STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION

# BID PROPOSAL

## CONTRACT T201701104

## SILVERSIDE ROAD ADA IMPROVEMENTS, VEALE ROAD TO WINDYBUSH DRIVE

Advertisement Date: December 30, 2019

| **INCLUDED IN THIS DOCUMENT:** | **ADDITIONAL BID PROPOSAL ITEMS:** |
|---|---|
| **BID PROPOSAL:**<br>*GENERAL DESCRIPTION*<br>*PROSPECTIVE BIDDERS NOTES*<br>*GENERAL NOTICES*<br>*PREVAILING WAGES*<br>*SPECIAL PROVISIONS*<br>*STATEMENTS*<br>*BID ITEM LISTING* | **ATTACHED OR POSTED DOCUMENTS:**<br>*PLANS*<br>*QUESTIONS & ANSWERS (if posted)*<br>*GUARDRAIL END-TREATMENT INFO*<br><br>**AVAILABLE AT BIDX OR BY REQUEST:**<br>*BID SUBMITTAL DOCUMENTS:*<br>*DRUG TESTING AFFIDAVIT*<br>*CERTIFICATION FORM*<br>*BID BOND FORM*<br>*ELECTRONIC BID FORM* |

This Bid Proposal and related documents can be viewed on bids.delaware.gov and bidx.com/de/

Electronic Bids will be received at BIDX.com/de; **OR**;
Paper Bids will be received In the Bidder's Room at the DelDOT Administration Building, Dover, DE;

**BIDS DUE PRIOR TO 2:00 P.M. Local Time, January 28, 2020**

## GENERAL DESCRIPTION

**A. BID DUE DATE / TIME / LOCATION:** As listed on the most recently issued Bid Proposal cover page**.**

**B. PRE-BID MEETING:** Not Applicable

**C. DBE GOAL:** Not Applicable

**D. OJT TRAINEES:** Not Applicable

**E. LOCATION:** NEW CASTLE County
These improvements are more specifically shown on the Location Map(s) of the attached Plans.

**F. DESCRIPTION:** The improvements consist of furnishing all labor and materials for this contract. This project involves the reconstruction of curb ramps and sidewalk areas in the vicinity of utility poles and driveway entrances to address ADA compliance, and other incidental construction in accordance with the location, notes and details shown on the plans and as directed by the Engineer.

**G. COMPLETION TIME:** All work on this contract must be complete within 96 Calendar Days.
The Contract Time includes an allowance for 12 Weather Days.
It is the Department's intent to issue a Notice to Proceed such that work starts on or about April 13, 2020.

**H. SPECIFICATIONS** FOR ROAD AND BRIDGE CONSTRUCTION, DELAWARE DEPARTMENT OF TRANSPORTATION, AUGUST 2016 apply to this Bid Proposal and Project. The Contractor shall make himself aware of any revisions and corrections (Supplemental Specifications, if any) and apply them to the applicable item(s) of this contract. The Standard and Supplemental Specifications can be viewed at http://www.deldot.gov/Publications/manuals/standard_specifications/index.shtml.

**I. ATTACHMENTS:** Included as a part of this Bid Proposal are the following Documents; *Special Provisions*; *Statements*; *Plans*; *Questions & Answers* (if posted); Any Other Posted or Referenced Documents.

**J. ADDENDA:** All Addenda are posted on the internet at bids.delaware.gov, and bidx.com/de/ and are included as part of the Bid Proposal. The Bidder is responsible to check the Website as needed to ensure that the Bidder is aware of Addenda that are included in the Bid Proposal. If Addenda are issued, the final Addendum will be posted no later than the end of the day two business days prior to the bid date. Each Addendum number and issue date must be entered on the submitted Certification Form.

**K. QUESTIONS:** E-MAIL TO; **dot-ask@delaware.gov**
Questions regarding this project are to be e-mailed to the above address no less than **six business days** prior to the bid opening date in order to receive a posted response. Please include the Contract number in the subject line. Questions and responses are posted at bids.delaware.gov, and bidx.com/de/. The date of the final posted Questions and Answers document must be entered on the submitted Certification Form.

**L. PROSPECTIVE BIDDERS NOTES:**
Refer to following page…

## PROSPECTIVE BIDDERS NOTES

1. **BIDDERS MUST BE REGISTERED** with DelDOT in order to submit a bid. Bids must be submitted via:

   **(a) Electronic Bid** via **BID EXPRESS** at www.bidx.com/de/ **OR:**

   **(b) Paper Bid** along with a CD or thumb drive containing the electronic bid file, paper bid form, and all required documents and forms.

   For paper bids, contact DelDOT at dot-ask@delaware.gov or (302) 760-2031 to request a cd containing; the paper bid form and the electronic bid file, required forms, and instructions. Bidders are to use the cd provided to enter their bid amounts into the electronic bid file. The electronic bid file must be saved to the disc, printed and submitted in paper form along with the electronic bid file on cd, and other required documents prior to the Bid due date and time.
   *(Do not submit both BIDX and paper bids. If so, the paper bid will be rejected and not opened)*

2. **SURETY BOND** - Each proposal must be accompanied by a deposit of either surety bond or security for a sum equal to at least 10% of the amount bid.

3. **DRUG TESTING** - Regulation 4104; The state Office of Management and Budget has developed regulations that require Contractors and Subcontractors to implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds pursuant to 29 Del.C. §6908(a)(6). **Refer to the full requirements at the following link:**
   http://regulations.delaware.gov/register/december2017/final/21%20DE%20Reg%20503%2012-01-17.htm
   Note a few of the requirements;
   * At bid submission - Each bidder must submit with the bid a single signed affidavit certifying that the bidder and its subcontractors has in place or will implement during the entire term of the contract a Mandatory Drug Testing Program that complies with the regulation (*a blank affidavit form is attached)*;
   * At least two business days prior to contract execution - The awarded Contractor shall provide to DelDOT copies of the Employee Drug Testing Program for the Contractor, each participating DBE firm, and all other listed Subcontractors;
   * Subcontractors - Contractors that employ Subcontractors on the job site may do so only after submitting a copy of the Subcontractor's Employee Drug Testing Program along with the standard required subcontractor information. A Subcontractor shall not commence work until **DelDOT** has approved the program in writing.

4. **PERFORMANCE-BASED RATING SYSTEM** - 29 Del.C. §6962 (c)(12)(a) requires DelDOT to include a performance-based rating system for contractors. The Performance Rating for each Contractor shall be used as a prequalification to bid at the time of bid. Refer to *'General Notices'* for details.

5. **NO RETAINAGE** will be withheld on this contract unless through the Performance-Based Rating System.

6. **EXTERNAL COMPLAINT PROCEDURE** can be viewed on DelDOT's Website, https://deldot.gov/Business/cr/index.shtml?dc=civil_rights_eeo or request a copy by calling (302) 760-2555.

7. **DELAWARE BUSINESS LICENSE**, a copy of your firm's License must be submitted with your bid.

8. **SECTION 106.06 BUY AMERICA** Contract Requirement in the Delaware Standard Specifications for Road and Bridge Construction, August, 2016 does not apply to this contract.

9. **FLATWORK CONCRETE** TECHNICIAN CERTIFICATION TRAINING:
   Section 501.03, 503.03, 505.03, 610.03, 701.03 and 702.03 of the 2016 Standard Specifications require contractors to provide an American Concrete Institute (ACI) or National Ready-Mix Concrete Association (NRMCA) certified concrete flatwork technician to supervise all finishing of flatwork concrete.

*- end -*

# CONSTRUCTION ITEMS UNITS OF MEASURE

| **English Code** | English Description | Multiply By | Metric Code | Metric Description | Suggested CEC Metric Code |
|---|---|---|---|---|---|
| ACRE | Acre | 0.4047 | ha | Hectare | HECTARE |
| BAG | Bag | N/A | Bag | Bag | BAG |
| C.F. | Cubic Foot | 0.02832 | $m^3$ | Cubic Meter | M3 |
| C.Y. | Cubic Yard | 0.7646 | $m^3$ | Cubic Meter | M3 |
| EA-DY | Each Day | N/A | EA-DY | Each Day | EA-DY |
| EA-MO | Each Month | N/A | EA-MO | Each Month | EA-MO |
| EA/NT | Each Night | N/A | EA-NT | Each Night | EA/NT |
| EACH | Each | N/A | EA | Each | EACH |
| GAL | Gallon | 3.785 | L | Liter | L |
| HOUR | Hour | N/A | h | Hour | HOUR |
| INCH | Inch | 25.4 | mm | Millimeter | MM |
| L.F. | Linear Foot | 0.3048 | m | Linear Meter | L.M. |
| L.S. | Lump Sum | N/A | L.S. | Lump Sum | L.S. |
| LA-MI | Lane Mile | 1.609 | LA-km | Lane-Kilometer | LA-KM |
| LB | Pound | 0.4536 | kg | Kilogram | KG |
| MFBM | Thousand Feet of Board Measure | 2.3597 | $m^3$ | Cubic Meter | M3 |
| MGAL | Thousand Gallons | 3.785 | kL | Kiloliter | KL |
| MILE | Mile | 1.609 | km | Kilometer | KM |
| S.F. | Square Foot | 0.0929 | $m^2$ | Square Meter | M2 |
| S.Y. | Square Yard | 0.8361 | $m^2$ | Square Meter | M2 |
| SY-IN | Square Yard-Inch | 0.8495 | $m^2$-25 mm | Square Meter-25 Millimeter | M2-25 MM |
| TON | Ton | .9072 | t | Metric Ton (1000kg) | TON |
| N.A.* | Kip | 4.448 | kN | Kilonewton | N.A.* |
| N.A.* | Thousand Pounds per Square Inch | 6.895 | MPa | Megapascal | N.A.* |

*Not used for units of measurement for payment.

# GENERAL NOTICES

SPECIFICATIONS :

The Delaware specifications entitled "*Standard Specifications for Road and Bridge Construction August, 2016*", hereinafter referred to as the *Standard Specifications*; the *Supplemental Specifications* to the Standard Specifications effective as of the advertisement date of this Bid Proposal and hereby included by reference; the *Special Provisions*; *Notes on the Plans*; this *Bid Proposal* including referenced documents; any *Addenda* thereto; and any posted *Questions and Answers*; shall govern the work to be performed under this contract.

The Contractor shall make itself aware of these specifications, revisions and corrections, and apply them to the applicable item(s) of this contract. The Standard and Supplemental Specifications can be viewed here.

CLARIFICATIONS :

Under any Section or Item included in the Contract, the Contractor shall be aware that when requirements, responsibilities, and furnishing of materials are outlined in the details and notes on the Plans and in the paragraphs preceding the " Basis of Payment" paragraph in the Standard Specifications or Special Provisions, no interpretation shall be made that such stipulations are excluded because reiteration is not made in the "Basis of Payment" paragraph.

ATTESTING TO NON-COLLUSION :

The Department requires as a condition precedent to acceptance of bids a sworn statement executed by, or on behalf of, the person, firm, association, or corporation to whom such contract is to be awarded, certifying that such person, firm, association, or corporation has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such contract. The form for this sworn statement is included in the proposal and must be properly executed in order to have the bid considered.

QUANTITIES :

The quantities shown are for comparison of bids only. The Department may increase or decrease any quantity or quantities without penalty or change in the bid price.

PERFORMANCE-BASED RATING SYSTEM

29 Del.C. §6962 (c)(12)(a) requires a Department of Transportation project, excluding a Community Transportation Fund or municipal street aid contract, to include a performance-based rating system. At the time of bid, the Performance Rating for each Contractor shall be used as a prequalification to bid.

Bidders with Performance Rating scores equal to or greater than 85% shall be permitted to bid. Bidders with scores of less than 85% who comply with the retainage requirements of 29 Del.C. §6962 shall be permitted to bid provided the *Agreement to Accept Retainage* (located on the Certification Page) is executed and submitted with the bid. Lack of an executed *Agreement to Accept Retainage* will result in the rejection of the bid by the Department. Successful bidders awarded Department contracts who have no performance history within the last five (5) years will be assigned a provisional Performance Rating of 85% at the date of advertisement.

Notification of Performance Rating. The Department shall post publicly the Performance Rating for all Contractors on the Department's website. DelDOT will complete performance-based evaluations on the construction company contracted by the Department to build the project (the "Contractor"). Provisions to appeal Performance Ratings are described in the regulations. The regulations are set forth in Section 2408 of Title 2, Delaware Administrative Code, found here.

PREFERENCE FOR DELAWARE LABOR:

Delaware Code, Title 29, Chapter 69, Section 6962, Paragraph (d), Subsection (4)b:

"In the construction of all public works for the State or any political subdivision thereof, or by firms contracting with the State or any political subdivision thereof, preference in employment of laborers, workmen or mechanics shall be given to bona fide legal citizens of the State who have established citizenship by residence of at least 90 days in the State. Each public works contract for the construction of public works for the State or any political subdivision thereof shall contain a stipulation that any person, company or corporation who violates this section shall pay a penalty to the Secretary of Finance equal to the amount of compensation paid to any person in violation of this section."

