STATE OF DELAWARE

DEPARTMENT OF TRANSPORTATION

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MAINTENANCE AND OPERATIONS
CANAL DISTRICT

PLANS AND SPECIFICATIONS FOR

Contract Number: T201487703
Federal Aid Project Number: ESTP-2014(31)

TURNED DOWN GUARDRAIL REMOVAL, CANAL, OPEN END, FY15-FY16

DONALD A. FINNEY
REGISTERED
No. 10347
DELAWARE
PROFESSIONAL ENGINEER

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REGISTERED
No. 9223
DELAWARE
PROFESSIONAL ENGINEER

RECOMMENDED: _____ 9.23.14
Canal District Contracts Engineer Date

APPROVED: _____ 9/23/14
Canal District Maintenance Engineer Date

RECOMMENDED: _____ 24 Sept. 2014
Performance Management Engineer Date

CONTRACT DESCRIPTION

The purpose of this Contract is to remove existing guardrail turned down ends, replace with approved attenuators as required, and to perform other guardrail component upgrades, grading, curb removal and replacement as directed in the field by the Engineer. Also included are sidewalk and/or bike/ped path removal and replacement resulting from the guardrail repairs. Features requiring ADA upgrades for compliance with current standards may also be performed if within the limits of the guardrail work. Topsoil, seeding and mulching of exposed areas will be included. Maintenance of Traffic in accordance with the latest edition of the Delaware MUTCD will also be part of this Contract. The work will be performed on State Maintained roadways within Canal District as directed in the field. Maps delineating the approximate boundaries of Canal District Maintenance Areas are included following these Project Notes.

The specific work sites are not listed herein, but will be assigned as available by Canal District Maintenance.

It is anticipated that the Notice to Proceed for the Contract will be issued on or about **March 25, 2015**.

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PROJECT NOTES

1. Construction of this Contract shall conform to Delaware Department of Transportation Standard Specifications dated August 2001, the Supplemental Specifications, the Special Provisions, the applicable DelDOT Standard Construction Details, the current Delaware MUTCD, and these Project Notes.

2. The Performance Bond shall be submitted when the contract is executed. Failure on the part of the Contractor to submit the Performance Bond shall result in the Contract being cancelled. It is the Contractor's responsibility to assure that the Bond is current for the life of the contract. Costs to be included in the price bid for item 763000, Initial Expense.

3. Whenever the word "Contractor" is used in this Contract, it shall refer to the person or persons, company, or corporation furnishing the services required.

4. Whenever the word "Department" or "Engineer" is used, it shall refer to the person or persons representing the Delaware Department of Transportation (DelDOT).

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

6. Section 101.91(4) is amended. There will not be a winter shutdown from December 16th to March 15th. The Department reserves the right to issue work between these dates.

7. Tasking of work for Fiscal Years 2015 (beginning July 1, 2014) through Fiscal Year 2016 (ending June 30, 2016) is contingent upon authorization of funding.

8. Environmental permits are not required for this work provided that waters or wetlands, under the jurisdiction of the U.S. Army Corps of Engineers and/or DNREC, are not impacted. If there is a question as to whether or not a water or wetland is jurisdictional, the Engineer will contact the DelDOT Environmental Studies Section at (302) 760-2264. In the event that a jurisdictional water or wetland is impacted, DelDOT's Environmental Studies Section will be responsible for securing the appropriate permit authorizations.

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 or railroad property (including highway-rail crossings); it will be the responsibility of the DelDOT Engineer to secure such trespass needs and to determine any additional insurance requirements.

10. The Engineer 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.

11. For the purpose of this Contract, the replacement attenuator type and location shall be as directed by the Engineer. The Engineer shall also determine for the Contractor what, if any, additional

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guardrail elements shall be replaced and/or upgraded at each location. Any guardrail elements removed and not to be reused, as determined by the Engineer, shall become the property of the Contractor. Removal and legal disposal of the unused elements, including, but not limited to, rails, posts, end attachments, excess hardware, concrete, and anchors are the responsibility of the Contractor.

