Test Holes).

61. There shall be no additional compensation for installing a junction box in lieu of a drainage inlet under the appropriate drainage inlet item.

62. Re-establishing or re-ditching of an existing ditch/swale shall be paid under Item 203000 (Channel Excavation). Creating a new ditch/swale shall also fall under Item 203000 (Channel Excavation).

63. Removal/relocation and re-setting of existing chain link, wooden slat, wooden split -rail, or decorative fence up to 6 FT tall shall be paid under Item 727030 (Fence Relocation). Relocation/removal and re-setting of existing chain link, wooden slat, wood split-rail, or decorative fence 6 FT – 10 FT tall shall be paid via a 1.5 multiple on the unit price for 727030. Any fence taller than 10 FT shall be negotiated or performed under force account. Fence height shall be measured from top of grade to top of post or slat.

64. Mobilization of a milling machine shall be incidental to Item 402000.

65. If the Department requests a paving machine, mobilization costs shall fall under Item 763544 (Road Location Mobilization, Zone 1). Zone 1 is modified for this Contract to encompass all of North District as depicted in the Area Maps below. There shall be no payment for mobilization if the Contractor decides to bring out a paving machine.

66. Corrugated Polyethylene Pipe, Type S, 12", 10", 8", and 6" shall be paid under Item 601220 (Corrugated Polyethylene Pipe, Type S, 15").

67. Corrugated Polyethylene Pipe, Type S, 42" shall be paid under Item 601227 (Corrugated Polyethylene Pipe, Type S, 48").

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68. Corrugated Polyethylene Pipe, Type S, 54" shall be paid under Item 601229 (Corrugated Polyethylene Pipe, Type S, 60")

69. RCP, 12", 10", 8", and 6" Class IV shall be paid under Item 601032 (RCP, 15", Class IV).

70. RCP, 21", Class IV shall be paid under Item 601035 (RCP, 24", Class IV).

71. P.C.C. Curb, Type 1-2, 1-4, 1-6, shall be paid under Item 701013 (P.C.C. Curb, Type 1-8).

72. I.P.C.C. Curb and Gutter, Type 1-2, 1-4, 1-6, shall be paid under Item 701018 (I.P.C.C. Curb and Gutter, Type 3-8).

73. I.P.C.C. Curb and Gutter, Type 3-2, 3-4, 3-6, shall be paid under Item 701023 (I.P.C.C. Curb and Gutter, Type 3-8).

74. Any and all costs associated with removing and re-setting guardrail is incidental to Item 720030 (Relocating Guardrail).

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## MAINTENANCE OF TRAFFIC

75. 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.

76. All shoulder or travel lane closures 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. There is no guarantee that each location will be accessible during day time hours. There shall be no additional compensation for a work window that is required to be performed during night time hours.

77. 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 the detour plan preparation shall be included in the bid price for Item 801000 (Maintenance of Traffic). 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 for trailblazers will be under Item 810001 (Temporary Warning Signs and

Plaques). Signs that are required to be in place for longer than 72 consecutive hours need to be mounted. Payment for mounting of the signs will be incidental to item 801000 (Maintenance of Traffic).

78. 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.

79. 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.

80. Traffic control devices shall be provided and placed in accordance with the Delaware Manual on Uniform Traffic Control Devices (DE-MUTCD). The Contractor shall prepare and submit a Temporary Traffic Control Plan for each site to DelDOT for approval. The Temporary 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 District Safety Officer and DelDOT Engineer prior to commencement of work on each site. Maintenance of Traffic Typical Applications are described in the Delaware MUTCD. The Contractor shall be responsible for determining the applicable Typical Application for each work application. The proposed Temporary Traffic Control Plan must be submitted to DelDOT a minimum of ten (10) working days prior to commencement of work at each location. Payment for this work will be included in the bid price for 801001 (Maintenance of Traffic).

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81. No lane closures or shoulder closures will be permitted unless applicable work activity is taking place.

82. No separate payment shall be made for the 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.

83. 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 801001 (Maintenance of Traffic).

84. 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.

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85. 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 utlities, 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, bitumionous 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 bitumionus 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 drop-off

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 801001 (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.

86. 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(Furnish And Maintain Portable Light Assembly.

87. The Contractor is to install portable changeable message boards 10 work days prior to construction per location to notify the public of the construction activity. Message and location of the message boards shall be coordinated with the District Safety Officer.

88. All equipment shall be removed from the job site on a daily basis, except when allowed by the DelDOT approved Traffic Safety Plan, or as approved by the Engineer.