EQUALITY OF EMPLOYMENT OPPORTUNITY ON PUBLIC WORKS :

Delaware Code, Title 29, Chapter 69, Section 6962, Paragraph (d), Subsection (7) states;

a. As a condition of the awarding of any contract for public works financed in whole or in part by State appropriation, such contracts shall include the following provisions:

   During the performance of this contract, the contractor agrees as follows:

   1. The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, sexual orientation, gender identity or national origin. The contractor will take positive steps to ensure that applicants are employed and that employees are treated during employment without regard to their race, creed, color, sex, sexual orientation, gender identity or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places available to employees and applicants for employment notices to be provided by the contracting agency setting forth this nondiscrimination clause.

   2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, sexual orientation, gender identity or national origin.

   3. The contractor will ensure employees receive equal pay for equal work, without regard to sex. Employee pay differential is acceptable if pursuant to a seniority system, a merit system, a system which measures earnings by quantity or quality of production, or if the differential is based on any other factor other than sex.

TAX CLEARANCE :

As payments to each vendor or contractor aggregate $2,000, the Division of Accounting will report such vendor or contractor to the Division of Revenue, who will then check the vendor or contractor's compliance with tax requirements and take such further action as may be necessary to ensure compliance.

LICENSE :

A person desiring to engage in business in this State as a contractor shall obtain a license upon making application to the Division of Revenue.

CONTRACTOR / SUBCONTRACTOR LICENSE: 29 DEL. C. §6967:

(b) No agency shall accept a proposal for a public works contract unless such contractor has provided a proper and current copy of its occupational and/or business license, as required by Title 30, to such agency.

(c) Any contractor that enters a public works contract must provide to the agency to which it is contracting, within 30 days of entering such public works contract, copies of all occupational and business licenses of subcontractors and/or independent contractors that will perform work for such public works contract. However, if a subcontractor or independent contractor is hired or contracted more than 20 days after the contractor entered the public works contract the occupational or business license of such subcontractor or independent contractor shall be provided to the agency within 10 days of being contracted or hired.

DIFFERING SITE CONDITIONS:

SUSPENSIONS OF WORK and SIGNIFICANT CHANGES IN THE CHARACTER OF WORK:

Differing site conditions: During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract of if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before they are disturbed and before the affected work is performed.

Upon written notification, the engineer will investigate the conditions, and if he/she determines that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding loss of anticipated profits, will be made and the contract modified in writing accordingly. The engineer will notify the contractor of his/her determination whether or not an adjustment of the contract is warranted.

No contract adjustment which results in a benefit to the contractor will be allowed unless the contractor has provided the required written notice. No contract adjustment will be allowed under their clause for any effects caused on unchanged work.

Suspensions of work ordered by the engineer: If the performance of all or any portion of the work is suspended or delayed by the engineer in writing for an unreasonable period of time (not originally anticipated, customary or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the contractor shall submit to the engineer in writing a request for adjustment within 7 calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.

Upon receipt, the engineer will evaluate the contractor's request. If the engineer agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the engineer will make an adjustment (excluding profit) and modify the contract in writing accordingly. The engineer will notify the contractor of his/her determination whether or not an adjustment of the contract is warranted.

No contract adjustment will be allowed unless the contractor has submitted the request for adjustment within the time prescribed. No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided for or excluded under any other term or condition of this contract.

Significant changes in the character of work: The engineer reserves the right to make, in writing, at any time during the work, such changes in quantities and such alterations in the work as are necessary to satisfactorily complete the project. Such changes in quantities and alterations shall not invalidate the contract nor release the surety, and the contractor agrees to perform the work as altered.

If the alterations or changes in quantities significantly change the character of the work under the contract, whether or not changed by any such different quantities or alterations, an adjustment, excluding loss of anticipated profits, will be made to the contract. The basis for the adjustment shall be agreed upon prior to the performance of the work. If a basis cannot be agreed upon, then an adjustment will be made either for or against the contractor in such amount as the engineer may determine to be fair and equitable.

The term "significant change" shall be construed to apply only to the following circumstances:

(A) When the character of the work as altered differs materially in kind or nature from that involved or included in the original proposed construction, or

(B) When a major item of work, as defined elsewhere in the contract, is increased in excess of 125 percent or decreased below 75 percent of the original contract quantity. Any allowance for an increase in quantity shall apply only to that portion in excess of 125 percent of original contract item quantity, or in case of a decrease below 75 percent, to the actual amount of work performed.

RIGHT TO AUDIT

The Department shall have the right to audit the books and records of the contractor or any subcontractor under this contract or subcontract to the extent that the books and records relate to the performance of the contract or subcontract. The books and records shall be maintained by the contractor for a period of 3 years from the date of final payment under the prime contract and by the subcontractor for a period of 3 years from the date of final payment under the subcontract (29 Del.C. §6930)

PREVAILING WAGES

Included in this proposal are the minimum wages to be paid various classes of laborers and mechanics as determined by the Department of Labor of the State of Delaware in accordance with Title 29 Del.C. §6960, relating to wages and the regulations implementing that Section.

REQUIREMENT BY DELAWARE DEPARTMENT OF LABOR FOR SWORN PAYROLL INFORMATION

Title 29 Del.C. §6960 stipulates;

(b) Every contract based upon these specifications shall contain a stipulation that the employer shall pay all mechanics and laborers employed directly upon the site of the work, unconditionally and not less often than once a week and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment, computed at wage rates not less than those stated in the specifications, regardless of any contractual relationship which may be alleged to exist between the employer and such laborers and mechanics. The specifications shall further stipulate that the scale of wages to be paid shall be posted by the employer in a prominent and easily accessible place at the site of the work, and that there may be withheld from the employer so much of accrued payments as may be considered necessary by the Department of Labor to pay to laborers and mechanics employed by the employer the difference between the rates of wages required by the contract to be paid laborers and mechanics on the work and rates of wages received by such laborers and mechanics to be remitted to the Department of Labor for distribution upon resolution of any claims.

**(c) Every contract based upon these specifications shall contain a stipulation that sworn payroll information, as required by the Department of Labor, be furnished weekly**. The Department of Labor shall keep and maintain the sworn payroll information for a period of 6 months from the last day of the work week covered by the payroll.

Bidders are specifically directed to note the Department of Labor's prevailing wage regulations implementing §6960 relating to the effective date of the wage rates, at Part VI., Section C., which in relevant part states:

"Public agencies (covered by the provisions of 29 Del.C. §6960) are required to use the rates which are in effect on the date of the publication of specifications for a given project. In the event that a contract is not executed within one hundred twenty (120) days from the date the specifications were published, the rates in effect at the time of the execution of the contract shall be the applicable rates for the project."

Contractors with questions may contact:

Department of Labor, Division of Industrial Affairs, 4425 N. Market Street, Wilmington, DE 19802
Telephone (302) 761-8200 https://dia.delawareworks.com/labor-law/

STATE OF DELAWARE
DEPARTMENT OF LABOR
DIVISION OF INDUSTRIAL AFFAIRS
OFFICE OF LABOR LAW ENFORCEMENT
PHONE: (302) 761-8200

Mailing Address:
4425 North Market Street
3rd Floor
Wilmington, DE 19802

Located at:
4425 North Market Street
3rd Floor
Wilmington, DE 19802

PREVAILING WAGES FOR **HIGHWAY CONSTRUCTION** EFFECTIVE MARCH 15, 2019

| CLASSIFICATION | NEW CASTLE | KENT | SUSSEX |
|---|---|---|---|
| BRICKLAYERS | 55.89 | 55.89 | 55.89 |
| CARPENTERS | 55.95 | 55.63 | 44.22 |
| CEMENT FINISHERS | 35.48 | 35.70 | 28.39 |
| ELECTRICAL LINE WORKERS | 29.40 | 47.49 | 23.24 |
| ELECTRICIANS | 70.49 | 70.49 | 70.49 |
| IRON WORKERS | 65.24 | 26.10 | 27.72 |
| LABORERS | 45.30 | 41.69 | 40.93 |
| MILLWRIGHTS | 17.62 | 17.10 | 14.76 |
| PAINTERS | 71.29 | 71.29 | 71.29 |
| PILEDRIVERS | 72.65 | 25.98 | 29.47 |
| POWER EQUIPMENT OPERATORS | 67.07 | 43.32 | 39.68 |
| SHEET METAL WORKERS | 24.89 | 22.21 | 20.12 |
| TRUCK DRIVERS | 37.52 | 30.88 | 37.62 |

CERTIFIED: 12/02/2019 BY: _____
ADMINISTRATOR, OFFICE OF LABOR LAW ENFORCEMENT

**NOTE:** THESE RATES ARE PROMULGATED AND ENFORCED PURSUANT TO THE PREVAILING WAGE REGULATIONS ADOPTED BY THE DEPARTMENT OF LABOR ON APRIL 3, 1992.

CLASSIFICATIONS OF WORKERS ARE DETERMINED BY THE DEPARTMENT OF LABOR. FOR ASSISTANCE IN CLASSIFYING WORKERS, OR FOR A COPY OF THE REGULATIONS OR CLASSIFICATIONS, PHONE 302-761-8200

NON-REGISTERED APPRENTICES MUST BE PAID THE MECHANIC'S RATE.

**PROJECT: T201701104.01 Silverside Road ADA Improvements Veale Rd to Windybush Dr, New Castle County**

# SPECIAL PROVISIONS

| S.P. CODE | SPECIAL PROVISIONS DESCRIPTION |
|---|---|
| 401502-15 | ASPHALT CEMENT COST ADJUSTMENT |
| 401699-15 | QUALITY CONTROL/QUALITY ASSURANCE OF BITUMINOUS CONCRETE |
| 612553-15 | SPRAYED APPLIED CEMENTITIOUS MORTAR FOR PIPE, GREATER THAN 4 |
| 705528-15 | TEMPORARY CURB RAMP |
| 707500-15 | CHANNEL BED FILL |
| 710503-15 | ADJUST GAS VALVE BOXES |
| 711500-15 | ADJUST AND REPAIR EXISTING SANITARY MANHOLE |
| 763621-15 | CONSTRUCTION ENGINEERING, REHABILITATION |

## 401502 - ASPHALT CEMENT COST ADJUSTMENT

For Sections 304, 401, 402, 403, 404, and 405, payments to the Contractor shall be adjusted to reflect increases or decreases in the Delaware Posted Asphalt Cement Price when compared to the Project Asphalt Cement Base Price, as defined in these Special Provisions.

The Delaware Posted Asphalt Cement Price will be issued monthly by the Department and will be the industry posted price for Asphalt Cement, F.O.B. Philadelphia, Pennsylvania. The link for the posting is here.

The Project Asphalt Cement Base Price will be the Delaware Posted Asphalt Cement Price in effect on the date of advertisement.

All deviations of the Delaware Posted Asphalt Cement Price from the Project Asphalt Cement Base Price are eligible for cost adjustment. No minimum increases or decreases or corresponding percentages are required to qualify for cost adjustment.

Actual quantity of asphalt cement qualifying for any Asphalt Cement Cost Adjustment will be computed using the weight of eligible asphalt that is shown on the QA/QC pay sheets as a percentage for the delivered material.

If the mix was not inspected and no QA/QC pay sheet was generated, then the asphalt percentage will be obtained from the job mix formula for that mix ID.

The asphalt percentage eligible for cost adjustment shall only be the virgin asphalt cement added to the mix.

There shall be no separate payment per ton cost of asphalt cement. That cost shall be included in the various unit prices bid per ton for those bid items that contain asphalt cement (mentioned above).

The Asphalt cement cost adjustment will be calculated on grade PG 64-22 asphalt regardless of the actual grade of asphalt used. The Project Asphalt Cement Base Price per ton for the project will be the Delaware Posted Asphalt Cement Price in effect on the date of project advertisement.

If the Contractor exceeds the authorized allotted completion time, the price of asphalt cement on the last authorized allotted work day, shall be the prices used for cost adjustment during the time liquidated damages are assessed. However, if the industry posted price for asphalt cement goes down, the asphalt-cement cost shall be adjusted downward accordingly.

**NOTE**:

Application of Asphalt Cement Cost Adjustment requirements as indicated above shall apply only to those contracts involving items related to bituminous base and pavements, and with bitumen, having a total of 1,000 tons or more of hot-mix bid quantity in case of Sections 401, 402 and 403; and 15,000 gallons or more in case of Sections 304, 404 and 405.

5/05/15

## 401699 - QUALITY CONTROL/QUALITY ASSURANCE OF BITUMINOUS CONCRETE

### .01 Description

This item shall govern the Quality Assurance Testing for supplying bituminous asphalt plant materials and constructing bituminous asphalt pavements and the calculation for incentives and disincentives for materials and construction. The Engineer will evaluate all materials and construction for acceptance. The procedures for acceptance are described in this Section. Include the costs for all materials, labor, equipment, tools, and incidentals necessary to meet the requirements of this specification in the bid price per ton for the bituminous asphalt. Payment to the Contractor for the bituminous asphalt item(s) will be based on the Contract price per ton and the pay adjustments described in this specification.

