STATE OF DELAWARE

DEPARTMENT OF TRANSPORTATION

BID PROPOSAL

for

CONTRACT T201707603.01

Structure Maintenance, Open End, South, FY19-FY21

Sussex County

ADVERTISEMENT DATE: February 19, 2018

COMPLETION TIME: 730 Calendar Days

SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
DELAWARE DEPARTMENT OF TRANSPORTATION
AUGUST 2016

Bids will be received in the Bidder's Room at the Delaware Department of Transportation's Administration Building, 800 Bay Road, Dover, Delaware prior to 2:00 P.M. local time **March 20, 2018**

Contract No.T201707603.01

Structure Maintenance, Open End, South, FY19-FY21
Sussex County

GENERAL DESCRIPTION

LOCATION

These improvements are located in Sussex County more specifically shown on the Location Map(s) of the enclosed Plans.

DESCRIPTION

The improvements consist of furnishing all labor and materials for Structure Maintenance Construction on bridges and other incidental construction in accordance with the location, notes and details shown on the plans and as directed by the Engineer.

COMPLETION TIME

All work on this contract must be complete within 730 Calendar Days. It is the Department's intent to issue a Notice to Proceed such that work starts on or about July 1, 2019.

PROSPECTIVE BIDDERS NOTES:

1. BIDDERS MUST BE REGISTERED with DelDOT and request a cd of the official plans and specifications in order to submit a bid. Contact DelDOT at dot-ask@state.de.us, or (302) 760-2031. Bids will be received in the Bidder's Room at the Delaware Department of Transportation's Administration Building, 800 Bay Road, Dover, Delaware prior to 2:00 P.M. local time March 20, 2018 unless changed via addendum.
2. QUESTIONS regarding this project are to be e-mailed to dot-ask@state.de.us no less than six business days prior to the bid opening date in order to receive a response. Please include T201707603.01 in the subject line. Responses to inquiries are posted on-line at http://www.bids.delaware.gov.
3. THE BID PROPOSAL incorporates a cd containing **Expedite**, **version 5.9a** and its installation file. Bidders are to use the cd provided to enter their bid amounts into the Expedite file. The Expedite bid file must be printed and submitted in paper form along with the cd and other required documents prior to the Bid due date and time.
4. 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 bid.
5. 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 by following the below link:**
   http://regulations.delaware.gov/register/september2015/final/19%20DE%20Reg%20207%2009-01-15.htm
   Regulation was revised for projects advertised beginning 01/01/18. Please review the revised regulation for details. Note a few of the requirements;
   * At bid submission - Each Contractor must submit with the bid *a single signed affidavit certifying that the Contractor and Subcontractor(s)* has in place or will implement during the entire term of the contract a Mandatory Drug Testing Program that complies with the regulation;
   * *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, and any other listed Subcontractors;
   * ~~Testing Report Forms shall be submitted to DelDOT monthly~~. *No longer required.*
   * 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 subcontractor in writing;
   * Penalties for non-compliance are specified in the regulation.
6. NO RETAINAGE will be withheld on this contract.
7. EXTERNAL COMPLAINT PROCEDURE can be viewed on DelDOT's Website here, or you may request a copy by calling (302) 760-2555.

8. REMINDER; A copy of your firm's Delaware Business License must be submitted with your bid.
9. AUGUST 2016 STANDARD SPECIFICATIONS apply to this contract. 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 2016 Standard Specifications can be viewed here.

9a. 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 contractor's to provide an American Concrete Institute (ACI) or National Ready Mix Concrete Association (NRMCA) certified concrete flatwork technician to supervise all finishingof flatwork concrete. Concrete flatwork certification will be effective starting on March 1, 2018.

10. **BREAKOUT SHEETS** MUST be submitted either with your bid documents; or within seven (7) calendar days following the bid due date by the lowest apparent bidder. Refer to instructions adjacent to the Breakout Sheets in this document.
11. The project manager shall be responsible for coordinating with the Traffic Section relating to any impacts to Traffic Section facilities (including but not limited to traffic loops, junction wells etc.) at least 4 weeks in advance of the start of the activity. Prior to initiating any work on this contract (or sites), the Project Manager shall be responsible for preparing and submitting for approval of the Safety Section, a Maintenance of Traffic Plan. Sufficient time shall be provided for the review and approval of the plan. The Maintenance of Traffic Plan shall include proposed time restrictions on the closure of travel lanes subject to the approval of the Safety Section.

STATE OF DELAWARE
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.

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GENERAL NOTICES

SPECIFICATIONS:

The specifications entitled "Standard Specifications for Road and Bridge Construction, August, 2016", hereinafter referred to as the Standard Specifications, and Supplemental Specifications, the Special Provisions, notes on the Plans, this Bid Proposal, and any addenda thereto shall govern the work to be performed under this contract. The Specifications and any 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.

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 insure 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 fourth 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 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 Section 6.3, 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."

Contractor may contact:

> Department of Labor, Division of Industrial Affairs, 4425 N. Market Street, Wilmington, DE 19802
> Telephone (302) 761-8200.

STATE OF DELAWARE
DEPARTMENT OF LABOR
DIVISION OF INDUSTRIAL AFFAIRS
OFFICE OF LABOR LAW ENFORCEMENT
PHONE: (302) 451-3423

Mailing Address:
225 CORPORATE BOULEVARD
SUITE 104
NEWARK, DE 19702

Located at:
225 CORPORATE BOULEVARD
SUITE 104
NEWARK, DE 19702

PREVAILING WAGES FOR **HIGHWAY CONSTRUCTION** EFFECTIVE MARCH 15, 2017

CLASSIFICATION	NEW CASTLE	KENT	SUSSEX
BRICKLAYERS	51.99	51.99	15.17
CARPENTERS	53.48	53.81	42.77
CEMENT FINISHERS	33.91	34.12	27.13
ELECTRICAL LINE WORKERS	23.52	45.39	22.22
ELECTRICIANS	66.85	66.85	66.85
IRON WORKERS	62.35	24.95	26.50
LABORERS	43.30	39.85	39.12
MILLWRIGHTS	16.84	16.34	14.11
PAINTERS	67.07	67.07	67.07
PILEDRIVERS	69.44	24.83	28.17
POWER EQUIPMENT OPERATORS	42.91	41.41	37.92
SHEET METAL WORKERS	23.79	21.23	19.23
TRUCK DRIVERS	35.73	29.51	35.95

CERTIFIED: 2/14/18 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) 451-3423.

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

PROJECT: T201707603.01 Structure Maintenance, Open End, South FY19-21, Sussex County, Sussex County

SPECIAL PROVISIONS

401502 - ASPHALT CEMENT COST ADJUSTMENT

For Sections 401, 402 and 403 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.

5/05/15

401500 – FOG SEAL

Description:

This work consists of preparing the surface, furnishing and applying an emulsified asphalt and water mixture as a surface seal.

Materials:

Materials for fog seal shall be a 1:1 mixture CSS-1h, which conforms to Section 1016 of the Standard Specifications, and water, which conforms to Section 1021 of the Standard Specifications. A Certificate of Analysis shall be submitted for each lot of CSS-1h for approval. The percentage of residual asphalt of the CSS-1h shall be no less that 57 percent. The emulsion should be diluted no more than 24 hours before its intended use. This is to avoid settlement of the diluted emulsion. The emulsion may be circulated using a centrifugal or other suitable pump to ensure uniformity.

Equipment:

Distributors. The distributors used shall be capable of uniformly applying the bituminous material in liquid form. Devices to control the pressure, volume, and temperature shall be provided. Each distributor shall have an approved calibration chart, be equipped with an approved sampling device, and conform to the following:

a. *Pressure.* The pressure shall be supplied by a positive displacement pump or air compressor. The pressure shall be uniform throughout the entire width of spray. If pressure is supplied by an air compressor, automatic controls must be provided to maintain sufficient and even pressure throughout the application of an entire load.

b. *Temperature.* The distributor shall be equipped with a heating system that applies heat uniformly across the width of the tank. Provisions shall be made for circulating or agitating the material whenever necessary while heating. The distributor shall be equipped with a thermometer marked in degrees Fahrenheit (Celsius) of sufficient range to determine the actual temperature of the material.

c. *Tachometer.* All distributors shall be provided with an approved tachometer recording feet (meters) per minute with a tabulation of feet (meters) per load with adjustments. Each load tabulation shall start at zero. There shall also be a totaling tabulation of this instrument.

d. *Volume.* A tachometer shall give correct readings of the speed, and the volumetric efficiency of the distributor shall ensure the correct volume at various speeds. Tests shall be required to prove the volumetric efficiency of the distributor at various speeds as directed by the Engineer.

e. *Circulating System.* All pump distributors shall be equipped with a circulating system designed to maintain a homogenous liquid while circulating in the distributor tank. This circulating system shall also be arranged to circulate the material in the tank truck before application.