12. Shop Drawings detailing the attenuator Items 720585 and 720586 shall be submitted and approved by the Department prior to any installation of these units in the field. Documentation verifying compliance with NCHRP 350 requirements should accompany the shop drawings.

13. Item 211002 (Removal of Structures and Obstructions – Guardrail) shall be utilized for, and payment shall include, the removal and disposal of existing guardrail, Turned Down Ends, and all appurtenances attached to these elements including the rails, posts, blocks, washers, reflectors, bolts, turned down rail section, and any other incidentals within the length of material being removed. Measurement shall be made for the linear feet of rail and or turned down rail actually removed from the site. Costs to remove existing guardrail that will be reset shall be included in item 720515, Relocating Guardrail. Note that costs to remove any concrete anchors that are part of the turned down end sections are to be paid separately under Item 607000 (Removal of Existing Masonry).

14. If only individual rail sections, posts and/or blocks are being removed and replaced, then Items 720005 (Steel Rail Element, Straight), 720006 (Steel Rail Element, Curved), 720007 (Galvanized Steel Post), 720549 (Galvanized Steel Post, Extra Length), and 720634 (Offset Blocks) shall be utilized for payment as applicable. These items are understood to include the removal and disposal of the existing elements and replacement with new materials.

15. At locations where 27 inch guardrail exists, a transition section shall be installed between the attenuator and existing guardrail. Standard Construction Detail sheet B-7 shows this transition. Payment for the transition will be made using either Item 720515 (if the existing guardrail is in good condition) or Items 211002 and 720050 (if the guardrail requires replacement with new material). No additional payment, other than these unit prices, will be made to construct the transitions unless otherwise approved by the Engineer.

16. Backfill of holes created by post, turned down end, and/or anchor removal, shall be placed in compacted lifts. Should additional backfill material be required, payment will be made under Item 209003 (Borrow, Type C). Providing and installing (if necessary) rail backup plates, bolts, nuts, and washers, providing and setting up traffic cones and/or patterns are incidental to the Bid Items. Cost for the placement of one-third (1/3) of a cubic yard of Portland Cement Concrete around the base of unstable posts, as directed by the Engineer, is incidental to the unit price bid for Item 720007, Galvanized Steel Post or Item 720549, Galvanized Steel Post, extra-length. Cost for excavating and disposing of up to one (1) cubic yard of material and/or grading (up to a 6" depth) to meet the manufacturer's slope requirements is incidental to the unit price bid for Items 720585 (Guardrail Attenuator, Type 1-31) or 720586 (Guardrail Attenuator, Type 2-31). If excavation in excess of one (1) cubic yard is required, then the entire excavation necessary to meet the grading

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requirements at the location in question will be measured and paid for under item 202000, Excavation and Embankment. Hotmix curb shall be removed as directed in the field with payment to be made under item 202000 (if the total excavation at the location exceeds one cubic yard). If additional borrow is needed to construct the required grading zone, payment shall be made under Item 209006, (Borrow, Type F).

17. If concrete curb (or curb and gutter) removal and replacement is to be performed at a work site, a one foot wide patch shall be placed in front of the new curb (or gutter pan). The excavation for the patch shall be paid under Item 202000. Item 762001 shall be used to longitudinally sawcut the patch area. 2 inches of Type C WMA (Item 401821) over 6 inches of Type B WMA in two lifts (Item 401822) over 8 inches of GABC (Item 302008) shall be placed to complete the patch.

18. If an existing bike/ped path, sidewalk, and/or maintenance strip under guardrail or attenuator is disturbed during work at any location, it shall be replaced in kind using the applicable items in the contract.