89. All costs associated with removing or relocating traffic control devices from the job site is incidental to the applicable traffic control item. There shall be no additional payment for removing or re-locating traffic control devices.

90. All costs associated with placing extra rings around drums to secure them is incidental to the bid item for traffic drums.

91. The Contractor shall maintain access to and along pedestrian facilities at all times during construction. Earth, stone, and gravel surfaces are not acceptable for providing pedestrian access. Where pedestrian routes are closed or blocked, alternate pedestrian access shall be provided using TA-28 and/or TA-29 of the 2011 Delaware Manual of Uniform Traffic Control Devices or to the satisfaction of the Engineer. Pedestrian detour routes or alternate pedestrian facilities shall consist of ADA compliant facilities to the level of which exists on the pedestrian route. The cost for any provisions shall be incidental to Item 801000 (Maintenance of Traffic).

92. **All costs associated with the use of steel plates is incidental to Item 801000 (Maintenance of Traffic). There shall be no additional compensation for the use of multiple plates. It is the responsibility of the Contractor to safely protect their work zone and to maintain traffic access, all costs associated with this work is incidental to 801000.**

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## ITEM SUMMARY

| ITEM # | ITEM DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|
| 202000 | Excavation and Embankment | CY | 850.00 |
| 202002 | Rock Excavation for Structures and Trenches | CY | 35.00 |
| 203000 | Channel Excavation | CY | 200.00 |
| 204000 | Test Hole | CY | 50.00 |
| 207000 | Structural Excavation | CY | 1,000.00 |
| 208000 | Flowable Fill | CY | 30.00 |
| 209005 | Type C Borrow, Trench and Structure Backfill | CY | 1,200.00 |
| 209006 | Borrow, Type F | CY | 50.00 |
| 211001 | Removal of Existing PCC Pavement, Curb, Sidewalk, etc. | SY | 1,650.00 |
| 211500 | Tree Removal 6" to 15" | EACH | 38.00 |
| 211501 | Tree Removal 15" to 25" | EACH | 20.00 |
| 211502 | Tree Removal 25" to 37" | EACH | 10.00 |
| 211503 | Tree Removal 37" to 49" | EACH | 10.00 |
| 211504 | Tree Removal 49" and Above | EACH | 5.00 |
| 301001 | Graded Aggregate Base Course, Type B | CY | 700.00 |
| 302002 | Delaware No. 3 Stone | TON | 125.00 |
| 302005 | Delaware No. 57 Stone | TON | 700.00 |
| 401026 | WMA, Superpave, Type C, 160 Gyrations, Patching | TON | 625.00 |
| 401027 | WMA, Superpave, Type B, 160 Gyrations, Patching | TON | 425.00 |
| 402000 | Bituminous Concrete Patching | SYIN | 6,500.00 |
| 601000 | Cleaning Drainage Pipe 15-24" Diameter | LF | 3,200.00 |
| 601001 | Cleaning Drainage Pipe Greater than 24" Diameter | LF | 1,850.00 |
| 601002 | Heavy Cleaning of Drainage Pipe | HOUR | 60.00 |
| 601003 | Pressure Grouting Pipe Joints,15"-24" Diameter | EACH | 30.00 |
| 601004 | Pressure Grouting Pipe Joints, Greater than 24" Diameter | EACH | 15.00 |
| 601032 | RCP, 15" Class IV | LF | 375.00 |
| 601033 | RCP, 18" Class IV | LF | 300.00 |
| 601035 | RCP, 24", Class IV | LF | 300.00 |
| 601037 | RCP, 30", Class IV | LF | 250.00 |
| 601039 | RCP, 36", Class IV | LF | 375.00 |
| 601040 | RCP, 42", Class IV | LF | 70.00 |
| 601041 | RCP, 48", Class IV | LF | 70.00 |
| 601042 | RCP, 54", Class IV | LF | 70.00 |
| 601043 | RCP, 60", Class IV | LF | 70.00 |
| 601220 | Corrugated Polyethylene Pipe, Type S, 15" | LF | 1,050.00 |