   Air distributors shall be equipped with a device for agitating the bituminous material in the tank trucks when necessary.

f. *Tests.* Necessary tests shall be made to determine the accuracy of all pressure gauges, tachometers, and pump efficiencies. The tests shall be made by the Contractor when and as required by the Engineer.

g. *Spray Bars.* Each distributor shall be equipped with spray bars capable of applying material uniformly throughout the entire length of the spray bars when they are extended. Spray bar extensions shall be provided for applying up to a 12' (7.3 m) width in one operation. Spray bars shall be equipped with a cleaning device and a shut-off valve to prevent dribbling, dripping, or streaking.

h. *Tank Capacity Gauge.* A float or other approved type tank capacity gauge shall be furnished to indicate the volume in the tank in not less than 25 gal (100 L) units. The gauge shall have adjustments for correction.

Tanks shall have a minimum capacity of 750 gal (2800 L).

The rate of application of the distributer shall be calibrated by an approved method determined by the Engineer.

If the Engineer deems that the equipment applying the material is inadequate or fails to comply with all regulations, the Engineer will order the equipment to be removed from the job and require that another unit be placed on the work.

Application of Fog Seal Material:

The fog seal shall be applied in one application at the rates specified using the pressure distributor for the full width of the sealing operation, unless otherwise directed. Apply at the temperature that is recommended by the manufacture.

The nozzles of the spray bar shall be kept clean at all times. If one or more nozzles becomes blocked during the application of bituminous materials, the distributor shall be stopped immediately, and the nozzles shall be cleaned. The streaked areas shall be made uniform using a hand hose or other approved methods.

If the Contractor is unable to keep the application uniform, the operation shall be discontinued until a more experienced operator or a better distributor, or both, can be provided; or, the Contractor shall take such other precautions as may be necessary to keep the application within specified limits.

When applying bituminous materials adjacent to structures or curbs, the Contractor shall furnish and use effective means of protecting the structures or curbs from discoloration.

Construction Methods:

The surface upon which the fog seal is to be placed shall be cleaned thoroughly to the satisfaction of the Engineer. The fog seal shall be applied at a rate of 0.05 to 0.17 gal/yd^2 at ambient temperature. The application rate appropriate for the surface being sealed shall be determined by the Engineer. This rate will be determined by test strip. Apply the fog seal when the air and surface temperature is 60°F and above. Measure the air and surface temperature in the shade away from artificial heat. The application shall not begin if rain or high winds are eminent. The Engineer will determine when weather conditions are suitable for application. The fog seal should be a thin, uniform coating sufficient to seal the underlying pavement. The fog seal shall be applied using pressurized distributing equipment with a spray bar or other approved distribution system. During the application of the fog seal, care shall be taken to prevent splattering of adjacent pavement, curb and gutter and structures. Surface preparation shall be completed by removing all vegetation prior to sweeping with a power broom followed by a final sweeping with a approved vacuum truck. The preparation shall be done just prior to the application of the fog seal and be approved by the Engineer.

Method of Measurement:

The quantity of Emulsified Asphalt fog seal will be measured as the actual number of gallons of fog seal applied. The quantity will be determined by any or all of the following methods and should be verified for accuracy by computations based on field measurements taken on and along the completed finished surfaces. Multiple layers will not be measured separately.

1. **Truck Measurement:** If bituminous materials are delivered to the Project in tank trucks, distributor tanks, or drums, the Contractor shall not remove any bituminous material from the transporting vehicle or container until necessary measurements have been made, nor shall the transporting vehicle or container be released until final outage has been measured. If weighing is not convenient, the Contractor shall furnish the Engineer with a certified chart showing the dimensions and volume of each container together with a gauge or calibrated measuring rod which will permit the volume of the material to be determined by vertical measurement.

2. **Metering:** The volume may be determined by metering, in which case the metering device used and the method of using it shall be subject to the approval of the Engineer.

3. **Time of Deliveries:** The arrival and departure of vehicles delivering bituminous materials to the Project site shall be so scheduled that the Engineer is afforded proper time for the measurements of delivered volume and final outage. The Engineer will make the necessary measurements only during the Contractor's normal daily working hours.

Basis of Payment:

The quantity of the fog seal will be paid for at the Contract unit price per gallon of diluted CSS-1h. Price and payment will constitute full compensation for preparing the surface, mobilizing and furnishing all equipment, materials, and labor; placing the material; and for all labor, equipment, tools and incidentals necessary to complete the work.

8/15/17

610505 - PARTIAL REMOVAL OF PCC MASONRY

Description:

Removal of portion of existing portland cement concrete structure shall consist of removing portions or all of the portland cement concrete curbs, parapets, deck at the joints, concrete beams, diaphragms, abutment backwalls, etc., as specifically indicated on the Plans and as directed by the Engineer.

Construction Methods:

The method of removal employed must meet the approval of the Engineer. The technique chosen must not be detrimental to the remaining structure. Pneumatic hammers, if used, shall not exceed 16 lb unless specified otherwise on the Plans.

During removal operations, the Contractor shall make full provisions for maintenance and protection of vehicular traffic. All removed material shall become the property of the Contractor and shall be removed from the site and disposed of on spoil areas approved by the Engineer.

All bar reinforcement, exposed during the removal of the concrete and intended for re-use in the new construction, shall be thoroughly cleaned of rust and other foreign material by shot or grit blasting to the satisfaction of the Engineer. There shall be no separate payment for such work, and the cost shall be included in the item. After removal of all concrete as required, the remaining concrete surface shall be thoroughly cleaned with oil-free compressed air.

The use of explosives is not permitted.

Method of Measurement:

The quantity of removed existing portland cement concrete will be measured as the number of cubic yards of concrete removed as directed on the Plans or by the Engineer.

Basis of Payment:

The quantity of removed existing portland cement concrete will be paid for at the Contract unit price per cubic yard. Price and payment shall constitute full compensation for removal and disposal of portions of existing concrete structures as applicable and required above, surface preparation including airblast cleaning, shot or grit blast cleaning of reinforcement bars for protection of traffic if applicable during removal operation, for all labor, equipment, tools, and incidentals necessary to complete the work.

4/5/17

610506 - REPAIRING EXISTING P.C.C. STRUCTURES

Description:

This work consists of furnishing all materials, and repairing the existing concrete structure with an approved patch mortar in accordance with notes and details on the Plans, and as directed by the Engineer.

Materials:

The material for the grout shall be MARK 194 PATCH MORTAR manufactured by POLY-CARB, 33095 Bainbridge Road, Cleveland, Ohio 44139, (telephone 1-800-225-5649 or 1-216-248-1223); EMACO R320 CI manufactured by Master Builders, Inc., 23700 Chagrin Boulevard, Cleveland, Ohio 44122 (telephone 1-216-831-5500 or 1-800-227-3350); SIKATOP 123 Plus manufactured by Sika Corporation, P. O. Box 297, Lyndhurst, NJ 07071, telephone 1-201-933-8800; or approved equal.

The patch mortar shall match the color and texture of the existing concrete surface as closely as possible. The Contractor shall submit to the Engineer all technical data relating to the product for approval.

Construction Methods:

All deteriorated, loose and honeycombed concrete as determined by the Engineer shall be removed from the surface areas to be repaired with a pneumatic hammer. Unless specified otherwise on the Plans, the size of the hammer shall be 15 lbs. max. for superstructure repair and 30 lbs. max for substructure repairs.

All prepared surfaces shall be cleaned by shot or grit blasting to remove dust, oil, grease, and other contaminates as determined by the Engineer. The surface areas shall be cleaned with water under high pressure and the excess water shall be removed by high air pressure or high-powered vacuum to render a dry surface area prior to the application of the mortar.

The patch mortar shall be applied in lifts of no more than 2" or as recommended by the manufacturer. After the top application of patch mortar, the material shall be hand troweled to obtain a smooth final surface.

The Contractor shall follow the manufacturer's recommendations for surface preparation, mixing of patch mortar, applications, and time limitations. If a conflict exists between these specifications and the manufacturer's recommendations, the latter will prevail.

Method of Measurement:

The quantity of mortar will be measured as the actual pounds of mortar placed and accepted. The pounds of mortar used will be calculated by multiplying the number of powder bags used by the weight of the bag. The liquid component will be considered incidental to the item.

Basis of Payment:

The quantity of mortar will be paid for at the Contract unit price per pound. Price and payment shall be full compensation for furnishing all materials, removal and disposal of deteriorated concrete, surface preparation, application, shot or grit blasting and air blasting, for all tools, equipment, labor, and all necessary incidentals to complete the work.

1/12/18

610507 - REHABILITATION OF CONCRETE STRUCTURE

Description:

This work consists of preparation and furnishing all materials, and repairing portions of the existing concrete substructure and/or superstructure in accordance with the notes and details on the Plans and as directed by the Engineer.

All applicable requirements of Section 610 of the Standard Specification for performing the work under this item shall be applicable except as modified herein.

Materials:

Concrete for repair work shall consist of a mixture of Portland Cement, aggregate, water, and other admixtures to provide a workable concrete. The Contractor has the option of using either Class A Concrete, Micro-Silica Modified Concrete, or Latex Modified Concrete for this item. The minimum concrete temperature at the time of placement shall be 75°F. The mix shall have a minimum compressive strength of 2000 psi in 6 hours, if required in the Plans, and 4500 psi in 28-days. The following shall be included in the Portland Cement Concrete mixture composition supplied by the Contractor:

Coarse Aggregate - Del. No. 8 Stone meeting the grading requirements of Section 1004
Coarse Aggregate/Sand Ratio - 50 to 60%
Portland Cement Type I - 705 lb/yd³ [Min.]
Water/Cement ratio - 0.45 (Max.)
Slump - 3" - 6″
Air - 5 % to 8%
Admixture - The quantity and AASHTO type or combination of AASHTO types of admixtures shall be determined by the Contractor.