19. All runs of new guardrail shall utilize composite offset blocks. Payment for these blocks in new guardrail to be included in items 720043 or 720050 as applicable. It is also intended to replace all existing steel blocks with composite blocks for the entire length of any run of guardrail where the existing Turned Down End is removed, with payment to be made under item 720634 for individual blocks, or included in Item 720515 for relocated guardrail, or included in Item 720603 in cases where new rail sections are placed on relocated posts and blocks. Composite blocks shall conform to NCHRP Report 350, Test Level 4. Unless specifically directed otherwise by the Engineer, no steel or wood blocks are to be furnished under this contract.

20. 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 (1-800-282-8555) 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 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. Any adjustments and/or relocations of surface castings over 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 with payment to be made under Items 710002 and/or 750000 as applicable.

21. The Contractor shall comply with any plans issued for individual work locations, these notes, the Special Provisions, DelDOT Standard Construction Details, the Standard Specifications, and the Delaware MUTCD for all work performed in this Contract.

22. 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

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work shall not begin until the adjacent property owners have been notified. Prior to starting work on private property, the Contractor shall notify affected property owners of proposed work dates.

23. Work located within Municipalities requires a Town Agreement. The Contractor shall contact DelDOT Real Estate section at (302) 760-2228 prior to commencing work within Municipalities to process a town agreement.

24. Excavated material not needed on the project shall become the property of the Contractor, and be removed at the Contractor's expense. Payment for removal and disposal of excess excavation is incidental to Item 202000.

25. Clearing and grubbing of vegetation including grass, weeds, trees and shrubs less than 6 inches in diameter shall be incidental to the applicable repair or replacement item. Grubbing activities performed in wetland areas requires environmental permit approvals. Also, trash, rubbish, or debris 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 Item 763000 (Initial Expense).

26. The Contractor shall provide residents 24-hour prior written notice for all phases of contract work. This notice shall be given to all residents whose property is adjacent to the street on which work is to be performed. Failure to give notice will result in a suspension of work.

27. 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 until completion of work at that particular location unless prior approval from the Engineer is given.

28. Grass and soil areas within State right-of-way, but outside the limits of construction, that have been damaged by equipment during this Contract shall be restored with topsoil, seed and mulch at Contractor's expense.

29. 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.

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30. All additional work shall be performed using Contract unit bid prices. When contract unit bid prices do not apply, then prices will be negotiated or performed by Force Account procedures in accordance with Section 109.04 of the DelDOT Standard Specifications.

31. Performance and progress of work:

Work to be performed under this Contract shall be generated through work orders issued to the Contractor by the DelDOT Maintenance District. Up to six (6) work-orders will be issued at one time, as a group, to allow for the most efficient allocation of the Contractors work force.

Execution of each work order group is to begin within five (5) days of its being issued to the Contractor, unless required materials are not available, or otherwise approved by the Engineer. Work shall be completed within the timeframe agreed upon by the Contractor and Engineer prior to the beginning of each work order. In the event that agreement cannot be reached, the Engineer reserves the right to assign a fair and reasonable number of working days to complete a work order. Non-availability of material shall be verified by at least three (3) different sources, with the verification formally presented in writing by the Contractor to the Department within five (5) working days. The Contractor shall present shipping tickets, which upon verification by the District, will establish the date of material availability for *Items 720585* and *720586* and for any other unavailable Items. For the purpose of this Contract, Saturdays and Sundays are not considered working days.

Unless approved otherwise, if work does not commence, or non-availability of materials is not presented, in writing, within the specified five (5) working days after notification, time charges equal to Liquidated Damages for the work-order group shall commence. If there is a verified non-availability of materials, time charges shall commence on the fifth (5th) working day following the delivery date.

The Department will attempt to assign work-orders in a manner that will keep the distance between job order locations to a minimum and in logical sequence.

Failure to complete a work group in the specified time shall constitute "failure to pursue the work" and subjects the Contractor to Liquidated Damages as outlined in Subsection 108.08 of the Standard Specifications. Each work-order group is to be completed within the Working Day time agreed upon by the Engineer and Contractor prior to beginning work on each work order group. In the event that agreement cannot be reached, the Engineer reserves the right to assign a fair and reasonable number of working days to complete a work order. Additional Items and/or working days may be added to any work-order as needed, at the discretion of the Engineer. If work on a specific work-order group is not completed within the allotted time, Liquidated Damages will be assessed per Work Day in accordance with Subsection 108.09 based on the total value of that work-order group.