### .02 Bituminous Concrete Production – Quality Acceptance

**(a) Material Production - Tests and Evaluations.**

All acceptance tests shall be performed by qualified technicians at qualified laboratories following AASHTO or DelDOT procedures, and shall be evaluated using Quality Level Analysis. The Engineer will conduct acceptance tests. The Engineer will directly base acceptance on the acceptance test results, the asphalt cement quality, the Contractor's QC Plan work, and the comparisons of the acceptance test results to the QC test results. The Engineer may elect to utilize test results of the Contractor in some situations toward judging acceptance.

Supply and capture samples, as directed by the Engineer under the purview of the Engineer from delivery trucks before the trucks leave the production plant. Hand samples to the Engineer to be marked accordingly. The sample shall represent the material produced by the Contractor, and shall be of sufficient size to allow the Engineer to complete all required acceptance tests. The Engineer will direct the Contractor when to capture these samples, on a statistically random, unbiased basis, established before production begins each day based upon the anticipated production tonnage. The captured sample shall be from the Engineer specified delivery truck. The Contractor may visually inspect the specified delivery load during sampling and elect to reject the load. If the contractor elects to reject the specified delivery truck, each subsequent load will be inspected until a visually acceptable load is produced for acceptance testing. All visually rejected loads shall not be sent to a Department project.

The first sample of the production day will be randomly generated by the Engineer between loads 0 and 12 (0-250 tons). Subsequent samples will be randomly generated by the Engineer on 500-ton sub-lots for the production day. Samples not retrieved in accordance with the Contractor's QC plan will be deemed unacceptable and may be a basis for rejection of material produced. Parallel tests or dispute resolution tests will only be performed on material captured at the same time and location as the acceptance test sample. Parallel test samples or Dispute Resolution samples will be created by splitting a large sample or obtaining multiple samples that equally represent the material. The Engineer will perform all splitting and handling of material after it is obtained by the Contractor.

The Contractor may retain dispute resolution samples or perform parallel tests with the Engineer on any acceptance sample.

The Engineer will evaluate and accept the material on a lot basis. All the material within a lot shall have the same JMF (mixture ID). The lot size shall be targeted for 2000 tons or a maximum period of three days, whichever is reached first. If the 2000$^{th}$ ton target lot size is achieved during a production day, the lot

size shall extend to the end of that production day. The Contractor may interrupt the production of one JMF in order to produce different material; this type of interruption will not alter the determination of the size or limits of material represented by a lot. The Engineer will evaluate each lot on a sublot basis. The size for each sublot shall be 100 to 500 tons and testing for the sub lots will be completed on a daily basis. For each sublot, the Engineer will evaluate one sample.

The target size of sub-lots within each lot, except for the first sample of the production day, is equal-sized 500 ton sub lots and will be based upon anticipated production, however, more or fewer sublots, with differing sizes, may result due to the production schedule and conditions. If the actual production is less than anticipated, and it's determined a sample will not be obtained (based upon the anticipated tonnage), a new sample location will be determined on a statistically random, unbiased basis based upon the new actual production. If the actual production is going to be 50 tons or greater over the anticipated sub lot production, a new sample location will be determined on a statistically random, unbiased basis based upon the new actual production. The Engineer will combine the evaluation and test results for all of the applicable sublots in order to evaluate each individual lot.

If the Engineer is present, and the quantity exceeds 25 tons, a statistically random sample will be used for analysis. When the anticipated production is less than 100 tons and greater than 25 tons, and the Engineer is not present, the contractor shall randomly select a sample using the Engineer's random location program. The captured sample shall be placed in a suitable box, marked to the attention of the Engineer, and submitted to the Engineer for testing. A box sample shall also be obtained by the contractor at the same time and will be used as the Dispute Resolution sample if requested by the Engineer. The Contractor shall also obtain one liquid asphalt sample (1 pint) per grade of asphalt used per day and properly label it with all pertinent information.

The Engineer will conduct the following tests in order to characterize the material for the pavement compaction quality and to judge acceptance and the pay adjustment for the material:

- AASHTO T312 - Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor
- AASHTO T166, Method C (Rapid Method) - Bulk Specific Gravity of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface Dry Specimens
- AASHTO T308 - Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method
- AASHTO T30 - Mechanical Analysis of Extracted Aggregate
- AASHTO T209 - Theoretical Maximum Specific Gravity and Density of Hot Mix Asphalt (HMA)
- ASTM D7227 - Standard Practice for Rapid Drying of Compacted Asphalt Specimens using Vacuum Drying Apparatus

**(b) Pavement Construction - Tests and Evaluations.**

The Engineer will directly base acceptance on the compaction acceptance test results, and on the inspection of the construction, the Contractor's QC Plan work, ride smoothness as referenced in the contract documents, lift thickness as referenced in the contract documents, joint quality as referenced in the contract documents, surface texture as referenced in the contract documents, and possibly the comparisons of the acceptance test results to the independent test results. For the compaction acceptance testing, the Engineer will sample the work on a statistically random basis, and will test and evaluate the work based on daily production.

Notify the Engineer of any locations within that road segment that may not be suitable to achieve minimum (93%) compaction due to existing conditions prior to paving the road segment. Schedule and hold a meeting in the field with the Engineer in order to discuss all areas that may potentially be applicable to Table 5a before paving starts. Areas that will be considered for Table 5a will be investigated in accordance to the method described in Appendix B. If this meeting is not held prior to paving, no areas will be considered for Table 5a. Areas of allowable exemptions that will not be cored include the following: partial-depth patch areas, driveway entrances, paving locations of less than 100 tons, areas around manholes and driveway entrances, and areas of paving that are under 400 feet in continuous total length and/or 5 feet in width.

The exempt areas around manholes will be a maximum of 4 feet transversely on either side from the center of the manhole, and 20 feet longitudinally on either side from the center of the manhole. The exempt areas around driveway entrances shall be the entire width of the driveway, and 3 feet from the edge of the longitudinal joint next to the driveway. Areas of exemption that will be cored for informational purposes only include: areas where the mat thickness is less than three times the nominal maximum aggregate size as directed by the Engineer, violations of Section 401.08 in the Standard Specifications as directed by the Engineer, and areas shown to contain questionable subgrade properties as proven by substantial yielding under a fully legally loaded truck. Failure to obtain core samples in these areas will result in zero payment for compaction regardless of the exempt status.

The Engineer will evaluate and accept the compaction work on a daily basis. Payment for the compaction will be calculated by using the material production lots as referenced in **.02 Acceptance Plan (a) Material Production - B Tests and Evaluation** and analyzing the compaction results over the individual days covered in the material production lot. The compaction results will be combined with the material results to obtain a payment for this item.

The minimum size of a compaction lot shall be 100 tons. If the compaction lot is between 101 and 1000 tons, the Engineer shall randomly determine four compaction acceptance test locations. If the compaction lot is between 1001 and 1500 tons, the Engineer shall randomly determine six compaction acceptance test locations. If the compaction lot is between 1501 and 2000 tons, the Engineer shall randomly determine eight compaction acceptance test locations. If the compaction lot is greater than 2000 tons, the Engineer shall randomly determine two compaction acceptance test locations per 500 tons.

If a randomly selected area falls within an Engineer approved exemption area, the Engineer will select one more randomly generated location to be tested per the requirements of this Specification. If that cannot be accomplished, or if an entire location has been declared exempt, the compaction testing shall be performed as per these Specifications but a note will be added to the results that the location was an Engineer approved exempt location.

Testing locations will be a minimum of 1.0 feet from the newly placed longitudinal joint and 50 feet from a new transverse joint.

Cut one six (6) inch diameter core through the full lift depth at the exact location marked by the Engineer. Cores submitted that are not from the location designated by the Engineer will not be tested and will be paid at zero pay.

Notify the Engineer prior to starting paving operations with approximate tonnage to be placed. The Contractor is then responsible for notifying the appropriate Engineer test personnel within 12 hours of material placement. The Engineer will mark core locations within 24 hours of notification. After determination of locations, the Contractor shall complete testing within two operational days of the locations

being marked. If the cores are not cut within two operational days, the area in question will be paid at zero pay for compaction testing.

Provide any traffic control required for the structural number investigation, sampling, and testing work at no additional cost to the Department.

Commence coring of the pavement after the pavement has cooled to a temperature of 140°F or less. Cut each core with care in order to prevent damaging the core. Damaged cores will not be tested. Label each core with contract number, date of construction, and number XX of XX upon removal from the roadway Place cores in a 6-inch diameter plastic concrete cylinder mold or approved substitute for protection. Separate cores in the same cylinder mold with paper. Attach a completed QC test record for the represented area with the corresponding cores. The Engineer will also complete a test record for areas tested for the QA report and provide to Materials & Research. Deliver the cores to the Engineer for testing, processing, and report distribution at the end of each production day.

Repair core holes per Appendix A, Repairing Core Holes in Bituminous Asphalt Pavements. Core holes shall be filled immediately. Failure to repair core holes at the time of coring will result in zero pay for compaction testing for the area in question.

The Engineer will conduct the following tests on the applicable portion of the cores in order to evaluate their quality:

- AASHTO T166, Method C (Rapid Method) – Bulk Specific Gravity of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface Dry Specimens
- AASHTO T209 - Theoretical Maximum Specific Gravity and Density of Hot Mix Asphalt
- ASTM D7227 - Standard Practice for Rapid Drying of Compacted Asphalt Specimens using Vacuum Drying Apparatus

The Engineer will use the average of the last five test values of the same JMF (mixture ID) material at the production plant in order to calculate the average theoretical maximum specific gravity of the cores. The average will be based on the production days test results and as many test results needed from previous days production to have an average of five samples. If there are less than five values available, the Engineer will use the JMF design value in addition to the available values to calculate the average theoretical maximum specific gravity.

**.03 Payment and Pay Adjustment Factors.**

The Engineer will determine pay adjustments for the bituminous asphalt item(s) in accordance with this specification. The Engineer will determine a pay adjustment factor for the material produced and a pay adjustment factor for the pavement construction. Pay adjustments for material and construction will be calculated independently. When the pay adjustment calculation for either material or construction falls to zero payment per tables 4, 5, or 5a, the maximum pay adjustment for the other factor will not exceed 100.

Pay Adjustment factors will only be calculated on in place material. Removed material will not be used in payment adjustment calculations.

Material Production Pay Adjustments will be calculated based upon 70% of the contract unit price and calculated according to section .03(a) of this specification. Pavement construction Pay Adjustments will be calculated based upon 30% of the contract unit price and calculated according to section .03(b) of this specification.

**(a) Material Production - Pay Adjustment.**

Calculate the material pay adjustment by evaluating the production material based on the following parameters:

| Table 2 - Material Parameter Weight Factors | | |
|---|---|---|
| **Material Parameter** | **Single Test Tolerance (+/-)** | **Weight Factor** |
| Asphalt Content | 0.4 | 0.30 |
| #8 Sieve (>=19.0 mm) | 7.0 | 0.30 |
| #8 Sieve (<=12.5 mm) | 5.0 | 0.30 |
| #200 Sieve (0.075mm Sieve) | 2.0 | 0.30 |
| Air Voids (4.0% Target) | 2.0 | 0.10 |

Using the JMF target value, the single test tolerance (from Table 2), and the test values, the Engineer will use the following steps to determine the material pay adjustment factor for each lot of material:

1. For each parameter, calculate the mean value and the standard deviation of the test values for the lot to the nearest 0.1 unit.
2. For each parameter, calculate the Upper Quality Index (QU):
   QU = ((JMF target) + (single test tolerance) - (mean value)) / (standard deviation).
3. For each parameter, calculate the Lower Quality Index (QL):
   QL = ((mean value) - (JMF target) + (single test tolerance)) / (standard deviation).
4. For each parameter, locate the values for the Upper Payment Limit (PU) and the Lower Payment Limit (PL) from Table 3 - Quality Level Analysis by the Standard Deviation Method. (Use the column for "n" representing the number of sublots in the lot. Use the closest value on the table when the exact value is not listed).
5. Calculate the PWL for each parameter from the values located in the previous step:
   PWL = PU + PL - 100.
6. Calculate each parameter's contribution to the payment adjustment by multiplying its PWL by the weight factor shown in Table 2 for that parameter.
7. Add the calculated adjustments of all the parameters together to determine the Composite PWL for the lot.
8. From Table 4, locate the value of the Pay Adjustment Factor corresponding to the calculated PWL. When all properties of a single test are within the single test tolerance of Table 2, Pay Adjustment factors shall be determined by Column B. When any property of a single test is outside of the Single Test Tolerance parameters defined in Table 2, the Material Pay Adjustment factor shall be determined by Column C
9. For each lot, determine the final material price adjustment:

Final Material Pay Adjustment =
(Lot Quantity) x (Item Bid Price) x (Pay Adjustment Factor) x 70%. This final pay calculation will be paid to the cent.

In lieu of being assessed a pay adjustment penalty, the Contractor may choose to remove and replace

the material at no additional cost to the Department. When the PWL of any material parameter in Table 2 is below 60, the Engineer may require the removal and replacement of the material at no additional cost to the Department. Test results on removed material shall not be used in calculation of future PWL calculations for Mixture ID.

The test results from the Engineer on production that is less than 100 tons will be combined with the two most recently completed Engineer tests with the same Mixture ID to calculate payment for the lot encompassing the single test. If that cannot be accomplished, the approved JMF will be used to calculate payment for the lot encompassing the single test. Payment for previously closed lots will not be affected by the analysis.