If the Contractor chooses to use Class A concrete, the concrete shall have materials present in the mixture to mitigate alkali-silica reactivity (ASR) as per Section 501. Also, accelerators, if used, shall be non-chloride based.

If the Contractor chooses to use Micro-Silica Modified Concrete, the Micro-Silica shall conform to the requirements of AASHTO M307. If the Contractor chooses Latex Modified Concrete, the Latex Modifier shall be non-toxic, film forming, polymeric emulsion to which all stabilizers have been added at the point of manufacture, and shall be homogeneous and uniform in composition.

The Contractor shall be responsible for the quality of the concrete placed in any weather or atmospheric conditions. A smooth, durable riding surface of uniform texture, true to the required grade and cross-section, shall be obtained.

If Class A Concrete is utilized, prior to concrete placement, an approved bonding agent shall be applied to the existing concrete to ensure proper bond. If either the Micro-Silica Modified Concrete or the Latex Modified Concrete are utilized, the bonding agent shall be the rehabilitation concrete grout, placed and brushed into the rehabilitation areas. The grout shall be scrubbed onto the rehabilitation areas with enough care to ensure that all surfaces are evenly covered and that excess grout will not collect in low area.

Reinforcement, if required, shall be as indicated on the Plans.

Construction Methods:

All deteriorated, loose, and honeycombed concrete, as determined by the Engineer, shall be removed from the surface areas to be repaired with a pneumatic hammer. Unless specified otherwise on the Plans, the size of the hammer shall be 15 lb. maximum for superstructure repair and 30 lb. maximum for substructure repair.

All bar reinforcement exposed during the removal of the concrete shall be thorougly cleaned of rust and other foreign material by abrasive grit (use non silica, low dusting abrasive) blasting and then cleaned with a stream of compressed air before starting any repair work. In the case of damaged bar, it shall be cut and mechanically spliced or replaced with a new bar of the same size and lapped or field-welded to the ends of

the existing bar to the satisfaction of the Engineer. There shall be no separate payment for such work, and the cost shall be included in the item except that the new reinforcing bar will be paid for separately under a separate item in this Contract.

The Contractor shall submit to the Engineer a drawing showing details of forms and support system with appropriate dimensions for approval prior to the placing of concrete to repair the structure.

Concrete shall not be allowed to drop from the top of the forms which could otherwise result in the separation of the mix. Only approved mixing and placing equipment shall be used in preparation and handling of the concrete. Oil and other rust inhibitors shall be removed from all equipment in contact with the concrete before the mixes are used.

Method of Measurement:

The quantity of rehabilitation of concrete structure will be measured as the number of cubic feet of concrete placed for the purpose of structure rehabilitation and accepted.

Basis of Payment:

The quantity of rehabilitation of concrete structure will be paid for at the Contract unit price per cubic feet. Price and payment will constitute full compensation for furnishing and placing all materials including concrete, abrasive grit blast cleaning of reinforcement bars, splicing and/or replacement of existing reinforcement bars, removal and disposal of deteriorated concrete, placement and removal of formings, surface preparation, for submission of working drawings, and all other work as described herein and on the Plans, for all labor, tools, equipment, and necessary incidentals to complete the work but shall not constitute payment for new bar reinforcement which shall be paid for under a separate item of this Contract.

1/12/18

616500 - MOISTURE CURED URETHANE PAINT SYSTEM (RECOATING)
616501 - MOISTURE CURED URETHANE PAINT SYSTEM (RECOATING, S.F.)

Description:

The items shall consist of recoating a portion or the entire existing steel structure as specifically indicated on the Plans.

Material:

All paint used on any one structure shall be produced by a single manufacturer; and the coating system shall conform to the minimum requirements as noted below.

Primer

Generic Type:	Zinc - rich, single-component, moisture-cured urethane
Vehicle Type:	Moisture-cured urethane
Volume of Solids:	60% Minimum
Pigment Type:	3.5 lbs/gal. Zinc dust
Pigment Content:	75% min. (ASTM D2371)
Zinc Iron Oxide Content in Dry Film by Wt (ASTM D521):	83% Minimum
Zinc Dust Particle Size (Ave.):	3-5 microns
Coverage:	3 mils DFT minimum
Isocyanate Content:	8.7% min. to 10.3% max.
VOC:	Not to exceed 2.8 lbs/gal
Weight Per Gallon:	Minimum 22 lbs/gal

Intermediate Coat

Generic Type:	Micaceous Iron Oxide-filled, single-component, moisture cured polyurethane
Vehicle Type:	Moisture-cured polyurethane
Volume Solids:	60% minimum
Solids by Wt.:	79% ± 2.0 min.
Pigment Type:	4.0 lbs/gal. Micaceous Iron Oxide Tinted to distinguish from primer and topcoat
Color:	Tinted to distinguish from primer and topcoat
Coverage:	3 mils DFT minimum
VOC:	Not to exceed 2.8 lbs/gal
Weight Per Gallon:	Minimum 12 lbs/gal

Topcoat:

Generic Type:	Micaceous Iron Oxide - filled, single-component, moisture-cured, aliphatic polyurethane
Vehicle Type:	Moisture-cured polyurethane
Vehicle Solids:	Minimum not > 50% of weight of solids
Volume Solids:	60% minimum
Solids by Weight:	Minimum 73% ± 5% Depending on color
Pigment Type:	4.0 lbs/gal Micaceous Iron Oxide
Finish:	Flat (low gloss)
Color:	To be specified in the Plans
Coverage:	3 mils DFT minimum
VOC:	Not to exceed 3.0 lbs/gal
Weight Per Gallon:	Minimum 12 lbs.

All M.I.O. (Micaceous Iron Oxide) filled products must conform to ASTM D5532-94 standard, Type I and have a certification of its conformance from the Raw Materials Manufacturer. Each single coat of paint shall be a color different from the others. The color of the primer and intermediate paint shall be at the Contractor's option, and shall provide contrast with the underlying substrate or previously applied paint. The color of the finish paint shall be as specified in the Contract Plans.

Successive time interval for coating in between prime coat, intermediate coat and finish coat shall be a minimum of four (4) and a maximum of 14 days. If the Contractor fails to complete the painting during the established period, the surface area shall be cleaned at the Contractor's expense if necessary as determined by the Engineer.

The Contractor may use one of the following approved paint systems:

1. Wasser High-Tech Coatings, Kent, WA 98032
   - Primer: Wasser MC Zinc (spot)(3 Mil, DFT)
   - Intermediate: Wasser MC-FERROX B (3 Mil, DFT)
   - Finish: Wasser FERROX A (3 Mil, DFT)

2. Sherwin Williams
   - Primer: Corothane I - Zinc Primer @ 3 mils DFT
   - Intermediate: Corothane I - IRONOX B @ 3 mils DFT
   - Finish: Corothane I - IRONOX A @ 3 mils DFT

3. - approved equal

Basis of Acceptance - All components of the system (primer, intermediate and finish coats) will be accepted on the basis of the manufacturer's written certification that the batch(s) produced meets their product specification. In addition, the Contractor shall submit a one quart sample of each component of the system (primer, intermediate and finish coats) to the DelDOT Materials and Research Section 30 days prior to the start of painting. The samples submitted shall be from the paint to be used on the bridge(s) with the same batch numbers and shall be labeled with the manufacturer's name, product name, compartment part, batch number, date of manufacturer, and the bridge on which it is to be used.

Only paint arriving at the work site in new, unopened containers shall be used.

Containers of paint shall be labeled with the manufacturer's name, product name, compartment part, batch number, date of manufacturer and shelf life date. Paint in containers having expired shelf life dates shall be immediately removed from the work site.

Construction Methods:

All structural steel members, unless otherwise noted on the Plans railings, fascia, downspouts, and other miscellaneous steel items that have been previously painted shall be cleaned and primed, and painted two full coats of paint, the intermediate coat and the finish coat.

Surface Preparation - Surfaces to be cleaned shall be identified in the following manner:

Surfaces specified to be recoated shall be cleaned to bare metal in accordance with SSPC-SP11, Power Tool Cleaning to Bare Metal.

The perimeter or edge of intact paint adjoining the cleaned surface shall be feathered back and the adjoining paint shall be tightly adhered. Ragged edges on intact paint will not be allowed. Adherence will only be considered satisfactory if the adjoining remaining paint is smoothly feathered back and cannot be removed by lifting with a dull putty knife. After power tool cleaning operations are completed, all residue generated by the cleaning work shall be removed by vacuuming using HEPA filtered vacuums.

Surfaces shall be accepted by visual comparison to a project prepared standard. The Contractor shall prepare the project standard by power tool cleaning a representative area on the structure that is being prepared for painting. The prepared standard shall generally conform to SSPC-Vis 3, "Visual Standard for Power and Hand Tool Cleaned Steel", Pictorial Standard E SP11, F SP11, and G SP11, as applicable, and shall be approved by the Engineer before the start of general cleaning work. At least one standard shall be

prepared for each structure that is being specified for cleaning. More than one standard may be necessary if the cleaned steel differs significantly from the photographic standards due to surface conditions or other factors. Each standard shall be at least 1' X 1' in size, and shall be located in an area of the structure that is accessible to, and approved by the Engineer.