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A semi-final inspection will be performed on each work-order group after the Department receives copies of the completed work-orders from the Contractor. All work must meet the Department's Specifications, the requirements as outlined in this contract, and the manufacturer's specifications pertaining to guardrail end treatments (when applicable) before they can be considered complete. If all the work-orders are satisfactorily completed, the Department will process the Contractor's invoices for the specific work-orders in that group. When all contract work is completed, a Final Inspection will be held. Upon completion of any remaining punchlist items, the work will be accepted by the Department.

32. Payments shall be issued on a monthly basis for the amount of work completed, invoiced and verified by the Department.

33. The Contractor is reminded that Section 105.07 of the Standard Specifications requires the Contractor to maintain a competent Superintendent or Foreman on the job site at all times.

34. Construction layout for guardrail runs, approach grading areas, curbs, and wheel chair ramps is the responsibility of the Contractor with costs incidental to the items being constructed.

35. Tapers from one height of curb to another shall be made at a rate of 12" horizontal to 1" vertical with costs incidental to the new curb being constructed.

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MAINTENANCE OF TRAFFIC

36. The Engineer 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 Engineer 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.

37. Prior to beginning work, the Contractor shall submit documentation to the Department verifying that all proposed Maintenance of Traffic devices meet or exceed the current NCHRP 350 and/or MASH requirements. No work requiring maintenance of traffic devices may begin until approval is received from DelDOT Safety Section. All traffic control devices shall be in new or refurbished condition, and shall be in compliance with the Delaware Manual of Uniform Traffic Control Devices as defined in Part 6 of the Manual. The devices shall be maintained in good condition for the duration of the Contract.

38. 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.

39. If a road closure is required, the Engineer will prepare the approved detour plan, coordinate with the DelDOT Safety Section, and be responsible for the necessary emergency notifications. The Contractor shall be responsible for furnishing and maintaining the Maintenance of Traffic apparatus at the closure (such as Message Boards, Type III barricades, road closure signs, etc.) and all advance warning signs. The Contractor shall be responsible for placement of detour trailblazers. Payment for detour trailblazers shall be under Item 743024 (Temporary Warning Signs).

40. 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. All costs for this work shall be incidental to the applicable maintenance of traffic pay items as listed in the original contract.

41. Unless otherwise approved by the Engineer, no lane closures will be permitted on State holidays. This requirement applies to all roads impacted in this Contract. Additional days before and/or after the holiday may be directed by the Engineer as having no lane closures. If so directed, the Contractor shall comply with no additional cost to DelDOT.

42. Item 743000, Maintenance of Traffic – Lump Sum, is not intended to be a bid item on this contract. Any costs related to Maintenance of Traffic that the Contractor feels would have been bid in this lump sum item shall be included in the various individual maintenance of traffic bid items proposed in the contract.

43. 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 on Uniform Traffic Control Devices, Part 6, including revisions up to the date of advertisement for bids.

44. All open excavations shall be secured with plastic drums with retroreflective fluorescent orange and white prismatic sheeting and orange plastic snow fence. If the construction activity results in a vertical difference or drop-off 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) as directed by the Engineer. Depending on the proximity of the excavation to the travelway, and its depth, steel plates may also be required. The

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snow fence, tie wire, steel plates, and associated items shall be incidental to the work being protected.

45. 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 as determined by the Engineer shall be undertaken 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. Severe deficiencies that are not corrected immediately could result in possible suspension of work or holding of pay estimates until items identified are brought back into compliance.