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|---|---|---|---|
| 601221 | Corrugated Polyethylene Pipe, Type S, 18" | LF | 1,050.00 |
| 601223 | Corrugated Polyethylene Pipe, Type S, 24" | LF | 850.00 |
| 601225 | Corrugated Polyethylene Pipe, Type S, 36" | LF | 850.00 |
| 601227 | Corrugated Polyethylene Pipe, Type S, 48" | LF | 450.00 |
| 601229 | Corrugated Polyethylene Pipe, Type S, 60" | LF | 450.00 |
| 601500 | Pipe Video Inspection | LF | 3,200.00 |
| 601506 | Dig and Wrap | EA | 35.00 |
| 602001 | Drainage Inlet, 24" x 24" | EACH | 5.00 |
| 602002 | Drainage Inlet,34" x 18" | EACH | 9.00 |
| 602003 | Drainage Inlet,34" x 24" | EACH | 9.00 |
| 602004 | Drainage Inlet, 48" x 30" | EACH | 9.00 |
| 602005 | Drainage Inlet, 48" x 48" | EACH | 9.00 |
| 602006 | Drainage Inlet, 66" x 30" | EACH | 5.00 |
| 602009 | Drainage Inlet, 72" x 24" | EACH | 5.00 |
| 602010 | Drainage Inlet 72" x 48" | EACH | 5.00 |
| 602031 | Manhole, 48" X 48" | EACH | 9.00 |
| 602100 | Replacing Drainage Inlet Grate(s) | EACH | 5.00 |
| 602101 | Replace Drainage Inlet Frame(s) | EACH | 5.00 |
| 602130 | Adjusting and Repairing Existing Drainage Inlet | EACH | 105.00 |
| 602131 | Adjust and Repair Existing Double Drainage Inlet(s) | EACH | 60.00 |
| 602132 | Adjusting and Repairing Existing Manhole | EACH | 10.00 |
| 602133 | Repairing Existing Junction Box | EACH | 10.00 |
| 610009 | Portland Cement Concrete Masonry, Class B | CY | 20.00 |
| 610019 | High Early Strength Concrete | CY | 50.00 |
| 612552 | Spray Applied Cementitious Mortar For Pipe, 24" - 48" | LF | 80.00 |
| 612553 | Spray Applied Cementitious Mortar For Pipe, Greater Than 48" | LF | 30.00 |
| 701004 | PCC Valley Gutter (8") | SY | 200.00 |
| 701013 | PCC Curb, Type 1-8 | LF | 345.00 |
| 701018 | Integral PCC Curb and Gutter, Type 1-8 | LF | 1,050.00 |
| 701019 | Integral PCC Curb and Gutter, Type 2 | LF | 1,050.00 |
| 701023 | Integral PCC Curb and Gutter, Type 3-8 | LF | 300.00 |
| 701031 | Curb Opening, 2' Opening | EA | 9.00 |
| 701032 | Curb Opening, 4' Opening | EA | 9.00 |
| 705001 | PCC Sidewalk, 4" | SF | 2,750.00 |
| 705002 | PCC Sidewalk, 6" | SF | 2,300.00 |
| 705007 | Sidewalk Surf Detect Warning System | SF | 25.00 |
| 705008 | Curb Ramp, Type 1 | SF | 40.00 |
| 705009 | Curb Ramp, Type 2, 3 and/or 4 | SF | 20.00 |
| 707001 | Rip Rap, R-4 | SY | 275.00 |
| 707002 | Rip Rap, R-5 | SY | 275.00 |
| 707003 | Rip Rap, R-6 | SY | 100.00 |

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|---|---|---|---|
| 707004 | Rip Rap, R-7 | SY | 50.00 |
| 708003 | Geotextiles, Rip Rap | SY | 750.00 |
| 709001 | Perforated Pipe Underdrains, 6" | LF | 100.00 |
| 720030 | Relocating Guardrail | LF | 100.00 |
| 727006 | Temporary Construction Fence | LF | 500.00 |
| 727030 | Fence Relocation | LF | 300.00 |
| 762000 | Saw Cutting, Hot-Mix | LF | 6,500.00 |
| 762001 | Saw Cutting, Concrete, Full Depth | LF | 700.00 |
| 763000 | Initial Expense | LS | 1.00 |
| 763501 | Construction Engineering | LS | 1.00 |
| 763544 | Road Location Mobilization, Zone 1 | EA | 5.00 |
| 801000 | Maintenance of Traffic | LS | 1.00 |
| 802003 | Arrow Panel, Type C | EA-DY | 60.00 |
| 803001 | Furnish & Maintain Portable Changeable Message Sign | EA-DY | 75.00 |
| 804001 | Furnish & Maintain Portable Light Assembly | EA-DY | 20.00 |
| 805001 | Plastic Drums | EA-DY | 10,000.00 |
| 806001 | Traffic Officers | HOUR | 50.00 |
| 808002 | Furnish & Maintain Truck Mounted Attenuator, Type II | EADY | 50.00 |
| 810001 | Temporary Warning Signs and Plaques | EADY | 3,000.00 |
| 811001 | Flagger, New Castle County, State | HOUR | 1,100.00 |
| 811013 | Flagger, New Castle County, State, Overtime | HOUR | 10.00 |
| 813001 | Temporary Barricade, Type III | LF-DY | 4,000.00 |
| 817003 | Temporary Markings, Paint 4" | LF | 1,750.00 |
| 817013 | Permanent Pavement Striping, Epoxy Resin Paint 5" White/Yellow | LF | 250.00 |
| 817031 | Removal of Pavement Striping | SF | 500.00 |
| 819018 | Install / Remove Traffic Sign on Single Post | EACH | 10.00 |
| 905001 | Silt Fence | LF | 800.00 |
| 905004 | Inlet Sediment Control, Drainage Inlet | EA | 10.00 |
| 905005 | Inlet Sediment Control, Curb Inlet | EA | 10.00 |
| 906002 | Dewatering Bag | EA | 8.00 |
| 906003 | Sump Pit | CY | 10.00 |
| 908003 | Topsoil, 4" Depth | SY | 6,300.00 |
| 908016 | Permanent Grass Seeding, Subdivision | SY | 6,300.00 |
| 908020 | Soil Retention Blanket Mulch, Type 5 | SY | 3,500.00 |
| 909002 | Sandbag Diversion | CF | 800.00 |