When a sample is outside of the allowable single test tolerance for any Materials criteria in Table 2, that sample will be isolated. For payment purposes, the test result of the out of acceptable tolerance sample will be combined with the two previous acceptable samples of the same JMF and analyzed per this specification. The material that is considered out of the acceptable tolerance will only include the material within the represented sub-lot (i.e., a maximum of 500 tons). If the previous acceptable test result is from the previous production day, only the material produced on the second production day will be considered out of tolerance. All future sub lots will not include the isolated test. The pay factors for the out of tolerance sample lot will be calculated using column C of table 4.

If, during production, a QA sample test result does not meet the acceptable tolerances and the Contractors QC sample duplicates the QA sample test result, the Contractor can make an appropriate change to the mixture (within the JMF boundaries), and request to have that sample further isolated. After the Contractor has made appropriate changes, the Contractor will visually inspect each produced load. The first visually acceptable load will be sampled and tested. If that sample test result shows compliance with the specifications, the material that is considered out of the acceptable tolerance will include the material from the previous acceptable test result to the third load after the initially sampled and tested sample. If the sample does not meet the specification requirements, the Engineer will no longer accept material. Production may resume when changes have been made and an acceptable sample and test result is obtained.

**Table 3 – Quality Level Analysis by the Standard Deviation Method**

| PU or PL | QU and QL for "n" Samples | | | | | | |
|---|---|---|---|---|---|---|---|
| | n = 3 | n = 4 | n = 5 | n = 6 | n = 7 | n = 8 | n = 9 |
| 100 | 1.16 | 1.50 | 1.79 | 2.03 | 2.23 | 2.39 | 2.53 |
| 99 | - | 1.47 | 1.67 | 1.80 | 1.89 | 1.95 | 2.00 |
| 98 | 1.15 | 1.44 | 1.60 | 1.70 | 1.76 | 1.81 | 1.84 |
| 97 | - | 1.41 | 1.54 | 1.62 | 1.67 | 1.70 | 1.72 |
| 96 | 1.14 | 1.38 | 1.49 | 1.55 | 1.59 | 1.61 | 1.63 |
| 95 | - | 1.35 | 1.44 | 1.49 | 1.52 | 1.54 | 1.55 |
| 94 | 1.13 | 1.32 | 1.39 | 1.43 | 1.46 | 1.47 | 1.48 |
| 93 | - | 1.29 | 1.35 | 1.38 | 1.40 | 1.41 | 1.42 |
| 92 | 1.12 | 1.26 | 1.31 | 1.33 | 1.35 | 1.36 | 1.36 |
| 91 | 1.11 | 1.23 | 1.27 | 1.29 | 1.30 | 1.30 | 1.31 |
| 90 | 1.10 | 1.20 | 1.23 | 1.24 | 1.25 | 1.25 | 1.26 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 89 | 1.09 | 1.17 | 1.19 | 1.20 | 1.20 | 1.21 | 1.21 |
| 88 | 1.07 | 1.14 | 1.15 | 1.16 | 1.16 | 1.16 | 1.17 |
| 87 | 1.06 | 1.11 | 1.12 | 1.12 | 1.12 | 1.12 | 1.12 |
| 86 | 1.04 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 | 1.08 |
| 85 | 1.03 | 1.05 | 1.05 | 1.04 | 1.04 | 1.04 | 1.04 |
| 84 | 1.01 | 1.02 | 1.01 | 1.01 | 1.00 | 1.00 | 1.00 |
| 83 | 1.00 | 0.99 | 0.98 | 0.97 | 0.97 | 0.96 | 0.96 |
| 82 | 0.97 | 0.96 | 0.95 | 0.94 | 0.93 | 0.93 | 0.93 |
| 81 | 0.96 | 0.93 | 0.91 | 0.90 | 0.90 | 0.89 | 0.89 |
| 80 | 0.93 | 0.90 | 0.88 | 0.87 | 0.86 | 0.86 | 0.86 |
| 79 | 0.91 | 0.87 | 0.85 | 0.84 | 0.83 | 0.82 | 0.82 |
| 78 | 0.89 | 0.84 | 0.82 | 0.80 | 0.80 | 0.79 | 0.79 |
| 77 | 0.87 | 0.81 | 0.78 | 0.77 | 0.76 | 0.76 | 0.76 |
| 76 | 0.84 | 0.78 | 0.75 | 0.74 | 0.73 | 0.73 | 0.72 |
| 75 | 0.82 | 0.75 | 0.72 | 0.71 | 0.70 | 0.70 | 0.69 |
| 74 | 0.79 | 0.72 | 0.69 | 0.68 | 0.67 | 0.66 | 0.66 |
| 73 | 0.75 | 0.69 | 0.66 | 0.65 | 0.64 | 0.63 | 0.63 |
| 72 | 0.74 | 0.66 | 0.63 | 0.62 | 0.61 | 0.60 | 0.60 |
| 71 | 0.71 | 0.63 | 0.60 | 0.59 | 0.58 | 0.57 | 0.57 |
| 70 | 0.68 | 0.60 | 0.57 | 0.56 | 0.55 | 0.55 | 0.54 |
| 69 | 0.65 | 0.57 | 0.54 | 0.53 | 0.52 | 0.52 | 0.51 |
| 68 | 0.62 | 0.54 | 0.51 | 0.50 | 0.49 | 0.49 | 0.48 |
| 67 | 0.59 | 0.51 | 0.47 | 0.47 | 0.46 | 0.46 | 0.46 |
| 66 | 0.56 | 0.48 | 0.45 | 0.44 | 0.44 | 0.43 | 0.43 |
| 65 | 0.52 | 0.45 | 0.43 | 0.41 | 0.41 | 0.40 | 0.40 |
| 64 | 0.49 | 0.42 | 0.40 | 0.39 | 0.38 | 0.38 | 0.37 |
| 63 | 0.46 | 0.39 | 0.37 | 0.36 | 0.35 | 0.35 | 0.35 |
| 62 | 0.43 | 0.36 | 0.34 | 0.33 | 0.32 | 0.32 | 0.32 |

**Table 3 – Quality Level Analysis by the Standard Deviation Method**

| PU or PL | QU and QL for "n" Samples | | | | | | |
|---|---|---|---|---|---|---|---|
| | n = 3 | n = 4 | n = 5 | n = 6 | n = 7 | n = 8 | n = 9 |
| 61 | 0.39 | 0.33 | 0.31 | 0.30 | 0.30 | 0.29 | 0.29 |
| 60 | 0.36 | 0.30 | 0.28 | 0.27 | 0.27 | 0.27 | 0.26 |
| 59 | 0.32 | 0.27 | 0.25 | 0.25 | 0.24 | 0.24 | 0.24 |

| Table 4 - PWL Pay Adjustment Factors | | |
|---|---|---|
| **PWL** | **Pay Adjustment Factor (%) Column B** | **Pay Adjustment Factor (%) Column C** |
| 100 | +5 | 0 |
| 99 | +4 | -1 |
| 98 | +3 | -2 |
| 97 | +2 | -3 |
| 96 | +1 | -4 |
| 95 | 0 | -5 |
| 94 | -1 | -6 |
| 93 | -2 | -7 |
| 92 | -3 | -8 |
| 91 | -4 | -9 |
| PWL<91 | PWL - 100 | PWL - 100 |

**(b) Pavement Construction - Pay Adjustments.**

The Engineer will determine the pavement construction pay adjustment by evaluating the construction of the pavement, based on the following parameter:

- Degree of compaction of the in-place material

Using the test values for the cores, the Engineer will use the following steps to determine the pavement construction pay adjustment for each lot of work. .

1. Calculate the core bulk specific gravity values from the sublot tests values, to the nearest 0.001 unit. Obtain the Theoretical maximum Specific Gravity values from the corresponding laboratory sublot tests.
2. Calculate the Degree of Compaction:

   Degree of Compaction =

   ((Core Bulk Specific Gravity) / (Theoretical Maximum Specific Gravity)) x 100% recorded to the nearest 0.1%.
3. The average compaction for the sublots shall be averaged together for the compaction level of the lot. The lots compaction test level shall be averaged and recorded to the nearest whole percent.
4. Locate the value of the Payment Adjustment Factor corresponding to the calculated degree

of compaction from Table 5 or Table 5a.

5. Determine the pavement construction price adjustment by using the following formula: Construction Pay adjustment = (Lot Quantity) x (Bid Price) x (Pay Adjustment Factor) x 30%.

| Table 5: Compaction Price Adjustment Highway Locations | | |
|---|---|---|
| Degree of Compaction (%) | Range | Pay Adjustment Factor (%) |
| >= 97.0 | >= 96.75 | -100* |
| 96.5 | 96.26 – 96.74 | -5 |
| 96.0 | 95.75 – 96.25 | -3 |
| 95.5 | 95.26 – 95.74 | -2 |
| 95.0 | 94.75 – 95.25 | 0 |
| 94.5 | 94.26 – 94.74 | 0 |
| 94.0 | 93.75 – 94.25 | 1 |
| 93.5 | 93.26 – 93.74 | 3 |
| 93.0 | 92.75 – 93.25 | 5 |
| 92.5 | 92.26 – 92.74 | 3 |
| 92.0 | 91.75 – 92.25 | 0 |
| 91.5 | 91.26 – 91.74 | 0 |
| 91.0 | 90.75 – 91.25 | -5 |
| 90.5 | 90.26 – 90.74 | -15 |
| 90.0 | 89.75 – 90.25 | -20 |
| 89.5 | 89.26 – 89.74 | -25 |
| 89.0 | 88.75 – 89.25 | -30 |
| 88.5 | 88.26 – 88.74 | -50 |
| =<88.0 | =<88.25 | -100* |

* or remove and replace it at Engineer's discretion

| Table 5A: Compaction Price Adjustment Other[1] Locations | | |
|---|---|---|
| Degree of Compaction | Range | Pay Adjustment Factor (%) |
| >= 97.0 | >= 96.75 | -100* |
| 96.5 | 96.26 – 96.74 | -5 |
| 96.0 | 95.75 – 96.25 | -3 |

| | | |
|---|---|---|
| 95.5 | 95.26 – 95.74 | -2 |
| 95.0 | 94.75 – 95.25 | 0 |
| 94.5 | 94.26 – 94.74 | 0 |
| 94.0 | 93.75 – 94.25 | 0 |
| 93.5 | 93.26 – 93.74 | 1 |
| 93.0 | 92.75 – 93.25 | 3 |
| 92.5 | 92.26 – 92.74 | 1 |
| 92.0 | 91.75 – 92.25 | 0 |
| 91.5 | 91.26 – 91.74 | 0 |
| 91.0 | 90.75 – 91.25 | 0 |
| 90.5 | 90.26 – 90.74 | 0 |
| 90.0 | 89.75 – 90.25 | 0 |
| 89.5 | 89.26 – 89.74 | 0 |
| 89.0 | 88.75 – 89.25 | -1 |
| 88.5 | 88.26 – 88.74 | -3 |
| 88.0 | 87.75 – 88.25 | -5 |
| 87.5 | 87.26 – 87.74 | -10 |
| 87.0 | 86.75 – 87.25 | -15 |
| 86.5 | 86.26 – 86.74 | -20 |
| 86.0 | 85.75 – 86.25 | -25 |
| 85.5 | 85.26 – 85.74 | -30 |
| 85.0 | 84.75 – 85.25 | -40 |
| 84.5 | 84.26 – 84.74 | -50 |
| =< 84.0 | =<84.25 | -100* |

* or remove and replace at Engineer's discretion

[1] This chart is to be used for areas where the structural value of the area to be paved is less than 1.75 as determined by the Engineer. See Appendix B - Method for Obtaining Cores for Determination of Roadway Structure. This chart is applicable to rehabilitation work only; full depth construction will not be considered for Table 5a.

**.04 Dispute Resolution.**

Disputes or questions about any test result shall be brought to the attention of the Contractor and the Engineer within two operational days of reported test results. The following dispute

resolution procedures will be used.

The Engineer and the Contractor will review the sample quality, the test method, the laboratory equipment, and the laboratory technician. If these factors are not the cause of the dispute, a third party dispute resolution will be used.

Third party resolution testing can be performed at either another Contractor's laboratory, the Engineer's laboratory, or an independent accredited laboratory. Unless otherwise mutually agreed upon by DAPA and the Engineer, the Engineer's qualified laboratory in Dover and qualified personnel shall conduct the necessary testing for third party Dispute Resolution after the Engineer has provided reasonable notice to allow the Contractor to witness this testing.

When disputes over production testing occur, the samples used for Dispute Resolution testing will be those samples the properly captured, labeled, and stored, as described in the second paragraph of the section of these specifications titled **.02 Acceptance Plan, (a) Material Production - Tests and Evaluations**. If no samples are available, the original testing results will be used for payment calculations.

Dispute Resolution samples for air void content will be heated by a microwave oven.

If there is a discrepancy between the Engineer's acceptance test result and the Contractor's test result, the Contractor may ask for the Dispute Resolution sample to be tested. The Contractor may request up to two dispute resolution samples be tested per calendar year without charge. Any additional Dispute Resolution samples run at the Contractors request where the results substantiate the acceptance test result will be assessed a fee of $125. Any additional Dispute Resolution samples that substantiate the Contractors test result will not be assessed the fee.