46. At the end of each workday, the Contractor shall correct all pavement edge drop-offs in accordance with the Delaware MUTCD. This corrective work shall be accomplished with Temporary Road Material (TRM). All ruts and potholes shall be filled with TRM as soon as possible, but no later than by the end of each workday. Placement of TRM shall be completed in accordance with the applicable sections of the Delaware Standard Specifications. If temporary elimination of a drop-off hazard cannot be accomplished, then the area shall be properly marked and protected with additional temporary barriers, barricades, warning signs, etc. as required by the Delaware MUTCD, and as approved by the Engineer. Payment for all work described in this Project Note shall be incidental to applicable Maintenance of Traffic Pay Items in the Contract. There shall be no additional compensation provided to the Contractor for this work.

47. All flaggers utilized by the Contractor for this project shall be ATSSA certified by a Department approved certification program. All flaggers shall have certification cards and photo identification with them while working. Absence of a certification card will be justification for flagger dismissal from the site and corresponding suspension of work. All garments worn by flaggers shall comply with applicable regulations for visibility and reflectivity. All construction and Contractor vehicles and self-propelled equipment shall be equipped with an operating roof mounted amber flashing light. For locations requiring a flagging operation, the flagger will be paid using the bid hourly rate under the applicable flagger Pay Item.

48. The Contractor shall have an American Traffic Safety Services Association (ATSSA) Certified Supervisor available when needed on this project. The Contractor's general superintendent for this project or another ATSSA certified member of the Contractor's project staff may be the ATSSA supervisor. When required by the Engineer, payment for the ATSSA Supervisor will be made under Item 743031, but only for the hours actually worked setting up and/or reviewing traffic control.

49. Time restrictions for working hours will be determined by the Safety Officer and the Engineer for each specific work location, and stated on the work order. The Contractor shall comply with these time restrictions. Daytime restricted work hours may be required on some work orders, at the discretion of the Safety Officer and Engineer. No additional compensation will be considered for work performed during restricted hours.

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50. If the Contractor does not complete the contract work within the contract completion time for 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 signs, barricades, plastic drums, flaggers, traffic officers, arrow panels, message boards, and portable impact attenuators.

51. Costs for adjustment in position of traffic control devices due to variances from the standard Maintenance of Traffic (MOT) case numbers, or for any other reason, shall be included in the unit bid price for each respective MOT Pay Item.

52. 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.

53. Any existing signs that conflict with temporary or permanent construction signs shall be covered by the Contractor as needed, or as directed by the Engineer. Costs to furnish and install covers are considered incidental to Item 743024. The Contractor, with the Engineer's representative, shall inventory all signs on all roads subject to improvements. Necessary signs shall be maintained in operation during construction, and any other signs shall be properly stored with the Contractor, and reinstalled upon completion of construction unless directed otherwise by the Engineer. The Contractor shall be responsible for loss or damage. Immediately prior to final inspection, the Contractor and Engineer shall again inventory the traffic signs and account for any lost or damaged signs. Cost to perform the inventories, remove, and reinstall existing signs as necessary are incidental to the various maintenance of traffic bid items.

54. A Truck mounted attenuator, Type II (Item 743010) shall be required on roads for shoulder work, travel lane work and other operations as outlined in the DelDOT MUTCD, or as directed by the Engineer.

55. 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 in the Delaware MUTCD for storage of materials.

56. All construction personnel shall wear retroreflective safety vests at all times. All retroreflective safety vests must be minimum ANSI Class 2.

57. 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.

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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 chosen the Contractor must submit the detour route to the Engineer for review and approval. 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. If new paving and/or base course is required, payment shall be made under Items 302008 and 401821.

• 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.