The Contractor shall protect the projects standard from corrosion and contamination throughout the duration of work. Protection shall be by applying a clear coat of polyurethane, or other means. At the completion of cleaning work, the project standard shall be recleaned and painted in accordance with this specification. If in the opinion of the Engineer the project standard becomes deteriorated, or otherwise ineffective, it shall be re-established in accordance with this specification, at no additional cost to the Department.

The surface areas designated to be overcoated shall be solvent cleaned after water blasting.

Painting -

Manufacturer's Instructions - At least 5 working days prior to the start of work, the Contractor shall provide the Engineer with one copy of the paint manufacturer's current Technical Data and Material Safety Data Sheets for the paint materials being furnished. Instructions, suggestions, and precautions contained in the data sheets shall be followed to the extent that they do not contradict the provisions of this specification.

Specifications and Inspection Equipment - Prior to the start of and throughout the duration of work, the Contractor shall be required to supply the Engineer with the following:

One bound copy each of the Steel Structures Painting Council surface preparation specifications, SSPC-SP1, Solvent Cleaning and SSPC-SP11, Power Tool Cleaning to Bare Metal;

One bound copy of the Steel Structures Painting Council pictorial standard, SSPC-Vis 3, Visual Standard for Power and Hand Tool Cleaned Steel;

One bound copy of the Steel Structures Painting Council method SSPC-PA2, Paint Application Specification No. 2 - Measurement of Dry Film Thickness with Magnetic Gages;

One Air Thermometer, pocket type, 1-200°F;

One Surface Thermometer, 0-300°F; and

One Magnetic Dry Film Thickness Gage, Type 2 (fixed probe);

Atmospheric Conditions - Painting shall not be performed unless all the following conditions are met:

The receiving surface is clean and free of "rustback" and free of condensation and visible moisture; and

The receiving surface and ambient air temperature shall be as recommended by the paint manufacturer, except that in no case shall painting work to be performed when the surface and ambient temperatures are less than 35°F or greater than 100°F.

Mixing Paint - All paints shall be thoroughly mixed with mechanical mixers in accordance with the manufacturer's recommendations.

Solvent Restrictions - Thin only with approved manufacturer's thinner. Thinning is allowed only in strict accordance with manufacturer's recommendations and state VOC regulations. Unauthorized use of solvents shall result in recleaning and repainting of the surface in accordance with this specification, at the Contractor's expense.

Paint Application - Paint coatings may be applied using brush, roller, or spray methods, unless prohibited by the contract documents. When spray painting is prohibited, paint shall be applied using brushes or rollers only. Stripe painting with primer will be required on the following surfaces cleaned to bare metal. All welds, rivets, bolts, nuts, and edges of plates, angles, lattice, pieces or other shapes, and corners and crevices shall be "striped" with primer before the general prime coat is applied. All stripe painting will be performed using a brush only. No other method of paint application will be allowed for stripe painting.

Complete protection against paint spatter, spillage, overspray, wind blown paint, or similar releases of paint shall be provided. Covers, tarps, mesh, and similar materials shall be placed around the work area to protect public and private property, pedestrian, vehicular, marine or other traffic, all portions of the bridge, highway appurtenances, waterways, and similar surrounding areas and property, upon, beneath, or adjacent to the structure.

Number of Coats - Areas cleaned to bare metal and specified the item Recoating shall be painted with one coat of primer. After the primer has dried, all surfaces shall be painted with two full coats of paint, the intermediate and the finish coat.

The bridge bearings that have received a coating of anti-corrosive grease shall receive a coat of finish paint from the 3rd coat of paint from the 3 coat system. The purpose is to blend the grease color with the structural steel being painted. Care shall be taken not to apply to much paint onto the bridge bearings and bottom flanges of the girders when painting the grease in order to avoid "mudcracking" of the paint system of the structural steel.

Film Thickness - Paint shall be applied in sufficient quantity to produce the minimum dry film thickness specified under Material, Paint.

Painting Schedule - Primer shall be applied on the same day of the cleaning operation and before rusting occurs to the cleaned surface. Failure to apply primer to a cleaned surface within 8 hours shall result in recleaning the surface in accordance with this specification at no additional cost to the Department.

The intermediate paint shall be applied to the receiving surface within 14 days of the application of the previous coating (primer), or within the manufacturer's recommended schedule for recoating, whichever is less.

The finish paint shall be applied to the receiving surface within 14 days of the application of the previous coating (intermediate), or within the manufacturer's recommended schedule for recoating, whichever is less.

Areas failing to meet the specified minimum dry film thickness shall be recoated with the same type of paint to produce at least the total dry film thickness required. Paint applied containing thinners, paint applied to contaminated surfaces, and paint applied contrary to this specification shall result in recleaning and repainting the surface. The work of recleaning and repainting, if required, shall be done by the Contractor to the satisfaction of the Engineer at no additional cost to the Department.

If a coat of anti-corrosive grease (NLGI Grade 2, either Mobile Centaur Moly Grease, Shell Rhodina SDX 2 Grease or approved equal) is applied to an area on the bridge (such as the bearings) then the grease shall be sprayed with the finish coat of the bridge paint being used providing that the bearing for other areas that are designated to receive the grease have already been cleaned and painted.

Material Storage - Paint in storage shall be protected from damage and maintained between 40°F and 85°F. Paint not used before the expiration shall be immediately removed from the project site.

Painting of Galvanized Steel -

All galvanized surfaces (downspouts, etc.) shall be painted with a moisture cure aluminum paint that is designed to adhere to galvanized steel surfaces. The moisture cure aluminum paint must follow the following requirements:

1 coat system

Generic type:	Aluminum filled aromatic moisture cure urethane
Vehicle type:	Moisture cured aromatic polyurethane
Pigment type:	Minimum 2 lbs/gal non-leafing aluminum
Coverage:	2 mils D.F.T. minimum
VOC:	Not to exceed 3.5 lbs/gal
Weight per gallon:	9.2 lbs/gal
Solids by volume:	52.0 ± 1.0%
Shelf life:	6 months from date of shipment, in unopen original containers stored at temperatures below 86°F.

Stenciling Requirement - At the completion of the painting work, the completion date (month and year) and the bridge number, shall be stenciled on the structure in 3-inch numbers. The paint used for this marking shall be the same as the topcoat except the color shall be black. The numbers shall be stenciled on the outside of each fascia beam at the approaching traffic end of the structure, on a location designated by the Engineer. The Contractor shall paint the month and year of the existing stenciling after the existing stenciling area is cleaned and painted if so required in case of partial painting of the structure.

Method of Measurement:

Payment shall be made at the lump sum price bid and/or square foot basis as applicable to the Contract item(s).

Basis of Payment:

The payment for the item(s) shall be made at the contract unit price bid per Lump Sum for items 616500 and per Square Foot for item 616501, which constitutes full compensation for furnishing all materials, equipment necessary to complete the work, cost of providing protection against damage during paint application, for all labor, tools and necessary incidentals to complete the job.

Progress payments will be made based on the percentage of the structure primed and painted two full coats of paint in accordance with the specification. The percentage shall be computed as the ratio of the length of structure primed to the total length of structure. The percentage of payments to be paid to the Contractor shall be 25%, 50%, 75%, and 100% after the completion of the job.

6/29/17

624502 – SILICONE COATED FOAM JOINT SEAL

Description:

Fabricate, furnish, and install joint seals.

Materials:

Pre-compressed silicone coated, self-expanding foam bonded to joint substrate by adhesive

Construction Methods:

1. Prior to ordering the joint Material, measure the joint opening to confirm the required size of the joint Material. If the required size conflicts with the Contract Documents, notify the Engineer immediately. Fully remove the existing seal/gland and adhesive.

2. Fully remove and dispose of the existing seal/gland and adhesive.

3. Strictly follow the manufacturer's written recommendations and installation procedures for preparing the surface of the concrete/steel substrates prior to receiving the joint Material and for installing the joint Material. Use the manufacturer's recommended bonding agent.

Method of Measurement:

The quantity of joints will be measured as the number of linear feet of joints fabricated, installed, and accepted.

Basis of Payment

Price and payment for Silicone Coated Joint Seal constitutes full compensation for pre-measuring, furnishing and placing all materials, cleaning and preparing the joint as per manufacturer's recommendations, and for all labor, equipment, tools, and incidentals necessary to complete the work.

9/6/2017

628500 - EMBEDDED GALVANIC ANODES

Description:

This item consists of furnishing and installing sacrifical metal anodes within concrete masonry in accordance with these specifications, notes and details on the Plans and directions from the Engineer.

Material:

The galvanic anodes shall be encapsulated sacrifical metal with wire ties. When attached to the steel reinforcement and embedded in the repair mortar or concrete the galvanic anodes shall prevent corrosion of the reinforcement. The galvanic anodes shall be CORR-STOPS as supplied by Vector Corrosion Technologies (phone 330-723-1177), GALVASHIELD XP as supplied by Norcure Chloride Removal System (phone 204-489-9633), or an approved equal.