When disputes over compaction core test results occur, the Engineer's acceptance core will be used for the dispute resolution sample. The Contractor will be advised on when the testing will occur as referenced above to witness the testing.

The results of the dispute resolution testing shall replace all of the applicable disputed test results for payment purposes.

## Appendix A - Repairing Core Holes in Bituminous Asphalt Pavement

**Description.**

This appendix describes the procedure required to repair core holes in a bituminous concrete pavement.

**Materials and Equipment.**

The following material shall be available to complete this work:

- Patch Material - DelDOT approved High Performance Cold Patch material shall be used.

The following equipment shall be available to complete this work:

- Sponge or other absorbent material - Used to extract water from the hole.
- Compaction Hammer - mechanical (electrical, pneumatic, or gasoline driven) tamping device with a flat, circular tamping face smaller than 6 inches in diameter. .

**Construction Method.**

After core removal from the hole, remove all excess water from within the hole, and prevent water from re-entering the hole.

Place the patch material in lifts no greater than 3 inches and compact with mechanical tamping device. If the hole is deeper than 3 inches, use two lifts of approximately equal depths so that optimum compaction is achieved. Make sure that the patch surface matches the grade of the existing roadway. Make every effort to achieve the greatest possible compaction

**Performance Requirements.**

The Engineer will judge the patch on the following basis:

- The patch shall be well compacted
- The patch surface shall match the grade of the surrounding roadway surface.

**Basis of Payment.**

No measurement or payment will be made for the patching work. The Contractor must gain the Engineer's acceptance of the patching work before the Engineer will accept the material represented by the core.

## Appendix B - Method for Obtaining Cores for Determination of Roadway Structure

The Contractor is responsible for obtaining cores in areas that they propose are eligible for compaction price adjustments according to Table 5a in this specification. Table 5a is not applicable for new full-depth pavement box construction. Cores submitted for this process shall be obtained according to the following process.

1. Contact Materials & Research (M&R) personnel to determine if information about the area is already available. If M&R has already obtained cores in the location that is being investigated, the contractor may opt to use the laboratory information for the investigation and not core the area on their own.

2. If M&R does not have information concerning the section of the roadway, the contractor needs to contact M&R to arrange for verification of coring operations. Arrangements shall be made to allow for an individual from M&R to be on the site when the cores are obtained. Cores will be turned over to M&R for evaluation.

3. The Contractor is responsible for providing all traffic control and repairing core holes in accordance to 401699 Appendix A - Repairing Core Holes in Bituminous Asphalt Pavements.

4. Cores are to be taken throughout the entire project for the area in question. Cores will be spaced, from the start of the project in increments determined based on field and project specifics. Cores will be evenly distributed throughout the project location. The cores will be taken in the center of the lane in question.

5. Additional cores may be taken at other locations, if surface conditions indicate that there may be a substantial difference in the underlying section. The location of these cores should be documented and submitted to M&R.

6. Cores shall be full depth and include underlying materials. If there is a stone base included in the pavement section, at a minimum 1 core must have information concerning the thickness of the base. This is determined by augering to the subgrade surface.

7. The calculations used to determine the structural capacity of the roadway is as follows. If the contractor finds, upon starting the coring process, that the areas are of greater thickness than applicable to Table 5a, they may terminate the coring process on their own and retract the request.

**Structural Number Calculations**

Each pavement box material is assigned a structural coefficient based upon AASHTO design guides. The structural coefficient is used to determine the total strength of the pavement section.

Materials used in older pavement sections are assigned lower structural coefficients to compensate for aging of the materials. The coefficients used to determine the structural number of an existing pavement are:

| Existing Material | Structural Coefficient |
|---|---|
| HMA | 0.32 |
| Asphalt Treated Base | 0.26 |
| Soil Cement | 0.16 |
| Surface Treatment (Tar & Chip) | 0.10 |
| GABC | 0.14 |
| Concrete | 0 - 0.7* |

* The Structural Coefficient of Concrete is dependent upon the condition of the concrete. Compressive strengths & ASR analysis are used to determine condition - contact the Engineer if this situation arises.

Newly placed materials use a different set of structural coefficients. They are as follows:

| New Material | Structural Coefficient |
|---|---|
| HMA | 0.40 |
| Asphalt Treated Base (BCBC) | 0.32 |
| Soil Cement | 0.20 |
| GABC | 0.14 |

**Example:**

Location includes placement of a 1.25" Type C overlay on 2.25" Type B. Existing roadway is cored and is shown to consist of 2" HMA on 7" GABC.

Calculation:

For the Type B lift the calculation would be:

| | | | |
|---|---|---|---|
| Existing HMA | 2 * 0.32 | = | 0.64 |
| GABC | 7 * 0.14 | = | 0.98 |
| | | | 1.62 |

For the Type C lift the calculation would be:

| | | | |
|---|---|---|---|
| Newly Placed B | 2.25 * 0.4 | = | 0.90 |
| Existing HMA | 2 * 0.32 | = | 0.64 |
| GABC | 7* 0.14 | = | 0.98 |
| | | | 2.52 |

## 612552 - SPRAYED APPLIED CEMENTITIOUS MORTAR FOR PIPE, 24" - 48"
## 612553 - SPRAYED APPLIED CEMENTITIOUS MORTAR FOR PIPE, GREATER THAN 48"

**Description:**

This work consists of installing a sprayed applied cementitous motar liner to a concrete or corrugated metal pipe.

QUALITY ASSURANCE

A. The manufacturer shall have been in the business of manufacturing high performance cement-based repair mortars for over I5 years, maintain a strict quality assurance program in accordance with ISO 9001 :2008, offer technical services and provide a representative at the project site for product training, prior to product installation.

B. The Contractor shall submit to the Engineer, at least three job references where the Contractor has successfully completed similar applications.

DELIVERY, STORAGE AND HANDLING

A. All materials shall be delivered to the jobsite in their original, unopened packages, clearly labeled with the manufacturer's identification, printed instructions and batch code for shelf life and traceability.
B. Store and condition the specified product as per the appropriate product data sheet.
C. For handling instructions, refer to the Material Safety Data Sheet.

**Materials:**

A. The pipe lining I rehabilitation material shall be a centrifugally spray-applied, pre- packaged cement-based mortar containing a corrosion inhibitor requiring only the addition of potable water. The material shall not contain any chlorides or lime other than amounts contained within the hydraulic cement composition. The manufacturer shall be ISO 9001:2008 certified and have at least 15 years experience in the manufacture of cementitious repair materials. The manufacturer shall offer technical services and provide a representative at the project site for product training prior to product installation upon advance notice.
B. The pipe lining rehabilitation material shall meet all the following typical performance criteria when cured at 70°F:

1. Compressive Strength, ASTM C 109

| | |
|---|---|
| 1 Day | 3,000 psi |
| 7 Days | 6,000 psi |
| 28 Days | 8,000 psi |

2. Bond Strength, ASTM C 882

| | |
|---|---|
| 7 Days | 2,000 psi |

3. Length Change, ASTM C 157

| | |
|---|---|
| 28 Days Wet | +0.05% |
| 28 Days Dry | -0.15% |

4. Chloride Ion Permeability, ASTM C 1202
   28 Days Very Low

5. Freeze / Thaw Resistance, ASTM C 666A 90% RDM @ 300 cycles

6. Working Time 30 minutes

*The data shown above reflect typical results based on laboratory testing under controlled conditions. Reasonable variations from the data shown above may result in the field. Test methods are modified where applicable.*

C. Subject to meeting the performance criteria stated above, other products may be formally submitted to the Engineer for approval up to three days prior to the bid date. All requests for approval shall contain certified test data verifying conformance with this specification. Three references of successfully completed projects of similar nature and scope of the work detailed in this specification shall be provided. The testing laboratory shall certify to any modifications made to the tests performed and provide details of modifications.

**Constructions Methods:**

A. Completely remove or mitigate all obstructions that may hinder proper installation of product prior to commencing work.
B. Ensure all active water flow is diverted or stopped prior to commencing work.
C. Completely remove all loose, delaminated and weak materials including dirt and debris from work area. Prepare pipe surfaces using high pressure water blasting to thoroughly remove all contaminants and bond-inhibiting materials. Severely corroded pipe sections may need replacement. Metal surfaces may be blasted to a near-white finish; concrete surfaces should be mechanically prepared to an ICRI Concrete Surface Profile (CSP) of 6 or greater. Metal surfaces may require treating with a corrosion inhibitor after surface prep if they will not be repaired immediately.
D. The sections to be repaired should be free of standing water; concrete pipe should be presoaked for 6-8hours prior to material installation.
E. All cracks in pipes identified shall be brought to the attention of the Engineer and a determination made of whether the cracks are subject to movement and may compromise the installation. The cracks shall be repaired or mitigated as directed prior to application of the pipe lining rehabilitation material.
F. All existing joints in pipe shall be maintained.
G. All surfaces must be blown clean from surface preparation debris and residue prior to commencing work.
H. Due to the potential corrosion reactivity between cementitious materials and aluminum, all aluminum pipe should be coated with a coal tar type coating (or similar material) prior to application of pipe repair mortar.

ENVIRONMENTAL CONDITIONS

A. Condition and maintain all materials and surfaces that contact pipe lining rehabilitation material to between 50°F and 90°F, but optimallybetween 60°F and 75°F whenever possible.

EQUIPMENT AND MATERIALS

A. All necessary tools, equipment and materials shall be in good condition and as close as possible to area being repaired.
B. Appropriate clothing and safety equipment shall be worn to avoid breathing dust and prevent eye and skin contact with both dry and mixed repair materials.
C. An ample source of potable water shall be available for preconditioning, mixing, cleaning and curing.

MIXING

Mortar Mixer (Stationary Barrel with Moving Paddles)

A. Provide an adequate number of mortar mixers in good operating condition for uninterrupted placement. Do not exceed one-half the maximum capacity of the mortar mixer.
B. Pre-wet mortar mixer, empty excess water.
C. Start by adding the minimum amount of premeasured potable water to mixer. While mixing, slowly add pipe lining rehabilitation material and mix to a uniform consistency.
D. Mix thoroughly for approximately 3 to 4 minutes. To achieve desired consistency, add remaining water if necessary. Do not exceed maximum water content as stated on product packaging or an amount that will cause segregation.
E. Do not mix more material than can be placed within the working time of the repair material. Do not retemper the mix by adding additional water.
F. A trial mix should be considered to optimize water content and application ability.

**PART D- APPLICATION**

A. Position spray cast equipment within pipe center and begin pumping material to nozzle. Commence application of material around pipe. As material is cast around pipe, move applicator head accordingly so as to provide the necessary thickness and uniformity specified.
B. Movement of the applicator head may be adjusted at any time to ensure propercoverage, thickness and uniformity.
C. Coverage thicknesses may be verified at any point during installation to ensure movement rate of applicator head is correct.
D. Placement shall be a continuous to minimize or prevent cold joints except over existing joints.

**PART E- CURING**

CURING

A. Wet cure for 24-48 hours after placement or apply curing compound meeting the requirements of ASTM C 309 immediately after placement.
B. Repair material shall be protected from freezing, hydrostatic pressure and vibration as recommended by the manufacturer.

**PART F- EXTREME WEATHER CONDITIONS**

COLD WEATHER REPAIRS

*[Low temperatures delay the set, increase working time and delay the strength development of cement-based products. The procedures below will compensate for these conditions.}*

A. All surfaces shall be preconditioned and maintained between 50°F and 90°F and materials

conditioned to between 50°F and 80°F. Higher substrate and material mix temperatures will result in faster strength development. Due to the mass of palletized material and bulk packaging, up to 72 hours of conditioning may be required. Presoak area with hot water where applicable.

B. Heating the repair area may be accomplished by indirect exposure. Heated enclosures must be windproof and weatherproof. Combustion heaters must be vented and shall not be permitted to heat and dry the concrete locally. Caution: Exhaust gases may contaminate or cause carbonation within the enclosed environment. Ensure repair material does not dry out during heating.

C. Maintain temperature above 50°F minimum until material reaches 1000 psi or the minimum required strength. [Specify minimum required strength.]

D. Gradually allow temperature of material to cool to ambient temperature to avoid thermal shock.

**PART F-EXTREME WEATHER CONDITIONS**

HOT WEATHER REPAIRS

*[High temperatures accelerate the set, decrease working time, and accelerate the strength gain of cement-based products. The procedures below will compensate for these conditions.]*

A. Materials shall be conditioned as necessary so that the mixed material is between 50°F and 90°F. Due to the mass of palletized material and bulk packaging, up to 72 hours of conditioning may be required.

B. All surfaces in contact with material must be preconditioned and maintained below 90°F.

C. Cooling of surfaces, materials and equipment can be accomplished by using iced water for mixing and presoaking concrete. Do not put ice directly into repair material. Shade area from direct sunlight or pour material when temperatures are decreasing.

D. Wind breaks shall be provided when necessary to prevent rapid evaporation.

E. Repair material shall remain protected and curing shall be dependent on specified product. Cure repair material in accordance with manufacturer's recommendations. [Specify appropriate curing method.]