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QUANTITY SUMMARY SHEET

ITEM	DESCRIPTION	UOM	QUANTITY
202000	Excavation and Embankment	CY	500
209003	Borrow, Type C	CY	120
209006	Borrow, Type F	CY	200
211002	Removal of Structures and Obstructions (Guardrail)	LF	2600
251001	Reinforced Silt Fence	LF	250
302008	GABC, Type B, Patching	CY	200
** 401821	WMA, Superpave, Type C, 160 Gyr., PG 64-22, Patching	TONS	100
** 401822	WMA, Superpave, Type B, 160 Gyr., PG 64-22, Patching	TONS	80
607000	Removal of Existing Masonry	CY	30
701012	PCC Curb, Type 1-4	LF	100
701013	PCC Curb, Type 1-2	LF	200
701015	Integral PCC Curb & Gutter, Type 1-2	LF	125
701016	Integral PCC Curb & Gutter, Type 1-4	LF	50
701018	Integral PCC Curb & Gutter, Type 3-2	LF	1800
701019	Integral PCC Curb & Gutter, Type 3-4	LF	50
705001	PCC Sidewalk, 4"	SF	500
705002	PCC Sidewalk, 6"	SF	200
705007	Sidewalk Surface Detectable Warning System	SF	210
705008	Curb Ramp, Type 1	SF	300
705009	Curb Ramp, Type 2, 3, and 4	SF	600
708060	Replace Drainage Inlet Grates	EACH	5
708061	Replace Drainage Inlet Frames	EACH	5
708062	Furnish Drainage Inlet Frames	EACH	5
710001	Adjust and Repair Existing Drainage Inlets	EACH	10
710002	Adjust and Repair Existing Manholes	EACH	5
712020	Riprap, R4	TONS	60
713003	Geotextile, Riprap	SY	60
720005	Steel Rail Element, Straight	LF	300
720006	Steel Rail Element, Curved	LF	50
720007	Galvanized Steel Posts	EACH	50

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720009	Short Wood Breakaway Post, Treated	EACH	10
720013	End Section (Rounded)	EACH	5
720041	Reflectorized Washers	EACH	300
720043	Galvanized Steel Beam Guardrail, Type 1-27	LF	100
720050	Galvanized Steel Beam Guardrail, Type 1-31	LF	750
720515	Relocating Guardrail	LF	100
720549	Galvanized Steel Post, Extra Length	LF	50
720566	Setting GR Post in Rock	LF	20
720585	GR End Treatment Attenuator, Type 1-31	EACH	20
720586	GR End Treatment Attenuator, Type 2-31	EACH	5
720603	Remove & Reset Galvanized Steel Post & Offset Block	EACH	10
720634	Offset Blocks	EACH	650
732004	Topsoil	TONS	300
734013	Permanent Grass Seeding, Dry Ground	SY	4200
735535	Soil Retention Blanket Mulch, Type 5	SY	100
743003	Arrow Panel, Type C	EADY	25
743004	Furnish and Maintain Portable Changeable Message Sign	EADY	200
743006	Plastic Drums	EADY	1000
743007	Traffic Officers	HOUR	100
743010	Furnish and Maintain Truck-Mounted Attenuator, Type II	EADY	100
743023	Temporary Barricades, Type III	LFDY	500
743024	Temporary Warning Signs and Plaques	EADY	1000
743031	ATSSA Certified Traffic Control Supervisor	HOUR	100
** 743050	Flagger, New Castle County, State	HOUR	1600
** 743062	Flagger, New Castle County, State, Overtime	HOUR	160
748015	Permanent Pavement Striping, Symbol/Legend, Alkyd Thermoplastic	SF	120
748032	Temporary Markings, Paint, 5”	LF	3500
748548	Permanent Pavement Striping, Epoxy Resin Paint, White/Yellow, 5”	LF	3500
748553	Preformed Retroreflective Thermoplastic Pavement Markings, Bike Symbol	EACH	5
750000	Adjust Water Valve Boxes	EACH	5

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758000	Removal of Existing PCC Pavement, Curb, Sidewalk, etc.	SY	550
762001	Sawcutting, Hotmix	LF	2500
762002	Sawcutting, Concrete, Full Depth	LF	50
763000	Initial Expense	LS	1