Construction Methods:

Construction methods shall conform to the installation instructions of the manufacturer, notes and details on the Plans and directions from the Engineer.

Method of Measurement:

The quantity of embedded galvanic anodes will be measured as the actual number of galvanic anodes installed and accepted.

Basis of Payment:

The quantity of embedded galvanic anodes will be paid for at the Contract unit price per each. Price and payment will constitute full compensation for furnishing and installing the galvanic anodes including any materials and preparation required by the manufacturer and all labor, equipment, tools and incidentals required to complete the work.

6/28/17

628501 - THIN POLYMER OVERLAY

Description:

This work shall consist of furnishing and placing a thin polyester polymer overlay where indicated in the Contract Documents. The work shall include the preparation of receiving surfaces.

Materials:

1. Primer. The prepared surface shall receive a wax-free low odor, high molecular weight methacrylate prime coat. The prime coat shall be a resin, and prior to adding initiator the resin shall have a maximum volatile content of 30 percent, when tested in accordance with ASTM designation D 2369, and conforming to the following:

High Molecular Weight Methacrylate (HMWM) Resin		
Property	**Requirement**	**Test Method**
Viscosity* (Brookfield RVT with UL adapter, 50 RPM at 77ºF)	0.025 Pa•s, maximum	ASTM D 2196
Specific Gravity* (at 77ºF)	0.90, minimum	ASTM D 1475
Flash Point* (Degrees C)	10	ASTM D 3278
Vapor Pressure* (mm Hg at 77ºF)	1.0	ASTM D 323
Tack Free Time (minutes at 77ºF)	400 min. maximum	ASTM C 679
PCC Saturated Surface-Dry Bond Strength (MPa at 24 hrs at 70±1ºF)	0.5 psi minimum	

*Tested prior to adding initiator

The prime coat promoter/initiator shall consist of a metal drier and peroxide. If supplied separately from the resin, **at no time shall the metal drier be mixed directly with the peroxide.** The containers shall be stored in a manner that will not allow leakage or spillage from one material to contact the containers or material of the other.

NOTE: Mixing the metal drier directly with the peroxide will result in a violent exothermic reaction.

2. Aggregate. Aggregate for polyester concrete *and finishing sand* shall conform to the requirements of Section 1003, except the gradation shall meet the following:

Combined Aggregate		
Sieve Size	**3/8" Max. Percent Passing**	**#4 Sieve Max. Percent Passing**
½ "	100	100
3/8"	83-100	100
#4	65-82	62-85
#8	45-64	45-67
#16	27-48	29-50
#30	12-30	16-36
#50	6-17	5-20
#100	0-7	0-7
#200	0-3	0-3

Aggregate retained on the #8 sieve shall have a maximum of 45 percent crushed particles when tested in accordance with AASHTO Test Method T27. Fine aggregate shall consist of natural sand only.

Aggregate absorption shall not exceed one percent as determined by AASHTO Test Methods T84 and T85. At the time of mixing with the resin, the moisture content of the aggregate, as determined by AASHTO Test Method T 255, shall not exceed one half of the aggregate absorption.

Finish sand shall be a dry No. 8/20 commercial quality blast sand.

3. Polyester Binder. The polyester concrete shall consist of polyester resin binder and dry aggregate. The resin shall be an unsaturated isophthalic polyester-styrene co-polymer conforming to the following:

Polyester Resin Binder		
Property	**Requirement**[a]	**Test Method**
Viscosity* (RVT No. 1 Spindle, 20 RPM at 77ºF)	0.075 to 0.20 Pa•s	ASTM D 2196
Specific Gravity*	1.05 to 1.10 at 77ºF	ASTM 1475
Elongation	35 percent minimum Type I at 0.45"/min. Thickness = ¼" ± 0.04"	ASTM D 638
	Sample conditioning: 18/25/50 + 5/70	ASTM D 618
Tensile Strength	17.5 MPa minimum Type I at 0.45"/min. Thickness = ¼" ± 0.04"	ASTM 638
	Sample conditioning: 18/25/50 + 5/70	ASTM 618
Styrene Content *	40 percent to 50 percent (by weight)	ASTM D 2369
Silane Coupler	1.0 percent, minimum (by weight of polyester styrene resin)	
PCC Saturated Surface Dry Bond Strength	3.5 MPa, minimum at 24 hours and 70±1ºC	

*Tested prior to adding initiator

[a] Values are based on specimens or samples cured or aged at 77ºF unless otherwise indicated.

The silane coupler shall be an organosilane ester, gammamethacryloxypropyltrimethoxysilane. The promoter shall be compatible with methyl ethyl ketone peroxide (MEKP) and cumene hydroperoxice (CHP) initiators.

4. Samples. Samples of materials for all components of the overlay system shall be submitted by the manufacturer to the Materials and Research Section a minimum of sixty (60) days prior to the overlay application. Samples shall be representative of the materials to be used in the overlay application and shall consist of one four-liter sample for each liquid component and a 5 pound sample for each dry component.

5. Packaging and Shipment. A Material Safety Data Sheet shall be furnished prior to use for each shipment of polyester resin binder and high molecular weight methacrylate resin. All components shall be shipped in strong, substantial containers, bearing the manufacturer's label specifying date of manufacture, batch number, brand name, quantity, and date of expiration or shelf life. In addition, the mixing ratio shall be printed on the label of at least one of the system components. If bulk resin is to be used, the Contractor shall notify the Engineer in writing 10 days prior to the delivery of the bulk resin to the job site. Bulk resin is any resin that is stored in containers in excess of 55 gallons.

6. Basis of Acceptance. Project acceptance of the polyester overlay materials will be based on the following:

1. Delivery of the overlay materials to the project site in acceptable containers bearing all the label information as required in 5. Packaging and Shipment.
2. Receipt of a manufacturer's certification stating the primer, aggregate and polyester binder meet the material requirements found under MATERIALS, 1-3.
3. Approval by the Materials and Research Section based on conformance with the material requirements above.

Construction Methods:

A. General. At least ten (10) days before start of work, the Contractor shall provide the Engineer with two (2) copies of the manufacturer's written instructions for the installation of the overlay system.

The manufacturer's technical representative shall be made available for up to three (3) working days to make recommendations to facilitate the overlay installation. This shall include, but not be limited to, surface preparation, overlay application and overlay cure.

During surface preparation and overlay application, precaution shall be taken to assure that traffic is protected from rebound, dust and construction activities. Appropriate shielding shall be provided as required and directed by the Engineer.

During overlay application, the Contractor shall provide suitable coverings (e.g. heavy duty drop cloths) to protect all exposed areas not to be overlaid, such as curbs, sidewalks, parapets, etc. All damage or defacement resulting from this application shall be cleaned and, or repaired to the Engineer's satisfaction, at no additional cost.

B. Storage of Materials. All materials shall be stored in accordance with the manufacturer's recommendation to ensure their preservation until used in the work. Applicable fire codes may require special storage facilities for some components of the overlay system.

C. Equipment.

1. Surface Preparation. All equipment to be used for surface preparation shall be as specified by the overlay manufacturer and approved by the Engineer. Unless otherwise specified, the Contractor shall use automatic shot blasting units to clean pavement surfaces. In those areas not accessible to this machinery, the surface may, with the Engineer's approval, be cleaned with blast cleaning equipment.

   Automatic shot blasting units shall be self propelled and include a vacuum to recover spent abrasives. The abrasive shall be steel shot. Magnetic rollers shall be used to remove any spent shot remaining on the deck after vacuuming.

2. Application. Polyester concrete shall be mixed in mechanically operated mixers. Mixer size shall be limited to 9 cubic feet capacity. A continuous mixer employing an auger screw/chute device may be approved by the Engineer if a demonstration shows its ability to produce a satisfactory product. The continuous mixer shall 1) be equipped with a metering device that automatically measures and records the aggregate volumes and the corresponding resin volumes and 2) have a readout gage, visible to the Engineer at all times, that displays the volumes being recorded. The volumes shall be recorded at no greater than five (5) minute intervals along with the time and date of each recording. A printout of the recordings shall be furnished to the Engineer at the end of each work shift.

3. Finishing and Texturing. Finishing shall be performed using a mechanical screed riding on preset rails. Screeds shall be approved by the Engineer prior to the application of the overlay. No vibratory screeds will be allowed.

   Texturing shall be performed using spring steel tines in accordance with Subsection 602.20.c-2, Manual Texturing.

D. Surface Preparation. All structural slab surfaces that will be in contact with the overlay shall be prepared as follows:

1. The Contractor shall determine the size of shot, flow of shot, forward speed of shot blast machine and number of passes necessary to provide a surface capable of a tensile bond strength greater than or equal to 250 psi or a failure area, at a depth of 1/8" or more into the base concrete, no greater than 50% of the test area. The testing shall be as per ACI 503R-93, Appendix A. The Engineer will designate the location of the test patches.