**Method of Measurement:**

The quantity of sprayed applied cementitious mortar for Pipe will be measured as the actual number of linear feet of each pipe repaired and accepted.

**Basis of Payment:**

The quantity of Sprayed Applied Cementitious Mortar for Pipe will be paid for for at the Contract unit price per linear foot of pipe. Price and payment will constitute full compensation for furnishing all materials, and applying the materials as stated in the specifications, and for all labor. Equipment, tools, and incidentals required to complete the work.

6/13/2018

# 705528 - TEMPORARY CURB RAMP

**Description:**

This item shall consist of furnishing, erecting and installing Temporary Curb Ramps at the required location(s) and in accordance with the notes and details on the Plans and as directed by the Engineer.

After the completion of the project, the Temporary Curb Ramps shall become the property of the Contractor and shall be removed from the project site.

**Materials and Construction Methods:**

The Temporary Curb Ramps shall be used as required during maintenance of traffic and pedestrians during construction as directed by the Engineer. Curb ramps must be provided wherever an accessible pedestrian route crosses a curb or experiences a change of grade requiring a temporary curb ramp. The smallest possible slope should be used for all ramps and the maximum slope is 1:12. Transitions from ramps to walks or streets should be flush without abrupt changes. The adjoining landing areas, within three (3) feet of temporary curb ramps, shall not exceed 1:20. Temporary curb ramps must have a minimum width of 36", exclusive of flared sides. Temporary curb ramp surfaces must be stable and slip resistant. Changes in surface level up to ¼ inch may be vertical without edge treatment. Changes in surface level greater than ¼ inch must use a ramp. If a curb ramp is located where pedestrians must walk across the ramp or where the ramp is not shielded by handrails or guardrails, it must have flared sides. The maximum slope of the flare shall be 1:10.

The Contractor shall submit the locations of temporary curb ramps to be used during each stage of construction to the Engineer as part of the maintenance of pedestrian access plan for approval. The Engineer shall approve the Temporary Curb Ramp materials including the posts and methods of fabrication prior to installation.

Due to space limitations, the Contractor may be required to move the temporary curb ramps and/or reposition curb ramps from time to time so that adjacent construction activities and pedestrian access can coexist within the project site simultaneously as required. No payment shall be made for such relocation and the cost shall be incidental to the item.

**Method of Measurement:**

Temporary Curb Ramps shall be erected by the Contractor as required with payment to be made on an each (EA) used basis for the duration of the contract for temporary curb ramps actually furnished and used as required and approved by the Engineer.

**Basis of Payment:**

The number of temporary curb ramps measured as described above, shall be paid for at the contract unit price bid per each as required by the Contract. Price and payment shall be full compensation for furnishing, placing, maintaining, repositioning, preparation and cleaning the curb ramp area, removal and disposal of the temporary curb ramps and related accessories, furnishing all labor, materials, equipment, tools and all incidentals necessary to complete the work. Temporary Curb Ramps stolen or damaged shall be replaced at the Contractor's expense.

3/2/17

## 707500 - CHANNEL BED FILL

**Description:**

Furnish and place Channel Bed Fill to the limits specified in the construction plan set.

**Materials:**

Provide aggregate material meeting the following requirements:

Provide natural, rounded, unwashed and uncrushed aggregate material meeting the gradation of Table 1 when tested in accordance with AASHTO T-11 and T-27.

a. Aggregate material meeting this requirement may be located within the excavation area of the project. The Contractor may salvage this material at his/her discretion by separating and stockpiling the material meeting the requirements of Table 1 and Notes 1&2.
b. Angular quarried aggregate is unacceptable.
c. The cost of salvaging and stockpiling existing material and removing excess stockpiled material is incidental to 707500 - Channel Bed Fill.

**Table 1**

| Percent Passing | Light [3] | Medium [4] | Heavy |
|---|---|---|---|
| 5-inch | 100 | 90-100 [1] | Gradation to be noted on Plan sheets |
| 1-inch | 70-100 [1] | 0-20 [2] | |
| 3/4-inch | 30-95 | | |
| 3/8-inch | 0-10 [2] | | |

**Notes:**

[1] Salvaged materials may contain material exceeding this size and be acceptable.

[2] Salvaged materials may contain up to 20% passing the 3/8-inch sieve but not to exceed 10% passing the #200 sieve when tested in accordance with T-11.

[3] Unless noted otherwise on plan sheets, Light gradation shall be used in locations in Sussex County

[4] Unless noted otherwise on plan sheets, Medium gradation shall be used in locations in Kent and New Castle Counties.

**Method of Measurement:**

Quantity of Channel Bed Fill will be measured by cubic yards of material acceptably placed.

**Basis of Payment:**

The quantity of Channel Bed Fill will be paid for at the Contract unit price per cubic yard. Price and Payment will constitute full compensation for all labor, equipment, and other incidentals required to salvage, stockpile, maintain, furnish, haul, place, and remove and dispose of all material necessary to complete the work.

Excavation of existing streambed material will be paid under its respective item.

11/9/16

# 710503 – ADJUST GAS VALVE BOXES

**Description:**

This item consists of vertically adjusting gas valves boxes to proposed elevations.

**Materials and Construction Methods:**

Adjust to be flush with concrete surface. Locate valve box directly over the valve plumb and level.

**Method of Measurement:**

The quantity of gas valve adjustments will be paid for at the Contract unit price per each gas valve.

**Basis of Payment:**

Price and payment will constitute full compensation for all material, labor, tools, equipment, and incidentals to complete the item.

5/16/2019

## 711500 - ADJUST AND REPAIR EXISTING SANITARY MANHOLE

**Description:**

This work consists of adjusting and repairing existing sanitary manholes in accordance with notes and details on the Plans and as directed by the Engineer.

**Materials and Construction Methods:**

Materials and construction methods shall conform to the applicable requirements of Section 711 of the Standard Specifications, and the Standard Specifications of the owner of the sewer system. If there is a conflict between the Department's Specifications and the Specifications of the owner, the latter will prevail.

**Method of Measurement and Basis of Payment:**

The method of measurement and basis of payment for the item shall be made in accordance with Subsections 711.04 and 711.05 of the Standard Specifications.

1/4/17

## 763621 - CONSTRUCTION ENGINEERING, REHABILITATION

**Description:**

Collect survey information and provide layout as described in this provision and as noted on the Plans. Assume full responsibility for any errors and/or omissions in the work of all engineering staff employed.

Provide and have available for the project adequate engineering staff that is:

1. Competent and experienced to set lines and grades needed to construct the project;

2. Able to perform the work to the scope and magnitude outlined herein.

Construction Engineering functions and requirements:

1. Provide all necessary surveying equipment required for all engineering work on the project.

    a. Check all equipment/instruments prior to use on the project.

    b. Immediately replace or recalibrate equipment found to be out of adjustment or inadequate to perform its function to the satisfaction of the Engineer.

2. Perform all computations necessary to establish the exact position of the work from control points and preserve.

    a. Maintain adequate workbooks of all computations survey notes and other records.

    b. Make available to the Department, neat and legible, all computations, survey notes and other records necessary to accomplish the work.

3. Preliminary topographic survey for all proposed curb ramps locations identified in the Plans and the layout of grade information provided by the Engineer for curb ramp construction;

4. Obtain topographic information a minimum of 25' in each direction from the back of curb where the curb ramp is proposed;

    a. Grades for the edge of pavement, gutter line (if applicable), top of curb, front and back edge of sidewalk, existing obstructions such as utility poles, junction wells, traffic poles and cabinets, manholes, valves, fire hydrants, drainage inlets, steps, retaining walls, building faces or other obstructions that are directly adjacent or within the proposed curb ramp limits.

    b. Collect data in a format that is compatible with DelDOT Design Standards and submit to the Engineer for evaluation curb ramps that are located in areas with multiple obstructions, limited area, or other unique characteristics that require more detailed layout. The Engineer will provide the final grades for construction of these curb ramps.

5. Establish necessary grades to ensure all proposed curb ramps, roadways or ditches, installation of drainage structures, or other items of work as determined by the Engineer, have positive drainage;

Note:

Professional services performed under this item by individuals/firms other than the Contractor are not subject to the subcontracting requirements of Subsection 108.01 of the Standard Specifications.

**Method of Measurement:**

The quantity of Construction Engineering - Rehabilitation will be measured as the actual number of hours the Contractor's survey crew is in the field actively engaged in Construction Engineering - Rehabilitation Work.

**Basis of Payment:**

The quantity of Construction Engineering - Rehabilitation will be paid for at the Contract unit price per hour. Price and payment constitutes full compensation for furnishing all labor, equipment, instruments, stakes, and other material necessary to satisfactorily complete the work as herein described under this item.

7/10/2012

# STATEMENTS

Utility, Right of Way, Environmental, Railroad

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

JENNIFER COHAN
SECRETARY

March 19, 2019

**UTILITY STATEMENT**
**STATE CONTRACT # T2017-011-04**
**F.A.P. # NONE**
**P6#17-99008**
**SILVERSIDE ROAD ADA IMPROVEMENTS**
**NEW CASTLE COUNTY,**

**LOCATION – Veale Road to Windybush Drive**

**General Scope of work – RECONSTRUCTION OF CURB RAMPS AND SIDEWALK AREAS IN THE VICINITY OF UTILITY POLES AND DRIVEWAY ENTRANCES TO ADDRESS ADA COMPLIANCE.**

**The following utility companies may own and/or maintain facilities within the project limits:**
CAVALIER MID ATLANTIC, LLC
COMCAST CABLE
DELDOT
DELMARVA POWER GAS
DELMARVA POWER NORTH – ELEC. DIST.
DELMARVA POWER TELECOM & NETWORK SYSTEMS
NEW CASTLE COUNTY – SANITARY SEWER
SUEZ
VERIZON

**Utility adjustments and/or relocations shall be performed as narrated, but are not limited to the following:**

**CAVALIER MID ATLANTIC – No services**
Cavalier Mid Atlantic Telephone owns and maintains aerial and underground facilities within this location.
Any relocations/adjustments to any existing aerial/underground lines shall be arranged, if necessary, with the utility owner during the construction of the project. The time to complete any relocations/adjustments will depend on the nature of the work.

DelDOT

**No working/existing CAVALIER MID ATLANTIC facilities can be taken out of service. These facilities will remain in place and active during the duration of this contract.**

**COMCAST:**

Comcast maintains overhead facilities within this location. The contractor must use care when working in these areas with overhead cable crossings. Any adjustments to Comcast facilities shall be performed by the utility after a minimum of fourteen (14) calendar day notice from the contractor. The time to complete any relocations/adjustments will depend on the nature of the work.

**No working/existing Comcast facilities can be taken out of service.**
**These facilities will remain in place and active during the duration of this contract.**
**Comcast emergency 24 hour hotline customer service: 1-800-934-6489.**

**Del DOT:**

Del Dot maintains ITMS, fiber, lighting and/or signal systems throughout the project limits. The Contractor must use care when working in these areas. Any adjustments to Del DOT facilities shall be performed by the State's contractor in accordance with the Standard Specifications as directed by the District Engineer. The contractor shall report any impacts to any vehicle detection system to the Traffic Management Center (TMC) (Cell #77) (24 HR 302-659-4600), 7 calendar days before the loop system is impacted by construction activities.

**DELMARVA POWER GAS:**

Delmarva Power–Gas maintains underground facilities within the project limits with no anticipated impacts. Delmarva Power-Gas requests that all gas valve boxes and manhole covers encountered be adjusted by the contractor. Any other adjustments to Delmarva Power–Gas facilities shall be performed by the utility after a fourteen (14) calendar day notice from the contractor.

There are two (2) gas valve risers to be adjusted by DelDOT's construction contractor, as part of the proposed sidewalk, curbing, access ramp, and pavement reconstruction work. The Contractor shall contact the Delmarva Power Gas representative fourteen (14) days prior to any adjustments to existing gas utilities.

**No working/existing Delmarva Power–Gas facilities can be taken out of service.**
**These facilities will remain in place and active during the duration of this contract.**
**Report a Gas Leak and Other Emergencies: 1-302-454-0317.**

**DELMARVA POWER – ELECTRIC:**

Delmarva Power maintains overhead and underground facilities within this location. The contractor must use care when working in these underground areas as well as overhead cable crossings.

The following guy wires will require relocation by Delmarva Power:

- Delmarva Guy wire at Station 26+40 R37 Verizon Pole 50356-44921

- Delmarva Guy wires at Station 69+43 L34 – DPL Pole 50108-45261

Any adjustments to Delmarva facilities shall be performed by the utility with fourteen (14) calendar day notice from the contractor.
**No working/existing Delmarva facilities can be taken out of service.**
**These facilities will remain in place and active during the duration of this contract.**
**To report a downed wire, call 1-800-898-8042.**
Delmarva Power has a written requirement regarding working near overhead power lines.