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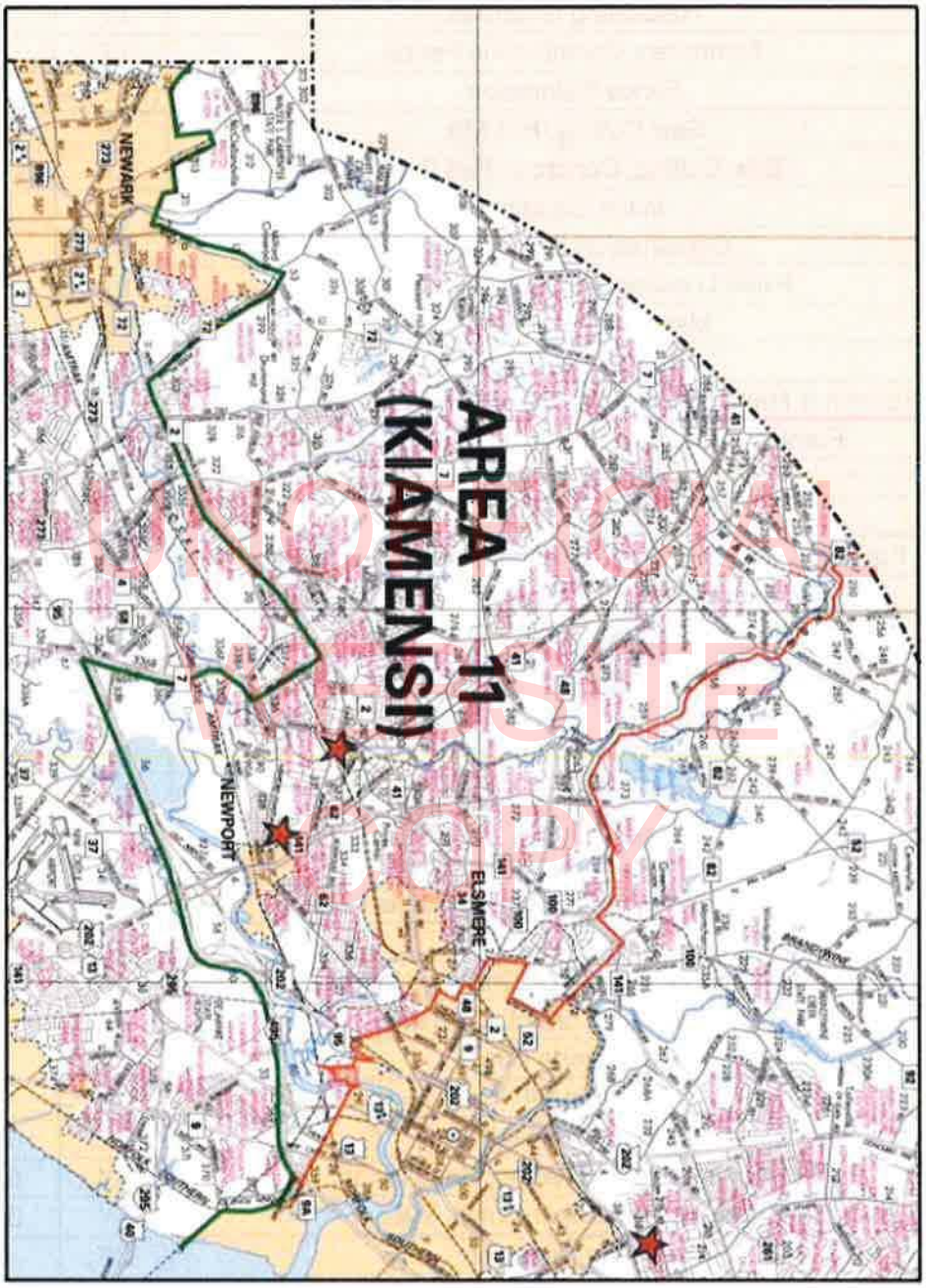