   Before application of the primer, the entire deck surface shall be cleaned by shot blasting and other means using the approved cleaning practice to remove asphaltic material, oils, dirt, rubber, curing compounds, paint, carbonation, laitance, weak surface mortar and other potentially detrimental materials, which may interfere with the bonding or curing of the overlay. Acceptable cleaning is usually achieved by significantly changing the color of the concrete and mortar and beginning to expose coarse aggregate particles. Mortar which is sound and firmly bonded to the coarse aggregate must have open pores due to cleaning to be considered adequate for bond. Areas of asphalt larger than 1 inch in diameter, or smaller areas spaced 6 inches apart, shall be removed. Traffic paint lines shall be considered clean when the concrete has exposed aggregate showing through the paint stripe. A vacuum cleaner shall be used to remove all dust and other loose material.

   If the Engineer determines that an approved cleaning practice has changed prior to the completion of the overlay application, the Contractor must return to the approved cleaning methods and re-clean the suspect areas or verify through tests at no additional cost to the Department that the practice is acceptable. All patching and cleaning operations shall be inspected and approved prior to placing the overlay. Any contamination of the deck after initial cleaning shall be removed. The entire overlay system shall be applied following the cleaning and prior to opening the area to traffic. Cleaned pavement surfaces shall not be exposed to vehicular or pedestrian traffic other than that required by the overlay operation. If the pavement is contaminated before being overlaid it shall be re-cleaned by abrasive blasting to the satisfaction of the Engineer. No additional payment will be made for re-cleaning work.

   The concrete shall be dry at the time of application of the overlay.

2. All steel surfaces that will be in contact with the overlay shall be cleaned in accordance with SSPC-SP No. 10, Near-White Blast Cleaning, except that wet blasting methods shall not be allowed. After the cleaning operation is completed there shall be no visible evidence of oil, grease, dirt, rust, loose particles, spent abrasives or other foreign material on any of the surfaces to be overlaid.

E. Application.

1. Prime Coat

Prior to applying the prime coat, the area shall be dry and shall be blown clean with oil-free compressed air. The surface temperature shall be at least 10ºC.

The prime coat shall be uniformly applied to completely cover the surface to receive the polyester concrete. The rate of spread shall be approximately 2.3 ounces per square foot of deck surface or as recommended by the manufacturer. The prime coat shall be allowed to cure a minimum of 15 minutes before placing polyester concrete.

When magnesium phosphate concrete is placed prior to the deck overlay, the magnesium phosphate concrete shall be placed at least 72 hours prior to placing the prime coat.

When modified high alumina based concrete is placed prior to the deck overlay, the prime coat shall not be placed on said concrete until at least 30 minutes after final set.

2. Polyester Concrete

Test Patches

Prior to constructing the overlay, one or more trial overlays shall be placed on a previously constructed concrete base to determine initial set time and to demonstrate the effectiveness of the mixing, placing, and finishing equipment proposed as well as curing period. Each trial overlay shall be 12' wide, at least 6' long, and the same thickness as the overlay to be constructed. Conditions during the construction of the overlay and equipment used shall be similar to those expected and to be used for the construction of the polyester concrete overlay. If the cleaning practice, materials and installation procedure are not acceptable, the Contractor must remove the failed test patches and make the necessary adjustments and test all test areas at no additional cost to the Department until satisfactory test results are obtained.

The test patch shall have a minimum bond strength of 250 psi as determined by ACI 503R-93, Appendix A to assure that the overlay adheres to the prepared surface.

All material used in the trial overlay, including the concrete test patch shall become the property of the Contractor and shall be removed (if required) and disposed of at the Contractor's expense.

The polyester concrete shall be placed within 120 minutes after the prime coat has been applied. The prime coat shall be allowed to cure a minimum of 30 minutes before placing polyester concrete.

The polyester concrete shall contain approximately 12 percent polyester resin by weight of dry aggregate; the exact percentage will be determined by the Engineer during placement to enable proper finishing and texturing of the overlay surface.

The polyester overlay shall be placed at a minimum thickness of ¾".

Termination edges of the overlay may require application and finishing by hand trowel due to obstructions such as a curb. All hand troweling shall be followed by broadcasting aggregate or surface texturing while the resin is still wet to provide acceptable surface friction characteristics.

Expansion joints shall be adequately isolated prior to overlaying or may be sawed within four hours after overlay placement, as approved by the Engineer. The exact time of sawing will be determined by the Engineer.

The amount of initiator used in polyester concrete shall be sufficient to produce an initial set time between 30-120 minutes during placement. The initial set time will be determined by using an initial-setting time Gillmore needle in accordance with the requirements of ASTM Designation: C 266. Accelerators or inhibitors may be required to achieve proper set times and shall be used as recommended by the resin supplier.

The resin binder shall be initiated and thoroughly blended just prior to mixing with aggregate. The polyester concrete shall be mixed a minimum of 2 minutes prior to placing.

Polyester concrete shall be placed prior to gelling and within 15 minutes following addition of initiator, whichever occurs first. Polyester concrete that is not placed within this time shall be discarded.

The surface temperature of the area to receive polyester concrete shall be the same as specified above for the prime coat, a minimum of 50ºF.

The finishing and texturing equipment used shall strike off the polyester concrete to the established grade and cross section. Finishing and texturing equipment shall be fitted with vibrators and tines or other means of consolidating and texturing the polyester concrete to the required compaction.

The finish sand shall be applied by either mechanical means or hand broadcasting immediately after strike-off, before gelling occurs, at a minimum rate of 2.75 ounces per square foot.

F. Surface and Thickness Requirements. The overlay surface shall be checked at random by the Engineer immediately after it has hardened to assure that no depressions exist that will pond water. The smoothness of the polyester concrete surface will be tested with a straightedge.

The surface shall not vary more than ¼" from the lower edge of a 12' ±0.2' long straight edge placed in any direction. Any surfaces which fail to conform the above tolerance shall be removed by grinding with an approved grinding tool.

To ensure adequate pavement friction, the completed overlay surface shall be free of any smooth or "glassy" areas such as those resulting from insufficient quantities of surface aggregate. Any such surface defects shall be repaired in the manner recommended by the manufacturer and approved by the Engineer.

Thickness of the overlay shall be checked prior to its initial set using a ruler. If the Engineer determines that the minimum thickness has not been attained, an additional layer shall be applied after the overlay hardens. This layer shall be a minimum of ¼" and shall be applied at no additional cost to the Department.

G. Curing. Traffic and equipment shall not be permitted on the overlay for a minimum of four (4) hours following final finishing. Overlays shall be protected from moisture for not less than four (4) hours after finishing. The polyester overlay shall be allowed to reach final cure before subjecting it to traffic loads. Cure time is dependent upon the ambient and deck temperatures. Actual degree of cure and suitability of the overlay for traffic shall be as determined by the Engineer.

Method of Measurement:

The payment of the item "Thin Polymer Overlay" will be measured by square yard-inch of the placed mixture. The actual area finished and accepted will be measured, exclusive of the areas of metal expansion dams exposed.

Basis of Payment:

The payment of the item "Thin Polymer Overlay" shall be made at the contract price bid per square yard-inch for placing the polyester concrete overlay, which price and payment shall constitute full compensation for furnishing all labor, materials, tools, equipment, and necessary incidentals to complete the work involved in constructing the polyester concrete overlay, complete in place, including application of prime coat and furnishing, constructing and disposing of test patch overlays and base. The contract price bid shall also include the cost of having the polymer manufacturer's representative present as required.

6/28/17

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

JENNIFER COHAN
SECRETARY

January 16, 2018

ENVIRONMENTAL REQUIREMENTS

FOR
State Contract No. T201707603
Federal Aid No.: N/A

Contract Title: Structure Maintenance, Open End, South, FY19-FY21

Due to the nature of the proposed construction activities, permits are not required for this project. However, 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.

GENERAL REQUIREMENTS:

1. All construction debris, excavated material, brush, rocks, and refuse incidental to such work shall be placed either on shore above the influence of flood waters or on some suitable dumping ground.

2. That effort shall be made to keep construction debris from entering adjacent waterways or wetlands. Any debris that enters those areas shall be removed immediately.

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

4. As bridges are identified they will be submitted to the Environmental Studies Office to determine if there is any historical significance associated with the bridge and what cultural compliance documentation and/or approvals are needed. Likewise natural resource evaluations will be undertaken to determine permit requirements, RTE issues, time of year restrictions for bird and/or fisheries resources, etc. No work will take place until all permits and approvals have been acquired. Notes in the contract document will specify that no work could begin until written approval is received from the ESO.

5. 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.

BID PROPOSAL FORMS

CONTRACT T201707603.01

UNLESS OTHERWISE DIRECTED, SUBMIT ALL FOLLOWING PAGES TO:

DEPARTMENT OF TRANSPORTATION
BIDDERS ROOM (B1.11.01)
800 BAY ROAD
DOVER, DELAWARE 19901

Identify the following on the outside of the sealed envelope:

- Contract Number T201707603.01
- Name of Contractor

CONTRACT ID: T201707603.01 PROJECT(S): T201707603

All figures must be typewritten.