Customer/Contractor Acknowledgement

Performing Work within Dangerous Proximity of High Voltage Lines

"You are hereby notified by Delmarva Power that **NO** work can be performed at this location within dangerous proximity to Delmarva's overhead lines and that you are required by law to comply with applicable OSHA regulations and the applicable state High Voltage Safety Act. Performance of any activity or causing any person, equipment or things to come within dangerous proximity of Delmarva's overhead lines creates an extreme risk of severe injury or death. You are further notified that no activities may be conducted within dangerous proximity of Delmarva's overhead lines until mutually agreeable measures to prevent contact with overhead lines have been reached with Delmarva and Delmarva has provided you with written authorization to perform the activities. Additionally any work involving the use of a crane with intentions to remain outside of dangerous proximity, but within 20 feet of the Company's overhead lines, requires an Encroachment Prevention Plan in order to satisfy OSHA"

**DELMARVA POWER TELECOM & NETWORK SYSTEMS:**

Delmarva Power Telecom & Network Systems maintains underground facilities within the project limits with no anticipated impacts. Any adjustments to Delmarva Power Telecom & Network Systems facilities shall be performed by the utility after a fourteen (14) calendar day notice from the contractor.
**No working/existing Delmarva Power Telecom & Network Systems facilities can be taken out of service.**
**These facilities will remain in place and active during the duration of this contract.**

**NEW CASTLE COUNTY DEPARTMENT OF SPECIAL SERVICES:**

New Castle County Special Services maintains underground sanitary sewer facilities at this location with no anticipated impacts except to manhole and clean out riser elevations.
Any adjustments and/or relocations of municipally owned sewer facilities shall be performed by the State's contractor in accordance with the respective agencies' standard specifications as directed by the District Engineer. The State contractor shall coordinate any potential conflicts with facility owners and provide adequate notice prior to performing work.
**No working/existing New Castle County Sanitary Sewer facilities can be taken out of service. These facilities will remain in place and active during the duration of this contract.**

**SUEZ WATER:**

Suez Water maintains underground facilities within the project limits with no anticipated impacts. The contractor must use care when working in these areas. Any adjustments to Suez Water facilities shall be performed by the utility after fourteen (14) calendar day notice from the contractor.

**No working/existing Suez Water facilities can be taken out of service. These facilities will remain in place and active during the duration of this contract.**

**VERIZON:**

Verizon maintains overhead and underground facilities within this location. The contractor must use care when working in these underground areas as well as overhead cable crossings. Any adjustments to Verizon facilities shall be performed by the utility after fourteen (14) calendar day notice from the contractor. The time to complete any relocations/adjustments will depend on the nature of the work.

The following guy wires will require relocation by Verizon

- Guy wire at Station 26+40 R37 Verizon Pole 50356-44921
- Guy wire at Station 69+43 L34 – DPL Pole 50108-45261

**No working/existing Verizon facilities can be taken out of service.**
**These facilities will remain in place and active during the duration of this contract.**

**Verizon of Delaware maintains the following aerial facilities within the project limits:**

1. Verizon maintains aerial facilities on the East side of Silverside Rd from Pole 21 at station 23+60 R31 extending South past the project limits.
2. Verizon maintains aerial facilities on the East side of Silverside Rd from Pole 21 at station 23+60 R31 extending North past the project limits.
3. Verizon maintains aerial facilities on the East side of Silverside Rd from Pole 21 at station 23+60 R31 extending West across Silverside Rd to unkown Pole # at station 23+13 L31.
4. Verizon maintains aerial facilities on the East side of Silverside Rd from Pole 22 at station 25+43 R22 extending West across Silverside Rd to unkown Pole # at station 25+43 L30.
5. Verizon maintains aerial facilities on the West side of Silverside Rd from Pole 7 at station 60+07 L32 extending South past the project limits.
6. Verizon maintains aerial facilities on the West side of Silverside Rd from Pole 7 at station 60+07 L32 extending North past Veale Rd and the project limits.
7. Verizon maintains aerial facilities on the West side of Silverside Rd from Pole 15 at station 74+85 L25 extending North across Silverside Rd to unkown Pole # at station 74+85 R23.
8. Verizon maintains aerial facilities from unkown Pole # at station 79+85 L25 extending West to Pole 1304 at 80+07 L42 and beyond project limits.
9. Verizon maintains aerial facilities from Pole 11 at station 85+85 L24 extending North across Silverside Rd.
10. Verizon maintains aerial facilities from Pole 10 at station 87+48 L24 extending South to Pole 1 at station 87+25 L46 and beyond project limits.
11. Verizon maintains aerial facilities from Pole 5-1 at station 93+89 L23 extending West to Pole 4 at station 93+85 L54 and beyond project limits.

**Verizon of Delaware maintains the following buried/underground facilities within the project limits:**

1. Verizon maintains a conduit run on Silverside Rd from MH 37 at station 25+50 R7 extending South past the project limits.
2. Verizon maintains a conduit run on Silverside Rd from MH 37 at station 25+50 R7 extending North past the project limits.
3. Verizon maintains conduit on Silverside Rd from MH 212 at station 74+63 R9 extending North to unkown Pole # at station 74+85 R23.
4. Verizon maintains a conduit run from Pole 15 at station 74+85 L25 extending South to a VZ SAI box at station 74+60 R32.
5. Verizon maintains a buried copper cable from VZ SAI box at station 74+60 R32 along Silverside Rd to approx. station 73+81 L28 then turns South beyond the project limits.
6. Verizon maintains a conduit run on Silverside Rd from MH 211 at station 80+14 R35 extending South across Silverside Rd to Pole 1304 at station 80+05 L42.
7. Verizon maintains a conduit run on Silverside Rd from MH 210 at station 87+27 R25 extending Southeast across Silverside Rd to Pole 1 at station 87+25 L46.
8. Verizon maintains a conduit run on Silverside Rd from MH 29 at station 93+48 R23 extending East across Silverside Rd to Pole 4 at station 93+85 L54.

**General Utility Notes**

Outside of the companies and facilities discussed above, no additional utility involvement is anticipated. Should any conflicts be encountered as a result of the contractor's means and methods during construction requiring adjustment and/or relocation, the necessary relocation work shall be accomplished by the respective utility company and funded by the State's Contractor as directed by the District Engineer. The State Contractor shall coordinate any potential conflicts with utility companies and provide adequate notice prior to performing work.

Any utility conflicts that are not readily discernable shall be coordinated by the State Contractor once the conflict is recognized. The time to complete any relocations/adjustments found to be necessary during construction of the highway project will depend on the nature of the work. Once the State's contractor has given the Utility the advance notice required above, it is the responsibility of the State's contractor to have the work area prepared and accessible for the Utility to perform the tasks listed above. If the site conditions are not ready and the state contractor has given notice to the utility on when the work is to be accomplished, the State's Contractor shall be responsible for any extra cost incurred by the utility company and the State Contractor shall also be responsible for any time delays. Between when the required notice is given to the Utility and when the work is performed and completed, the coordination and scheduling of the Utility is the sole responsibility of the State's Contractor. All costs related to the coordination and scheduling of the utilities is incidental to the contract.

Any adjustments and/or relocations of municipally or county owned sewer or water facilities shall be performed by the State's Contractor in accordance with the respective agency's standard specifications as directed by the District Engineer. The State contractor shall coordinate any

potential conflicts of municipally or county owned sewer or water facilities with facility owners and provide adequate notice to the municipally or county and to the District Engineer prior to performing work.

**General Notes**

1. The Contractor's attention is directed to Section 105.09 Utilities, Delaware Standard Specifications, August 2016. The Contractor shall contact Miss Utility (1-800-282-8555) two working days prior to any excavation. 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 and operating purposes for his equipment and, if necessary, make arrangements directly with the utility companies for field adjustments for adequate clearances.

2. The information shown in the Contract Documents, including the Utility Statement and the Utility Schedule contained herein, concerning the location, type and size of existing and proposed utilities, their locations, and construction timing has been compiled by the preparer based on information furnished by each of the involved Utility Companies. It shall be the responsibility of the State's Contractor to verify all information and coordinate with the Utility Companies prior to and during construction, as specified in Section 105.09 of the Standard Specifications.

3. It is understood and agreed that the Contractor has considered in his bid all permanent and temporary utility appurtenances in their present and relocated positions as shown on the plans or described in the Utility Statement or are readily discernible and that no additional compensation will be allowed for any delays, inconvenience, or damage due to any interference from the utility facilities and appurtenances or the operation of moving them, except that the Contractor may be granted an equitable extension of time unless the delay is caused by the Contractor's delay in having the site conditions ready for the utility relocation work after the Contractor has provided the advance notice that the site conditions would be ready for the utility relocation work. The contractor's means and method of construction are not taken into account when known utility conflicts are identified. If the Contractor's means and method of construction create a utility conflict the Utility Statement will prevail in discussions with the utility and the Contractor. The State's Contractor shall be responsible for any costs associated with any temporary outages; holding, bracing and shielding of utility facilities; temporary relocations; or permanent relocations that are not specifically identified in this utility statement or shown in the contract plan set.

4. Coordination and cooperation among the Utility Companies and the State's Contractor are of prime importance. Therefore, the Contractor is directed to contact the following Utility Company representatives with any questions regarding this work prior to submitting bids and work schedules. Proposed work schedules should reflect the Utility Companies' proposed relocations. The Utility Companies do not work on weekends, nights or legal holidays.

| NAME | COMPANY | PHONE | EMAIL |
|---|---|---|---|
| Harry Sheppard | Cavalier Mid Atlantic | harry.sheppard@windstream.com | 302-224-7121 |
| Matt Murray | Americomm-Consultant for Comcast | mattm@americomm-llc.com | 717-713-7586 |
| Angel Collazo | Delmarva Power Electric | Angel.collazo@delmarva.com | 302-454-4370 |
| Robert Kitson | Delmarva Power Gas | Robert.kitson@delmarva.com | 302-429-3848 |
| Scott Vari | Delmarva Power Telecom & Network Systems | Scott.vari@pepcoholdings.com | 302-454-5978 |
| Dave Clark | New Castle County Dept. of Spec. Srvcs | dclark@nccde.org | 302-395-5705 |
| George Zang | Verizon Delaware Inc | George.w.zang@verizon.com | 302- 422-1238 |
| Ted Harris | Suez | Ted.harris@unitedwater.com | 302-252-3016 |
| | | | |

5. As outlined in Chapter 3 of the DelDOT Utilities Manual, individual utility companies are responsible for obtaining all required permits from municipal, State and federal government agencies and railroads. This includes but is not limited to water quality permits/DNREC Water Quality Certification, DNREC Subaqueous Lands/Wetlands permits, DNREC Coastal Zone Consistency Certification, County Floodplain permits (New Castle County only), U.S. Coast Guard permits, US Army Corps 404 permits, sediment and erosion permits, and railroad crossing permits.

6. Individual utility companies are required to restore any areas disturbed in conjunction with their relocation work. If an area is disturbed by a utility company and is not properly restored, the Department may have the State's Contractor perform the necessary restoration. Any additional costs incurred as a result will be forwarded to the utility company.

7. 16 Del. C. § 7405B requires notification to and mutually agreeable measures from the public utility operating the electric line for any person intending to carry on any function, activity, work or operation within dangerous proximity of any high voltage overhead electric lines. All contractors/other utilities must also maintain a minimum distance of 10'- 0" from all overhead energized lines. Additional clearance may be required from high voltage transmission lines.

8. In conjunction with bid preparation and prior to starting work, the State's Contractor shall confirm with all respective Utility Companies noted in this Utility Statement to have

advance utility relocations that the advance relocations have in fact been accomplished as summarized herein.

9. Any existing facilities that are comprised of hazardous materials will be removed by the Utility Company unless otherwise outlined in the contract documents or language above. Any existing facilities containing hazardous materials will be purged by the Utility Company unless otherwise outlined in the contract documents or language above.

**PREPARED AND RECOMMENDED BY:**

Joseph A Hofstee

3/20/2019

**Joseph Hofstee, PE**
**AECOM**
**joe.hofstee@aecom.com**

**Date**

**APPROVED AS TO FORM:**

20 march 2019

**Delaware Department of Transportation**
**Utility Section**
**Chuck.Ferguson@state.de.us**

**Date**

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

**CERTIFICATE OF RIGHT-OF-WAY STATUS**

**STATE PROJECT NO. T201701104**

**F.A.P. NO. N/A for R/W**

**SILVERSIDE ROAD ADA IMPROVEMENTS,**
**VEALE ROAD TO WINDYBUSH DRIVE**

**NEW CASTLE COUNTY**

**Certificate of Right-of-Way Status - Conditional**

**STATUS - LEVEL 3**

**As acquired by 23 CFR, Part 635, and other pertinent Federal and State regulations or laws, the following certificates are hereby made in reference to this highway project:**

The acquisition or right of occupancy and use of some remaining parcels is not complete, but all occupants of the residences on such parcels has had replacement housing made available to them in accordance with 49 CFR 24.04. The parcels which are not available are:

**Parcel 3-L; Link – Owner signed Right of Entry, negotiating landscaping**

**Parcel 10-L; Carey – Owner signed, working on settlement process**

All necessary real property interests have been or shall be acquired in accordance with current FHWA/State directives covering the acquisition of real property.

No occupants were permanently displaced for this project and the State has physical possession and the right to remove, salvage, or demolish any personal property acquired as part of this project.