** Indicates "Specialty Item"

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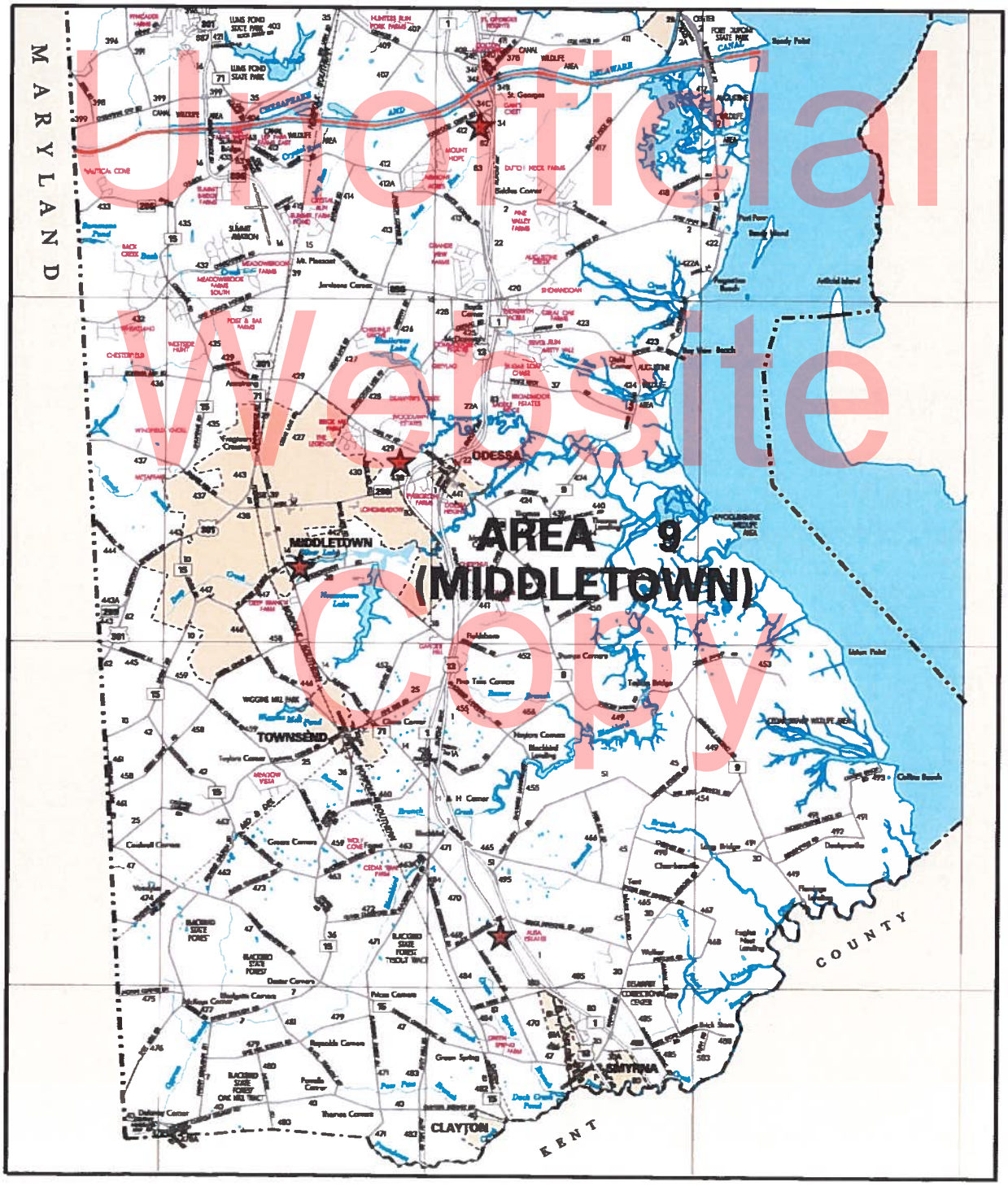