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
	SECTION 0001 Category 0001					
0010	207000 STRUCTURAL EXCAVATION	100.000 CY				
0020	208000 FLOWABLE FILL	30.000 CY				
0030	209002 BORROW, TYPE B	100.000 CY				
0040	211001 REMOVAL OF PORTLAND CEMENT CONCRETE PAVEMENT, CURB AND SIDEWALK	200.000 SY				
0050	301001 GRADED AGGREGATE BASE COURSE, TYPE B	200.000 CY				
0060	301002 GRADED AGGREGATE BASE COURSE, TYPE B, PATCHING	200.000 CY				
0070	302002 DELAWARE NO. 3 STONE	100.000 TON				
0080	401005 SUPERPAVE TYPE C, PG 64-22 (CARBONATE STONE)	200.000 TON				
0090	401014 SUPERPAVE TYPE B, PG 64-22	200.000 TON				

CONTRACT ID: T201707603.01 PROJECT(S): T201707603

All figures must be typewritten.

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0100	401029 SUPERPAVE TYPE C, PG 64-22, PATCHING	125.000 TON				
0110	401030 SUPERPAVE TYPE B, PG 64-22, PATCHING	125.000 TON				
0120	401500 FOG SEAL	1000.000 GAL				
0130	402000 BITUMINOUS CONCRETE PATCHING	2500.000 SYIN				
0140	608000 STEEL SHEET PILES, PZ 22	600.000 SF				
0150	610000 PORTLAND CEMENT CONCRETE MASONRY, CLASS A	40.000 CY				
0160	610016 PORTLAND CEMENT CONCRETE MASONRY, CLASS D	40.000 CY				
0170	610505 PARTIAL REMOVAL OF PORTLAND CEMENT CONCRETE MASONRY	40.000 CY				
0180	610506 REPAIRING EXISTING PORTLAND CEMENT CONCRETE STRUCTURES	2500.000 LB				
0190	610507 REHABILITATION OF CONCRETE STRUCTURE	180.000 CF				

CONTRACT ID: T201707603.01 PROJECT(S): T201707603

All figures must be typewritten.

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS		UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0200	611001 BAR REINFORCEMENT, EPOXY COATED	2000.000	LB				
0210	613000 EPOXY CONCRETE SEALER	3200.000	SF				
0220	613001 SILICONE-BASED ACRYLIC CONCRETE SEALER	3200.000	SF				
0230	613003 HIGH MOLECULAR WEIGHT METHACRYLATE CONCRETE SEALER	3200.000	SF				
0240	613004 WATERPROOFING MEMBRANE, TRAFFIC BEARING	3200.000	SF				
0250	613005 WATERPROOFING MEMBRANE, NON-TRAFFIC BEARING	3200.000	SF				
0260	615007 WELDING REPAIR	100.000	LF				
0270	616003 TESTING AND DISPOSAL OF EXISTING HAZARDOUS STEEL COATING	LUMP		LUMP			
0280	616501 MOISTURE CURED URETHANE PAINT SYSTEM (RECOATING, S.F.)	3200.000	SF				
0290	623004 CLEAN AND GREASE BRIDGE BEARINGS	40.000	EACH				

CONTRACT ID: T201707603.01 PROJECT(S): T201707603

All figures must be typewritten.

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0300	624000 PREFABRICATED EXPANSION JOINT SYSTEM, 3"	180.000 LF				
0310	624009 ASPHALTIC PLUG JOINT	180.000 LF				
0320	624010 SILICONE JOINT SEAL, 1"	180.000 LF				
0330	624011 SILICONE JOINT SEAL, 2"	180.000 LF				
0340	624012 SILICONE JOINT SEAL, 3"	180.000 LF				
0350	624015 COMPRESSION SEAL, 3"	180.000 LF				
0360	624502 SILICONE COATED FOAM JOINT SEAL	180.000 LF				
0370	625000 LATEX MODIFIED CONCRETE OVERLAY INSTALLATION	2000.000 SYIN				
0380	625001 FURNISHING LATEX-MODIFIED CONCRETE OVERLAY	40.000 CY				
0390	628001 REPAIR OF CONCRETE STRUCTURE BY EPOXY INJECTION	400.000 LF				

CONTRACT ID: T201707603.01 PROJECT(S): T201707603

All figures must be typewritten.

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0400	628011 CRACK SEALING BRIDGE DECKS, APPROACH SLABS, SIDEWALKS, ETC	800.000 LF				
0410	628020 ROUT AND SEAL CRACKS	300.000 LF				
0420	628040 SHALLOW SPALL REPAIR	75.000 CF				
0430	628041 DEEP SPALL REPAIR	75.000 CF				
0440	628051 DECK REPAIR, 1" TO 3" DEPTH	250.000 SF				
0450	628052 DECK REPAIR, 3" TO < FULL DEPTH	250.000 SF				
0460	628053 DECK REPAIR, FULL DEPTH	100.000 SF				
0470	628070 DRILLING HOLES AND INSTALLING DOWELS	200.000 EACH				
0480	628500 EMBEDDED GALVANIC ANODES	40.000 EACH				
0490	628501 DECK REPAIR, POLYESTER POLYMER CONCRETE	300.000 SYIN				
0500	707015 RIPRAP, R-4	80.000 TON				

CONTRACT ID: T201707603.01 PROJECT(S): T201707603

All figures must be typewritten.

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0510	707016 RIPRAP, R-5	80.000 TON				
0520	708003 GEOTEXTILES, RIPRAP	250.000 SY				
0530	760010 PAVEMENT MILLING, BITUMINOUS CONCRETE PAVEMENT	1500.000 SYIN				
0540	760013 PAVEMENT MILLING, PORTLAND CEMENT CONCRETE PAVEMENT	1500.000 SYIN				
0550	762000 SAW CUTTING, BITUMINOUS CONCRETE	500.000 LF				
0560	762001 SAW CUTTING, CONCRETE, FULL DEPTH	500.000 LF				
0570	763000 INITIAL EXPENSE/DE-MOBILIZATION	LUMP	LUMP			
0580	802003 ARROW PANELS TYPE C	100.000 EADY				
0590	803001 FURNISH AND MAINTAIN PORTABLE CHANGEABLE MESSAGE SIGN	100.000 EADY				
0600	804001 FURNISH AND MAINTAIN PORTABLE LIGHT ASSEMBLY (FLOOD LIGHTS)	50.000 EADY				

CONTRACT ID: T201707603.01 PROJECT(S): T201707603

All figures must be typewritten.

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0610	805001 PLASTIC DRUMS	2000.000 EADY				
0620	806001 TRAFFIC OFFICERS	20.000 HOUR	75.00000		1500.00	
0630	807002 FURNISH AND INSTALL TEMPORARY PORTLAND CEMENT CONCRETE SAFETY BARRIER, PINNED IN BITUMINOUS PAVEMENT	800.000 LF				
0640	807007 REFLECTOR PANELS	200.000 EACH				
0650	807010 REMOVE TEMPORARY PORTLAND CEMENT CONCRETE SAFETY BARRIER, PINNED IN BITUMINOUS PAVEMENT	800.000 LF				
0660	808002 FURNISH AND MAINTAIN TRUCK MOUNTED ATTENUATOR, TYPE II	100.000 EADY				
0670	809001 INSTALL TEMPORARY IMPACT ATTENUATOR	3.000 EACH				
0680	809005 FURNISH TEMPORARY IMPACT ATTENUATOR - NON-GATING, REDIRECTIVE, TEST LEVEL 3	3.000 EACH				
0690	810001 TEMPORARY WARNING SIGNS AND PLAQUES	2500.000 EADY				

CONTRACT ID: T201707603.01 PROJECT(S): T201707603

All figures must be typewritten.

CONTRACTOR :_____

LINE NO	ITEM DESCRIPTION	APPROX. QUANTITY AND UNITS	UNIT PRICE DOLLARS	UNIT PRICE CTS	BID AMOUNT DOLLARS	BID AMOUNT CTS
0700	811003 FLAGGER, SUSSEX COUNTY, STATE	500.000 HOUR				
0710	811015 FLAGGER, SUSSEX COUNTY, STATE, OVERTIME	50.000 HOUR				
0720	813001 TEMPORARY BARRICADES, TYPE III	1000.000 LFDY				
0730	817009 TEMPORARY MARKINGS, TAPE, 4"	2500.000 SF				
0740	817013 PERMANENT PAVEMENT STRIPING, EPOXY RESIN PAINT, WHITE/YELLOW, 5"	2500.000 LF				
0750	817031 REMOVAL OF PAVEMENT STRIPING	1000.000 SF				
0760	817032 REMOVAL OF PAVEMENT MARKING TAPE	1000.000 SF				
0770	908014 PERMANENT GRASS SEEDING, DRY GROUND	500.000 SY				
0780	908020 EROSION CONTROL BLANKET MULCH	300.000 SY				
	SECTION 0001 TOTAL					
	TOTAL BID					

BREAKOUT SHEET INSTRUCTIONS

BREAKOUT SHEET(S) MUST BE SUBMITTED EITHER WITH YOUR BID DOCUMENTS; OR WITHIN SEVEN (7) CALENDAR DAYS FOLLOWING THE BID DUE DATE BY THE LOWEST APPARENT BIDDER.

BREAKOUT SHEETS ARE TO BE SUBMITTED TO DELDOT'S CONTRACT ADMINISTRATION AS SHOWN BELOW. BREAKOUT SHEETS CANNOT BE CHANGED AFTER AWARD. THE DEPARTMENT WILL REVIEW THE FIGURES SUBMITTED ON THE BREAKOUT SHEET(S) TO ENSURE THEY MATCH THE RESPECTIVE LUMP SUM BID AMOUNT(S). MATHEMATICALLY INCORRECT BREAKOUT SHEETS WILL BE RETURNED FOR IMMEDIATE CORRECTION.