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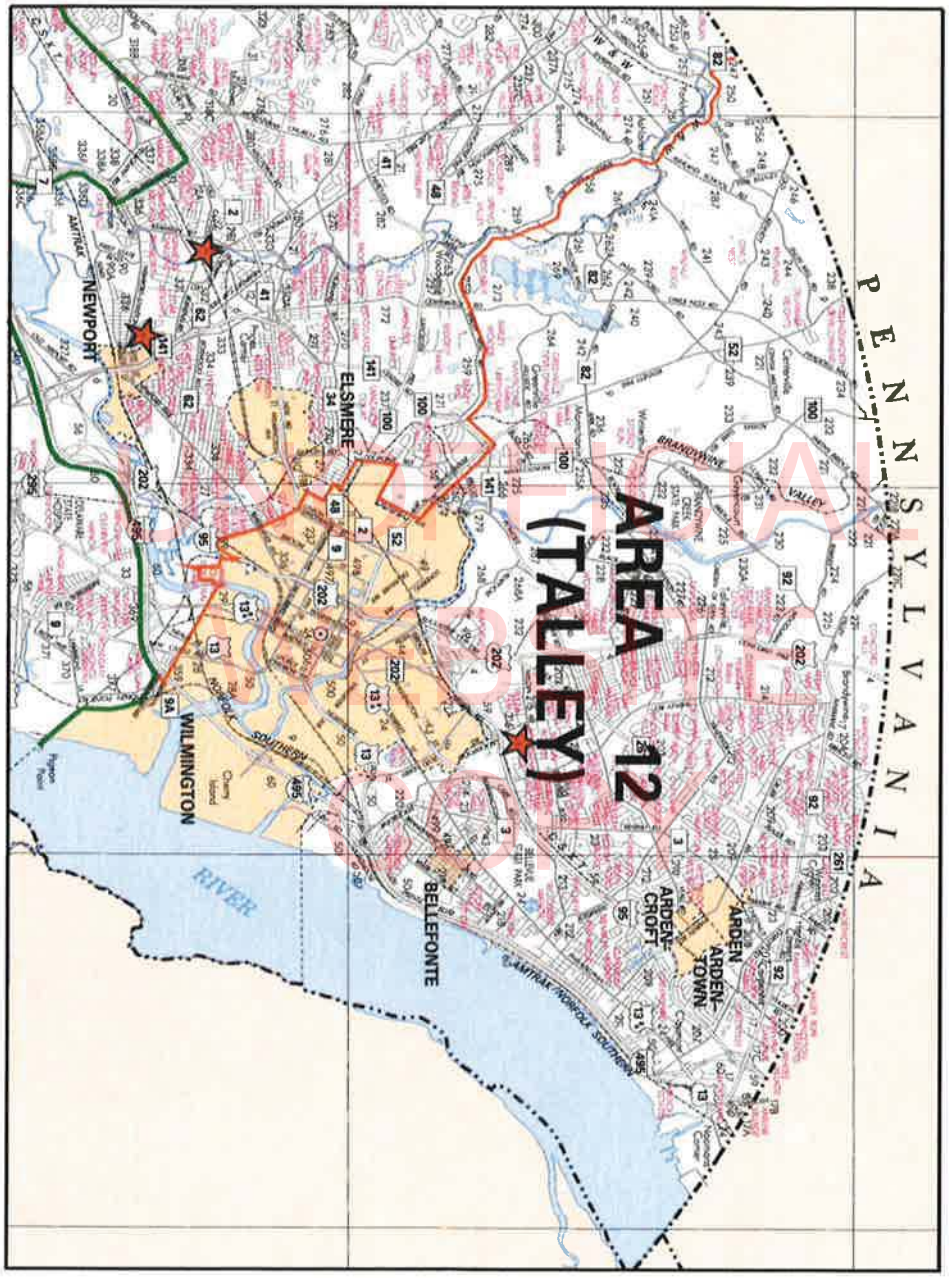
AREA 12
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BELLEFONTE
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ARDEN
ARDEN-TOWN
RIVER