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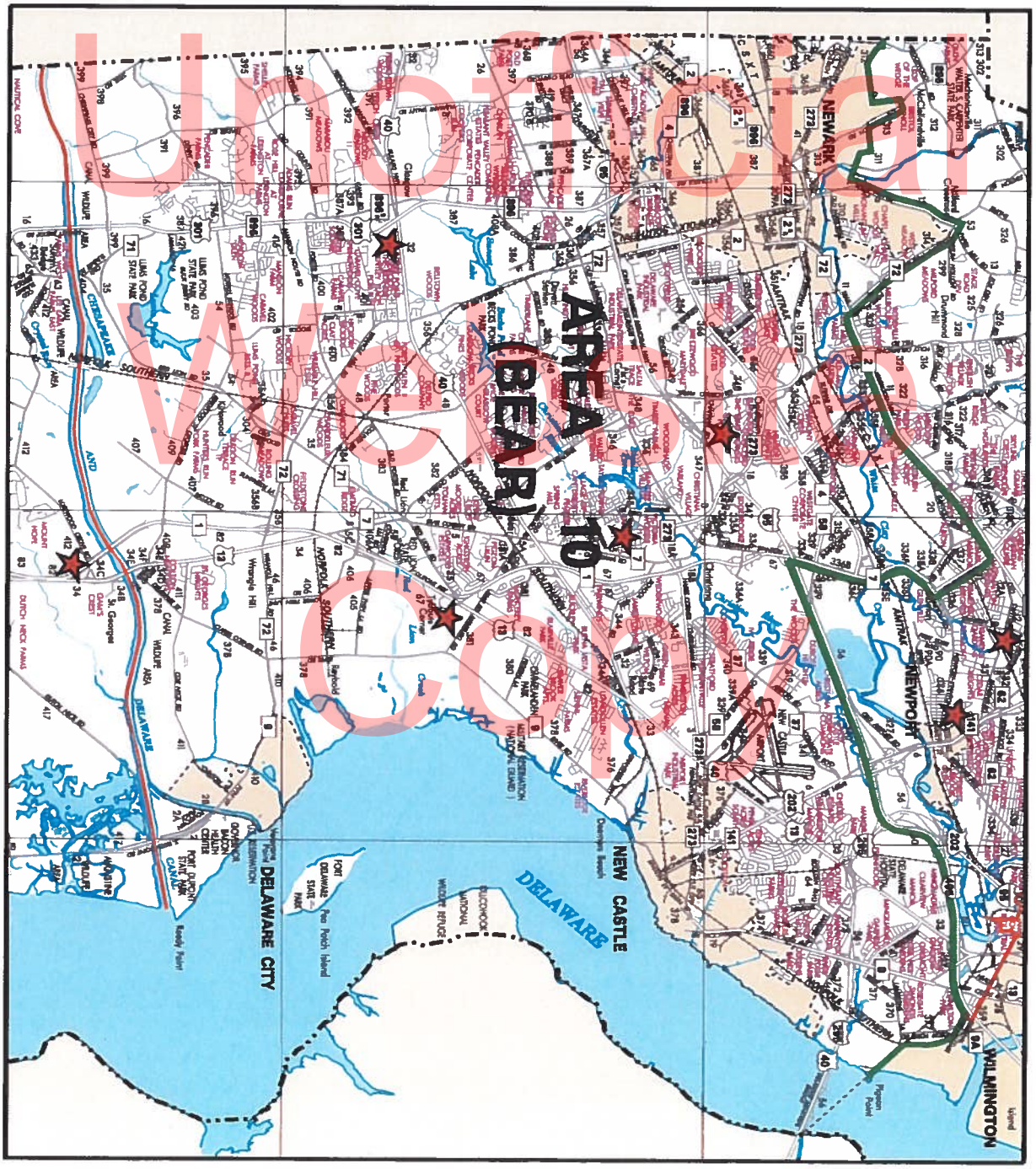
AREA 10
(BEAR)
NEWARK
NEWPORT
WILMINGTON
NEW CASTLE
DELAWARE CITY
DELAWARE
DELAWARE
CHESAPEAKE
AND
SOUTHERN
AMTRAK
Wrangle Hill
Pea Patch Island
Pigeon Point
Ready Point