BREAKOUT SHEETS MAY BE SUBMITTED;

VIA E-MAIL TO: DOT-ASK@STATE.DE.US
SUBJECT: **T201707603.01** Breakout Sheet

OR MAILED TO: DELDOT
CONTRACT ADMINISTRATION
PO BOX 778, DOVER, DE 19903

'BREAKOUT SHEET' AND THE PROJECT NUMBER MUST APPEAR ON THE ENVELOPE.

BREAKOUT SHEET - 1 **CONTRACT NO. T201707603.01**

Item 616003 - TESTING AND DISPOSAL OF EXISTING HAZARDOUS STEEL COATING

LOCATION NO.	APPROX. QTY.	UOM	DESCRIPTION	UNIT PRICE	AMOUNT
ANTICIPATED	150	S.F.	BR 3-313 - S24 (E. MARKET ST) - LAUREL LATITUDE:38°33'20.98" N LONGITUDE: 75°33'53.17" W	$	$
ANTICIPATED	900	S.F.	BR 3-258 - HIGH ST - SEAFORD LATITUDE:38°38'23.41" N LONGITUDE: 75°36'54.09" W	$	$
ANTICIPATED	870	S.F.	OTHER LOCATIONS AS ASSIGNED (QUANTITIES WILL VARY AND BE PAID AT THIS UNIT PRICE)	$	$

TOTAL ITEM 616003 - Testing and Disposal of Existing Hazardous Steel Coating $_____

(LUMP SUM BID PRICE FOR ITEM 605501- GROUND MOUNT BREAKAWAY SIGN SUPPORTS AND FOUNDATIONS)

Note that quantities shown are estimated. Actual quantities measured onsite shall be paid for at each location.
Measurements shall be based off the surface area of each component where work was completed.
Payment shall be made using item(s) 616003-X (suffix).

"ATTENTION"

TO BIDDERS

BREAKOUT SHEET(S) MUST BE SUBMITTED EITHER WITH YOUR BID DOCUMENTS; OR WITHIN SEVEN (7) CALENDAR DAYS FOLLOWING THE BID DUE DATE BY THE LOWEST APPARENT BIDDER.

BREAKOUT SHEETS ARE TO BE SUBMITTED TO DELDOT'S CONTRACT ADMINISTRATION AS SHOWN BELOW. BREAKOUT SHEETS CANNOT BE CHANGED AFTER AWARD. THE DEPARTMENT WILL REVIEW THE FIGURES SUBMITTED ON THE BREAKOUT SHEET(S) TO ENSURE THEY MATCH THE RESPECTIVE LUMP SUM BID AMOUNT(S). MATHEMATICALLY INCORRECT BREAKOUT SHEETS WILL BE RETURNED FOR IMMEDIATE CORRECTION.

BREAKOUT SHEETS MAY BE SUBMITTED;

VIA E-MAIL TO: DOT-ASK@STATE.DE.US
SUBJECT: **T201707603.01** Breakout Sheet

OR MAILED TO: DELDOT
CONTRACT ADMINISTRATION
PO BOX 778, DOVER, DE 19903

'BREAKOUT SHEET' AND THE PROJECT NUMBER
MUST APPEAR ON THE ENVELOPE.

AFFIDAVIT

OF

EMPLOYEE DRUG TESTING PROGRAM

4104 Regulations for the Drug Testing of Contractor and Subcontractor Employees Working on Large Public Works Projects requires that Contractors and Subcontractors implement a program of mandatory drug testing for Employees who work on Large Public Works Contracts funded all or in part with public funds.

We hereby certify that we have in place or will implement during the entire term of the contract a Mandatory Drug Testing Program for our employees on the jobsite, including subcontractors that complies with this regulation:

Contractor Name: _____

Contractor Address: _____

_____

_____

Authorized Representative (typed or printed): _____

Authorized Representative (signature): _____

Title: _____

Sworn to and Subscribed before me this _____day of _____ 20____.

My Commission expires _____. NOTARY PUBLIC _____.

THIS PAGE MUST BE SIGNED AND NOTARIZED FOR YOUR BID TO BE CONSIDERED.

CERTIFICATION
Contract No. T201707603.01

The undersigned bidder, _____

whose address is _____

and telephone number is _____ hereby certifies the following:

I/We have carefully examined the location of the proposed work, the proposed plans and specifications, and will be bound, upon award of this contract by the Department of Transportation, to execute in accordance with such award, a contract with necessary surety bond, of which contract this proposal and said plans and specifications shall be a part, to provide all necessary machinery, tools, labor and other means of construction, and to do all the work and to furnish all the materials necessary to perform and complete the said contract within the time and as required in accordance with the requirements of the Department of Transportation, and at the unit prices for the various items as listed on the preceding pages.

The foregoing quantities are considered to be approximate only and are given as the basis for comparison of bids. The Department of Transportation may increase or decrease the amount of any item or portion of the work as may be deemed necessary or expedient. Any such increase or decrease in the quantity for any item will not be regarded as a sufficient ground for an increase or decrease in the unit prices, nor in the time allowed for the completion of the work, except as provided in the contract.

Accompanying this proposal is a surety bond or a security of the bidder assigned to the Department of Transportation, for at least ten (10) percentum of total amount of the proposal, which deposit is to be forfeited as liquidated damages in case this proposal is accepted, and the undersigned shall fail to execute a contract with necessary bond, when required, for the performance of said contract with the Department of Transportation, under the conditions of this proposal, within twenty (20) days after date of official notice of the award of the contract as provided in the requirement and specifications hereto attached; otherwise said deposit is to be returned to the undersigned.

I/We are licensed, or have initiated the license application as required by Section 2502, Chapter 25, Title 30, of the Delaware Code.

By submission of this proposal, each bidder and each person signing on behalf of any bidder, certifies as to its own organization, under penalty of perjury, that to the best of each signer's knowledge and belief:

1. The prices in this proposal have been arrived at independently without collusion, consultation, communication, or Agreement with any other bidder or with any competitor for the purpose of restricting competition.
2. Unless required by law, the prices which have been quoted in this proposal have not been knowingly disclosed and will not knowingly be disclosed by the bidder, directly or indirectly, to any other bidder or competitor prior to the opening of proposals.
3. No attempt has been made or will be made by the bidder to induce any other person, partnership, or corporation to submit or not to submit a proposal for the purpose of restricting competition.

==========

I/We acknowledge receipt and incorporation of addenda to this proposal as follows:

No.	Date	No.	Date	No.	Date	No.	Date	No.	Date

BIDDERS MUST ACKNOWLEDGE RECEIPT OF ALL ADDENDA

MUST INSERT DATE OF FINAL QUESTIONS AND ANSWERS ON WEBSITE: _____

==========

AFFIRMATION:

Within the past five (5) years, has your firm, any affiliate, any predecessor company or entity, owner, Director, officer, partner or proprietor been the subject of a Federal, State, Local government suspension or debarment?

YES_____ **NO**_____ if yes, please explain _____

Sealed and dated this _____ day of _____ in the year of our Lord two thousand _____ (20___).

_____
Name of Bidder (Organization)

Corporate Seal

By: _____
Authorized Signature

Attest _____ _____
Title

SWORN TO AND SUBSCRIBED BEFORE ME this ___ day of _____, 20____.

Notary Seal

_____
Notary

BID BOND

TO ACCOMPANY PROPOSAL
(Not necessary if security is used)

KNOW ALL MEN BY THESE PRESENTS That:_____

of_____ in the County of _____and State of _____

as **Principal**, and _____ of _____ in the County of

_____ and State of _____ as **Surety**, legally authorized to do business in the State of Delaware ("**State**"), are held and firmly bound unto the **State** in the sum of _____

_____Dollars ($_____), or _____ percent not to exceed _____

_____ Dollars ($_____) of amount of bid on Contract No. T201707603.01, to be paid to the **State** for the use and benefit of its Department of Transportation ("**DelDOT**") for which payment well and truly to be made, we do bind ourselves, our and each of our heirs, executors, administrators, and successors, jointly and severally for and in the whole firmly by these presents.

NOW THE CONDITION OF THIS OBLIGATION IS SUCH That if the above bounden **Principal** who has submitted to the **DelDOT** a certain proposal to enter into this contract for the furnishing of certain materiel and/or services within the **State**, shall be awarded this Contract, and if said **Principal** shall well and truly enter into and execute this Contract as may be required by the terms of this Contract and approved by the **DelDOT**, this Contract to be entered into within twenty days after the date of official notice of the award thereof in accordance with the terms of said proposal, then this obligation shall be void or else to be and remain in full force and virtue.

Sealed with _____ seal and dated this _____ day of _____ in the year of our Lord two thousand and _____ (20___).

SEALED, AND DELIVERED IN THE
presence of

_____
Name of Bidder (Organization)

Corporate
Seal

By: _____
Authorized Signature

Attest _____

_____
Title

_____
Name of Surety

Witness:_____ By: _____

_____
Title