The State shall ensure that any occupants of residences, businesses, farms, or non-profit organizations and who have not yet moved from the right-of-way are protected against unnecessary inconvenience and disproportionate injury or any action coercive in nature.; and,

Anticipated clearance for all parcels is **September 15, 2019**.

RIGHT OF WAY SECTION

Monroe C. Hite, III
Chief of Right of Way

June 19, 2019

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

JENNIFER COHAN
SECRETARY

January 7, 2019

ENVIRONMENTAL REQUIREMENTS

FOR
State Contract No. T201701104
Federal Aid No.: N/A

Contract Title: Silverside Road ADA Improvements, Veale Road to Windybrush Drive

Due to the nature of the proposed construction activities, permits are required for the lining of the pipes at BR 1-036 that is part of this project. The following construction requirements and special provisions have been developed to minimize and mitigate impact to the surrounding environs. These requirements by DelDOT, not specified within the contract, are listed below. These requirements are the responsibility of the contractor and are subject to risk of shut down at the contractor's expense if not followed.

PERMIT REQUIREMENTS:

The proposed construction work for this project requires permit approval from the agencies listed below. It is the responsibility of the contracting agency -- the Delaware Department of Transportation, Division of Transportation Solutions -- to obtain the necessary permits to ensure that the contractor complies with the requirements and conditions established by the regulatory agencies. Written authorization from the permitting agencies is required and paperwork for on-site posting is anticipated. The proposed work for this project will be authorized under the permits listed below:

REQUIRED PERMITS AND APPROVAL STATUS:

- U.S. Army Corps of Engineers (USACE) – Nationwide Permit #3(a) & (c) no Pre-Construction Notification required (fyi email sent 11/5/18)
- Delaware Department of Natural Resources and Environmental Control (DNREC) Wetlands & Subaqueous Lands Section (WLSL) – This project is consistent with

Delaware Code Chapter 72, § 7217, Special Exemption (b) - fyi email sent 11/5/18, concurrence received 12/19/18 )

- Delaware Coastal Zone Management (CZM) – Issued – Project is not located in a Critical Resource Water
- DNREC Water Quality Certification (WQC) - Issued – Project is not located in a Critical Resource Water

SPECIFIC REQUIREMENTS:

Compliance with all requirements of the permits is the responsibility of the contractor, who will follow all special conditions or requirements as stated within those permits. The contractor will be subject to penalties, fines, and the risk of shut down as mandated by laws governing permitting agencies if such conditions and requirements are violated or ignored. Therefore, all special conditions, general requirements, and/or other required provisions specified within the permits must be followed. Those obligations are indicated or listed within the permit package, which can be obtained from the DelDOT Contract Administration Office.

Additional requirements by DelDOT not specified within the permits, but listed below, are also the responsibility of the contractor. Noncompliance with these requirements may result in shut down of the project at the contractor's expense.

1. The contractor shall employ measures during construction to prevent spills of fuels or lubricants. If a spill should occur, efforts shall be undertaken to prevent its entry into wetlands, aquatic, or drainage areas. Any spills entering wetlands, aquatic, or drainage areas shall be removed immediately. The Division of Water Resources (DNREC), Wetlands & Aquatic Protection Branch, 302-739-4691, shall be notified of any spill(s) within six (6) hours of their occurrence. That office will determine the effectiveness of spill and contamination removal and specify remediation efforts as necessary.

2. All construction debris, excavated material, brush, rocks, and refuse incidental to the work shall be placed either on shore above the influence of flood waters or on some suitable disposal site approved by the department.

3. The disposal of trees, brush, and other debris in any stream corridor, wetland surface water or any drainage ditch is prohibited.

4. There shall be no stockpiling of construction materials or temporary fills in wetlands or subaqueous lands unless otherwise specified on project plans and approved by permitting agencies that govern them. It is the contractor's responsibility to coordinate and secure those additional permits/amendments in deviating from the plan.

5. Construction debris shall be kept from entering adjacent waterways, wetlands, ground cover, or drainage areas. Any debris that enters these areas shall be removed immediately. Netting, mats, or establishing confined work areas in stages may be necessary to address these issues.

6. Refuse material resulting from routine maintenance of worker equipment and heavy machinery is prohibited from being disposed or deposited onto or into the ground. All used oils and filters must be recycled or disposed of properly.

7. Use of harmful chemical wash water to clean equipment or machinery is discouraged. If undertaken, the residue water and/or material must be collected or contained such that it will be disposed of properly. It shall not be deposited or disposed of in waterways, streams, wetlands, or drainage areas.

8. The contractor shall follow all requirements as indicated in the Environmental Compliance Sheet. It is be the contractor's responsibility to ensure that workers also follow this requirement. As part of the restrictions, please note the timetables reflected in the contract for the in-stream/water work for endangered species protection.

9. Fill material shall be free of oil and grease, debris, wood, general refuse, plaster and other pollutants, and shall contain no broken asphalt.

ENVIRONMENTAL COMPLIANCE SHEET:

The contractor shall pay special attention to specific construction requirements as indicated in the US Army Corps of Engineer and DNREC Subaqueous Lands Permit as well as the Environmental Compliance (EC) Sheet.

1. Specifically, please note the environmental requirements as indicated in the following notes:
   - Stream Restoration – See EC note 4.

2. DelDOT Environmental Studies Section (302) 760-2264 must be notified if there are any changes to the project methods, footprint, materials, or designs, to allow the Department to coordinate with the appropriate resource agencies (COE, DNREC, and SHPO), for approval.

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

JENNIFER COHAN
SECRETARY

# RAILROAD STATEMENT
For

**State Contract No.:** T201701104

**Federal Aid No.:**

**Project Title:** Silverside Road ADA Improvements, Veale Road to Quincy Drive

**The following railroad companies maintain facilities within the contract limits:**

- ☐ Amtrak
- ☐ CSX
- ☐ Delaware Coast Line
- ☐ East Penn
- ☐ Delmarva Central
- ☐ Maryland & Delaware
- ☐ Norfolk Southern
- ☐ Wilmington & Western
- ☑ None

DOT Inventory No.: N/A No. Trains/Day: N/A Passenger Trains (Y / N): N/A

**In accordance with 23 CFR 635, herein is the railroad statement of coordination (check one):**

☑ No Railroad involvement.

☐ Railroad Agreement unnecessary but railroad flagging required. The contractor shall follow requirements stated in the DelDOT Maintenance of Railroad Traffic Item in the Special Provisions. Contractor shall coordinate railroad flagging with DelDOT's Railroad Program Manager at (302) 760-2183.

☐ Railroad Agreement required. The necessary Railroad Agreement is pending. The Contractor cannot begin work untill the Agreement is complete and fully executed. Railroad related work to be undertaken and completed as required for proper coordination with physical construction schedules. The Contractor shall follow requirements stated in the DelDOT Maintenance of Railroad Traffic Item in the Special Provisions. Contractor shall coordinate railroad flagging with DelDOT's Railroad Program Manager at (302) 760-2183.

**Approved As To Form:**

Robert A. Perrine
DelDOT Railroad Program Manager

5Mar18
DATE

# BID ITEMS LISTING



QUANTITY SHEET SUMMARY FOR PROPOSAL

CONTRACT ID: T201701104

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 201000 | CLEARING AND GRUBBING | LS | 1.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 1.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 202000 | EXCAVATION AND EMBANKMENT | CY | 142.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 142.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 209002 | BORROW, TYPE B | CY | 14.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 14.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 211000 | REMOVAL OF STRUCTURES AND OBSTRUCTIONS | LS | 1.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 1.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 211001 | REMOVAL OF PORTLAND CEMENT CONCRETE PAVE | SY | 587.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 587.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 301001 | GRADED AGGREGATE BASE COURSE, TYPE B | CY | 42.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 42.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 301002 | GRADED AGGREGATE BASE COURSE, TYPE B, PA | CY | 31.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 31.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 302005 | DELAWARE NO. 57 STONE | TON | 29.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 29.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 401029 | SUPERPAVE TYPE C, PG 64-22, PATCHING | TON | 51.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 51.00 | | | | |

# BID ITEMS LISTING



QUANTITY SHEET SUMMARY FOR PROPOSAL

CONTRACT ID: T201701104.01

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 401030 | SUPERPAVE TYPE B, PG 64-22, PATCHING | TON | 44.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 44.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 401031 | SUPERPAVE TYPE BCBC, PG 64-22, PATCHING | TON | 87.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 87.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 401502 | ASPHALT CEMENT COST ADJUSTMENT | TON | 1.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 1.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 401699 | QUALITY CONTROL/QUALITY ASSURANCE OF BIT | NONE | 1.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 1.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 602130 | ADJUSTING AND REPAIRING EXISTING DRAINAG | EACH | 4.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 4.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 604002 | COFFERDAMS | LS | 1.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 1.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 612553 | SPRAYED APPLIED CEMENTITIOUS MORTAR FOR | LF | 112.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 112.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 701013 | PORTLAND CEMENT CONCRETE CURB, TYPE 1-8 | LF | 1238.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 1238.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 701019 | INTEGRAL PORTLAND CEMENT CONCRETE CURB A | LF | 62.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 62.00 | | | | |

# BID ITEMS LISTING



QUANTITY SHEET SUMMARY FOR PROPOSAL

CONTRACT ID: T201701104

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 705001 | PORTLAND CEMENT CONCRETE SIDEWALK, 4" | SF | 6861.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 6861.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 705002 | PORTLAND CEMENT CONCRETE SIDEWALK, 6" | SF | 1276.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 1276.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 705007 | SIDEWALK SURFACE DETECTABLE WARNING SYST | SF | 193.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 193.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 705528 | TEMPORARY PEDESTRIAN CONNECTION | EACH | 85.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 85.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 707013 | RIPRAP, R-7 | CY | 44.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 44.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 707500 | CHANNEL BED FILL | CY | 59.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 59.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 710503 | ADJUST GAS VALVE BOXES | EACH | 2.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 2.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 711500 | ADJUST AND REPAIR EXISTING SANITARY MANH | EACH | 1.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 1.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 762000 | SAW CUTTING, BITUMINOUS CONCRETE | LF | 1015.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 1015.00 | | | | |

# BID ITEMS LISTING



QUANTITY SHEET SUMMARY FOR PROPOSAL

CONTRACT ID: T201701104

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 762001 | SAW CUTTING, CONCRETE, FULL DEPTH | LF | 225.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 225.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 763000 | INITIAL EXPENSE/DE-MOBILIZATION | LS | 1.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 1.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 763621 | CONSTRUCTION ENGINEERING, REHABILITATION | HOUR | 175.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 175.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 801000 | MAINTENANCE OF TRAFFIC | LS | 1.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 1.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 805001 | PLASTIC DRUMS | EADY | 665.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 665.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 806001 | TRAFFIC OFFICERS | HOUR | 40.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 40.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 808002 | FURNISH AND MAINTAIN TRUCK MOUNTED ATTEN | EADY | 70.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 70.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 810001 | TEMPORARY WARNING SIGNS AND PLAQUES | EADY | 1490.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 1490.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 811001 | FLAGGER, NEW CASTLE COUNTY STATE | HOUR | 3440.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 3440.00 | | | | |

# BID ITEMS LISTING



QUANTITY SHEET SUMMARY FOR PROPOSAL

CONTRACT ID: T201701104

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 811013 | FLAGGER, NEW CASTLE COUNTY, STATE, OVERT | HOUR | 860.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 860.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 813001 | TEMPORARY BARRICADES, TYPE III | LFDY | 1055.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 1055.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 817002 | PERMANENT PAVEMENT STRIPING, SYMBOL/LEGE | SF | 145.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 145.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 817031 | REMOVAL OF PAVEMENT STRIPING | SF | 42.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 42.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 819018 | INSTALLATION OR REMOVAL OF TRAFFIC SIGN( | EACH | 10.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 10.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 819019 | INSTALLATION OR REMOVAL OF TRAFFIC SIGN( | SF | 32.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 32.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 846001 | FURNISH AND INSTALL LOOP WIRE 1-CONDUCTO | LF | 100.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 100.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 905005 | INLET SEDIMENT CONTROL, CURB INLET | EACH | 14.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 14.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 908004 | TOPSOIL, 6" DEPTH | SY | 500.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 500.00 | | | | |

# BID ITEMS LISTING



QUANTITY SHEET SUMMARY FOR PROPOSAL

CONTRACT ID: T201701104

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 908016 | PERMANENT GRASS SEEDING, SUBDIVISION | SY | 500.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 500.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 908019 | PERMANENT GRASS SEEDING, STREAMBANK | SY | 84.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 84.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 908020 | EROSION CONTROL BLANKET MULCH | SY | 84.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 84.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 909001 | SANDBAG DIKE | CF | 192.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 192.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 909005 | STREAM DIVERSION | LS | 1.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 1.00 | | | | |

| SEC NUM | ITEM NUMBER | DESCRIPTION | UNIT | QUANTITY |
|---|---|---|---|---|
| 0001 | 909006 | STILLING WELL | CY | 4.000 |

| BREAK ID | QUANTITY | BREAK ID | QUANTITY | BREAK ID | QUANTITY |
|---|---|---|---|---|---|
| 00000001 | 4.00 | | | | |